

# **Proposed Derrygreenagh Power Project Environmental Impact Assessment Report**

## **Chapter 15: Population and Human Health**

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## 15.0 POPULATION AND HUMAN HEALTH

### 15.1 Introduction

- 15.1.1 This chapter of the Environmental Impact Assessment Report (EIAR) describes the potential effects of the Proposed Development and Overall Project on population and human health.
- 15.1.2 This chapter defines the study area, the methodology used for determining both the baseline environment and the impact assessment, provides a description of the baseline environment in relation to population and human health, and presents the findings of the impact assessment.
- 15.1.3 The two environmental factors of population and human health are addressed under separate headings throughout this chapter. The assessment on population considers the following:
- local population information;
  - economic activity and employment;
  - access and severance between local residents and community resources; and
  - tourism and visitor attractions.
- 15.1.4 The assessment on human health considers human health and wellbeing on the potential effects of the Proposed Development and Overall Project on human health.
- 15.1.5 Many of the potential impacts on population and human health which result from the Proposed Development and Overall Project arise from air quality, noise and vibration and traffic effects. Therefore, the human health impact assessment relies on the assessments and draws on the findings of the following chapters as necessary to assess the impacts on human health: **Chapter 7** (Air Quality), **Chapter 8** (Cultural Heritage and Archaeology), **Chapter 10** (Landscape and Visual), **Chapter 11** (Noise and Vibration), **Chapter 12** (Water Environment), **Chapter 13** (Land, Soils and Geology), **Chapter 14** (Traffic) and **Chapter 18** (Climate).
- 15.1.6 This is consistent with the EPA EIAR Guidelines (2022) ‘the assessment of impacts on population and human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in this EIAR e.g., under the environmental factors of air, water, soil etc’.
- 15.1.7 Article 5 of the EIA Directive sets down the minimum information to be supplied in an EIAR including data and information to be included by the developer in the EIAR identified in Annex IV of the EIA Directive. This Annex identifies in Section 5(d) that:
- “A description of the likely significant effects of the project on the environment resulting from, inter alia: (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)”.*
- 15.1.8 A full description of the existing Site is presented in Chapter 4 of this EIAR, while details of the Proposed Development and Overall Project are presented in Chapter 5 of this EIAR.
- Statement of Authority
- 15.1.9 This chapter has been prepared by Aldona Binchy MSc. Eng Environmental Engineering PIEMA. Please refer to Appendix 1B of this EIAR for more details on the authors competency and experience.

## 15.2 Methodology

### Population

#### *Study Area*

- 15.2.1 The Study Area for the population assessment has considered the area of land which is appropriate to the scale of the impacts associated with the Proposed Development and Overall Project, as well as the most relevant geographical population.
- 15.2.2 The Study Area for population includes a review of relevant information on a county and national scale but is mainly concentrated on the Electoral Districts (EDs) within which the Proposed Development and Overall Project is located.
- 15.2.3 Information on population statistics and employment for the areas surrounding the Proposed Development and Overall Project have been obtained from the Central Statistics Office (CSO) and predominantly from the 2016 Census records. The first publication by the CSO providing insights into Ireland's 2022 Census of Population was published in June 2022. The main results will be released over several months, which began in April 2023. Census data has been captured on an ED basis, as this is the most appropriate scale for collated census data and is commonly used for defining the existing population profile. The EDs within which the Proposed Development and Overall Project is located comprise the Study Area for this assessment and these are as follows:
- Knockdrin ED, Co. Offaly - Power Plant Area, Electricity Grid Connection and Gas Connection Corridor.
  - Ballyburley ED, Co. Offaly - Electricity Grid Connection.
  - Croghan ED, Co. Offaly - Electricity Grid Connection. Castlelost ED, Co. Westmeath - Gas Connection Corridor.
  - Clonfad ED, Co. Westmeath - Gas Connection Corridor.

### Determination of the Baseline Environment

- 15.2.4 In order to assess the associated potential effects of the Proposed Development and Overall Project, it is necessary to determine the baseline conditions, resources and receptors in the Site and surrounding area. The baseline conditions are not necessarily the same as those that exist at the current time; as they will reflect the conditions that will exist at the time that works associated with the Proposed Development and Overall Project are expected to commence (details of these works are outlined in **Chapter 5** (The Proposed Development and Overall Project)). The identification of the baseline conditions therefore involves predicting changes and population trends that are likely to occur in the intervening period, for reasons unrelated to the Proposed Development and Overall Project.
- 15.2.5 The baseline environment section of this chapter includes a description of local communities within the study area and a profile of the people who reside within these communities. This profile comprises an analysis of population and population growth, age, demographics, and health determinants. The presence of any vulnerable groups which could be disproportionately affected by the impacts of the Proposed Development and Overall Project are also identified in the baseline environment.
- 15.2.6 Fáilte Ireland tourist literature for Counties Offaly and Westmeath was examined in relation to tourism amenity in conjunction with the websites of relevant tourism assets, locations and amenities in the area. Information on other tourist attractions and initiatives in the area have been sourced from relevant websites, such as Discover Ireland, the Offaly and Westmeath County Development Plans, the Offaly Tourism

Statement of Strategy 2017-2022<sup>1</sup>, the Draft Westmeath County Tourism Strategy 2023-2027 and Tourism Ireland.

#### Determination of Sensitive Receptors

- 15.2.7 The sensitivity of the existing baseline environment defines the ability of the receptor to respond to potential effects. Receptors in the population and human health assessment are members of the local and wider community which have potential to be impacted by any of the effects described. The following section identifies the methodology for defining the sensitivity of receptors for each type of potential effect identified. Terminology used to describe the sensitivity of the receptor is as per the 2022 EPA Guidelines. **Table 1.2, Chapter 1** (Introduction) outlines the criteria for assessing the sensitivity.
- 15.2.8 The assessment of human health is assessed using Healthy Urban Development Unit (HUDU) guidance. Sensitivities are not defined for receptors.

#### *Employment*

- 15.2.9 The receptor with potential to experience employment effects is the workforce in County Offaly and County Westmeath, as this is where the majority of effects are likely to occur. This includes the workforce in the construction industry and the local supply chain. No sensitivity values are assigned to receptors with potential to experience employment effects.

#### *Severance*

- 15.2.10 The receptors which have potential to experience severance effects are local residents who use the roads and walking / cycling routes to travel in and around the study area to commercial properties, community facilities, places of work and educational facilities. No sensitivity values are assigned to receptors with potential to experience severance effects.

#### Describing Likely Significant Effects and Significance Criteria

- 15.2.11 Effects on severance and economic activity are described using the criteria provided in the EPA Guidelines. The process to the likely significant effects is described in **Chapter 1** (Introduction). In summary, it involves combining a sensitivity of a receptor with a description of an impact on that receptor (its quality, type, frequency, duration, probability, and magnitude) to determine a significance of effect. Detail on the criteria used to determine the sensitivity of a receptor is included in the section above. This section describes, for each type of effect, the assessment criteria which informs the description of the impact. This includes the parameters which define a direct or indirect effect, and how a magnitude of effect is determined.
- 15.2.12 Since the EPA Guidelines do not provide extensive guidance on assessing human health, the assessment of human health is instead based on guidance set out in the HUDU *Rapid Health Impact Assessment Tool*. The assessment method used to determine human health effects is also identified below.

#### *Employment*

- 15.2.13 This assessment considers the impact on the workforce in County Offaly and County Westmeath, as this is where the majority of effects are likely to occur. The Proposed Development and Overall Project may provide direct and indirect job opportunities.

<sup>1</sup> The new Strategy is currently being prepared.

- 15.2.14 Direct jobs include the temporary workforce required to construct the Proposed Development and Overall Project in the short to medium term, as well as the workforce required to operate the facility in the longer term.
- 15.2.15 Indirect jobs include those created in the supply chain to provide material, specialist labour and demolition and remediation services for the workforce. There is no consolidated methodology or practice for assessing the magnitude of the impact on employment in EPA Guidelines. It has therefore been assessed based on professional opinion in which the size of the workforce in the impact area is considered, relative to the number of jobs that the Proposed Development and Overall Project will create.

#### *Severance*

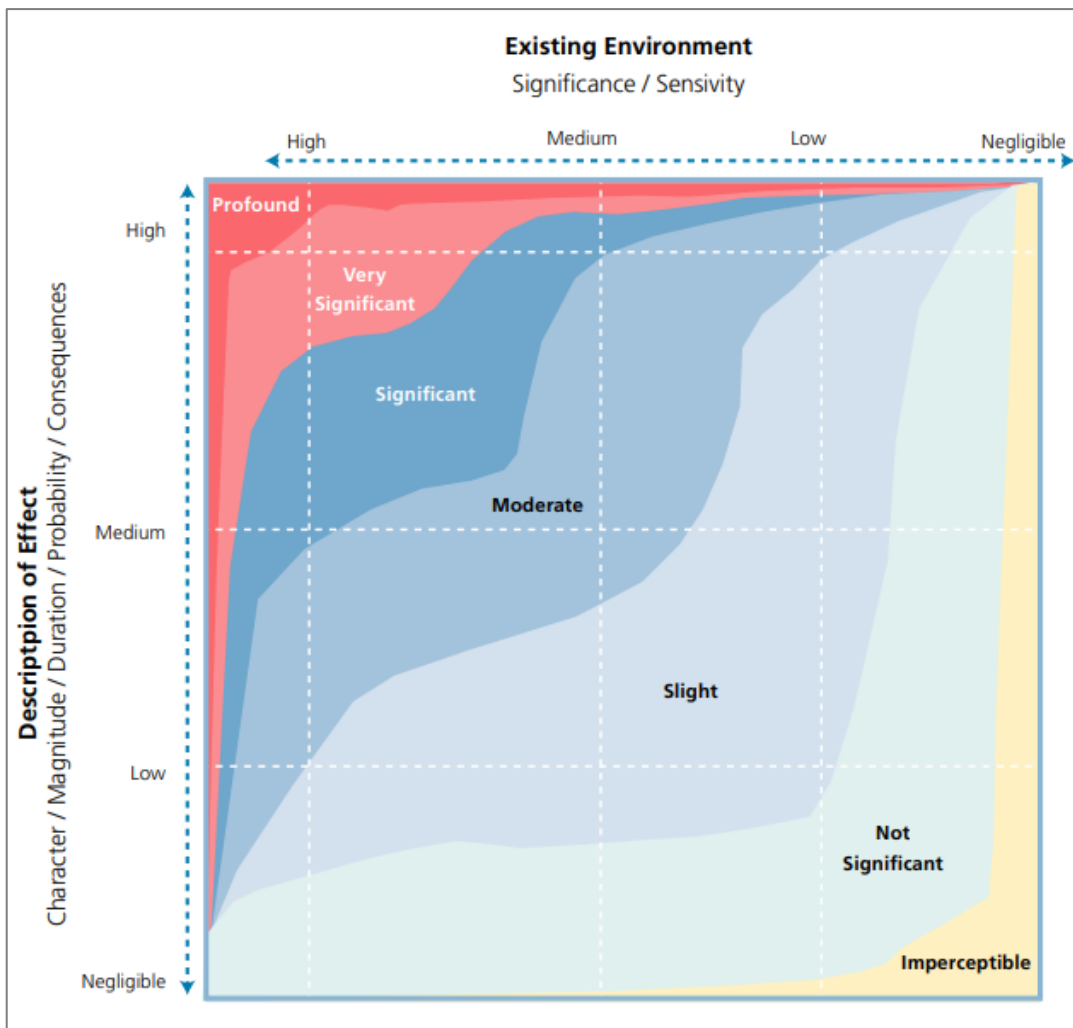
- 15.2.16 Severance is a typical impact of a road, where its effect is to discourage community interaction and it occurs where access to community facilities or between neighbourhoods is impeded by a lengthening of journey time etc. Social severance can occur due to restrictions on people's accessibility, but also where communities become identified by their containment within road boundaries.
- 15.2.17 The definition of severance is not precise. It depends on the location of community facilities, the level of use of facilities, the time of day or duration when traffic conditions are experienced, the sensitivity of the population affected and the geographical spread of the community. Children, the elderly, the mobility impaired and people without access to a private car would be amongst those most affected by community severance and any corresponding loss of neighbourhood interaction.
- 15.2.18 Severance in relation to the Proposed Development and Overall Project has been determined as the separation of residents from facilities and services they use within their community caused by new or improved roads or by changes in traffic flows. The Proposed Development and Overall Project could cause severance effects by changing levels of traffic congestion on existing roads and / or introducing traffic management measures. This may lead to separation of residents from facilities and services which they use.
- 15.2.19 All severance impacts are direct impacts. The assessment of magnitude is informed by the assessment results presented in **Chapter 14** (Traffic). It is determined by:
- the extent of the physical changes caused by the Proposed Development and Overall Project;
  - the consequent changes in traffic levels on existing roads;
  - the number of people whose journey will be affected;
  - the type of road involved; and
  - the mitigation measures implemented.

#### Determining Significance

- 15.2.20 The significance of impacts matrix, based on the EPA Guidelines, was used to determine the significance of effects to the population.
- 15.2.21 **Plate 15.1** shows how comparing the character of the predicted effect to the sensitivity of the receiving environment can determine the significance of the effect.

#### **Plate 15.1: Typical Classifications of the Significance of Effects**





(Source: EPA Guidelines, Figure 3.4)

Human Health

- 15.2.22 The study area for human health includes a review of relevant information on a national scale but is mainly concentrated on the Electoral Districts (EDs) within which the Proposed Development and Overall Project is located.
- 15.2.23 The 2014 amendment to the 2011 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”.*

15.2.24 The 2022 EPA Guidelines state that:

*“while no specific guidance on the meaning of the term Human Health has been issued in the context of Directive 2014/52/EU, the same term was used in 3.3.6 the SEA Directive (2001/42/EC). The Commission’s SEA Implementation Guidance states ‘The notion of human health should be considered in the context of the other issues mentioned in paragraph (f)’”. Paragraph (f) (of Annex I of the SEA Directive) lists the environmental factors including soils, water, landscape, air etc.).*

15.2.25 The 2022 EPA Guidelines also state that the above health assessment approach is:

*“consistent with the approach set out in the 2002 EPA EIS Guidelines where health was considered through assessment of the environmental pathways through which it could be affected, such as air, water or soil”. The 2002 EPA Guidelines state “The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment”.*

15.2.26 The 2022 EPA Guidelines also note that in an EIAR:

*“the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g., under the environmental factors of air, water, soil, etc.” and that “assessment of other health & safety issues are carried out under other EU Directives, as relevant. These may include reports prepared under the Integrated Pollution Prevention and Control, Industrial Emissions, Waste Framework, Landfill, Strategic Environmental Assessment, Seveso III, Floods or Nuclear Safety Directives. In keeping with the requirement of the amended Directive, an EIAR should take account of the results of such assessments without duplicating them”.*

15.2.27 The effects on human health are assessed using guidance set out in the HUDU *Rapid Health Impact Assessment Tool*. Sensitivities are not defined for receptors.

15.2.28 A human health assessment determines the probability of harm impacting the health of residents of properties or users of community resources within a study area. Although the Institute of Public Health in Ireland (IPHI) have published the Health Impact Assessment (HIA) Guidance<sup>2</sup>, there is no consolidated methodology or practice for describing human health in the EPA Guidelines. Therefore, the impacts of the Proposed Development and Overall Project on human health will be assessed qualitatively using the relevant human health determinants outlined in the London HUDU Rapid Health Impact Assessment Tool. This tool is partly based on the World Health Organisation (WHO) publication of ‘Healthy Urban Planning’ and includes 11 broad determinants.

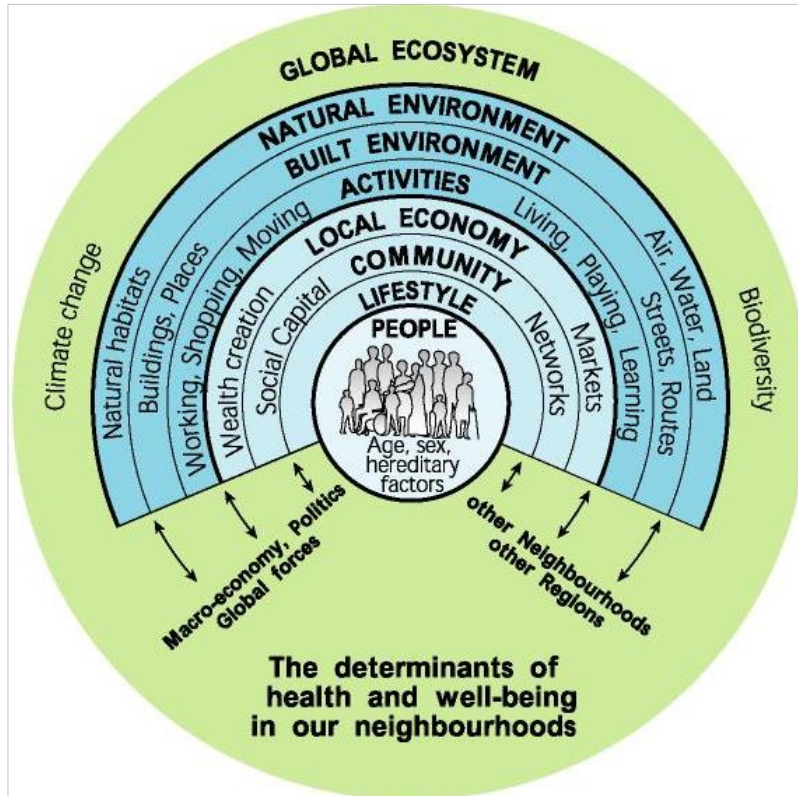
15.2.29 The WHO (2006) defines health as *“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”*. Consequently, public health encompasses general wellbeing, not just the absence of illness. Some effects are direct and obvious, others are indirect, while some may be synergistic, with different types of impact acting in combination. In keeping with this definition, this assessment considers the likely significant effects of the Proposed Development and Overall Project on physical, mental and social health.

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<sup>2</sup> IPH (2021). *Health Impact Assessment Guidance: A Manual*.

15.2.30 Factors with the most significant influence on the health of a population are called ‘determinants of health.’ These are the circumstances in which people are born, grow up, live, learn, work and age. Wider forces and systems, for example, geographic and climatic environments, social norms, social policies, and economic policies may affect these circumstances. The interrelationship between such can be seen in **Plate 15.2**.

**Plate 15.2: Determinants of Health**



(Source: Toi Te Ora, 2021)

15.2.31 An initial scoping exercise was undertaken to determine the criteria within the HUDU guidance which is relevant to this assessment. Other criteria in HUDU guidance but not in the list below, have been scoped out as they are not relevant to the Proposed Development:

- access to health and social care services and other social infrastructure;
- access to open space and nature;
- air quality, noise and neighbourhood amenity; and
- climate change.

15.2.32 The criteria which will be assessed as part of this chapter are listed below.

15.2.33 The assessment of human health is a qualitative rather than quantitative assessment, due to the diverse nature of health determinants and health outcomes which are assessed. Although the assessment of human health effects describes the likely qualitative health outcomes, it is not possible to quantify the severity or extent of the effects which give rise to these impacts due to lack of health monitoring and health impact data for the health categories and correlation effects considered in this assessment.

15.2.34 The potential health impacts are described as outlined in **Table 15.1**, based on broad categories for the qualitative effects identified. Where a likely significant effect has been identified, actions have been recommended to mitigate any negative impact on health, or opportunities to enhance health benefits. It should be noted that in many cases, embedded mitigation to reduce these effects or measures to enhance benefits have already formed part of the Proposed Development and Overall Project and the assessment has considered these impacts as such.

**Table 15.1: Human Health Categories**

<b>IMPACT CATEGORY</b>	<b>DESCRIPTION</b>	<b>SCORING SYMBOL</b>
<b>Positive</b>	A beneficial impact is identified	<b>+</b>
<b>Neutral</b>	No discernible impact is identified	<b>0</b>
<b>Negative</b>	An adverse impact is identified	<b>-</b>
<b>Uncertain</b>	Where uncertainty is to the overall impact	<b>?</b>

Limitations or Difficulties

- 15.2.35 This population and human health assessment is based on professional judgement and considers both the adverse and beneficial impacts that the Proposed Development and Overall Project can have upon existing and surrounding receptors.
- 15.2.36 Currently there is limited data available in relation to human health monitoring and health impact data for the health categories and correlation effects considered in this assessment.
- 15.2.37 The assessment is based on information about the Proposed Development and Overall Project available at the time of drafting the chapter. It draws upon other specialist topic inputs to aid the assessment of the impact of the Proposed Development and Overall Project on population and human health receptors.
- 15.2.38 Community resources are mentioned expressly in the environmental baseline only where they contribute to the local context or where they may be affected by the Proposed Development and Overall Project. Consequently, not all community resources within the study area are mentioned.
- 15.2.39 In addition, it is not always possible to determine the catchment area for community facilities as residents of an area may utilise facilities located within different districts, counties or regions without regard for statutory boundaries. In addition, this assessment refers to the findings of other EIAR chapters which have different study areas. For example, **Chapter 19**.

### 15.3 Policy, Regulatory and Guidance Framework

15.3.1 This section will provide an overview of the relevant legislation, planning policy and technical guidance relevant to the assessment.

#### Policy

##### *International*

15.3.2 **United Nations Sustainable Development Goals (UN, 2015):** The UN SDGs are a global call for action by all countries – developed and developing – to promote prosperity while protecting the planet. The goals were agreed to by UN member states in 2015 and reflect the economic, social and environmental dimensions of sustainable development. The following SDGs are of relevance to the Proposed Development and Overall Project:

- SDG 3: Good health and well-being.
- SDG 7: Affordable and clean energy.
- SDG 11: Sustainable cities and communities.
- SDG 12: Responsible consumption and production.
- SDG 13: Climate action.
- SDG 15: Life on land.

##### *National*

15.3.3 **Climate Action and Low Carbon Development (Amendment) Act 2021 (GOI, 2021):** This Act commits Ireland to move to a climate resilient and climate neutral economy by 2050. The Act brings in a requirement for 5-year carbon budgets to commence in 2021, the first two budgets demonstrating a 51% reduction against a 2018 baseline by 2030.

15.3.4 **Climate Action Plan 2023 (CAP23) (DECC, 2022):** This Plan provides a detailed plan to achieve a 51% reduction in GHG emissions by 2030 and achieve net zero emissions by no later than 2050. The Climate Action Plan sets out of the roadmap for achieving Ireland's carbon budgets and reaching net zero by 2050. The Plan continues to recognise the importance of delivering and accelerating the development of a highly flexible power system supporting the roll out of renewables including the provision of 2GW gas-fired power generation.

##### *Regional*

15.3.5 **Eastern & Midland Regional Assembly: Regional Spatial and Economic Strategy (RSES) 2019-2031:** The RSES for the Eastern and Midland region was adopted in 2019 and provides a high-level development framework for the region that supports the implementation of the NPF. It is underpinned by three key principles that reflect the three pillars of sustainability: Social, Environmental and Economic. With regard to climate action the Strategy notes *'the need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this'*<sup>3</sup>. The Strategy also recognises the implications surrounding the demand for energy in the coming years and states that *'a secure and resilient supply of energy is critical to a well-functioning region being relied upon for heating, cooling and to fuel transport, power industry, and generate electricity. With projected increases in population and economic growth, the demand for energy is set to increase in the coming years'*<sup>4</sup>.

<sup>3</sup> EMRA (2019). *Regional Spatial and Economic Strategy (RSES)*, p23

<sup>4</sup> Ibid, p224

*Local*

- 15.3.6 The **Offaly County Development Plan (CDP) 2021-2027** is a land use plan and overall strategy for the proper planning and sustainable development of County Offaly from 2021 to 2027. It has a strategic vision of creating a “*sustainable and competitive county that supports the health and wellbeing of our people and places, from urban to rural, with access to employment opportunities supported by high quality housing and physical, social and community infrastructure for all, in a climate resilient manner and with respect for our biodiversity.*”
- 15.3.7 Three key principles are set out in the Offaly CDP which are relevant to this assessment and, reflect principles listed in the Eastern and Midland Regional Assembly: *Regional Spatial and Economic Strategy (RSES) 2019 – 2031*.
- *Healthy Placemaking* – Focused on promoting people’s quality of life through the creation of healthy and attractive places to live, work, visit and study in.
  - *Climate Action* – Recognising the need to enhance climate resilience and to accelerate a transition to a low carbon economy recognising the role of natural capital and ecosystem services in achieving this.
  - *Economic Opportunity* – Developing from creating the right conditions and opportunities for the county to realise sustained economic growth and employment that ensures good living standards for all.
- 15.3.8 The **Westmeath County Development Plan (CDP) 2021-2027** sets out the County’s proposed policies and objectives for the development of Westmeath over the Plan period. The strategic vision is “*to create and facilitate sustainable competitive growth throughout the County that supports the health and well-being of the people of Westmeath, providing an attractive destination, as a place in which to live, work, invest, do business and visit, offering high quality employment and educational opportunities within sustainable communities whilst safeguarding the environmental, cultural, heritage and tourism assets of the County*”.
- 15.3.9 Principles informing the Westmeath CDP that are relevant to this population and human health assessment are:
- *Healthy Placemaking* – To promote people’s quality of life through the creation of healthy and attractive places to live, work, visit, invest and study in.
  - *Sustainable Communities* – To develop and support vibrant sustainable communities in Westmeath where people can live, work and enjoy access to a wide range of community, health and educational facilities and amenities, suitable for all ages and needs, in both urban and rural areas, thereby supporting a high quality of life for all to enjoy.
  - *Climate Action* – The need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this.
  - *Regeneration* – Urban and Rural Regeneration to capitalise on existing underutilised assets of our towns and villages to achieve compact economic growth as an alternative to unsustainable urban sprawl.
  - *Tourism* – To provide for the continued expansion of the tourism sector, with a focus on creating strong visitor destination towns and sufficient high-quality visitor services and the continued development and enhancement of visitor attractions and activities to provide memorable, immersive visitor experiences, capitalising on our

natural and cultural heritage assets, whilst safeguarding these resources for future generations.

### Regulation

#### *National*

- 15.3.10 **National Planning Framework (NPF) – Project Ireland 2040** is the Government's high-level strategic plan for shaping the future growth and development of Ireland to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for the people of Ireland, and to protect and enhance the environment.
- 15.3.11 Chapter 6: People, Homes and Communities of the NPF sets out the following themes of relevance to Population and Human Health:
- Quality of Life and Place;
  - Healthy Communities;
  - Diverse and Inclusive Ireland;
  - Age Friendly Communities;
  - Childcare, Education and Life-long Learning; and
  - Housing.
- 15.3.12 It is important to note that Section 6:2 Healthy Communities, emphasises how our health and the environment are inextricably linked. Specific health risks, such as heart disease, respiratory disease, mental health, obesity and other injuries can be influenced by spatial planning. Therefore, a whole-system approach is advised to address the many factors that impact health and well-being and which contribute to health inequalities, and by empowering and enabling individuals and communities to make healthier choices, it will be possible to improve health outcomes, particularly for the next generation of citizens.
- 15.3.13 Furthermore, Section 6.2 of the NPF states that land use and the built environment, including transportation can affect health risks in a variety of ways, for example through influencing air and water quality, traffic safety, opportunities for physical activity and social interactions as well as access to workplace, education, healthcare and other facilities and services such as food and alcohol outlets.
- 15.3.14 Chapter 9: Realising Our Sustainable Future of the NPF also sets out themes relevant to population and human health:
- Environmental and Sustainability Goals.
  - Resource Efficiency and Transition to a Low Carbon Economy.
  - Protecting, Conserving and Enhancing our National Capital.
  - Creating a Clean Environment for a Healthy Society.
- 15.3.15 The following objectives are of relevance to this population and human health assessment:
- **National Policy Objective 26:** Support the objectives of public health policy including Healthy Ireland and the National Physical Activity Plan, though integrating such policies, where appropriate and at the applicable scale, with planning policy.

- **National Policy Objective 49:** Support the coordination and promotion of all-island tourism initiatives through continued co-operation between the relevant tourism agencies and Tourism Ireland.
- **National Policy Objective 52:** The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the requirements of all relevant environmental legislation and the sustainable management of our natural capital.
- **National Policy Objective 54:** Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions.
- **National Policy Objective 63:** Ensure the efficient and sustainable use and development of water resources and water services infrastructure in order to manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment.
- **National Policy Objective 64:** Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.

15.3.16 **People, Place and Policy: Growing Tourism to 2025** (DTTS, 2015). This National Strategy aims “*to facilitate a vibrant, attractive tourism sector that makes a significant contribution to employment across the country; is economically, socially and environmentally sustainable; helps promote a positive image of Ireland overseas, and is a sector in which people want to work*”. Implementation of this strategy is being realised through a series of Three-Year Action Plans.

#### Guidance

##### *International*

15.3.17 The **London Health Urban Development Unit (HUDU) Rapid Health Impact Assessment Tool (4<sup>th</sup> Edition)** (NHS, 2019) was published in October 2019 and is designed to assess the likely health impacts of development plans and proposals.

15.3.18 It helps to identify determinants of health which are likely to be influenced by a specific development proposal. Although the tool does not identify all issues that are related to health and wellbeing, it focuses on the built environment, and issues directly or indirectly influenced by planning decisions. The human health assessment has been made using the HUDU tool and this is furthered detailed in Section 15.2 Human Health: HUDU Tool Assessment.

15.3.19 The Institute of Public Health (IPH) **Health Impact Assessment Guidance: A Manual** (IPH, 2021) published this manual to guide decision makers to build healthier communities and reduce health inequalities. The HIA Guidance assists policy and decision-makers at national, regional and local levels to assess the potential impact of a proposed new law, policy, programme or project and how it might affect the health of the community before it is implemented.

15.3.20 **Determining Significance for Human Health in EIA** (IEMA, 2022). This guidance was published in 2022 and presents a framework that supports a proportionate approach which can apply to all scales of Environmental Impact Assessments (EIAs). It is used to inform both current practice and in anticipation of potential changes to the way EIAs



are undertaken and addresses inequalities and population health as environmental outcomes of a project. The guidance was published alongside IEMA's 'Effective Scoping of Human Health in EIA' guidance and the two are to be read in conjunction with one another.

15.3.21 **Effective Scoping of Human Health in EIA** (IEMA, 2022). The Institute of Environmental Management and Assessment (IEMA's) second guidance aims to inform both current and future practice of how human health significance relates to the degree and context of changes in population health, including effects to vulnerable groups.

15.3.22 **Addressing Human Health in EIA** (IAIA & EUPHA 2019). This paper provides principles and good practice for addressing health in EIA. EIA is governed by the EIA Directive 2011/92/EU, as amended by 2014/52/EU. Article 3 of the amended EIA Directive names human health among the topics to be addressed when conducting an EIA. Therefore, this paper was prepared in order to address the challenges of integrating health in environmental assessments. It highlights that a range of determinants act on people's health, such as socioeconomic status, gender and other environmental and social determinants, which need to be considered in a health impact assessment to inform policies, programs, plans, and projects.

#### *National*

15.3.23 **Guidelines on the information to be contained in Environmental Impact Assessment Reports** (EPA 2022). The EPA's Guidelines provides guidance for compiling EIARs in Ireland.

15.3.24 **Healthy Ireland Framework 2019-2025** (DOH 2019). This framework was first published in 2013, setting out the vision of creating a "healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility."

15.3.25 Healthy Ireland is designed to bring about real, measurable change and is based on an understanding of the determinants of health. Health and wellbeing are affected by all aspects of a person's life; economic status, education, housing, the physical environment in which people live and work.

15.3.26 The Framework aims to make Ireland a healthier place to live, work and play. Therefore, to achieve this, four high-level goals have been set:

- Increase the proportion of people who are healthy at all stages of life;
- Reduce health inequalities;
- Protect the public from threats to health and wellbeing; and
- Create an environment where every individual and sector of society can play their part in achieving a healthy Ireland.

15.3.27 The Healthy Ireland Framework states that the "*health of a population is inextricably linked to a healthy environment.*" Populations rely on clean air and water, and crops to grow on contaminated soil for survival. Amenities such as forest parks provide populations with opportunities for recreation and add to their understanding of the environment. These things are needed to support a healthy lifestyle and contribute to a good sense of wellbeing.

15.3.28 The Framework also states that, "the area of environment and health, in its broadest sense, comprises those aspects of human health, disease, and injury that are determined or influenced by factors in the environment. This includes not only the study

of the direct pathological effects of various chemical, physical, and biological agents, but also the effects on health of the broad physical and social environment, which includes housing, urban development, land use and transportation, industry, and agriculture.” Thus, highlighting that the protection of human health is a fundamental aspect of environmental protection.

- 15.3.29 **EMF and You. Information about Electric and Magnetic Fields and the Electricity Network in Ireland** (ESB, 2017). This publication provides information surrounding the concerns that people can have about the potential side effects of frequent electromagnetic fields (EMF) exposure on health. This publication states that “*Recent studies conducted in the UK, France, Denmark and the US have not established associations between a home near transmission lines and childhood leukaemia*” and that “*Based on this history and its own review of research, the World Health Organization states there is no evidence to conclude that exposure to low-level EMFs is harmful to human health*”.
- 15.3.30 The proposed underground electrical cables will adhere to the international guidelines for ELFEMF which are described by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). This is a formal advisory agency to the World Health Organisation (WHO).

## 15.4 Baseline Environmental Conditions (Receiving Environment) and Constraints

### Data Sources

15.4.1 The following data sources were used to inform the baseline and gain an understanding of the population, community and facilities in the Study Area:

- A review of relevant local policy documents including the Offaly CDP 2021-2017 and the Westmeath CDP 2021-2027.
- A review of the Eastern and Midland Regional Assembly, Regional Spatial and Economic Strategy.
- Central Statistics Office (CSO) relating to the 2022 and 2016 Census (note that 2022 Census data is being released in stages, where 2022 data is not available, 2016 Census data is used).
- Spatial information relevant to planning applications and decisions in Ireland from MyPlan.ie and An Bord Pleanála (ABP).
- OSI mapping, online interactive maps and Aerial Photography (Google and Bing) to identify land use and possible amenity sites.
- Fáilte Ireland website, Offaly Tourism Statement of Strategy 2017-2022 and Draft Westmeath County Tourism Strategy 2023-2027.

### Power Plant Area

#### *Overview*

15.4.2 The Power Plant Area is located on a brownfield site known locally as Derrygreenagh Works. There are currently a number of buildings associated with the Derrygreenagh Works, such as workshops, stores, and offices; paved and concreted areas, outhouses, car-parking facilities, and machinery yards.

15.4.3 To inform the baseline conditions, data from the 2022 Census has been analysed where possible. Where 2022 data is not available, 2016 data has been used.

15.4.4 The Study Area for the Power Plant Area has been defined as Knockdrin ED, Co. Offaly. Residents within this ED are most likely to experience potential significant effects from the Power Plant Area due to their close proximity to the development. The below analysis compares statistics regarding the population in the Study Area with those in County Offaly and Ireland as a whole.

15.4.5 This section establishes a comprehensive and coherent socio-economic and human health profile of the Study Area. Dependent on the availability of data from the CSO, the baseline section presents analysis of socio-economic indicators which provides the narrative and evidence base of the current status of the area surrounding the Site. Baseline analysis in this section sets the context for the likely significant effects of the Power Plant Area.

#### *Population*

15.4.6 The baseline environment of the Study Area for the Power Plant Area varies but is mostly low density agricultural and residential developments with either scattered houses and farming buildings, or dwellings clustered along busier roads. Refer to **Chapter 4** of this EiAR, for details on the surrounding environment.

15.4.7 The CSO provides data on population and socio-economic aspects of the population at different levels from the State, county level, Local Electoral Area (LEA), individual Electoral Districts (EDs) to Small Areas (SAs) within each county.

- 15.4.8 The 2022 CSO data illustrates that the population of the Irish State increased between 2016 and 2022 by 8%, bringing the total population to 5,149,139, from 4,761,865 persons. The average age of the population increased from 37.4 years in 2016 to 38.8 in 2022, compared with 36.1 in 2011<sup>5</sup>.
- 15.4.9 According to the 2022 Census, the population of County Offaly grew by 7% between 2016 and 2022, to 83,150<sup>6</sup>. This equates to an increase of 5,189 persons between 2016 and 2022. Of this, 41,522 were female and 41,628 were male.
- 15.4.10 The average age of County Offaly's population in 2022 was 39 years, compared with 37.2 years in 2016. The number of people aged 65 and over continues to grow, as this age group increased by 22% to 12,958 in Offaly in 2022. Refer to **Table 15.2**.
- 15.4.11 The Power Plant Area is located in the Knockdrin ED (12044). Knockdrin ED saw a slight decrease in population in the 2022 Census to 198 persons compared to 204 persons in the previous 2016 Census. This represents a population decrease of c. – 2.9% between 2016 and 2022.

**Table 15.2: Population Change in the State, County and ED between 2022 & 2011**

STUDY AREA	2022 CENSUS	2016 CENSUS	2011 CENSUS
Knockdrin ED	198	204	189
County Offaly	83,150	77,961	76,687
Ireland	5,149,139	4,761,865	4,588,252

Source: CSO (2023)

#### *Employment / Socio-Economic*

- 15.4.12 Employment is an important indicator of the economic standing of an area. This section examines employment status and unemployment levels in County Offaly.
- 15.4.13 In 2022, there were 35,248 people (aged 15 and over) at work in County Offaly, an increase of 4,961 people (+16%) between 2016 (30,287) and 2022. Across Ireland, there were 313,656 additional people (+16%) at work in 2022 when compared with 2016.
- 15.4.14 In 2022, the most dominant sectors of employment of resident employees in County Offaly was 'Professional Services' (8,650 persons), 'Commerce and Trade' (7,258) and 'Manufacturing Services' (5,504) representing about 60% of the total employed residents (35,248)<sup>7</sup>.
- 15.4.15 The Labour Force Survey undertaken by the CSO provides details of unemployment on a regional level. County Offaly is located in the Midlands (IE063) region which is a NUTS<sup>8</sup> Level III statistical region of Ireland. Data for this region is used to illustrate unemployment in the area. **Table 15.4** illustrates the findings from the Q2 2023 Labour Force Survey published by the CSO<sup>9</sup>.

**Table 15.3: Labour Force Survey (Q2 2023)**

<sup>5</sup> CSO (2023). *Press Statement Census of Population 2022 - Summary Results*

<sup>6</sup> CSO (2023). *Press Statement Census of Population 2022 - Summary Results Offaly*. Available at:

<https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/pressstatementcensusofpopulation2022-summaryresultsoffaly/>

<sup>7</sup> Available at: <https://visual.cso.ie/?body=entity/ima/cop/2022&boundary=C03789V04537&guid=2ae19629-1496-13a3-e055-000000000001>

<sup>8</sup> Nomenclature of Territorial Units for Statistics

<sup>9</sup> Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter22023/employment/>

	UNEMPLOYMENT RATE	PARTICIPATION RATE
<b>Midlands (IE063)</b>	3.6%	64.2%
<b>Ireland</b>	4.4%	65.7%

Source: CSO (2023)

- 15.4.16 The unemployment rate in **Table 15.4** is the number of unemployed persons expressed as a percentage of the total labour force (aged 15 - 74). The unemployment rate for Ireland in Q2 2023 was 4.4% while the unemployment rate for the Midland region (IE063) was 3.6% showing that unemployment in the region (in Q2 2023) was lower than the rest of Ireland.
- 15.4.17 The participation rate is the number of persons available to the labour force (*i.e.*, persons from 15 - 74 years old either working or looking for work) expressed as a percentage of the total population. In Q2 2023, the participation rate in the State was 65.7% with a lower rate of 64.2% in the Midlands (IE063).
- 15.4.18 In 2022, the number of unemployment persons (unemployed (both long and short term) looking for their first job or unable to work due to permanent sickness or disability) for County Offaly was 7,549, a slight decrease when compared to 2016 (8,777).
- 15.4.19 The Labour Force Participation (LFP) measures the percentage (%) of all people aged 15 or over who are available for work, that is either at work or unemployed. In 2022, the total labour force in County Offaly was 38,899 persons. The LFP rate for Offaly in 2022 was 59%. According to the 2022 Census, 91% of the total labour force in County Offaly was 'At Work', demonstrating a positive trajectory from the 2016 Census rate of 84.1%<sup>10</sup>.
- 15.4.20 The CSO also publishes figures relating to the Live Register. These 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.
- 15.4.21 The figures in **Table 15.4** show that over the period of September 2022 – September 2023, there was an 2.74% reduction in the number of persons on the Live Register in the State as a whole. Similarly, there was a 2.67% reduction in the number of persons on the Live Register in the Midlands Region. The overall trend for the Live Register figures indicates a positive reduction for unemployment rates in Ireland, including the Midlands Region and County Offaly.

**Table 15.4: Live Register Figures (September 2022 - September 2023)**

	SEPTEMBER 2022	SEPTEMBER 2023	% CHANGE
<b>State</b>	179,055	174,150	-2.74%
<b>Midlands</b>	12,766	12,425	-2.67%
<b>County Offaly</b>	3,127	3,057	-2.24

- 15.4.22 Section 5 of the *Offaly CDP 2021-2027* sets out the Economic Development Strategy for County Offaly, which is:

<sup>10</sup> OCC (2021). *Offaly CDP 2021-2027. Chapter 5.*

*“That Offaly County Council, within its capacity, will positively contribute towards the promotion of the maintenance and growth of employment across every sector in County Offaly that is sustainable, competitive, inclusive and resilient, so that the people of Offaly will have access to a range of quality employment opportunities enabling them to live and work in the county”.*

15.4.23 The strategy provides a framework that encourages sustainable growth in the County, through the provision of services, access, appropriately zoned lands, infrastructure and clear policies and objectives for the Offaly.

*Deprivation*

15.4.24 The Pobal HP Deprivation Index<sup>11</sup> is the primary source for data relating to deprivation in Ireland. It combines three dimensions of affluence or disadvantage (demographic profile, social class composition and labour market situation) to provide a Relative Index Score for every Small Area (SA) in Ireland.

15.4.25 The Relative Index Scores are normally distributed around a bell-shaped curve to display the current levels of deprivation compared to other areas, with most areas clustered around the mean and comparatively fewer areas exhibiting extreme levels of affluence or deprivation. The eight classifications for deprivation range from extremely affluent to extremely disadvantaged.

15.4.26 According to the latest data available (2016), Knockdrin ED was classified as ‘marginally below average’ in 2016 with a relative score of -7.92. This is below Offaly’s 2016 Pobal HP Index of -4.58, which is also classified as ‘marginally below average’<sup>12</sup>.

*Travel Patterns and the Existing Travel Network*

15.4.27 At the time of writing, the 2022 Census data on travel patterns has not been released. According to the 2016 Census, the average time spent travelling to work in County Offaly is 28.6 mins, with 55.4% of residents taking less than 30 mins to travel to work. Only 5.6% of residents took over 90 mins to travel to work. The time which residents spent travelling to work can be seen in **Table 15.5**.

15.4.28 **Plate 15.5** illustrates the time travelled to work, school or college by residents in County Offaly in 2016. It shows that the car is the dominant mode of transport used by students and workers, with a combined total of 69% of all trips made by car or car passengers (45% and 24% respectively). The data show that just 1% of trips made were by train.

**Table 15.5: Time Spent Travelling to Work**

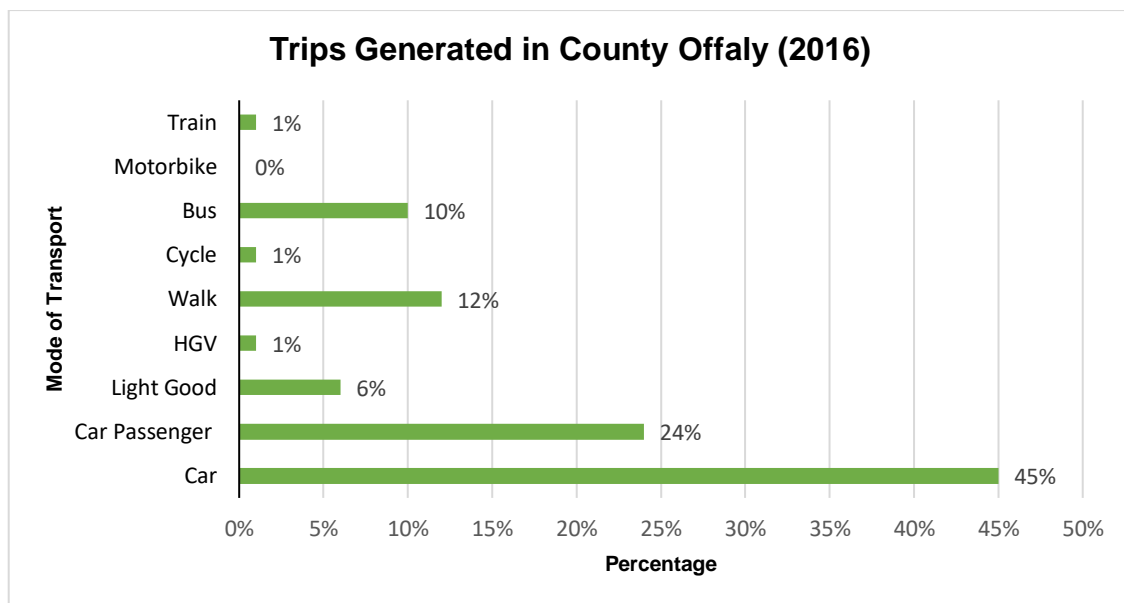
DURATION OF TRAVEL	COUNTY OFFALY
Less than 30 mins	55.4%
31-60 mins	22.2%
61-90 mins	8.4%
90+ mins	5.6%
Not stated	8.4%

Source: CSO (2016)

**Plate 15.3: Means of Travel to Work, School or College in Offaly in 2016**

<sup>11</sup> Haase & Pratschke (2017). *The 2016 Pobal HP Deprivation Index for Small Areas (SA)*.

<sup>12</sup> Available at: <https://maps.pobal.ie/WebApps/DeprivationIndices/index.html>



Source: *Offaly CDP 2021-2027: Chapter 8*

### Tourism

- 15.4.29 Tourism is now considered to be one of the country's most important economic sectors, particularly in rural areas where other employment sources are limited, and it has been credited with playing a significant role in the economic recovery in recent years.
- 15.4.30 Fáilte Ireland's 2019 survey on tourism (March 2021)<sup>13</sup> indicated that approximately 9.7 million overseas visitors arrived in Ireland in 2019. The total revenue generated across the Island of Ireland in 2019, was €5.6 billion. Domestic tourism expenditure in 2019 amounted to €2.1 billion.
- 15.4.31 The most recent Fáilte Ireland survey (based on industry surveys) '*Fáilte Ireland Tourism Barometer September 2023*', findings show that overseas visitors, especially from the United States, are making up for a declining domestic market. The domestic market is thought to be down because of a combination of perceived better value for money abroad (high accommodation prices in Ireland) and poor summer weather in 2023. However, rising costs mean that many operators are struggling, even if visitor levels are on the up<sup>14</sup>.
- 15.4.32 The *Offaly CDP 2021-2027* identifies that Offaly is strategically located in the centre of Ireland on a rail line, canal, River Shannon and with easy motorway access. Offaly sits within two of Fáilte Ireland's regional tourism brands. The majority of the County is located within Ireland's Ancient East, while the west of the County bordering the River Shannon is located within Ireland's Hidden Heartlands.
- 15.4.33 The key tourist attractions in County Offaly include:
- Clonmacnoise Monastic Site.
  - Birr Castle Gardens and Science Centre.
  - Tullamore Dew Visitor Centre.
  - Lough Boora Discovery Park.

<sup>13</sup> Available at: <https://www.failteireland.ie/Research-Insights/Current-Tourism-Performance.aspx>

<sup>14</sup> Available at: <https://www.failteireland.ie/Failteireland/media/WebsiteStructure/Documents/Publications/failte-ireland-tourism-barometer-september-2023.pdf?ext=.pdf>

- Slieve Bloom Mountains.
  - River Shannon.
  - Grand Canal.
  - Clara Bog Nature Reserve and Visitor Centre.
- 15.4.34 Another important monastic site in Offaly is Croghan Hill. Croghan Hill is the remains of an extinct volcano and rises from the Bog of Allen. Though only 234m high it commands extensive views of the surrounding midland counties, across the flat, low-lying expanse of the Bog of Allen. The village of Croghan is located on the southern slope of the hill. The mound at the summit Croghan Hill is thought to be a bronze age burial place. Offaly County Council recognises the scenic quality and recreational value of the Croghan Hill area.
- 15.4.35 Waterways route-based activities includes boating, canoeing, angling and numerous water sports and walking and cycling along greenways and blueways. The waterways product in Offaly builds on the attractions of the River Shannon and the Grand Canal. The Grand Canal Greenway is a valuable recreational and amenity route used by walkers and cyclists and has potential to link to the Barrow Blueway in County Kildare via County Laois and to link to the Royal Canal in County Westmeath. The Grand Canal links to Lough Boora Discovery Park's extensive walking / cycling routes.
- 15.4.36 A number of festivals and cultural events attract tourists to the County annually. The festival and event include:
- Birr Vintage Week and Arts Festival.
  - Slieve Bloom Walking Festival.
  - Tullamore Agricultural Show.
  - Tullamore TradFest.
  - OFFline Film Festival in Birr.
  - Shakefest Cultural Dance and Music festival in Tullamore.
  - Hullabaloo! Offaly Children's Arts Festival.
- 15.4.37 The Offaly CDP outlines policies and objectives to support and promote sustainable tourism as well as the ongoing development of walking trails and cycling routes, including:
- **TRP-02:** It is Council policy to continue to support and encourage increased co-ordination, cohesion and linkages between agencies involved in tourism development, for example, Fáilte Ireland, Waterways Ireland, Bord na Móna, National Parks and Wildlife Service, Coillte and Offaly County Council.
  - **TRP-03:** It is Council policy to co-operate with strategic partners such as Bord na Móna, National Parks and Wildlife Service and Coillte on the identification of land use strategies for appropriate areas of peatland and forestry within the county focusing on the tourism, environmental and heritage value of these areas.
  - **TRP-07:** It is Council policy to favourably consider tourism infrastructure related to sport, recreation and information including boating, cruising, angling, walking, cycling, pony trekking routes, golf courses, bird watching, adventure centres, and interpretive centres subject to proper planning, environmental protection and sustainable development and policies of this plan.



- **TRP-08:** It is Council policy to protect natural resources on which tourism is based through the enforcement of policies and relevant legislation in relation to protection of resources, architectural conservation areas, peatlands, water quality, species and populations of conservation concern and biodiversity.
- **TRP-16:** It is Council policy to support the extension of greenways, blueways, peatways and trails within the county and the integration and linkage of them with other existing / proposed greenways, blueways, peatways and trails both within and outside County Offaly.
- **TRP-30:** It is Council policy to promote and facilitate the role of arts, heritage and culture in recognition of its importance to people's identity and the potential for economic development through a unique cultural tourism offering, including the development of themed trails to showcase Offaly's rich monastic heritage, culture and food offering.

15.4.38 The *Offaly Tourism Statement of Strategy 2017-2022* (the new Strategy 2023-2027 is currently being prepared) has two main priorities; focus on developing a range of tourism attractions on public land holdings in Offaly, and secondly, market and promote Offaly as a tourism destination to domestic and international tourism markets.

15.4.39 The nearest attraction to the Power Plant Area is Croghan Hill (c. 5.2km southwest), Grand Canal (less than 0.5km from 400kV Substation) and Raheenmore Bog (c. 5km east).

#### *Human Health*

15.4.40 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.

15.4.41 Whilst specific health data for individuals in the vicinity of the Power Plant Area is confidential and difficult to establish, a community profile has been identified to establish the baseline health profile of County Offaly and compare this profile to the rest of the country.

#### **CSO Irish Health Survey 2019-2020**

15.4.42 In 2020, CSO published its second *Irish Health Survey*<sup>15</sup>, the data for which was collected in 2019 and early 2020 (pre- Covid-19). This publication is part of an EU wide health survey and as other EU countries report on their data, it will be possible to compare how the Irish health experience compares to that of our EU neighbours. Some key findings of the survey included:

- Affluent people are more likely to feel their health status is very good or good than people who are disadvantaged – 92% of very affluent persons compared to 78% of persons who are very disadvantaged.
- Over a quarter of persons aged 15 years and over report having a long-lasting condition, with older persons reporting higher levels.
- Majority of persons (82%) report no limitations in everyday activities due to a health problem.
- Over a fifth (21%) of unemployed persons report some form of mental ill-health compared to 9% of those in employment.
- Prevalence of hospital in-patient admissions rises with age and disadvantage level.

<sup>15</sup> Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-ihsmr/irishhealthsurvey2019-mainresults/>

- In general, females and older people more likely to use a preventive health service.
- Physical activity declines with age and relative disadvantage level.
- Younger persons more likely to drink 6 or more units of alcohol in one sitting.
- Over half of persons aged 15 years and over in the State are overweight or obese.

### 2022 Census

- 15.4.43 The 2022 Census (Profile 4) provides data and analysis on the long-lasting conditions or difficulties experienced by people, the health of the nation, and on carers providing unpaid care. The general health question had five response options on the census form ranging from 'very good', 'good', 'fair', 'bad' to 'very bad'<sup>16</sup>.
- 15.4.44 In the 2022 Census, the percentage of people reporting their general health status as either 'very good' or 'good' decreased from 88% in 2011 to 83% in 2022. All counties reported a shift from 'good' to 'less good' health between 2011 and 2022.
- 15.4.45 Across Ireland, fewer people (53%) said that their health was 'very good' in 2022, down from 59% in 2016. There was a small increase in those saying that their health was 'good' at 30%, compared with 28% in 2016.
- 15.4.46 Up to the age of 30, males were more likely to report 'very good' health status compared with females. This changes after 30 with females being more likely to report 'very good' health status in each age group rather than males.
- 15.4.47 Among professional workers, 72% reported 'very good' health compared with 41% of unskilled workers.
- 15.4.48 In 2022, 83% (68,900) of people in County Offaly stated that their health was 'good' or 'very good' compared with 86% in 2016. This is a similar trend to the national figures, which showed a 4% decrease in the 'good' / 'very good' categories, from 87% to 83%<sup>17</sup>. Among the County's females, 21,278 (51%) reported 'very good' health, along with 52% of males (21,722).
- 15.4.49 There were also 1,722 people who reported 'bad' or 'very bad' health in the County, up from 1,436 people in 2016<sup>18</sup>.

### Healthy Ireland Survey 2022

- 15.4.50 The *Healthy Ireland Survey*<sup>19</sup> is an annual survey conducted with a representative sample of the population aged 15 and older living in Ireland.
- 15.4.51 In 2022, the Government released its *Healthy Ireland Survey Summary Report*. This survey is commissioned by the Department of Health and carried out by Ipsos, of the health and health behaviours of people living in Ireland. The survey has been undertaken since 2015, however, due to the COVID-19 pandemic it was not possible to complete the 2020 survey.
- 15.4.52 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.

<sup>16</sup> Available at:

<https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/presstatementcensus2022resultsprofile4-disabilityhealthandcarersoffaly/>

<sup>17</sup> CSO (2023). *Press Statement Census 2022 Results Profile 4 - Disability, Health and Carers Offaly*. Available at: <https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/presstatementcensus2022resultsprofile4-disabilityhealthandcarersoffaly/>

<sup>18</sup> Ibid.

<sup>19</sup> Available at: <https://www.gov.ie/en/publication/f9e67-healthy-ireland-survey-2022/>

- 15.4.53 Approximately 7,500 individuals, representative of the population aged 15 and older are surveyed and the survey covers a variety of health-related topics, including general health, alcohol, smoking, weight, dental, female health, skin protection, and mental health.
- 15.4.54 In terms of General Health, respondents were asked to rate their there's on a 5-point scale from 'very good' to 'very bad'. Overall, 82% of respondents perceived their health as 'good' or 'very good', which is a 2-point decline since 2021.
- 15.4.55 Overall, 83% of men and 81% of women rated their health as 'good' or 'very good'. While 3% of respondents perceived their health as 'bad' or 'very bad'. General 'good' health decreases with age, with 92% of 15 to 24-year-olds rating their health as 'good' or 'very good', in contrast to 64% of respondents aged 65 and older. The survey notes that those with Leaving Certificate education or higher are considerably more likely to report themselves as being in 'good' health than those who did not attain a Leaving Certificate (87% and 69% respectively).
- 15.4.56 Employment status is also stated as 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 (76%).
- 15.4.57 With regard to the occurrence of health conditions, the survey results indicate that 31% have a long-standing illness or health problem, lasting at least six months or longer. Females are more likely than males to report long-standing health conditions (34% and 28% respectively); and respondents aged 65 and older (53%) are considerably more likely to report a long-standing illness or health problem than those aged under 45 (18%).

#### **Healthy Offaly Strategic Plan**

- 15.4.58 The *Healthy Offaly Strategic Plan*<sup>20</sup> was adopted in 2018 and is based on the vision and goals of the Healthy Ireland Framework (refer to Section 15.3.27). Updated key themes for Round 3 of the Healthy Offaly Fund were identified in 2021 and these are:
- Overweight and Obesity;
  - Mental Health;
  - Smoking;
  - Alcohol and Drugs;
  - Sexual Health;
  - Spaces and Places for Health and Wellbeing.
- 15.4.59 A Healthy Offaly Team was established to oversee the implementation of the Healthy Offaly Plan in which they work to secure funding. Delivery of the Plan has also been facilitated through funding from the Healthy Ireland Fund 2021.
- 15.4.60 Projects such as community garden activities, social walking groups, eco spaces, community mental health support and many more are being delivered to improve Offaly's mental and physical health.

#### Electricity Grid Connection

##### *Overview*

- 15.4.61 The Electricity Grid Connection is located west of the R400 road within a brownfield site in the wider Derryarkin Bog and Ballybeg Bog complex with limited mature trees

<sup>20</sup> Healthy Ireland (2018).

and grassland, and cutover bogs with varying degrees of vegetation, with the narrow railway crossing through Derryarkin Bog and Ballybeg Bog linking with the Power Plant Area from west 220 kV substation site to east into the Power Plant Area via an underpass below the R400 road. The exception to location of the Electricity Grid Connection within Bord na Móna lands is the site of the 400 kV and section of underground cable which is located on agricultural land to the west of lower Ballybeg Bog (north of the Grand Canal).

- 15.4.62 To inform the baseline conditions, data from the 2022 Census has been analysed where possible. Where 2022 data is not available, 2016 data has been used.
- 15.4.63 The Study Area for the Electricity Grid Connection has been defined as Knockdrin ED, Ballyburley ED and Croghan ED in Co. Offaly. Residents within these EDs are most likely to experience potential significant effects from the Electricity Grid Connection due to their close proximity to the development.
- 15.4.64 The below analysis compares statistics regarding the population in the Study Area with those in County Offaly and Ireland as a whole.
- 15.4.65 This section establishes a comprehensive and coherent socio-economic and human health profile of the Study Area. Dependent on the availability of data from the CSO, the baseline section presents analysis of socio-economic indicators which provides the narrative and evidence base of the current status of the area surrounding the Site. Baseline analysis in this section sets the context for the likely significant effects of the Electricity Grid Connection.

#### *Population*

- 15.4.66 The baseline environment of the Study Area for the Electricity Grid Connection varies but is mostly low density agricultural and residential developments with either scattered houses and farming buildings, or dwellings clustered along busier roads, refer to **Chapter 4** of this EIAR, for details on the surrounding environment.
- 15.4.67 As noted above, the population of County Offaly grew by 7% between 2016 and 2022, to 83,150<sup>21</sup>.
- 15.4.68 The Electricity Grid Connection is located in Knockdrin ED (12044), Ballyburley ED (12035) and Croghan ED (12040). As noted earlier, Knockdrin ED saw a decrease in population in the 2022 Census to 198 persons from 204 persons in the previous 2016 Census. Ballyburley ED saw a slight increase in population to 1,388 persons in 2022 from 1,364 persons in 2016. This is a 1.8% increase in the local population.
- 15.4.69 Conversely, Croghan ED saw a slight increase in population to 570 persons in 2022, from 547 persons in 2016. This represents a 4.2% increase in the local population, refer to **Table 15.6**.

**Table 15.6: Population Change in the State, County and ED between 2022 & 2011**

STUDY AREA	2022 CENSUS	2016 CENSUS	2011 CENSUS
Knockdrin ED	198	204	189
Ballyburley ED	1,388	1,364	1,325
Croghan ED	570	547	526
County Offaly	83,150	77,961	76,687

<sup>21</sup> CSO (2023). *Press Statement Census of Population 2022 - Summary Results Offaly*. Available at: <https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/pressstatementcensusofpopulation2022-summaryresultsoffaly/>

STUDY AREA	2022 CENSUS	2016 CENSUS	2011 CENSUS
Ireland	5,149,139	4,761,865	4,588,252

Source: CSO (2023)

#### *Employment / Socio-Economic*

- 15.4.70 Employment is an important indicator of the economic standing of an area. This section examines employment status and unemployment levels in County Offaly.
- 15.4.71 The employment and socio-economic baseline conditions for the Electricity Grid Connection are the same as those described for the Power Plant Area, as both elements of the Proposed Development are located in County Offaly.
- 15.4.72 The Labour Force Survey undertaken by the CSO provides details of unemployment on a regional level. The Electricity Grid Connection is located in County Offaly and therefore the Midlands (IE063) region which is a NUTS<sup>22</sup> Level III statistical region of Ireland. The Labour Force Survey results for the Electricity Grid Connection are the same as those for the Power Plant Area.

#### *Deprivation*

- 15.4.73 The Pobal HP Deprivation Index<sup>23</sup> is the primary source for data relating to deprivation in Ireland. It combines three dimensions of affluence or disadvantage (demographic profile, social class composition and labour market situation) to provide a Relative Index Score for every Small Area (SA) in Ireland.
- 15.4.74 According to the latest data available (2016), Knockdrin ED, Ballyburley ED and Croghan ED were classified as '*marginally below average*' in 2016, with a relative score of -7.92, -8.87 and -5.23 respectively. This is below County Offaly's 2016 Pobal HP Index of -4.58, which is also classified as '*marginally below average*'<sup>24</sup>.

#### *Travel Patterns and the Existing Travel Network*

- 15.4.75 The travel patterns and existing travel network conditions for the Electricity Grid Connection are the same as those described for the Power Plant Area, as both elements of the Proposed Development are located in County Offaly. Travel patterns and the existing travel network are described at county level.

#### *Tourism*

- 15.4.76 The baseline for tourism for the Electricity Grid Connection is the same as that described for the Power Plant Area, as both elements of the Proposed Development are located in County Offaly.
- 15.4.77 The nearest attraction to the Electricity Grid Connection is Croghan Hill (c. 2km west) and the Grand Canal (less than 0.5km from 400kV Substation).

#### *Human Health*

- 15.4.78 The human health baseline conditions for the Electricity Grid Connection are the same as those described for the Power Plant Area, as both elements of the Proposed Development are located in County Offaly. Human health is described at county level.

<sup>22</sup> Nomenclature of Territorial Units for Statistics

<sup>23</sup> Haase & Pratschke (2017). *The 2016 Pobal HP Deprivation Index for Small Areas (SA)*.

<sup>24</sup> Available at: <https://maps.pobal.ie/WebApps/DeprivationIndices/index.html>

### Gas Connection Corridor

#### *Overview*

- 15.4.79 The Gas Connection Corridor links into the north-west corner of the Power Plant Area. The underground route is mostly through agricultural land of improved grassland, with c. 1.4km proposed to be routed within the R400 road before connecting into the Power Plant Area and the proposed Derrygreenagh AGI, c. 9.6km total in length.
- 15.4.80 To inform the baseline conditions, data from the 2022 Census has been analysed where possible. Where 2022 data is not available, 2016 data has been used.
- 15.4.81 The Study Area for the Gas Connection Corridor has been defined as Knockdrin ED, Co. Offaly, Castlelost ED, Ballykilmore ED and Clonfad ED in Co. Westmeath. Residents within these EDs are most likely to experience any potential significant effects from the Gas Connection Corridor.
- 15.4.82 The below analysis compares statistics regarding the population in the Study Area with those in Counties Offaly and Westmeath, and Ireland as a whole. Baseline analysis in this section sets the context for the likely significant effects of the Gas Connection Corridor.

#### *Population*

- 15.4.83 The baseline environment of the Study Area for the Gas Connection Corridor is mainly agricultural land with scattered residential developments. Refer to **Chapter 4** of this EIAR, for details on the surrounding environment.
- 15.4.84 The CSO provides data on population and socio-economic aspects of the population at different levels from the State, county level, Local Electoral Area (LEA), individual Electoral Districts (EDs) to Small Areas (Sas) within each county.
- 15.4.85 According to the 2022 Census, the population of County Offaly grew by 7% between 2016 and 2022, to 83,150<sup>25</sup> and the population of Westmeath grew by 8% to 96,221 persons in 2022<sup>26</sup>.
- 15.4.86 The average age of County Offaly's population in 2022 was 39 years, compared with 37.2 years in 2016, while the average age of County Westmeath's population in 2022 was 38.6 years, compared with 36.8 years in 2016.
- 15.4.87 The number of people aged 65 and over continues to grow, as this age group increased by 22% to 12,958 in Offaly in 2022. While the number of people aged 65 and over is also growing, as this age group increased by 26% to 14,369 in Westmeath in 2022. Refer to **Table 15.7**.
- 15.4.88 The Gas Connection Corridor is located in Knockdrin ED (12044) Co. Offaly and Castlelost ED (13061), Ballykilmore ED (13055) and Clonfad ED (13065) in Co. Westmeath.
- 15.4.89 Knockdrin ED saw a slight decrease in population in the 2022 Census to 198 persons compared to 204 persons in the previous 2016 Census. The Westmeath EDs experienced an increase in population in 2022. Castlelost ED saw an increase in population from 1,692 in 2016, to 1,726 in 2022. This represents a 2.0% increase between 2016 and 2022.

<sup>25</sup> CSO (2023). *Press Statement Census of Population 2022 - Summary Results Offaly*. Available at: <https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/pressstatementcensusofpopulation2022-summaryresultsoffaly/>

<sup>26</sup> CSO (2023). *Press Statement Census of Population 2022 - Summary Results Westmeath*

- 15.4.90 Ballykilmore ED increased from 732 persons in 2016, to 778 persons in 2022, an increase of 6.3%. While the population in Clonfad ED increased from 638 in 2016 to 697 in 2022, an increase of 9.3%. Refer to **Table 15.7**.

**Table 15.7: Population Change in the State, County and ED between 2022 & 2011**

STUDY AREA	2022 CENSUS	2016 CENSUS	2011 CENSUS
Knockdrin ED	198	204	189
Castlelost ED	1,726	1,692	1,718
Ballykilmore ED	778	732	707
Clonfad ED	697	638	632
County Offaly	83,150	77,961	76,687
County Westmeath	96,221	88,770	86,164
Ireland	5,149,139	4,761,865	4,588,252

Source: CSO (2023)

*Employment / Socio-Economic*

- 15.4.91 Employment is an important indicator of the economic standing of an area. This section examines employment status and unemployment levels in Counties Offaly and Westmeath.
- 15.4.92 In 2022, there were 35,248 people (aged 15 and over) at work in County Offaly, an increase of 4,961 people (+16%) between 2016 (30,287) and 2022.
- 15.4.93 In 2022, there were 42,077 people (aged 15 and over) at work in County Westmeath, an increase of 6,788 people (+19%) between 2016 and 2022. Across Ireland, there were 313,656 additional people (+16%) at work in 2022 when compared with 2016.
- 15.4.94 In 2022, the most dominant sectors of employment of resident employees in County Offaly was 'Professional Services' (8,650 persons), 'Commerce and Trade' (7,258) and 'Manufacturing Services' (5,504) representing about 60% of the total employed residents (35,248)<sup>27</sup>.
- 15.4.95 In 2022, the most dominant sectors of employment of resident employees in County Westmeath was 'Professional Services' (10,402 persons), 'Commerce and Trade' (9,246) and 'Other' (6,661) representing over 60% of the total employed residents (42,077)<sup>28</sup>.
- 15.4.96 The Labour Force Survey undertaken by the CSO provides details of unemployment on a regional level. Counties Offaly and Westmeath are located in the Midlands (IE063) region which is a NUTS<sup>29</sup> Level III statistical region of Ireland. Data for this region is used to illustrate unemployment in the area. **Table 15.8** illustrates the findings from the Q2 2023 Labour Force Survey published by the CSO<sup>30</sup>.

**Table 15.8: Labour Force Survey (Q2 2023)**

	UNEMPLOYMENT RATE	PARTICIPATION RATE
Midlands (IE063)	3.6%	64.2%

<sup>27</sup> Available at: <https://visual.cso.ie/?body=entity/ima/cop/2022&boundary=C03789V04537&quid=2ae19629-1496-13a3-e055-000000000001>

<sup>28</sup> Ibid.

<sup>29</sup> Nomenclature of Territorial Units for Statistics

<sup>30</sup> Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter22023/employment/>

<b>Ireland</b>	4.4%	65.7%
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Source: CSO (2023)

- 15.4.97 The unemployment rate in **Table 15.8** is the number of unemployed persons expressed as a percentage of the total labour force (aged 15 – 74). The unemployment rate for Ireland in Q2 2023 was 4.4% while the unemployment rate for the Midland region (IE063) was 3.6% showing that unemployment in the region (Q2 2023) was lower than the rest of Ireland.
- 15.4.98 In 2022, the number of unemployment persons (unemployed (both long and short term) looking for their first job or unable to work due to permanent sickness or disability) for County Offaly was 7,549, a slight decrease when compared to 2016 (8,777).
- 15.4.99 In County Westmeath, the number of unemployment persons in 2022 was 8,233, a decrease when compared to 2016 (9,743).
- 15.4.100 The Labour Force Participation (LFP) measures the percentage (%) of all people aged 15 or over who are available for work, that is either at work or unemployed. In 2022, the total labour force in County Offaly was 38,899 persons. The LFP rate for Offaly was 59%. In 2022, the total labour force in County Westmeath was 46,485 persons. The LFP rate for Westmeath was 61%.
- 15.4.101 The CSO also publishes figures relating to the Live Register. These figures are not strictly a measure of unemployment as they include persons who are legitimately working part-time and signing on part-time.
- 15.4.102 The figures in **Table 15.9** show that over the period of September 2022 – September 2023, there was an 2.74% reduction in the number of persons on the Live Register in the State as a whole. Similarly, there was a 2.67% reduction in the number of persons on the Live Register in the Midlands Region. The overall trend for the Live Register figures indicates a positive reduction for unemployment rates in Ireland, including the Midlands Region, Counties Offaly and Westmeath.

**Table 15.9: Live Register Figures (September 2022 – September 2023)**

	SEPTEMBER 2022	SEPTEMBER 2023	% CHANGE
<b>State</b>	179,055	174,150	-2.74%
<b>Midlands</b>	12,766	12,425	-2.67%
<b>County Offaly</b>	3,127	3,057	-2.24%
<b>County Westmeath</b>	4,327	4,101	-5.22%

- 15.4.103 Section 5 of the *Westmeath CDP 2021-2027* sets out the Economic Development and Employment aims and for County *Westmeath*, which is:

*“Facilitate the economic development of Westmeath to create a viable and favourable economic environment for business and enterprise whilst delivering sustainable jobs, employment opportunity and an enriched standard of living for everyone, both within the county and beyond. To promote and assist in Westmeath’s economic development and encourage increased resilience in the County’s enterprise, underpinned by talent and innovation, thereby ensuring that Westmeath is best placed to excel in the long-term delivery of sustainable jobs and an enhanced standard of living for all.”*



### Deprivation

- 15.4.104 The Pobal HP Deprivation Index<sup>31</sup> is the primary source for data relating to deprivation in Ireland. It combines three dimensions of affluence or disadvantage (demographic profile, social class composition and labour market situation) to provide a Relative Index Score for every Small Area (SA) in Ireland.
- 15.4.105 The Relative Index Scores are normally distributed around a bell-shaped curve to display the current levels of deprivation compared to other areas, with most areas clustered around the mean and comparatively fewer areas exhibiting extreme levels of affluence or deprivation. The eight classifications for deprivation range from extremely affluent to extremely disadvantaged.
- 15.4.106 According to the latest data available (2016), Castlelost ED and Ballykilmore ED were classified as '*marginally below average*' in 2016, with a relative score of -5.52 and -7.33 respectively. As previously noted, Knockdrin ED in County Offaly was also classified as '*marginally below average*' with a relative score of -7.92<sup>32</sup>.
- 15.4.107 Clonfad is the only ED (in Westmeath) to have a score classified as '*marginally above average*' as it has a score of 3.71. With the exception of Clonfad ED, the Westmeath EDs are all below Westmeath's Pobal HP Index of -2.08, '*marginally below average*'.

### Travel Patterns and the Existing Travel Network

- 15.4.108 At the time of writing, the 2022 Census data on travel patterns has not been released. According to the 2016 Census, the average time spent travelling to work in County Offaly is 28.6 mins, with 55.4% of residents taking less than 30 mins to travel to work. Only 5.6% of residents took over 90 mins to travel to work.
- 15.4.109 According to the 2016 Census, the average travel time in Westmeath is 28.8 mins, with 58.2% of residents taking less than 30 mins to travel to work. Only 5.8% of residents took over 90 mins to travel to work. The time which residents spent travelling to work can be seen in **Table 15.10**.
- 15.4.110 The 2016 Census indicated that Westmeath had one of the highest rates of car reliance in the whole of Ireland, with 72.9% of commuters travelling to work by car, compared to the national average of 65.6% and Offaly's total of 69%. Only 3.5% of residents in Westmeath utilise public transport services compared to the national average of 9.3% and 11% in Offaly (bus and train services).

**Table 15.10: Time Spent Travelling to Work**

DURATION OF TRAVEL	COUNTY WESTMEATH	COUNTY OFFALY
Less than 30 mins	58.2%	55.4%
31-60 mins	18.6%	22.2%
61-90 mins	9.5%	8.4%
90+ mins	5.8%	5.6%
Not stated	8%	8.4%

Source: CSO (2016)

<sup>31</sup> Haase & Pratschke (2017). *The 2016 Pobal HP Deprivation Index for Small Areas (SA)*.

<sup>32</sup> Available at: <https://maps.pobal.ie/WebApps/DeprivationIndices/index.html>

*Tourism*

- 15.4.111 Fáilte Ireland's 2019 survey on tourism (March 2021)<sup>33</sup> indicated that approximately 9.7 million overseas visitors arrived in Ireland in 2019. The total revenue generated across the Island of Ireland in 2019, was €5.6 billion. Domestic tourism expenditure in 2019 amounted to €2.1 billion.
- 15.4.112 The Westmeath CDP 2021-2027 aims to *"To provide for the continued expansion of the tourism sector, with a focus on creating strong visitor destination towns and sufficient high-quality visitor services and the continued development and enhancement of visitor attractions and activities to provide memorable, immersive visitor experiences, capitalising on our natural and cultural heritage assets, whilst safeguarding these resources for future generations."*
- 15.4.113 Westmeath has considerable heritage and cultural assets, along with a scenic and rich natural environment. Historical Fáilte Ireland and CSO visitor research has included County Westmeath as part of the Midlands region, which has not experienced a growth in visitor numbers commensurate to the coastal counterparts. The County itself however has been outperforming some of its neighbouring counties, due to a number of strong visitor attractions and a critical mass of visitor services concentrated in the towns of Athlone and Mullingar.
- 15.4.114 Ireland's Ancient East is the third regional experience brand from Fáilte Ireland and includes the majority of Westmeath. Westmeath is also part of Ireland's newest and fourth regional tourism brand, "Ireland's Hidden Heartlands", which includes Athlone and the area surrounding the River Shannon and Lough Ree. The key tourist attractions in Westmeath include:
- Dun na Si Heritage and Amenity Park.
  - The Hill of Uisneach.
  - Belvedere House, Gardens & Park.
  - Kilbeggan Distillery.
  - Tullyally Castle Gardens.
  - Fore Abbey.
- 15.4.115 The lakes and waterways of Westmeath are also connected with a rich heritage, including the famous legend of the Children of Lir associated with Lough Derravarragh. Westmeath is known as the 'Lake County', with expansive lakes dotted throughout, including Lough Ree, Lough Ennell, Lough Owel and Lough Derravaragh.
- 15.4.116 The County's waterways are also of great value, the iconic River Shannon bounds the County to the west and the River Brosna meanders southwards from Mullingar. The Royal Canal traverses the County, with many preserved original bridges and locks visible to those who travel this route by boat, bike or foot and the Old Rail Trail Greenway brings visitors along the historic Great Western Railway line through the scenic Midlands landscape.
- 15.4.117 Within Westmeath, a total of 89km of greenways have been developed for the enjoyment of walkers and cyclists. The Royal Canal Greenway traverses the County via Mullingar and Old Rail Trail Greenway links Mullingar and Athlone. Both greenways interconnect in Mullingar and will form part of the Galway to Dublin, Coast to Coast

<sup>33</sup> Available at: <https://www.failteireland.ie/Research-Insights/Current-Tourism-Performance.aspx>

Greenway and Eurovelo 2, an international-scale tourism offering, when complete in the coming years.

- 15.4.118 Off-road looped walking trails are located at various locations in the County, including Mullaghmeen Forest, Portlick Millennium Forest, the Shannon Banks Walk, Belvedere House, Gardens and Park and St. Feichin's Way in Fore. One long-distance National Waymarked Way exists from Mullingar to Kilbeggan called the Westmeath Way. Excellent high-quality parklands offering smaller trails for walking and cycling include Burgess Park in Athlone, Mullingar Town Park and Dún na Sí Amenity and Heritage Park.
- 15.4.119 High levels of investment in tourism development have taken place in recent years, to enhance attractions such as Athlone Castle, the Luan Gallery, the Hill of Uisneach Visitor Centre and Belvedere House, Gardens and Park. The recreational tourism offering has also received significant investment, with greenways developed along the Royal Canal and historical Old Rail Trail "Midlands Great Western Greenway" from Mullingar to Athlone.
- 15.4.120 Westmeath's natural heritage cannot be underestimated for its tourism value. Native wildlife can be found in abundance along our waterways, lakeshores, greenways and trails. Activities such as birdwatching and foraging are becoming increasingly popular as 'slow tourism' becomes more prevalent internationally. Visitors targeted under the Ireland's Hidden Heartlands brand proposition are those who want this more relaxed pace of holiday.
- 15.4.121 The Westmeath CDP outlines policies and objectives to support and promote sustainable tourism as well as the ongoing development of walking trails and cycling routes, including:
- **CPO 6.1:** Engage and collaborate with key stakeholders, relevant agencies, sectoral representatives and local communities to develop the tourism sector in Westmeath, to ensure that the economic potential of the tourism sector is secured for the local economy.
  - **CPO 6.3:** Continue to work closely with Fáilte Ireland to maximise the benefit of national and regional initiatives for the county, with a particular emphasis on initiatives which will increase the economic benefit from tourism, support local business development and encourage new enterprise opportunities.
  - **CPO 6.5:** Continue to support the implementation of the County's Tourism Strategy in line with national and regional policy, tourism trends and identified challenges, in collaboration with Fáilte Ireland, Waterways Ireland, tourism businesses and communities and other supporting agencies.
  - **CPO 6.8:** Support actions to increase access to state and semi-state lands such as National Parks, Forest Parks, Waterways, etc., together with Monuments and Historic Properties, for recreation and tourism purposes, subject to the requirements of the Habitats Directive, National Monuments Act and other provisions and policies to protect and safeguard these resources and subject to the ability of local infrastructure to support the resulting increased tourism.
  - **CPO 6.17:** Continue to support the promotion of Athlone and Mullingar as urban tourism destinations, providing memorable and high-quality visitor experiences in their own right and providing services for visitors to the range of attractions and activities in the surrounding region.
  - **CPO 6.26:** Collaborate with the tourism industry and Fáilte Ireland to identify future visitor accommodation and service requirements, taking account of existing

provision and projected growth and support initiatives to proactively meet any identified requirements, subject to development management standards.

- **CPO 6.34:** Encourage sustainable enterprise development associated with heritage sites to gain benefit from increased visitors, subject to development management standards.
- **CPO 6.45:** Facilitate increased access to Westmeath's lakes and waterways, from towns and villages where visitor services are located, with an emphasis on providing a strong visitor experience associated with the lakes and waterways and their heritage and amenity value, including trails, bird hides, water sports facilities etc., subject to the protection of environmentally sensitive areas and the requirements of the Habitats Directive.

15.4.122 The *Draft Westmeath Tourism Strategy 2023-2027* aims to guide tourism development countywide, taking account of the range of challenges and opportunities available for the county. Delivery of the strategy will require collaboration, involving a range of stakeholders, including Westmeath County Council, Fáilte Ireland, tourism and hospitality businesses and communities countywide.

#### *Human Health*

15.4.123 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.

15.4.124 Whilst specific health data for individuals in the vicinity of the Power Plant Area is confidential and difficult to establish, a community profile has been identified to establish the baseline health profile of Counties Offaly and Westmeath and compare this profile to the rest of the country.

#### **CSO Irish Health Survey 2019-2020**

15.4.125 The *CSO Irish Health Survey 2019-2020* is outlined in Section 15.4.31 which is applicable to the Gas Connection Corridor.

#### **2022 Census**

15.4.126 The 2022 Census (Profile 4) provides data and analysis on the long-lasting conditions or difficulties experienced by people, the health of the nation, and on carers providing unpaid care. The general health question had five response options on the census form ranging from 'very good', 'good', 'fair', 'bad' to 'very bad'<sup>34</sup>.

15.4.127 In the 2022 Census, the percentage of people reporting their general health status as either 'very good' or 'good' decreased from 88% in 2011 to 83% in 2022. All counties reported a shift from 'good' to 'less good' health between 2011 and 2022.

15.4.128 Across Ireland, fewer people (53%) said that their health was 'very good' in 2022, down from 59% in 2016. There was a small increase in those saying that their health was 'good' at 30%, compared with 28% in 2016.

15.4.129 Up to the age of 30, males were more likely to report 'very good' health status compared with females. This changes after 30 with females being more likely to report 'very good' health status in each age group rather than males.

<sup>34</sup> CSO (2023). *Press Statement Census 2022 Results Profile 4 - Disability, Health and Carers Offaly*. Available at: <https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/pressstatementcensus2022resultsprofile4-disabilityhealthandcarersoffaly/>

15.4.130 Among professional workers, 72% reported ‘very good’ health compared with 41% of unskilled workers.

15.4.131 In 2022, 83% (68,900) of people in County Offaly stated that their health was ‘good’ or ‘very good’ compared with 86% in 2016. This is a similar trend to the national figures, which showed a 4% decrease in the ‘good’ / ‘very good’ categories, from 87% to 83%<sup>35</sup>. Among the County’s females, 21,278 (51%) reported ‘very good’ health, along with 52% of males (21,722). There were also 1,722 people who reported ‘bad’ or ‘very bad’ health in the County, up from 1,436 people in 2016<sup>36</sup>.

15.4.132 In 2022, 82% (79,000) of people in Westmeath stated that their health was ‘good’ or ‘very good’ compared with 87% in 2016<sup>37</sup>. Among the County’s females, 25,084 (52%) reported ‘very good’ health, along with 52% of males (25,042). There were also 1,600 people who reported ‘bad’ or ‘very bad health’ in the County, up from 1,451 people in 2016.

### Healthy Ireland Survey 2022

15.4.133 The *Health Ireland Survey 2022* is outlined in Section 15.4.39, which is applicable to the Gas Connection Corridor.

### Healthy Westmeath

15.4.134 *Healthy Westmeath* is a Plan focused on the vision and goals of the *Healthy Ireland Framework* (refer to Section 15.3.8). Consultation has begun for Round 4 of the Plan in which Westmeath are focusing on the following 2 main outcomes:

- Increase in percentage of adults and children meeting physical activity guidelines.
- Mental Health.

15.4.135 Following the approval of Round 3 Strand 1 Funding in January 2020, a ‘*Healthy Westmeath Team*’ was established taking cognisance of the work completed by the ‘*Building Healthier Communities*’ project under the National Healthy Cities and Counties’ of Ireland Network since 2016.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> CSO (2023). *Press Statement Census 2022 Results Profile 4 - Disability, Health and Carers Westmeath*. Available at: <https://www.cso.ie/en/csolatestnews/pressreleases/2023pressreleases/pressstatementcensus2022resultsprofile4-disabilityhealthandcarerswestmeath/#:~:text=Results%20for%20Westmeath-Disability,or%20difficulty%20to%20any%20extent>.

## 15.5 Predicted Impacts

### Do-Nothing Scenario

- 15.5.1 This section outlines key potential impacts that would arise in a Do-Nothing scenario within the local environment and the local population.
- 15.5.2 If the Proposed Development and Overall Project were not to proceed, the opportunity for a project that can respond on the security of power supply to complement growing installed levels of intermittent renewable generation as part of net zero transition (including anticipated growth in energy demand from energy intensive industries and the electrification of heat and transport) would be lost. The requirement to replace conventional and aging generation plant with lower carbon technology and the opportunity to generate associated local employment and investment and diversify the local economy would be lost. Furthermore, the opportunity to meet EirGrid requirements for a looped-in substation to the Oldstreet – Woodland 400 kV circuit in the eastern Midlands would also be lost.
- 15.5.3 In the absence of the Proposed Development and Overall Project, the Do-Nothing scenario would not result in any significant changes to the baseline environment or local population. The opportunities for local employment and additional economical spend from the Proposed Development and Overall Project will not be realised. This would result in **Slight, Negative, Permanent Direct and Indirect** effect.
- 15.5.4 The Do-Nothing scenario would not enable the Applicant to create additional electricity generating capacity, thus would exacerbate security of supply concerns for Ireland resulting in **Significant Adverse** effects on the population.
- 15.5.5 In the Do-Nothing Scenario, there will be no emissions generated during the from construction or operational phases and no potential for effects associated with the development of the Site. Therefore, there would be **No Significant** effects to human health.
- 15.5.6 If the Proposed Development and Overall Project were not to proceed, environmental monitoring and site management would continue, as required under the conditions of the IPC Licence (P0501-01). The magnitude of impact would be **No Change** leading to a **Permanent Neutral** effect.

### Impact Assessment for the Power Plant Area

#### *Construction Phase*

#### **Population**

- 15.5.7 The construction phase of the Power Plant Area is unlikely to have any significant negative effects on the local population.
- 15.5.8 Levels of employment will vary throughout the construction phase of the Power Plant Area with a maximum of 750 staff on-site at any one time during the peak periods (March-May 2026). It is considered that the majority of staff (estimated at 80%) will arrive via mini-bus and the remaining 20% will arrive by car. Refer to **Appendix 14D** (Construction Traffic Management Plan (CTMP)), Volume II.
- 15.5.9 The effect of the construction phase of the Power Plant Area is likely to result in a short-term increase in construction workers staying in local accommodation in the area over the construction period of c. 39 months. Construction phase impacts are anticipated to result in a **Direct, Slight, Positive and Short-Term** effect on the local population.

*Employment / Socio-Economic*

- 15.5.10 The construction phase of the Power Plant Area will create and support direct and indirect employment at local level, primarily through local construction workforce on site, and at a national level, through more specialised construction services and supply of building materials.
- 15.5.11 Construction materials such as quarried products and concrete supplies can be sourced locally and will support local business. Throughout the construction phase, there is the potential for some plant, equipment and associated operatives can be sourced locally. Indirect employment opportunities will be created in the region through off-site concrete batching as well as potential increased employment in the local hospitality and café / restaurant industries driven by use of the facilities by construction staff.
- 15.5.12 Levels of employment will vary throughout the construction phase. As noted above, peak levels of employment will be approximately 750 staff.
- 15.5.13 Although these construction jobs are temporary, they represent a **Positive** economic impact that can be estimated as a function of the scale and type of construction.
- 15.5.14 The construction of the Power Plant Area is assessed to have a **Moderate** impact on the employment workforce. Considering the frequency duration of the impact, the likely significance of effect on the economy is assessed to be both **Direct** and **Indirect, Moderate Positive** effect, and will be **Short-Term** in duration.

*Severance*

- 15.5.15 The Study Area of the Power Plant Area is predominantly rural with limited public transport available. Local residents heavily rely on the local and regional road network to access workplaces, educational facilities, and community facilities. During the construction phase HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site.
- 15.5.16 During the peak construction periods, the expected peak HGV traffic will be between September 2025 – February 2027. During these months a maximum of 70 no. HGVs will arrive to the Site each day (140 two-way trips). During peak staffing periods, there will be a total of 136 no. staff vehicles (LGV) arriving to the Site each day (272 no. two-way trips).
- 15.5.17 However, it should be noted that the LGVs and HGVs will not arrive at the same times during the day. The HGVs are expected to arrive relatively uniformly throughout the day. Whereas the staff (LGVs) are expected to arrive and depart based on shift times which are likely to be outside of peak hours (before 07:00 and after 19:00). Refer to **Chapter 14** (Traffic).
- 15.5.18 All HGVs, associated with the Power Plant Area will travel to the Site along the R400 road from the direction of the M6 motorway. This route allows for use of the motorway and regional roads for the most part of the journey. This haulage route restriction will be a requirement within the Construction Traffic Management Plan (CTMP) and will be managed by the Contractor.
- 15.5.19 Construction traffic for the Power Plant Area will use both the existing (upgraded) Bord Na Mona access and a new access (for the AGI), located off the R400 road. Refer to **Chapter 14** (Traffic).
- 15.5.20 A CTMP (for the Proposed Development *i.e.*, the Power Plant Area and Electricity Grid Connection) is included in **Appendix 14F**, Volume II of the EIAR. The Contractor CTMP will be provided by the appointed Contractor.

15.5.21 Therefore, it is not expected that there will be any congestion considerable enough to deter local residents from accessing workplaces, educational facilities, or community facilities, during the construction phase of the Power Plant Area.

15.5.22 Therefore, the Power Plant Area will have a **Short-Term, Slight Negative** impact on severance between local residents in the Study Area and the facilities they use during the construction phase. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Not Significant**.

*Tourism*

15.5.23 As outlined in Section 15.4, there are no tourism attractions and public amenities within the Study Area. However, there are a number of attractions within 5km of the Power Plant Area, including the Grand Canal and Croghan Hill.

15.5.24 It is considered that the construction phase of the Power Plant Area will not have a direct impact on tourism attractions / amenities. No other direct or indirect impacts on tourist or recreational attractions are predicted.

15.5.25 Measures to be employed by the Contractor during the construction phase will ensure the health and safety of tourists and the general public are adhered to and are outlined in the CEMP in **Appendix 5A**. Therefore, the significance of effect is assessed to be **Not Significant**.

Human Health

*Access to Health and Social Care Services and Other Social Infrastructure*

15.5.26 As noted above, the Study Area is predominantly rural with limited public transport available and local residents rely heavily on the road network to access services and facilities.

15.5.27 During the construction phase, HGVs, staff and general delivery traffic will be required to travel to and from the Site. Construction traffic will travel to and from the Site via the R400 road and the M6 motorway.

15.5.28 LGVs and HGVs will not arrive to the Site at the same times during the day. The HGVs are expected to arrive relatively uniformly throughout the day. Whereas the staff (LGVs) are expected to arrive and depart based on shift times which are likely to be outside of peak hours (before 07:00 and after 19:00). Refer to **Chapter 14** (Traffic).

15.5.29 The transport assessment has determined that although construction activity will result in a **Short-Term** increase in traffic generation associated with the Power Plant Area, is expected to have a **Slight Negative** effect.

15.5.30 Therefore, it is expected that there will be a limited effect on the ability of residents to access healthcare and social facilities in the Study Area. The potential health impact during construction related to access to services and other social infrastructure is therefore assessed to be **Neutral (0)**.

*Access to Open Space and Nature*

15.5.31 The Power Plant Area will be constructed within the boundary of the existing Derrygreenagh Works. The proposal does not include the demolition or provision of open and natural spaces. However, this assessment considers whether the traffic, air quality and noise and vibration effects of the Power Plant Area are likely to impact the character of open and natural spaces and whether they remain welcoming, safe and accessible for all during the construction phase.

15.5.32 With regard to air emissions, the Power Plant Area will **not result in a Significant** change to the local air quality environment during the construction phase. There is no



amenity receptor falling within 250m of the Power Plant Area. Further consideration of the effect of fugitive dust and particulate matter emissions from construction operations at the Power Plant Area, has not therefore been carried out.

- 15.5.33 The **Short-Term** increase in traffic generation associated with the Power Plant Area is expected to have a **Slight Negative** effect.
- 15.5.34 Therefore, it is expected that the Power Plant Area will not impact upon the ability to access and enjoy existing open and natural spaces within the Study Area. Consequently, the impact of the Power Plant Area on access to open space and nature as a determinant of human health and well-being during the construction phase is assessed to be **Neutral (0)**.

#### *Air Quality, Noise and Neighbourhood Amenity*

- 15.5.35 The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by traffic and commercial activity can result in poor air quality, noise nuisance and vibration. Poor air quality is linked to incidence of chronic lung disease (chronic bronchitis or emphysema), heart conditions and asthma levels among children and young people. Noise pollution can have a detrimental impact on health resulting in sleep disturbance, cardiovascular and psycho-physiological effects. Good design and the separation of land uses can lessen noise impacts<sup>38</sup>.
- 15.5.36 An assessment of the impact of the Power Plant Area on air quality is provided in **Chapter 7** (Air Quality). The assessment finds that there is no are no human health or amenity receptors falling within 250m of the Power Plant Area. Further consideration of the effect of fugitive dust and particulate matter emissions from construction operations at the Power Plant Area, has not therefore been carried out.
- 15.5.37 An assessment of noise generation caused by construction traffic is provided in **Chapter 11** (Noise and Vibration). A **Negligible** impact (not significant) on existing road traffic noise levels is expected during the construction phase at residential receptors.
- 15.5.38 A Construction Environmental Management Plan (CEMP) has been prepared and will be further refined and expanded by the Contractor, into a Contractor's CEMP. The Contractor's CEMP will also ensure no impact on any vector that would pose a significant risk to human health. Therefore, the impact of the Power Plant Area on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

#### *Climate Change*

- 15.5.39 An assessment of the likely climate change effects arising from the construction activities of the Power Plant Area is provided in **Chapter 18** (Climate).
- 15.5.40 Construction is estimated to emit approximately 42,180 tonnes of GHGs. The climate assessment concludes that these emissions will contribute considerably less than 1% of the 2021-2025 and 2026-2030 carbon budget in Ireland.
- 15.5.41 The impact of the Power Plant Area in terms of climate change as a determinant of human health and well-being during construction is assessed to be **Negative (-)**.

#### *Operational Phase*

#### **Population**

- 15.5.42 The Derrygreenagh Thermal Power Plant site will comply with the requirements of the European Union (Large Combustion Plants) Regulations 2012 S. I. No. 566 of 2012

<sup>38</sup> NHS (2019). *HUDU Planning for Health: Rapid Health Impact Assessment Tool*.

under its Industrial Emissions (IE) Licence (to be applied for). The Site will be operated in line with the IE Licence (to be applied for) and appropriate standards, and the operator will implement and maintain an Environment Management System (EMS) which will be certified to International Standards Organisation (ISO) 14001.

- 15.5.43 It is not anticipated that the Power Plant will have any significant impact on the current population trends in Counties Offaly and Westmeath or locally. During the operational phase, the Power Plant Area will be operated, maintained, and managed by suitably qualified and trained personnel.
- 15.5.44 Bord na Móna is proposing to replicate its Community Gain Scheme model for Derrygreenagh Power. The fund shall be made by five annual payments of €90,000 (ninety thousand euro) beginning on commencement of construction of the Proposed Development contributing to a total fund of €450,000 (four hundred and fifty thousand euro) over the five-year period. The fund will look to support the local community, through funding of projects and services, as required. A description of the Community Benefit proposal is outlined below and in the 'Derrygreenagh Power Community Report' which is contained in **Appendix 6E**.
- 15.5.45 In addition to employment during the operational phase of the Proposed Development and annual rates that will be paid to the local authority by the developer, a range of other benefits associated with the development will be provided to the local community through the annual Community Gain Scheme. The aim of this scheme is to provide financial assistance to local communities and not-for-profit organisations around the development.
- 15.5.46 Impacts to the local population are considered to be **Positive, Slight and Long-Term** in duration.

*Employment / Socio-Economic*

- 15.5.47 During the operational phase, the Power Plant Area will be operated, maintained, and managed by suitably qualified and trained personnel. There will be a high degree of automation in the with all processes controlled from a shared central control room.
- 15.5.48 The facility will be permanently manned 24-hours a day and seven days a week. The operations team typically comprising of two operators, and a shift team leader will work rotational shift patterns to ensure cover is provided whilst the plant is operating.
- 15.5.49 Depending on the final shift patterns this may involve four or five operations teams. The Power Plant Area operators will be supported by a management team, maintenance team and administrative support staff who will work typical office hours. It is expected that the total number of personnel employed at the Power Plant Area in the operation phase will be in the range of 45 - 50. This will represent a **Positive** economic impact.
- 15.5.50 A number of indirect employment opportunities would also be created in a variety of different trades and business as a result of the operational phase.
- 15.5.51 The operational phase is assessed to have a **Moderate** impact on the workforce. Considering the frequency, extent, and duration of the impact, the significance of effect is assessed to be a **Moderate Positive** and **Long-Term**.

*Severance*

- 15.5.52 The operation of the Power Plant Area will require staff to travel to and from the Site. The operations team typically comprising of two operators, and a shift team leader will work rotational shift patterns to ensure cover is provided whilst the plant is operating.
- 15.5.53 During the operational phase, natural gas will be piped to the Power Plant Area, therefore there will be no vehicle movements associated with this operational method.

- 15.5.54 In an emergency scenario (when operating with distillate fuel), the maximum number of HGV vehicle movements (in one direction) that could arrive on Site over a day would be up to 36 No. HGV vehicles. However, these movements are not expected to be a regular occurrence.
- 15.5.55 Fuel delivery by road would be limited to the daytime operational hours and no delivery of fuel would take place on Sundays or at night, except in the case of extended emergency operation. This increase in vehicles on the road network is **Not Significant** as it is considered that the road network would be able to cope with the infrequent nature of the emergency scenarios. The CCGT and OCGT plants will also be subject to annual inspections, with non-route maintenance and repair operations taking place when needed. Refer to **Chapter 14** (Traffic).
- 15.5.56 The Power Plant Area is assessed to be **Imperceptible** on severance between local residents in the Study Area and the facilities which they use during the operational phase.
- Tourism*
- 15.5.57 During the operational phase, the Power Plant Area will operate within the boundary of an Industrial Emissions (IE) Licence (to be applied for). Therefore, it is considered that the operational phase of the Power Plant Area will not have a direct impact on tourism attractions / amenities in the wider area. Similarly, no other indirect impacts on tourist or recreational attractions are predicted.
- 15.5.58 Therefore, the significance of effect is assessed to be **Not Significant**.

#### **Human Health**

##### *Access to Health and Social Care Services and Other Social Infrastructure*

- 15.5.59 During the operational phase, some additional staff will be required to travel to and from the Site. In an emergency scenario, up to 36 No. HGVs may arrive on-site, *i.e.*, three per hour, however, these movements would not be a regular occurrence.
- 15.5.60 The potential health impact during operation related to access to healthcare services and social infrastructure is therefore assessed to be **Neutral (0)**.

##### *Access to Open Space and Nature*

- 15.5.61 Similar to the construction phase, the Power Plant Area will operate within the boundary of an IE Licence (to be applied for). There will be no requirement to demolish open and natural spaces.
- 15.5.62 It is also important to assess whether the Power Plant Area physically constrains people from accessing open and natural spaces nearby. As noted in the severance assessment above, there will be no impact on severance between residents in the Study Area and the facilities which they use during the operational phase (including open spaces).
- 15.5.63 Therefore, with regard to impacts on the character of open and natural spaces and whether they remain welcoming, safe and accessible for all, there will be no significant noise, air quality or traffic effects likely to arise during the operational phase. The impact of the Power Plant Area on access to open space and nature as a determinant of human health and well-being during the operational phase is assessed to be **Neutral (0)**.

*Air Quality, Noise and Neighbourhood Amenity*

- 15.5.64 The operation of the Power Plant Area will be regulated by EPA through the IE Licence required for the operation of the Power Plant Area as required per activity threshold outlined in Class 2.1 of the First Schedule of the EPA Act as amended.
- 15.5.65 During the operational phase of the Power Plant, the air quality impact assessment of emissions considers NO<sub>x</sub> (NO<sub>2</sub> in the case of human health) and Carbon monoxide (CO). Given the worst-case assumptions made in the assessment, the magnitude of the predicted impacts and the predicted NO<sub>2</sub> and CO concentrations, it is considered overall effect of changes in NO<sub>2</sub> and CO concentrations due to emissions from the Power Plant Area is considered to be **Not Significant**.
- 15.5.66 During the operational phase of the Power Plant, the noise impact assessment determined that additional mitigation is required as additional mitigation is required as the unmitigated scenario is not compliant with the day, evening and night-time limits at one of the two closest NSRs to the Power Plant Area. The impact Noise from the Power Plant Area is considered to be **Not Significant**.
- 15.5.67 It is expected that the Power Plant Area will not result in any significant change to the local air quality or noise environment during operation. Therefore, the impact of the Power Plant Area on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

*Climate Change*

- 15.5.68 The Power Plant Area will remain operational for approximately 25 years with 3,88,823 tonnes of GHG estimated to be emitted annually and 97,220,572 tonnes in its lifetime in a worst-case scenario. These emissions are deemed **Significant**, contributing to 5.83% of Ireland's carbon budget in 2026-2030 and 12.88% in 2031-2035.
- 15.5.69 There is a clear link between climate change and health. However, when viewed in a broader context (of the Irish energy policy), as per the IEMA guidance<sup>39</sup>, '*The project's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for a project of this type*'. The Power Plant Area can therefore be said to be **Minor Adverse** and therefore **Not Significant**, as it does comply with existing and emerging policy requirements and is fully in line with Ireland's trajectory towards net zero, refer to **Chapter 18** (Climate).
- 15.5.70 The impact to human health is therefore assessed to be **Neutral (0)**.

*Decommissioning Phase*

- 15.5.71 It is expected that the Power Plant will have a design life of at least 25 years. Effects arising from the process of decommissioning of the Power Plant Area are considered to be of a similar nature and duration to those arising from the construction phase and are therefore have not been considered separately. Refer to **Chapter 5, Section 5.9** for full details on the proposed decommissioning phase.

Impact Assessment for the Electricity Grid Connection*Construction Phase***Population**

- 15.5.72 The construction phase of the Electricity Grid Connection is unlikely to have any significant negative effects on the local population.

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<sup>39</sup> IEMA (2022).

15.5.73 Levels of employment will vary throughout the construction phase, with peak levels of employment likely to be 120 staff, during the peak periods (June 2025 – August 2026 for the 220 kV Station, March 2025 – November 2026 for the 400 kV Station and March 2026 – May 2027 for the Electricity Grid Route).

15.5.74 The effect of the construction phase of the Electricity Grid Connection is likely to result in a short-term increase in construction workers staying in local accommodation in the area over the construction period of c. 33 months. Impacts to the local population are considered to be **Positive, Direct, Slight** and **Short-Term** in duration.

*Employment / Socio-Economic*

15.5.75 The construction phase of the Electricity Grid Connection will create and support direct and indirect employment at local level, primarily through local construction workforce on site, and at a national level, through more specialised construction services and supply of building materials.

15.5.76 Construction materials such as quarried products and concrete supplies can be sourced locally and will support local business. Throughout the construction phase, there is the potential for some plant, equipment and associated operatives can be sourced locally. Indirect employment opportunities will be created in the region through off-site concrete batching as well as potential increased employment in the local hospitality and café / restaurant industries driven by use of the facilities by construction staff.

15.5.77 Levels of employment will vary throughout the construction phase, with peak levels of employment likely to be 120 staff.

15.5.78 Although these construction jobs are temporary, they represent a **Positive** economic impact that can be estimated as a function of the scale and type of construction.

15.5.79 The construction of the Electricity Grid Connection is assessed to have a **Moderate** impact on the employment workforce. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be both **Direct** and **Indirect, Moderate Positive** effect, and will be **Short-Term** in duration.

*Severance*

15.5.80 The Study Area of the Electricity Grid Connection is rural with limited public transport available. Local residents rely on the local and regional road network to access workplaces and community facilities. During the construction phase, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site.

15.5.81 The Site entrance for the 220 kV Substation is west from the R400 road. During the peak construction period for the 220 kV Substation, the expected peak HGV traffic will be between December 2025 – February 2026. During these months a maximum of 20 no. HGVs will arrive to the Site each day (40 two-way trips). During peak staffing periods, there will be a total of 28 no. staff vehicles (LGV) arriving to the Site each day.

15.5.82 The Site entrance to the 400 kV Substation will be through the existing site access south from the L1010 Togher Road across Bord na Móna lands and then west into the site. During the peak construction period for the 400 kV Substation, the expected peak HGV traffic will be between June 2025 – February 2026. During these months a maximum of 20 no. HGVs will arrive to the Site each day (40 two-way trips). During peak staffing periods, there will be a total of 28 no. staff vehicles (LGV) arriving to the Site each day.

- 15.5.83 During the peak construction period for the electricity grid route, the expected peak HGV traffic will be between March 2026 – August 2026. During these months a maximum of 25 no. HGVs will arrive to the Site each day (50 two-way trips). During peak staffing periods, there will be a total of 28 no. staff vehicles (LGV) arriving to the Site each day.
- 15.5.84 The existing entrances will be developed to facilitate the construction phase of the Electricity Grid Connection. In addition to the above, an entrance via an existing haul route west off the R400 road to the intersection between Derryarkin Bog and Ballybeg Bog, and another entrance north from the L1010 road (opposite the entrance to the 400 kV Substation) onto Ballybeg Bog, will be utilised in both instances to facilitate the delivery of construction materials and construction staff, refer to **Chapter 14** (Traffic).
- 15.5.85 It should be noted for all of the Electricity Grid Connection elements, LGVs and HGVs will not arrive at the same times during the day. The HGVs are expected to arrive relatively uniformly throughout the day. Whereas the staff (LGVs) are expected to arrive and depart based on shift times which are likely to be outside of peak hours (before 07:00 and after 19:00). Refer to **Chapter 14** (Traffic).
- 15.5.86 All HGVs, associated with the Electricity Grid Connection will travel to the Site along the R400 road from the direction of the M6 motorway. This haulage route restriction will be a requirement within the Construction Traffic Management Plan (CTMP) and will be managed by the Contractor.
- 15.5.87 A CTMP (for the Proposed Development *i.e.*, the Power Plant Area and Electricity Grid Connection) is included in **Appendix 14F**, Volume II of the EIAR. The Contractor CTMP will be provided by the appointed contractor.
- 15.5.88 Therefore, it is not expected that there will be any congestion considerable enough to deter local residents from accessing workplaces or community facilities, during the construction phase of the Electricity Grid Connection.
- 15.5.89 Therefore, the Electricity Grid Connection will have a **Short-Term, Slight Negative** impact on severance between local residents in the Study Area and the facilities they use during the construction phase. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Not Significant**.

#### *Tourism*

- 15.5.90 There are a number of attractions within 2km of the Electricity Grid Connection including the Grand Canal and Croghan Hill.
- 15.5.91 It is considered that the construction phase of the Electricity Grid Connection will not have a direct impact on tourism attractions / amenities, as the construction works will be Short-Term. No other direct or indirect impacts on tourist or recreational attractions are predicted.
- 15.5.92 Measures to be employed by the Contractor during the construction phase will ensure the health and safety of tourists and the general public are adhered to and are outlined in the CEMP in **Appendix 5A**. Therefore, the significance of effect is assessed to be **Not Significant**.

#### *Human Health*

##### *Access to Health and Social Care Services and Other Social Infrastructure*

- 15.5.93 As noted above, the Study Area is predominantly rural with limited public transport available and local residents rely heavily on the road network to access services and facilities.

- 15.5.94 During the construction phase, HGVs, staff and general delivery traffic will be required to travel to and from the Site. Construction traffic will travel to and from the Site via the R400 road and the M6 motorway.
- 15.5.95 The LGVs and HGVs will not arrive to the Site at the same times during the day. The HGVs are expected to arrive relatively uniformly throughout the day. Whereas the staff (LGVs) are expected to arrive and depart based on shift times which are likely to be outside of peak hours (before 07:00 and after 19:00). Refer to **Chapter 14** (Traffic).
- 15.5.96 The transport assessment has determined that although construction activity will result in a **Short-Term** increase in traffic generation associated with the Power Plant Area, is expected to have a **Slight Negative** effect.
- 15.5.97 Therefore, it is expected that there will be a limited effect on the ability of residents to access healthcare and social facilities in the Study Area. The potential health impact during construction related to access to services and other social infrastructure is therefore assessed to be **Neutral (0)**.

*Access to Open Space and Nature*

- 15.5.98 The construction of the Electricity Grid Connection does not include the demolition or provision of open and natural spaces. However, this assessment considers whether the traffic, air quality and noise and vibration effects of the Electricity Grid Connection are likely to impact the character of open and natural spaces and whether they remain welcoming, safe and accessible for all during the construction phase.
- 15.5.99 With regard to air emissions, the Electricity Grid Connection will have a **Not Significant** change to the local air quality environment during the construction phase. At the southern end of the Electricity Grid Connection underground cable route, there are some residential properties within 50m of the Site boundary. The likely significant effects from emissions from construction phase activities associated with the construction of the Electrical Grid Connection have been assessed as Low or **Slight**.
- 15.5.100 The **Short-Term** increase in traffic generation associated with the Electricity Grid Connection is expected to have a **Slight Negative** effect.
- 15.5.101 Therefore, it is expected that the Electricity Grid Connection will not impact upon the ability to access and enjoy existing open and natural spaces within the Study Area. Consequently, the impact of the Electricity Grid Connection on access to open space and nature as a determinant of human health and well-being during the construction phase is assessed to be **Neutral (0)**.

*Air Quality, Noise and Neighbourhood Amenity*

- 15.5.102 The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by traffic and commercial activity can result in poor air quality, noise nuisance and vibration<sup>40</sup>.
- 15.5.103 An assessment of the impact of the Electricity Grid Connection on air quality is provided in **Chapter 7** (Air Quality). The assessment finds that there is a **Slight** risk of dust impacts occurring during construction which could affect human health. The assessment identifies an appropriate level of mitigation that will be able to control impacts to the extent that any effect is **Not Significant**.
- 15.5.104 An assessment of noise generation caused by construction traffic is provided in **Chapter 11** (Noise and Vibration). A **Negligible** impact (not significant) on existing road traffic noise levels is expected during the construction phase at residential receptors.

<sup>40</sup> NHS (2019). *HUDD Planning for Health: Rapid Health Impact Assessment Tool*.

15.5.105 A CEMP has been prepared and will be further refined and expanded by the Contractor, into a Contractor's CEMP. The Contractor's CEMP will also ensure no impact on any vector that would pose a significant risk to human health. Therefore, the impact of the Electricity Grid Connection on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

*Climate Change*

15.5.106 An assessment of the likely climate change effects arising from the construction activities of the Power Plant Area is provided in **Chapter 18** (Climate).

15.5.107 Construction is estimated to emit approximately 13,306 tonnes of GHG during the construction process in a worst-case scenario which is considerably less than 1% of Ireland's 2021-2025 and 2026-2030 carbon budgets.

15.5.108 The impact of the Electricity Grid Connection in terms of climate change as a determinant of human health and well-being during construction is assessed to be **Negative (-)**.

*Operational Phase*

**Population**

15.5.109 The Electricity Grid Connection will be managed by the respective transmission asset operators (TAO) and transmission system operators (TSO) (ESBNI and EirGrid for electricity) as part of the national grid electricity.

15.5.110 It is not proposed that the Electricity Grid Connection or substations will be manned although periodic inspections and maintenance activities will be undertaken by 1 - 2 staff intermittently.

15.5.111 Impacts to the local population are considered to be **Imperceptible**.

*Employment / Socio-Economic*

15.5.112 The Electricity Grid Connection will be managed by the respective transmission asset operators (TAO) and transmission system operators (TSO) (ESBNI and EirGrid for electricity) as part of the national grid electricity.

15.5.113 The operational phase is assessed to have an **Imperceptible** impact on the workforce.

*Severance*

15.5.114 The Electricity Grid Connection is assessed to have an **Imperceptible** impact on severance between local residents in the Study Area and the facilities which they use during the operational phase.

*Tourism*

15.5.115 During the operational phase, the Electricity Grid Connection will operate within lands owned by the Applicant.

15.5.116 Therefore, it is considered that the operational phase of the Electricity Grid Connection will not have a direct impact on tourism attractions / amenities in the wider area. Similarly, no other indirect impacts on tourist or recreational attractions are predicted.

15.5.117 Therefore, the significance of effect is assessed to be **Not Significant**.



## Human Health

### *Access to Health and Social Care Services and Other Social Infrastructure*

15.5.118 As noted above, it is not proposed that the Electricity Grid Connection or substations will be manned although periodic inspections and maintenance activities will be undertaken by 1 - 2 staff intermittently.

15.5.119 The potential health impact during operation related to access to healthcare services and social infrastructure is therefore assessed to be **Neutral (0)**.

### *Access to Open Space and Nature*

15.5.120 Similar to the construction phase, the Electricity Grid Connection will operate within lands owned by the Applicant and does not include the demolition or provision of open and natural spaces.

15.5.121 It is also important to assess whether the Electricity Grid Connection physically constrains people from accessing open and natural spaces nearby. As noted in the severance assessment above, there will be no impact on severance between local residents in the Study Area and the facilities which they use during the operational phase (including open spaces).

15.5.122 Therefore, in regard to impacts on the character of open and natural spaces there will be no significant noise, air quality or traffic effects likely to arise during the operational phase. The impact of the Electricity Grid Connection on access to open space and nature as a determinant of human health and well-being during the operational phase is assessed to be **Neutral (0)**.

### *Air Quality, Noise and Neighbourhood Amenity*

15.5.123 Emissions to air from the operation of the Electricity Grid Connection would be minimal and have been classified as **Imperceptible**. Therefore, the effect would be **Imperceptible** at all human health receptors.

15.5.124 Operational noise levels from the Electricity Grid Connection will result in no

15.5.125 During the operational phase of the Electricity Grid Connection, the noise impact assessment determined that there would not be any significant adverse impact at residential receptors. Therefore, the effect would be **Imperceptible**.

15.5.126 It is expected that the Electricity Grid Connection will not result in any significant change to the local air quality or noise environment during operation. Therefore, the impact of the Electricity Grid Connection on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

### *Climate Change*

15.5.127 The Electricity Grid Connection, once operational, will be limited to intermittent maintenance and monitoring activities and therefore will not result in material operational emissions. The impact to human health is therefore assessed as **Neutral (0)**.

### *Decommissioning Phase*

15.5.128 The electricity grid connection will be managed by the transmission asset operators (TAO) and transmission service operators (TSO) (ESBNI and EirGrid for electricity) as part of the national grid electricity. Decommissioning of the 220 kV substation and 400 kV substation and associated Electricity Grid Connection transmission infrastructure will remain in situ and form part of the national grid infrastructure. Therefore,

decommissioning of the Electricity Grid Connection is not envisaged and has not been assessed under this EIAR as it will be managed by EirGrid once it is operational.

#### Impact Assessment to Gas Connection Corridor

##### *Construction Phase*

##### **Population**

- 15.5.129 The construction phase of the Gas Connection Corridor is unlikely to have any significant negative effects on the local population.
- 15.5.130 Levels of employment will vary throughout the construction phase of the Gas Connection Corridor
- 15.5.131 The effect of the construction phase of the Gas Connection Corridor is likely to result in a short-term increase in construction workers staying in local accommodation in the area, while the remainder of construction staff will travel from their existing residence during this period of c. 24 months. Impacts to the local population are considered to be **Positive, Direct, Slight and Short-Term**.

##### *Employment / Socio-Economic*

- 15.5.132 The construction phase of the Gas Connection Corridor will create and support direct and indirect employment at local level, primarily through local construction workforce on site, and at a national level, through more specialised construction services and supply of building materials.
- 15.5.133 Throughout the construction phase, there is the potential for some plant, equipment and associated operatives can be sourced locally. Indirect employment opportunities will be created in the region through off-site concrete batching as well as potential increased employment in the local hospitality and café / restaurant industries driven by use of the facilities by construction staff.
- 15.5.134 Although the construction jobs are temporary, they represent a **Positive** economic impact that can be estimated as a function of the scale and type of construction.
- 15.5.135 The construction of the Gas Connection Corridor is assessed to likely have a **Moderate** impact on the employment workforce. Considering the frequency duration of the impact, the likely significance of effect on the economy is assessed to be both **Direct and Indirect, Moderate Positive** effect, and will be **Short-Term** in duration.

##### *Severance*

- 15.5.136 The Study Area of the Gas Connection Corridor is rural with limited public transport available. Local residents rely on the local and regional road network to access workplaces and community facilities. During the construction phase, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site.
- 15.5.137 Construction traffic for the Gas Connection Corridor will be through temporary construction access points and will be created into the northern AGI on the high-pressure line at a suitable location. A temporary access road will be required along pipeline work area and temporary access roads and construction vehicle crossing points are proposed along the pipeline route. There will be gravelled laydown areas positioned close to access roads on the Site where any materials will be unloaded and then transported to the area of works. Refer to **Chapter 14** (Traffic).
- 15.5.138 During the peak construction periods, a maximum of 25 no. HGVs will arrive to the Site each day (50 two-way trips). During peak staffing periods, there will be a total of 44 no. staff vehicles (LGV) arriving to the Site each day.

- 15.5.139 However, it should be noted that the LGVs and HGVs will not arrive at the same times during the day. The HGVs are expected to arrive relatively uniformly throughout the day *i.e.*, 25 arrivals over 12 hours, or 3 vehicle arrivals per hour. Whereas the staff (LGVs) are expected to arrive and depart based on shift times which are likely to be outside of peak hours (before 07:00 and after 19:00). Refer to **Chapter 14** (Traffic).
- 15.5.140 It should be noted that staff will travel to a range of different access locations along the gas pipeline route. These are not yet confirmed.
- 15.5.141 The contractor for the Gas Connection Corridor will prepare a CTMP.
- 15.5.142 Temporary diversions and temporary road closures may be required for short periods of time with designated detour routes in place and local access accommodated. However, it is not expected that there will be any congestion considerable enough to deter local residents from accessing workplaces or community facilities, during the construction phase of the Gas Connection Corridor.
- 15.5.143 Therefore, the Gas Connection Corridor will have a **Short-Term, Slight Neutral** impact on severance between local residents in the Study Area and the facilities they use during the construction phase. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Not Significant**.

#### *Tourism*

- 15.5.144 As outlined in Section 15.4, there are no tourism attractions and public amenities within the Study Area.
- 15.5.145 It is considered that the construction phase of the Gas Connection Corridor will not have a direct impact on tourism attractions / amenities. No other direct or indirect impacts on tourist or recreational attractions are predicted.
- 15.5.146 Measures to be employed by the Contractor during the construction phase will ensure the health and safety of tourists and the general public are adhered to and are outlined in the CEMP in **Appendix 5A**. Therefore, the significance of effect is assessed to be **Not Significant**.

#### **Human Health**

##### *Access to Health and Social Care Services and Other Social Infrastructure*

- 15.5.147 As noted above, the Study Area is predominantly rural with limited public transport available and local residents rely heavily on the road network to access services and facilities.
- 15.5.148 As noted above temporary diversions and temporary road closures may be required for short periods of time. However, it is not expected that there will be any congestion considerable.
- 15.5.149 During the construction phase, HGVs, staff and general delivery traffic will be required to travel to and from the site. Specific access points for the Gas Pipeline development will be confirmed in the associated planning application for the development. Components of the gas pipeline will arrive via Junctions 3 and 4 of the M6 Motorway.
- 15.5.150 Detailed staff traffic distribution will not be finalised until a contractor has been appointed. However, based on the location of most local large towns, it is expected that most staff will arrive via the M6. LGVs and HGVs will not arrive to the Site at the same times during the day. Refer to **Chapter 14** (Traffic).
- 15.5.151 The transport assessment has determined that although construction activity will result in a **Short-Term** increase in traffic generation associated with the Gas Connection Corridor, is expected to be **Neutral** and **Not Significant** effect.

15.5.152 Therefore, it is expected that there will be a limited effect on the ability of residents to access healthcare and social facilities in the Study Area. The potential health impact during construction related to access to services and other social infrastructure is therefore assessed to be **Neutral (0)**.

*Access to Open Space and Nature*

15.5.153 The construction of the Gas Connection Corridor does not include the demolition or provision of public open spaces. However, this assessment considers whether the traffic, air quality and noise and vibration effects of the Gas Connection Corridor are likely to impact the character of open and natural spaces and whether they remain welcoming, safe and accessible for all during the construction phase.

15.5.154 With regard to air emissions, the Gas Connection Corridor will **not result in a Significant** change to the local air quality environment during the construction phase. Potential dust impacts have been assessed based on the receptor sensitivity and distance refer to **Chapter 7** (Air Quality). The likely significant effects from emissions from construction phase activities associated with the construction of the Gas Connection Corridor have been assessed as Low or **Slight**.

15.5.155 Traffic generation associated with the Gas Connection Corridor is expected to have a **Neutral** and **Not Significant** effect.

15.5.156 Therefore, it is expected that the Gas Connection Corridor will not impact upon the ability to access and enjoy existing open and natural spaces. Consequently, the impact of the Gas Connection Corridor on access to open space and nature as a determinant of human health and well-being during the construction phase is assessed to be **Neutral (0)**.

*Air Quality, Noise and Neighbourhood Amenity*

15.5.157 The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by traffic and commercial activity can result in poor air quality, noise nuisance and vibration<sup>41</sup>.

15.5.158 An assessment of the impact of the Gas Connection Corridor on air quality is provided in **Chapter 7** (Air Quality). The assessment finds that there is a **Slight** risk of dust impacts occurring during demolition and construction which could affect human health. The assessment identifies an appropriate level of mitigation that will be able to control impacts to the extent that any effect is **Not Significant**.

15.5.159 An assessment of noise generation caused by construction traffic is provided in **Chapter 11** (Noise and Vibration). A **Not Significant** impact on existing noise levels is expected during the construction phase at residential receptors.

15.5.160 The Contractor will prepare a CEMP for the Gas Connection Corridor. This CEMP will also ensure no impact on any vector that would pose a significant risk to human health. Therefore, the impact of the Gas Connection Corridor on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

*Climate Change*

15.5.161 An assessment of the likely climate change effects arising from the construction activities of the Gas Connection Corridor is provided in **Chapter 18** (Climate).

15.5.162 Construction is estimated to emit approximately 3,453 tonnes of GHGs during the construction process in a worst-case scenario which is considerably less than 1% of

<sup>41</sup> NHS (2019). *HUDD Planning for Health: Rapid Health Impact Assessment Tool*.

Ireland's 2021-2025 and 2026-2030 carbon budgets. The impact of the Gas Connection Corridor in terms of climate change as a determinant of human health and well-being during construction is assessed to be **Negative (-)**.

#### *Operational Phase*

#### **Population**

15.5.163 The Gas Connection Corridor will be managed by the Transmission Asset Operators (TAO) and Transmission Service Operators (TSO) (Gas Networks Ireland (GNI) for gas) as part of the national gas networks. There will be an **Imperceptible** effect on the population during the operational phase.

#### *Employment / Socio-Economic*

15.5.164 The Gas Connection Corridor will be managed by the TAO and TSO as part of the national gas networks. It is expected that a single Light Goods Vehicle (LGV) will access the AGI site approximately once a month. Therefore, there will be an **Imperceptible** effect on employment during the operational phase.

#### *Severance*

15.5.165 During the operational phase, it is expected that a single Light Goods Vehicle (LGV) will access the AGI site approximately once a month. The Gas Connection Corridor is assessed to have an **Imperceptible** effect on severance between local residents in the Study Area and the facilities which they use during the operational phase.

#### *Tourism*

15.5.166 During the operational phase, the Gas Connection Corridor will be managed by GNI as part of the national gas networks.

15.5.167 There will be no direct or indirect impacts on tourism attractions / amenities. The significance of effect is assessed to be **Not Significant**.

#### **Human Health**

#### *Access to Health and Social Care Services and Other Social Infrastructure*

15.5.168 The TAO and TSO (GNI for gas) will manage the operation of the gas connection as part of the national gas networks. During the operational phase, it is expected that a single Light Goods Vehicle (LGV) will access the AGI site approximately once a month.

15.5.169 Therefore, it is expected that there will be no impact on residents to access healthcare and social facilities in the Study Area. The potential health impact is therefore assessed to be **Neutral (0)**.

#### *Access to Open Space and Nature*

15.5.170 During the operational phase, the Gas Connection Corridor will not effect access to open space and nature.

15.5.171 It is also important to assess whether the Gas Connection Corridor physically constrains people from accessing open and natural spaces nearby. As noted in the severance assessment above, there will be no impact on severance between local residents in the Study Area and the facilities which they use during the operational phase (including open spaces).

15.5.172 Therefore, in regard to impacts on the character of open and natural spaces there will be no significant noise, air quality or traffic effects likely to arise during the operational phase. The impact of the Gas Connection Corridor on access to open space and nature

as a determinant of human health and well-being during the operational phase is assessed to be **Neutral (0)**.

*Air Quality, Noise and Neighbourhood Amenity*

- 15.5.173 Emissions to air from the operation of the Gas Connection Corridor would be minimal and have been classified as **Imperceptible**. Therefore, the effect would be **Not Significant** at all human health receptors.
- 15.5.174 It is expected that the Gas Connection Corridor will not result in any significant change to the local air quality or noise environment during operation. Therefore, the impact of the Gas Connection Corridor on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be **Neutral (0)**.

*Climate Change*

- 15.5.175 The Gas Connection Corridor, once operational, will be limited to intermittent maintenance and monitoring activities and therefore will not result in material operational emissions. The impact to human health is therefore assessed as **Neutral (0)**.

*Decommissioning Phase*

- 15.5.176 Decommissioning of the Gas Connection Corridor is not envisaged and has not been assessed under this EIAR as it will be managed by GNI and will become an important part of the Ireland's gas network infrastructure.

## **15.6 Mitigation and Enhancement Measures**

- 15.6.1 The potential impacts on the human environment relate to other environmental aspects such as air quality, cultural heritage, landscape, noise and vibration, water, land and soils, traffic and climate and where required, the related mitigation measures are dealt with in the corresponding chapters of this EIAR.

Demolition Phase

- 15.6.2 Ahead of the dismantling and demolition works, certain activities and surveys / inspections will be undertaken. Planning will not be required for some of these elements including decommissioning of the existing Derrygreenagh Works which will be undertaken under the existing IPC licence (Registration Number P0501-01). While the site will be decommissioned prior to surrender of the IPC licence for these areas, demolitions of the buildings will be required to be carried out under planning permission at a later date.
- 15.6.3 Asbestos will be progressively removed throughout the works in full compliance with current regulations. The removal of all hazardous materials is to be carried out prior to demolition work commencing. The coating on the external sheeting is known to contain some asbestos bearing material.

Construction Phase

*Power Plant Area*

- 15.6.4 The Power Plant Area is not anticipated to have a significant effect on the local or regional population, therefore no mitigation measures in respect of population trend impacts are required.
- 15.6.5 From an economic / socio-economic perspective, the Power Plant Area will provide employment opportunities to the local community and wider region during construction. The construction phase of the Power Plant Area is also likely to increase spend in local businesses as persons involved in the project stay locally or purchase goods. Overall,

there will be a positive impact on the local economy and no mitigation measures are required.

- 15.6.6 A CEMP (for the Power Plant Area and Electricity Grid Connection) has been prepared as part of the planning application, refer to **Appendix 5A**, Volume II. All construction works will proceed in line with the recommendations and guidance provided in the CEMP for the Proposed Development.
- 15.6.7 A CTMP is included in **Appendix 14F**.
- 15.6.8 Mitigation for noise and vibration, air quality, climate, and traffic and transport, is discussed in **Chapter 7** (Air Quality), **Chapter 8** (Cultural Heritage and Archaeology), **Chapter 10** (Landscape and Visual), **Chapter 11** (Noise and Vibration), **Chapter 12** (Water Environment), **Chapter 13** (Land, Soils and Geology), **Chapter 14** (Traffic) and **Chapter 18** (Climate).
- 15.6.9 No additional monitoring measures are proposed.

#### *Electricity Grid Connection*

- 15.6.10 The Electricity Grid Connection is not anticipated to have a significant effect on the local or regional population, therefore no mitigation measures in respect of population trend impacts are required.
- 15.6.11 As above, from an economic perspective, the Electricity Grid Connection will provide employment opportunities to the local community and wider region during construction. The construction phase of the Electricity Grid Connection is also likely to increase spend in local businesses as persons involved in the project stay locally or purchase goods. Overall, there will be a positive impact on the local economy and no mitigation measures are required.
- 15.6.12 A CEMP has been prepared as part of the planning application, refer to **Appendix 5A**, Volume II. All construction works will proceed in line with the recommendations and guidance provided in the CEMP for the Proposed Development.
- 15.6.13 A CTMP is included in **Appendix 14F**.
- 15.6.14 Mitigation for noise and vibration, air quality, climate, and traffic and transport, is discussed in **Chapter 7** (Air Quality), **Chapter 8** (Cultural Heritage and Archaeology), **Chapter 10** (Landscape and Visual), **Chapter 11** (Noise and Vibration), **Chapter 12** (Water Environment), **Chapter 13** (Land, Soils and Geology), **Chapter 14** (Traffic) and **Chapter 18** (Climate).
- 15.6.15 No additional monitoring measures are proposed.

#### *Gas Connection Corridor*

- 15.6.16 A CEMP and CTMP will be prepared for the Gas Connection Corridor by the appointed contractor.
- 15.6.17 Detailed mitigation measurements will not be known until the full impact assessment is completed and design details have been determined by GNI.

#### Operational Phase

##### *Power Plant Area*

- 15.6.18 The Power Plant Area will comply with the requirements of the European Union (Large Combustion Plants) Regulations 2012 S.I. No. 566 of 2012 under its Industrial Emission (IE) Licence (to be applied for) so that any impacts of emissions to air, soil, surface and groundwater, and effects on the environment and human health, will be minimised and avoided where possible.

- 15.6.19 The Power Plant will be operated in line with the IE Licence (to be applied for) and appropriate standards, and the operator will implement and maintain an Environment Management System (EMS) which will be certified to International Standards Organisation (ISO) 14001. The EMS will establish the requirements and procedures required to ensure that the Site is operating to the appropriate standard.
- 15.6.20 Sampling and analysis of pollutants will be carried out where required including monitoring of exhaust emissions levels using Continuous Emission Monitoring Systems (CEMS) prior to discharge from the stack, in accordance with the IE Licence.
- 15.6.21 A site-specific Health and Safety Plan covering, commissioning and operation will be prepared and will address health and safety issues from the design stage.
- 15.6.22 Mitigation for noise and vibration, air quality, climate, and traffic and transport, is discussed in **Chapter 7** (Air Quality), **Chapter 8** (Cultural Heritage and Archaeology), **Chapter 10** (Landscape and Visual), **Chapter 11** (Noise and Vibration), **Chapter 12** (Water Environment), **Chapter 13** (Land, Soils and Geology), **Chapter 14** (Traffic) and **Chapter 18** (Climate).
- 15.6.23 Bord na Móna is proposing to replicate its Community Gain Scheme model for Derrygreenagh Power. The fund shall be made by five annual payments of €90,000 (ninety thousand euro) beginning on commencement of construction of the Proposed Development contributing to a total fund of €450,000 (four hundred and fifty thousand euro) over the five-year period. The fund will look to support the local community, through funding of projects and services, as required. A description of the Community Benefit proposal is outlined below and in the 'Derrygreenagh Power Community Report' which is contained in **Appendix 6E**.
- 15.6.24 The Near Neighbour Scheme will offer electricity bill payers living within a prescribed distance of a Power Plant Area, an annual contribution towards their electricity usage. In addition to the electricity contribution payment, the Scheme will also offer participants a contribution towards the completion of energy measures on the property and / or education support. This is in line with existing near neighbour schemes that are active at other Bord na Móna Powergen developments.
- 15.6.25 These schemes will be a positive benefit to local communities.
- Electricity Grid Connection*
- 15.6.26 Mitigation for noise and vibration, air quality, climate, and traffic and transport, is discussed in **Chapter 7** (Air Quality), **Chapter 8** (Cultural Heritage and Archaeology), **Chapter 10** (Landscape and Visual), **Chapter 11** (Noise and Vibration), **Chapter 12** (Water Environment), **Chapter 13** (Land, Soils and Geology), **Chapter 14** (Traffic) and **Chapter 18** (Climate).
- 15.6.27 The Electricity Grid Connection will be managed by the respective transmission asset operators (TAO) and transmission system operators (TSO) (ESBNI and EirGrid for electricity) as part of the national grid electricity.
- 15.6.28 No additional monitoring measures are proposed.
- Gas Connection Corridor*
- 15.6.29 Mitigation for noise and vibration, air quality, climate, and traffic and transport, is discussed in Chapter 7 (Air Quality), Chapter 8 (Cultural Heritage and Archaeology), Chapter 10 (Landscape and Visual), Chapter 11 (Noise and Vibration), Chapter 12 (Water Environment), Chapter 13 (Land, Soils and Geology), Chapter 14 (Traffic) and Chapter 18 (Climate).



- 15.6.30 The Gas Connection will be managed by the respective asset operators as part of the national gas network - Gas Networks Ireland (GNI).

Decommissioning Phase

- 15.6.31 It is envisaged that the Proposed Development will have a design life of at least 25 years. At the end of the design life, the Proposed Development would either be decommissioned, or the lifetime could potentially be extended. Decommissioning or extension of the lifetime of the asset would therefore be expected to commence at some point after 2052.

*Power Plant Area*

- 15.6.32 At the end of its operating life, all above-ground equipment associated with the Power Plant Area will be decommissioned and removed from the Site. Prior to removing the plant and equipment, all residues and operating chemicals will be cleaned out from the plant and disposed of at a suitably licenced facility.

- 15.6.33 Prevention of contamination is a specific requirement of the IE Licence for the operation of the Proposed Development and therefore the development has been designed such that it will not create any new areas of ground contamination or pathways to receptors as a result of construction or operation.

- 15.6.34 A Decommissioning Plan (including a Decommissioning Environmental Management Plan) will be produced and agreed with EPA as part of the permit surrender process ahead of any permit surrender.

- 15.6.35 A Decommissioning Environmental Management Plan will consider in detail all potential environmental risks on the site and contain guidance on how risks can be removed or mitigated. Site closure planning and liability risk assessment will be within the IE licence for the Site and will typically include a requirement for any removal of soils, buildings, plant and equipment, and remedial actions would be undertaken under a Decommissioning Management Plan, part of a Closure, Restoration and Management Plan (CRAMP).

- 15.6.36 Typically, the EPA insists on a financial bond to underwrite the CRAMP and usually with an EPA bond template. Separately under the IE licence, the applicant will likely have to prepare an Environmental Liabilities Risk Assessment which will require provision of financial provision with the EPA to cover any liabilities of past and present activities. The ELRA is typically underwritten with an Impairment Environmental Insurance policy.

- 15.6.37 The Decommissioning Plan will include an outline programme of works.

*Electricity Grid Connection*

- 15.6.38 Decommissioning of the Electricity Grid Connection is not envisaged as it will be managed by EirGrid once it is operational and will become an important part of the Ireland's national grid infrastructure. Therefore, no mitigation measures are proposed.

*Gas Connection Corridor*

- 15.6.39 Decommissioning of the Gas Connection Corridor is not envisaged as it will be managed by Gas Networks Ireland (GNI) once it is operational and will become an important part of the Ireland's gas network infrastructure. Therefore, no mitigation measures are proposed.

## **15.7 Residual Effects**

15.7.1 Residual impacts are the final or intended impacts which occur after the proposed mitigation measures have been implemented. They refer to the degree of change that will occur after the proposed mitigation measures have taken effect.

### Power Plant Area

15.7.2 Adherence to the mitigation measures outlined above in this chapter and EIAR will ensure that there will be no negative residual impacts or effects on Population and Human Health, during the construction, operational or decommissioning phases of the Power Plant Area.

### Electricity Grid Connection

15.7.3 Adherence to the mitigation measures outlined above in this chapter and EIAR will ensure that there will be no negative residual impacts or effects on Population and Human Health, during the construction or operational phases of the Electricity Grid Connection.

15.7.4 Decommissioning of the Electricity Grid Connection is not envisaged as it will be managed by EirGrid once it is operational and will become an important part of the Ireland's national grid infrastructure.

### Gas Connection Corridor

15.7.5 Adherence to the typical mitigation measures outlined above in this chapter and EIAR will ensure that there will be no negative residual impacts or effects on Population and Human Health, during the construction or operational phases of the Gas Connection Corridor. Detailed mitigation measures will be determined by GNI at a later date as part of separate consenting processed.

15.7.6 Decommissioning of the Gas Connection Corridor is not envisaged as it will be managed by Gas Networks Ireland (GNI) once it is operational and will become an important part of the Ireland's gas network infrastructure.

## 15.8 Cumulative Effects

### Cumulative Effects between the Various Elements of the Proposed Development and Overall Project

15.8.1 The potential cumulative impacts between various elements of the Proposed Development and Overall Project, as described in Chapter 5, have been considered in terms of impacts on Climate. Due to the proximity, scale and timelines associated with each element, there is potential for cumulative effects with the Proposed Development and Overall Project.

15.8.2 This impact assessment has considered all elements of the Proposed Development and Overall Project, including elements which are not subject to this planning permission, during the construction, operation and decommissioning phases. A thorough cumulative impact assessment has therefore been carried out throughout this chapter to examine the impacts that the various elements of the Overall Project will have on climate and climate change.

### Cumulative Effects

15.8.3 The potential cumulative effects of the Proposed Development and Overall Project in combination with the other projects described in **Chapter 1** have been considered in terms of impacts on population and human health. There are a number of proposed or permitted housing developments within the vicinity of the Proposed Development and Overall Project. A description of the developments is provided in Chapter 4, and where appropriate the EIAR and NIS.

15.8.4 During the construction phase, the site will employ good practice measures and suitable mitigation such that there would be no significant effect on receptors beyond the site boundary (as outlined in the relevant technical chapters and the CEMP). Other developments in the vicinity of the Proposed Development and Overall Project would be expected to bring forward a scheme with suitable measures in place to prevent significant impacts at receptors due to construction dust, noise and vibration, and water pollution.

15.8.5 The Proposed Development results in no land use impacts. There are subsequently no cumulative land use impacts during the operational phases on the land occupied by the Proposed Development and the surrounding area.

15.8.6 The assessment of Severance is inherently cumulative as the traffic data assessment includes the change in traffic generated by other committed developments.

15.8.7 Operation of the Proposed Development is expected to generate employment. The construction of other committed developments is also expected to lead to employment generation and therefore there could be a cumulative effect on employment of the local workforce.

15.8.8 The cumulative assessment of 'Access to Healthcare Services and other Social Infrastructure' is as per the cumulative assessment of 'Severance' set out previously.

15.8.9 The assessment of 'access to open space and nature' is based on assessments provided in **Chapter 7** (Air Quality), **Chapter 11** (Noise and Vibration), and **Chapter 14** (Traffic and Transport). As noted in these chapters, there are no anticipated cumulative effects on access to open space and nature from a human health perspective.

15.8.10 For the assessment of 'Air Quality, Noise and Neighbourhood Amenity', there are no anticipated cumulative noise or dust effects during either the construction or operational phases.

- 15.8.11 The assessment of 'Climate Change' is based on the GHG emissions assessment provided in **Chapter 17** (Climate). The GHG assessment is by nature a cumulative assessment as it considers whether the Proposed Development will contribute significantly to emissions on a national level.

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