

Shannon Technology and Energy Park (STEP) Power Plant

Environmental Impact Assessment Report - Volume 2

Chapter 13 Population and Human Health

Shannon LNG Limited

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Table of Contents

13.	Population and Human Health	13-4
13.1	Introduction	13-4
13.2	Competent Expert.....	13-4
13.3	Methodology	13-5
13.3.1	Legislation and Guidance	13-5
13.3.2	Study Area	13-5
13.3.3	Determination of the Baseline Environment	13-6
13.3.4	Determination of Construction and Operational Effects	13-6
13.3.5	Classification of Effects and Significance Criteria	13-11
13.3.6	Limitations and Assumptions	13-17
13.4	Baseline Environment.....	13-17
13.4.1	Data Sources	13-17
13.4.2	Overview of the Site	13-17
13.4.3	Local Community	13-18
13.4.4	Land Use	13-22
13.4.5	Travel Patterns and the Existing Transport Network	13-22
13.4.6	Human Health.....	13-24
13.5	Assessment of Impact and Effect	13-26
13.5.1	Land Use and Amenity	13-26
13.5.2	Severance.....	13-27
13.5.3	Employment.....	13-28
13.5.4	Human Health.....	13-31
13.6	Cumulative Impacts and Effects	13-41
13.6.1	Land Use and Amenity	13-41
13.6.2	Severance.....	13-41
13.6.3	Employment.....	13-42
13.6.4	Human Health.....	13-42
13.7	Residual Impacts	13-43
13.7.1	Construction Phase	13-43
13.7.2	Operational Phase	13-43
13.8	References	13-45

Figures

Figure 13.1:	Social Determinants of Health	13-9
Figure 13.2:	Determination of the Significance of an Effect.....	13-12
Figure 13.3:	Estimated Number of Construction Workers Required onsite by Month	13-29

Tables

Table 13.1: Potential human health impacts – Source-Pathway-Receptor links	13-10
Table 13.2: Sensitivity Criteria for Land Use and Amenity Effects	13-13
Table 13.3: Magnitude of Impact Criteria for Land Use and Amenity Effects	13-13
Table 13.4: Sensitivity Criteria for Severance	13-14
Table 13.5: Magnitude of Impact Criteria for Severance	13-14
Table 13.6: Sensitivity Criteria for Employment and Economic Activity Effects	13-14
Table 13.7: Magnitude Criteria for Economic and Employment Effects	13-15
Table 13.8: Human Health Impact Categories	13-16
Table 13.9: Population and Population Growth in the Study Area and its Comparator Areas	13-18
Table 13.10: The Proportion of the Total Population in Each Age Bracket for the Study Area and its Comparator Areas	13-19
Table 13.11: Labour Force Participation Rate and Unemployment Rate, (2022)	13-19
Table 13.12: Labour Force and Unemployment Rates	13-20
Table 13.13: Industry of Employment.....	13-20
Table 13.14: Highest Level of Education Completed	13-20
Table 13.15: The Proportion of the Total Population in Each Social Class for the Study Area and its Comparator Areas	13-21
Table 13.16: Travel Time to Work, School, or College	13-23
Table 13.17: Travel Mode to Work, School, or College	13-23
Table 13.18: Proportion of the Population by General Health for the Study Area and its Comparators	13-24
Table 13.19: Proportion of the Population with a Disability for the Study Area and its Comparators	13-25
Table 13.20: Proportion of Residents Undertaking Types of Physical Activity by Region.....	13-25
Table 13.21: Proportion of Residents Undertaking Types of Physical Activity by Region.....	13-25
Table 13.22: Summary of Impacts on Land Use in the Construction and Operation Phase	13-26
Table 13.23: Summary of Impacts on Severance in the Construction Phase.....	13-28
Table 13.24: Summary of Impacts on Employment in the Construction Phase.....	13-30
Table 13.25: Summary of Impacts on Employment in the Operational Phase	13-31
Table 13.26: Access to Healthcare Services and Other Social Infrastructure	13-32
Table 13.27: Air Quality, Noise, and Neighbourhood Amenity	13-34
Table 13.28: Access to Work and Training.....	13-37
Table 13.29: Climate Change.....	13-39
Table 13.30: Summary	13-44

13. Population and Human Health

13.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) assesses the likely significant effects of the Proposed Development on population and human health.

This chapter defines; the Study Area; the methodology used for developing the baseline and impact assessment; provides a description of the baseline environment in relation to population and human health; and presents the findings of the impact assessment.

Impacts on population and human health have potential to arise from various aspects of the Proposed Development. The chapter provides an assessment of potential impacts on:

- Land use and amenity.
- Severance.
- Employment.
- Human health.

An assessment of the direct and indirect effects of the Proposed Development on human health, including through interactions with other aspects of the EIAR, is included within this chapter and utilised in an assessment of combined effects on human health. The technical chapters drawn upon are **Chapter 08** (Air Quality), **Chapter 09** (Airborne Noise and Groundborne Vibration), **Chapter 10** (Landscape and Visual), **Chapter 11** (Traffic and Transport) and **Chapter 15** (Climate).

The Site is located in the townlands of Kilcolgan Lower and Ralappane, between Tarbert and Ballylongford, County Kerry (Co. Kerry). The application Site boundary ('red line') encloses an area of approximately 41 hectares (ha) and is entirely owned by the Applicant.

Full details on the background, Site history and the Proposed Development is provided in **Chapter 02** (Description of the Proposed Development) and the Planning Statement submitted with this planning application.

13.2 Competent Expert

The assessment has been carried out under the supervision of Jon Howells, Regional Director in Economic Development in AECOM's Buildings and Places team, with more than 15 years' post-graduate experience. He graduated with an honour's degree in Economic History with Population Studies (London School of Economics, 2003) and subsequently a Masters in Urban Economic Development (University College London, 2007). He has extensive experience in leading and reviewing assessments of social, community, economic and health impacts for both public and private sector clients as part of consenting processes. Jon has acted as discipline lead for socio-economics and / or population and health on a number of energy and energy infrastructure projects in Ireland and the United Kingdom (UK), including Shannon Technology & Energy Park, Longfield Solar Farm, Sunnica Energy Farm, Gate Burton Energy Park, and the Viking Carbon Capture and Storage (CCS) Pipeline.

13.3 Methodology

13.3.1 Legislation and Guidance

This chapter has been prepared with reference to the following guidance notes:

- Environmental Protection Agency (EPA) (2022). *Guidelines on the information to be contained in Environmental Impact Assessment Reports*.
- European Commission (2017). *Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report*.
- National Health Service London Healthy Urban Development Unit (HUDU) (2019). *HUDU Rapid Health Impact Assessment Tool Fourth Edition 2019*.
- Institute of Environmental Management and Assessment (IEMA) (2022). *Effective Scoping of Human Health in EIA*.
- IEMA (2022). *Determining Significance for Human Health in EIA*.
- International Association for Impact Assessment (IAIA) & European Public Health Association (EUPHA) (2019). *Addressing Human Health in EIA*.
- Institute of Public Health (IPH) (2021). *Health Impact Assessment Guidance: A Manual*.

13.3.2 Study Area

The Site location is described in **Chapter 02** (Description of the Proposed Development), Section 2.2.

As there is no national guidance available on identifying an appropriate study area to focus the assessment of population and human health, the study area for the assessment has considered the area of land that may be affected by the Proposed Development.

Land use receptors, namely community resources and commercial facilities, have been identified within 500 m of the Site. This is the distance beyond which it is considered that people could be deterred from making trips to an extent that they would change their habits and is in line with best practice approaches to assessment applied for similar schemes across Ireland and elsewhere such as the UK. It should be noted, however, that it is not always possible to determine the catchment area for community facilities. Residents of an area may utilise facilities located within different electoral divisions, counties or regions without regard for statutory boundaries. For this reason, some receptors beyond 500 m have been identified as relevant.

The Study Area for the baseline analysis comprises the electoral divisions (ED) of Carrig, Lisloughtin, Tarmon and Tarbert, as this is where the majority of population and human health effects are likely to occur. The Study Area for these effects is wider than for amenity effects because of the greater spatial scale expected for potentially significant effects on these receptors. Comparator areas have also been considered for this assessment, including:

- County Kerry.
- The South-West Regional Authority (NUTS3)¹.

¹ The Nomenclature of Territorial Units for Statistics (NUTS), developed by the EU, is a standard of subdivision used to divide Europe's economic territory into regions at three different levels, NUTS1, NUTS2 and NUTS3 (where NUTS1 is the largest territorial unit). The Republic of Ireland is divided into eight NUTS3 divisions, defined by CSO as Regional Authorities. The South-West Regional Authority includes Co. Kerry and Co. Clare.

- Republic of Ireland.

For some datasets within the baseline, data is not available for all of the geographic areas in the Study Area. In these cases, data is shown only for those geographic areas that are available.

13.3.3 Determination of the Baseline Environment

In order to assess the associated potential effects of the Proposed Development, 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 time of submission of this application; as they will reflect the conditions that will exist at the time that the Proposed Development is expected to start. The identification of the baseline conditions therefore involves predicting changes that are likely to happen in the intervening period, for reasons unrelated to the Proposed Development. As outlined in **Chapter 02** (Description of the Proposed Development), the Applicant was awarded a capacity contract on 28th March 2023 from EirGrid to deliver 400 MW of electricity generation capacity with completion by 1st October 2026 or in line with any other dates provided by the regulator.

The baseline section of this chapter includes a description of local communities within the Study Area and a profile of the people which reside within these communities. This profile comprises an analysis of population and population growth, age, demographics, and health determinants, drawing on information from the following sources:

- Central Statistics Office (CSO).
- Kerry Co. Co.
- The 2022 Pobal HP Deprivation Index.

The presence of any vulnerable groups which could be disproportionately affected by the impacts of the Proposed Development are also identified in the baseline.

A planning search of granted and pending planning applications made within 5 km of the Proposed Development within the last five years was also completed. This was used to determine how the area may change between now and the time when the Proposed Development is expected to start.

The impact areas for certain effects such as human health, amenities and community facilities have been informed by other assessments **Chapter 08** (Air Quality), **Chapter 09** (Airborne Noise and Groundborne Vibration), **Chapter 10** (Landscape and Visual Impact), **Chapter 11** (Traffic and Transport), and **Chapter 15** (Climate) during the assessment stage of the EIAR. Therefore, if there are likely significant effects noted in these chapters, this will then consequently be captured in the population and human health impact areas and in the decision on significance for population and human health effects, due to the interdependency of this chapter's effects and effects detailed in these dependent chapters.

13.3.4 Determination of Construction and Operational Effects

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. Effects on population and human health are described using the criteria provided in EPA guidance, European Commission guidance, and the HUDU Rapid Health Impact Assessment Tool, as detailed in the following sub-sections.

13.3.4.1 Land Use and Amenity

The assessment of effects on land use and amenity is concerned with how the Proposed Development potentially impacts on the ability of residents and users of community and recreational facilities to achieve enjoyment and / or quality of life.

The land use assessment includes consideration of all potential direct and indirect effects on community resources and private assets in the Study Area. Direct effects include land-take and / or impacts on access, *i.e.* properties and / or facilities being cut off or split. Indirect effects include impacts on the amenity of residents of properties and / or users of community resources in the Study Area. Depending on the type of land use effect being assessed, the magnitude of the impact is determined by:

- The amount of land to be taken or the number of properties to be demolished.
- The extent to which access to community resources or private property is impacted.
- The number of users and the extent to which these users experience impacts on their amenity.

Assessing the impact of the Proposed Development on land use and amenity has taken into account the combined residual significant effects from other assessment topics (**Chapter 08** (Air Quality), **Chapter 09** (Airborne Noise and Groundborne Vibration), **Chapter 10** (Landscape and Visual Impact), **Chapter 11** (Traffic and Transport), and **Chapter 15** (Climate) which could affect people's enjoyment of a community facility, public space or residential property.

The assessment aligns with the relevant aspects of the EPA Guidelines (2022), as well as the European Commission's (EC) guidance (2017) "*Guidance on the Preparation of the Environmental Impact Assessment Report*".

13.3.4.2 Severance

Severance is defined as the separation of residents from facilities and services they use within their community caused by changes to roads and / or walking and cycling facilities, and / or changes in traffic flows. For example, the Proposed Development could lead to severance effects by increasing levels of traffic on existing roads and / or introducing traffic management measures. This may lead to separation of residents from facilities and services which they use.

All severance impacts are direct impacts. The assessment of magnitude is informed by the assessment results presented in **Chapter 11** (Traffic and Transport). It is determined by:

- The extent of the physical changes caused by the Proposed Development.
- The consequent changes in traffic levels on existing roads.
- The number of people whose journey will be affected.
- The type of road involved.
- The mitigation measures implemented.

There is no specific guidance on severance assessment within EIAs in EPA Guidance (2022) and EC guidance (2017). However, the methodology used in the assessment is generally accepted as industry good practice and has been employed in a number of other infrastructure development projects throughout Ireland and the UK, including energy generation, transmission, and distribution projects.

13.3.4.3 Employment

As for the assessment of severance, there is no specific guidance on employment and economic activity assessment within EIAs. However, the methodology used in this assessment is generally accepted as industry good practice and has been employed in a number of other infrastructure development projects throughout Ireland and the UK.

The assessment of potential employment and economic activity effects uses policy thresholds and expert judgement to assess the scale and nature of the effects of the Proposed Development against baseline conditions. There is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that “significance” reflects the relationship between the magnitude of the effect and the sensitivity of the affected resource or receptor.

As such, the economic effects will be assessed based on the scale of effects which considers the size of the effect on people and / or local businesses in the context of the area in which the effect will be experienced. The assessment aims to be objective and quantifies effects as far as possible. However, some of the assessments may only be evaluated on a qualitative basis.

13.3.4.4 Human Health

The scope of the human health and well-being assessment includes impacts on the health of residents of properties and users of community resources in the Study Area. Relevant guidance from the Institute of Public Health in Ireland (IPHI), specifically the Health Impact Assessment Guidance, has been considered to inform the assessment. The impacts of the Proposed Development on human health will be assessed using the health and well-being determinants set out in the HUDU Rapid Health Impact Assessment Tool. The human health and wellbeing assessment is informed by the quantitative assessment results from **Chapter 08** (Air Quality), **Chapter 09** (Airborne Noise and Groundborne Vibration) and **Chapter 15** (Climate). The HUDU Rapid Health Impact Assessment Tool is a checklist approach which provides a broad overview of the potential health impacts and is applicable to a wide range of proposals and assessments that consider impacts on a range of health determinants. The checklist is split into 11 broad determinants and is based on the World Health Organisation (WHO) publication “Healthy Urban Planning”.

The WHO Europe defines health as ‘*a state of complete physical, mental and social wellbeing 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 potential impacts of the Proposed Development on physical, mental, and social health.

Factors that have the most significant influence on the health of a population are called ‘determinants of health’; these include an individual’s genetics and their lifestyle, the surrounding environment, as well as political, cultural, and societal issues. The interrelationship between these factors is shown in **Figure 13.1**.

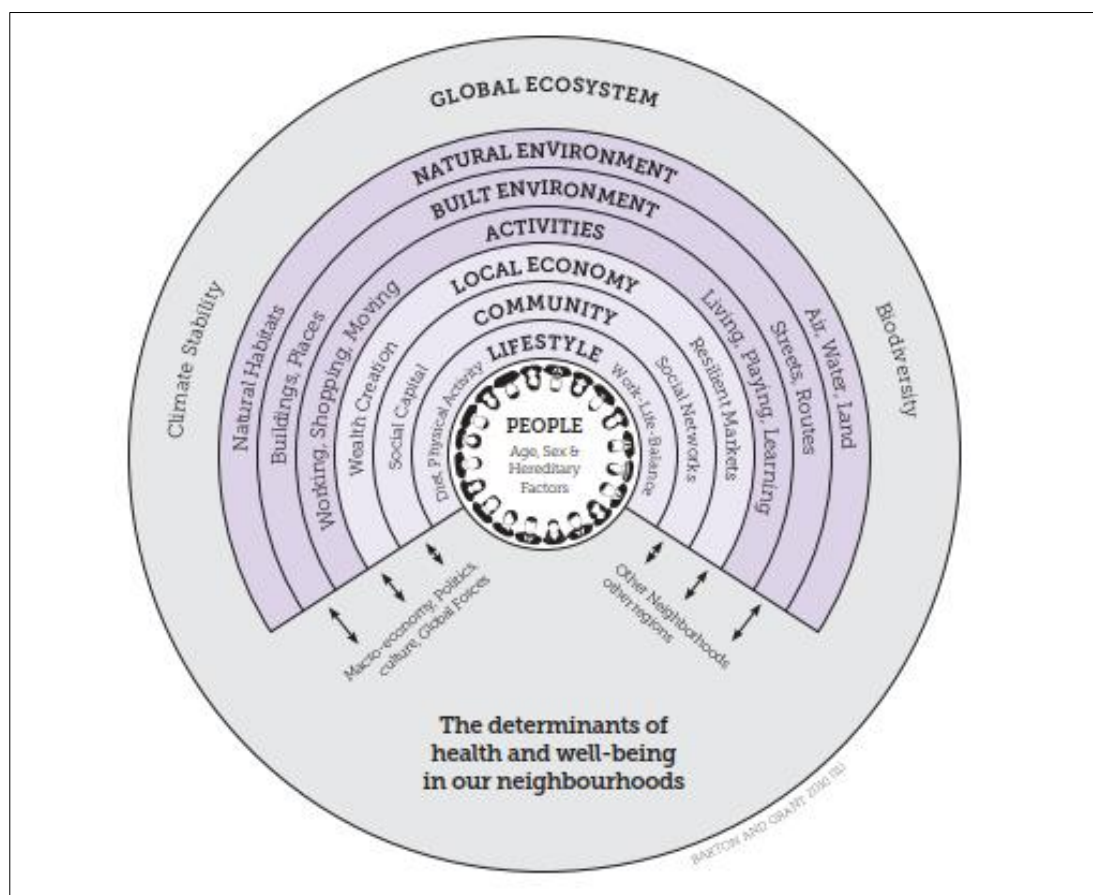


Figure 13.1: Social Determinants of Health

Source: Barton and Grant (WHO, 2006)

A scoping exercise was undertaken to determine the criteria within the HUDU guidance which is relevant to this assessment. **Table 13.1** sets out the 11 HUDU human health determinants and the source, pathway and receptor links relevant to each one. It considers each determinant's relevance to the assessment of human health effects during the construction and operation phase of the Proposed Development. In summary, the determinants which will be assessed as part of this chapter are listed below:

- Access to healthcare services and other social infrastructure.
- Air quality, noise and neighbourhood amenity.
- Access to work and training.
- Climate change.

Table 13.1: Potential human health impacts – Source-Pathway-Receptor links

Health determinant	Source	Pathway	Receptor	Scoped in / out
Housing design and affordability.	Incoming workers might increase demand for housing while direct land use effects could reduce the supply of housing.	Changes to housing need and provision.	Residents within the local communities as well as the wider population. Workers employed by the Proposed Development.	Scoped out - given the nature of the Proposed Development and limited scale of works, the Proposed Development is not anticipated to impact housing.
Access to health and social care services and other social infrastructure.	Changes in access to and demand for healthcare services and other community facilities.	Severance due to land take or vehicle movements leading to reduced access to facilities.	Residents within the local communities using these services and facilities within the study area.	Scoped in
Access to open space and nature.	Changes in availability and quality of public areas of open space and recreational walking and cycling routes.	Changes in levels of use of open space and recreational assets, affecting physical activity and wellbeing outcomes.	Residents and visitors using local open spaces, route network and recreational assets.	Scoped out - given the nature and scale of works, the Proposed Development is unlikely to impact the access to open space, play and leisure as a determinant of human health. In addition, potential for reduced access and visual amenity effects on open space are to be covered within the Land Use assessment in this chapter of the EIAR.
Air quality, noise and neighbourhood amenity.	Changes in air pollutants from demolition and construction activities and road traffic. Construction noise and vibration and road traffic noise.	Changes in diffusion through the air. Changes in pressure waves through the air, and ground for vibration.	Residents of nearby residential receptors and users of local community facilities. Residents within the local communities and users of local community facilities.	Scoped in
Accessibility and active travel.	Changes in vehicles on the local road network and public transport.	Changes in severance, pedestrian amenity, public transport amenity, and road safety.	Users of the local road network and public transport, including motor vehicle drivers as well as pedestrians and cyclists.	Scoped out - given the limited scale of works and therefore limited anticipated level of construction traffic. In addition to this, potential human health effects relating to transport and access are proposed to be covered via the ES chapter covering Access, Traffic and Transport.
Crime reduction and community safety.	Changes to perception and actual level of risk and crime, relating to incoming construction workers, site security and on-site health and safety.	Changes to perception and actual level of risk and crime.	Residents within the local communities as well as the wider population.	Scoped out - given the nature of the Proposed Development and limited scale of works, the Proposed Development is not anticipated to impact community safety.
Access to healthy food.	Changes to access to shops, allotments and healthy food environments, as well as to education about diet and nutrition.	Diet and nutrition affect physical and mental health.	Residents within the local communities as well as the wider population. Workers employed at the	Scoped out - given the nature of the Proposed Development and limited scale of works, the Proposed Development

Health determinant	Source	Pathway	Receptor	Scoped in / out
			Proposed Development.	is not anticipated to impact diet and nutrition.
Access to work and training.	Direct and indirect job creation and economic activity, as well as educational opportunities and support.	Employment opportunities providing health-supporting resources and protecting against adverse mental health effects.	People of working age and their dependents.	Scoped in
Social cohesion and inclusive design.	Community participation and interaction associated with the Proposed Development.	Community participation, interaction, and support have implications for mental and physical health.	Residents within the local communities as well as the wider population.	Scoped out - given the nature of the Proposed Development and limited residential receptors within the study area, the Proposed Development is not anticipated to impact social participation, interaction, and support.
Minimising the use of resources.	Resources could cover community facilities and services, as well as social cohesion and participation.	Changes to the wider public health environment.	Residents within the local communities using these services and facilities within the study area.	Scoped out - given the nature of the Proposed Development and limited scale of works, the Proposed Development is not anticipated to impact wider societal resources.
Climate change.	Changes to Greenhouse Gas (GHG) emissions, extreme weather events, flood risk, sea level rise, temperature change and rainfall change.	Changes in exposure to GHG emissions, extreme weather events, flood risk, sea level rise, temperature change or rainfall change affecting human health and wellbeing.	Residents within the local communities as well as the wider population.	Scoped in

HUDD advises that its tool is generic and should be adapted to local circumstances. This assessment of human health and well-being effects includes the likely direct, indirect and cumulative effects of the Proposed Development. Potential impacts on the health and well-being of the existing local community and residents has been considered, in particular for more vulnerable groups (such as children and the elderly). Health inequalities have also been considered. Mitigation and enhancement measures for the Proposed Development (some of which may have already been considered through the development of the Proposed Development) have been considered.

13.3.5 Classification of Effects and Significance Criteria

The EPA Guidelines (2022) provide an example of how a significance matrix can be constructed but states that where “*more specific definitions exist within a specialised factor or topic ... these should be used in preference to these generalised definitions*”. The EPA significance matrix example is reproduced below in **Figure 13.2**.

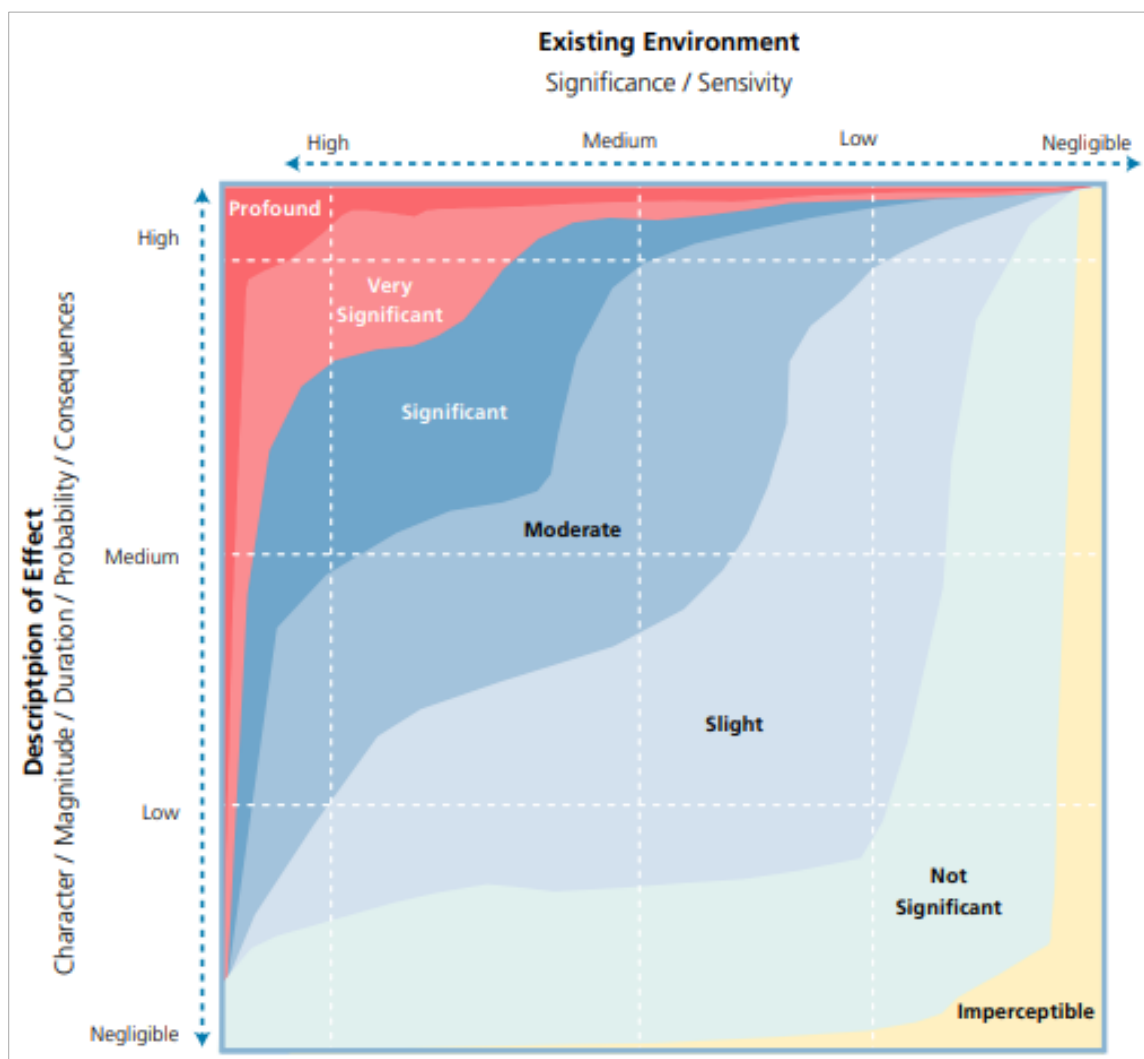


Figure 13.2: Determination of the Significance of an Effect

Source: EPA Guidelines (2022), Figure 3.4.

Figure 13.2 indicates how the magnitude of the impact and the sensitivity of the receptor interact to determine the magnitude of the resulting environmental effect. It involves combining a sensitivity of a receptor with a description of an impact on that receptor (its character, magnitude, duration, probability and consequence) to determine the significance of effect. Detail on the criteria used to determine the sensitivity of a receptor is included in the section above. In general, effects found to be 'profound', 'very significant' or 'significant' are deemed to be significant effects, whilst effects found to be 'moderate', 'slight', 'not significant' or 'imperceptible' are considered not significant. Where the significance of an effect is categorised in accordance with **Figure 13.2** this will be further refined to assess and assert whether an effect is significant or not.

This section outlines how the classification of effects for land use, severance, employment and human health have been made by assessing the magnitude of impact, combined with the sensitivity of resources and receptors to these impacts. The methodology for defining the sensitivity of receptors for each type of potential effect identified is set out below. Terminology used to describe the sensitivity of the receptors are as per EPA Guidelines and is in line with best practice for similar schemes across Ireland and the UK. Since EPA does not provide extensive guidance on assessing human health, the

assessment of human health is instead based on guidance set out in the NHS Healthy Urban Development Unit (HUDU) *Rapid Health Impact Assessment Tool Fourth Edition 2019*.

13.3.5.1 Land Use and Amenity

For land use and amenity, conclusions on the classification of effects have been made by assessing the magnitude of impact, combined with the sensitivity of resources and receptors to these impacts. The impact assessment has been undertaken in accordance with the definition of sensitivity criteria which is summarised in **Table 13.2**.

Table 13.2: Sensitivity Criteria for Land Use and Amenity Effects

Type of Effects	Description of Effect
High	Receptor has very limited capacity to avoid, adapt to, accommodate, or recover from the anticipated impact.
Medium	Receptor has limited capacity to avoid, adapt to, accommodate, or recover from the anticipated impact.
Low	Receptor has some tolerance to avoid, adapt to, accommodate, or recover from the anticipated impact.
Negligible	Receptor is generally tolerant of and can accommodate or recover from the anticipated impact, if applicable.

In addition, the impact assessment also considers the broad definition of the magnitude of impacts, which is summarised in **Table 13.3**. Duration of effect is also considered, with more weight given to permanent changes than to temporary ones.

Table 13.3: Magnitude of Impact Criteria for Land Use and Amenity Effects

Magnitude of Impact	Description of Impact
High	An impact that is expected to have considerable adverse or beneficial effects on receptors. Such impacts will typically affect large numbers of residents, users, businesses or workers. High magnitude impacts will typically be long-term in nature, resulting in the permanent change of the Study Area's Current State of the Environment.
Medium	An impact that is expected to have a moderate effect on receptors. Such impacts will typically have a noticeable effect on a limited number of residents, users, businesses or workers, and will lead to a permanent (but not drastic) change to the Study Area's Current State of the Environment.
Low	An impact that is expected to affect a small number of residents, users, businesses or workers. Or an impact that may affect a larger number of receptors but without materially changing the Study Area's Current State of the Environment. Such impacts are likely to be temporary in nature.
Negligible	An impact that is likely to be temporary in nature, or which is anticipated to have a slight effect on the residents, users, businesses or workers.

13.3.5.2 Severance

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. The sensitivity criteria focus on the impact of severance of existing routes and the resulting changes in journey lengths and times and local travel patterns, as presented in **Table 13.4**.

Table 13.4: Sensitivity Criteria for Severance

Type of Effects	Description of Effect
Very High	There is complete severance between community and assets, with little/no accessibility provision.
High	There is substantial severance between community and assets, with limited accessibility provision.
Medium	There is severance between communities and assets but with existing accessibility provision.
Low	There is limited existing severance between community and assets, with existing full Disability Act (2005) compliant accessibility provision.
Negligible	No or limited severance or accessibility issues.

Table 13.5 outlines the criteria used to determine the magnitude of effect on severance.

Table 13.5: Magnitude of Impact Criteria for Severance

Magnitude of impact	Description of impact
High	Substantial increase / decrease in journey length and / or travel patterns and increased / decreased opportunities for users to access the wider network and / or community infrastructure.
Medium	Noticeable increase / decrease in journey length and / or travel patterns and increased / decreased opportunities for users to access the wider network and / or community infrastructure.
Low	Slight increase / decrease in journey length and / or travel patterns and increased / decreased opportunities for users to access the wider network and / or community infrastructure.
Negligible	No increase or decrease in journey length and / or travel patterns and no increase or decrease in opportunities for users to access the wider network and / or community infrastructure.

13.3.5.3 Employment

The receptor with potential to experience employment effects is the workforce in Co. Kerry. This includes the workforce in the construction industry and the local supply chain. Sensitivity in the context of employment and economic activity have been taken to comprise the capacity of the receptor in question to deal with change, with specific reference to issues such as adaptability, exposure to change and levels of other existing changes. The qualities addressed in terms of adverse effects include robustness, acceptability, tolerability, and threat levels, as well as adaptability, capability, and vulnerability. The sensitivity criteria are set out in **Table 13.6**.

Table 13.6: Sensitivity Criteria for Employment and Economic Activity Effects

Type of Effects	Description of Effect
High	Receptor has very limited capacity to avoid, adapt to, accommodate, or recover from the anticipated impact.
Medium	Receptor has limited capacity to avoid, adapt to, accommodate, or recover from the anticipated impact.
Low	Receptor has some tolerance to avoid, adapt to, accommodate, or recover from the anticipated impact.
Negligible	Receptor is generally tolerant of and can accommodate or recover from the anticipated impact, if applicable.

The magnitude of impact factors related to employment and economic activity considers the scale of change (impact) that might take place. This was defined in terms of the geographical scale and the intensity of change (impact). Definitions are provided for both adverse and beneficial effects in **Table 13.7**.

Table 13.7: Magnitude Criteria for Economic and Employment Effects

Magnitude of impact	Description of Impact
High	<p>For negative impacts: Loss of resource, but not affecting integrity of the resource; partial loss of or damage to key characteristics, features or elements (adverse). Permanent / irreplaceable change, which is likely to occur.</p> <p>For positive impacts: Improvement to, or addition of, key characteristics, features or elements of the resource; improvement of attribute quality (beneficial).</p>
Medium	<p>For negative impacts: Minor loss of, or alteration to, one (or maybe more) key characteristics, features or elements; measurable change in attributes, quality, or vulnerability (adverse). Long-term though reversible change, which is likely to occur.</p> <p>For positive impacts: Minor improvement to, or addition of, one (maybe more) key characteristics, features or elements of the resource; a minor improvement to attribute quality (beneficial).</p>
Low	<p>For negative impacts: Very minor loss of, or alteration to, one (or maybe more) key characteristics, features or elements; measurable change in attributes, quality, or vulnerability (adverse). Short to medium-term though reversible change, which is likely to occur.</p> <p>For positive impacts: Very minor improvement to, or addition of, one (maybe more) key characteristics, features or elements of the resource; very minor improvement to attribute quality (beneficial).</p>
Negligible	<p>For negative impacts: Temporary or intermittent very minor loss of, or alteration to, one (or maybe more) characteristic, feature, or element; possible change in attributes, quality or vulnerability (adverse). Short-term, intermittent, and reversible change, which is unlikely to occur.</p> <p>For positive impacts: Possible very minor improvement to, or addition of, one (maybe more) characteristic or element; possible improvement to attribute quality (beneficial).</p>

13.3.5.4 Human Health

The EIA Directive (2011/92/EU as amended by 2014/52/EU) which 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”*.

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.).

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 EIS Guidelines state that “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”.

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”.

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. As such, the potential health impacts are described as outlined in **Table 13.8**, based on broad categories for the qualitative effects identified. Where an 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 certain benefits already form part of the Proposed Development and the assessment has considered these impacts as such.

Table 13.8: Human Health Impact Categories

Effect Category	Effect Symbol	Description
Positive	+	A beneficial effect is identified
Neutral	0	No discernible health effect is identified
Negative	-	An adverse effect is identified
Uncertain	?	Where uncertainty exists as to the overall impact

13.3.6 Limitations and Assumptions

This population and human health assessment is based on professional judgement and considers both the negative and positive impacts that the Proposed Development can have upon existing and surrounding receptors. It provides a broad, high-level indication of effects, reporting on the potential effects to people and the local community.

As outlined in **Section 13.3.4.1**, the assessment draws upon other technical chapters inputs to aid the assessment of the impact of the Proposed Development on population and human health receptors. The assumptions and limitations set out in these technical chapters inherently apply within this chapter. 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. Consequently, not all community resources within the Study Area are mentioned.

13.4 Baseline Environment

13.4.1 Data Sources

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

- A review of relevant local policy documents including the Kerry County Development Plan (CDP) 2022-2028 (Kerry Co. Co., 2022) and the Kerry Co. Co. Local Economic & Community Plan 2016-2022 (Kerry Co. Co., 2016).
- Primary data sources including that available from the Central Statistical Office (CSO) relating to the 2022 Census (CSO, 2023).
- A review of secondary sources including the Regional Spatial and Economic Strategy (RSES) for the Southern Regional Assembly² 2020 (Southern Regional Assembly, 2020).
- Spatial information relevant to planning applications and decisions in Ireland from MyPlan.ie and An Bord Pleanála.
- The inter-jurisdictional land and marine based framework to guide the future development and management of the Shannon Estuary, the Strategic Integrated Framework Plan for the Shannon Estuary (SIFP) (Clare Co. Co., Kerry Co. Co., Limerick City and County Council, Shannon Development and Shannon Foynes Port Company, 2013).

13.4.2 Overview of the Site

A full description of the Proposed Development is provided in **Chapter 02** (Description of the Proposed Development). The Proposed Development will be located on the Shannon Estuary, approximately 4.5 km from Tarbert and 3.5 km from Ballylongford, Co. Kerry. The Site of the Proposed Development is 41 ha.

From a population and human health perspective, the nearest individual residential property to the Site is Ralappane House, approximately 300 m south of the red line boundary and accessed off the L1010 road. The area is predominantly rural and the primary land use in the Study Area is agricultural. There

² Under the Local Government Reform Act 2014, The Republic of Ireland is divided into three Regional Assemblies; Northern and Western, Eastern and Midlands, and Southern. These are distinguished from the eight EU NUTS3 divisions / Regional Authorities.

are two locations offering community resources near to the Site: the town of Tarbert and the village of Ballylongford.

The town of Tarbert is located approximately 4.5 km east of the Site on Co. Kerry's border with Co. Limerick. The town is small and has a population of approximately 546 persons. However, it has a high street offering a range of services and has community facilities including schools. The town is identified as a 'Tier 3' town in the Kerry County Development Plan 2022-2028 (2022) which designates towns into tiers based on population size and the range of services / functions they provide to the surrounding hinterland.

The village of Ballylongford is located approximately 3.5 km to the South-West of the Site. The village is situated at the top of a creek of Ballylongford Bay on the tidal estuary of the River Shannon. The village is small and is home to approximately 415 people, though it does offer some services and sees a large influx of tourists which visit the range of historical sites in the local area.

Data from the Census 2022 for the EDs of Carrig, Lislaughtin, Tarmon and Tarbert, (hereafter referred to as the Study Area) has been analysed to inform the baseline. Residents of properties within these divisions are most likely to experience effects from the Proposed Development. The Study Area has a small population, with approximately 2,166 people reporting living in the area in the 2022 Census. The below analysis compares statistics regarding the population in the Study Area with those in Co. Kerry, South-West Region and the Republic of Ireland as a whole.

13.4.3 Local Community

This section describes information on population, age profile, social class, employment and deprivation in the Study Area, and is primarily based on data from the latest Census in 2022.

13.4.3.1 Population

Table 13.9 shows population change in the Study Area and its comparator areas between 2011 and 2022 as reported in the Census. The statistics reflect that the Study Area is primarily a rural area with a relatively small population which has fluctuated in recent years. There were 2,166 people residing in the Study Area in 2022, which is broadly similar to the number of people residing in the area in 2011 (2,100). During the same period, the population in Co. Kerry increased by 7.5% (from 145,500 to 156,458) and the population in Ireland increased by 12.2% (from 4.59 million to 5.15 million).

Table 13.9: Population and Population Growth in the Study Area and its Comparator Areas

Area	2022	2016	2011	Change between 2011-2016 (%)	Change between 2011-2022 (%)
Study Area	2,166	2,000	2,100	-4.8	3.1
Co. Kerry	156,458	148,000	145,500	1.7	7.5
South-West	740,614	690,575	-	-	-
Ireland	5,149,139	4,762,000	4,588,000	3.8	12.2

Source: CSO, Census 2022

Table 13.10 shows the age profiles of the population of the Study Area and its comparator areas in 2022. The age profile is representative of the available labour force and demand for the different types of community facilities in the local area.

The Study Area, relative to its comparator areas, has an elderly population. Approximately 27.1% of its residents are over the age of 65, compared to 18.9% of residents in Co. Kerry, 16.1% in the South-West and 15.1% in Ireland. Conversely, the Study Area has a lower percentage of its population in working age (57.4%) than Co. Kerry, the South-West and Ireland (62.7%, 64.7% and 65.2% respectively). It also has fewer young people, with only 15.5% of its population being 14 or under compared to 18.4% in Co. Kerry, 19.2% in the South-West and 19.6% in Ireland.

Table 13.10: The Proportion of the Total Population in Each Age Bracket for the Study Area and its Comparator Areas

Area	% of Total Population by Age Band						
	0-4	5-14	15-24	25-34	35-44	45-64	65+
Study Area	4.7%	10.8%	9.9%	8.5%	12.3%	26.7%	27.1%
Co. Kerry	5.3%	13.1%	11.3%	9.8%	14.3%	27.3%	18.9%
South-West	5.6%	13.6%	12.3%	11.4%	15.1%	25.9%	16.1%
Ireland	5.7%	13.9%	12.5%	12.2%	15.4%	25.1%	15.1%

Source : CSO, Census 2022

13.4.3.2 Labour Market Indicators

As reported in the Census 2022, the labour force participation rate (for the economically active population, considered the age range 15-64 years) in Co. Kerry (71.2%) was slightly higher than the recorded rate in the South-West (71.1%), but slightly lower than across Ireland (71.9%) as a whole.

The unemployment rate (15-64 years) in Co. Kerry (10.4%) is higher than the rate in the South-West (9.1%), and Ireland (9.5%).

Table 13.11: Labour Force Participation Rate and Unemployment Rate, (2022)

Indicator	Co. Kerry	South-West	Ireland
	%	%	%
Labour Force Participation Rate	71.2	71.1	71.9
Unemployment Rate	10.4	9.1	9.5

Source: CSO, Census 2022

In Co. Kerry the labour force participation rate increased from 70.1% in 2016 to 71.2% in 2022. However, across the same time period, the unemployment rate in Co. Kerry decreased from 14.7% to 10.4%.

Similarly, across Ireland the labour force participation rate increased from 70.3% in 2016 to 71.9% in 2022, and the unemployment rate decreased from 15.0% in 2016 to 9.5% in 2022.

Table 13.12: Labour Force and Unemployment Rates

Indicator	Co. Kerry		South-West		Ireland	
	2016	2022	2016	2022	2016	2022
	%		%		%	
Labour Force Participation Rate	70.1	71.2	69.6	71.1	70.3	71.9
Unemployment Rate	14.7	10.4	13.6	9.1	15.0	9.5

Source: CSO, Census 2016 and CSO, Census 2022

According to the 2022 Census, the largest proportion of residents in Co. Kerry are employed in professional services (23.9%). This proportion is lower than across the South-West (24.3%) and Ireland (24.5%) as a whole. The building and construction industries comprise 6.1% of employment in Co. Kerry. This is slightly higher than the proportion across the South-West (5.8%) and Ireland (5.8%). The manufacturing industries (which includes employment from the generation of energy) comprise 10.7% of employment in Co. Kerry. This is a significantly lower proportion than in the South-West (16.1%) and slightly lower than across Ireland (11.8%).

Table 13.13: Industry of Employment

	Co. Kerry	South-West	Ireland
Agriculture, forestry and fishing	6.6%	4.6%	3.5%
Building and construction	6.1%	5.8%	5.8%
Manufacturing industries	10.7%	16.1%	11.8%
Commerce and trade	21.3%	21.6%	23.8%
Transport and communications	5.1%	7.1%	9.2%
Public administration	5.7%	4.9%	5.7%
Professional services	23.9%	24.3%	24.5%
Other	20.7%	15.5%	15.8%

Source: CSO, Census 2022

Table 13.14 shows that as per the Census 2022, 2.5% of residents in Co. Kerry have no formal education, which is lower compared to the South-West (2.1%), yet broadly aligned with Ireland (2.4%) as a whole. Additionally, 28.4% of Co. Kerry is qualified to Ordinary bachelor's degree / professional qualification and above, which is lower than recorded across the South-West (33.4%) and Ireland (33.7%) as a whole.

Table 13.14: Highest Level of Education Completed

	Co. Kerry	South-West	Ireland
	%	%	%
No formal education	2.5%	2.1%	2.4%
Primary education	8.2%	6.9%	7.4%
Lower secondary	14.8%	13.7%	13.2%
Upper secondary	19.2%	18.3%	18.1%
Technical or vocational qualification	8.1%	7.9%	7.5%

	Co. Kerry %	South-West %	Ireland %
Advanced certificate / Completed apprenticeship	6.8%	6.3%	5.6%
Higher certificate	6.1%	5.8%	5.5%
Ordinary bachelor's degree	8.5%	8.4%	8.1%
Honours bachelor's degree	11.2%	13.2%	13.3%
Postgraduate diploma or degree	8.0%	10.6%	11.2%
Doctorate (PhD)	0.7%	1.2%	1.1%
Not stated	5.8%	5.6%	6.5%

Source: CSO, Census 2022

The Census 2022 provides a breakdown of the total population by 'social class'. These groupings are based on the level of skill and education attainment of their occupation. The data shows that the population of the Co. Kerry has a lower percentage of residents employed in occupations which require greater skill levels than its comparator areas.

The data shows that Co. Kerry has a lower proportion of its population in the 'Professional', 'Managerial / Technical' and 'Non-Manual' social classes (53.2%) compared to both the South-West (56.1%) and Ireland (56.2%). Co. Kerry is predominantly rural, and people within these social classes are likely to work in offices with higher rates therefore being more prevalent in more urban areas.

Conversely, the proportion of people classed as 'Skilled' or 'Semi-Skilled' is higher in Co. Kerry (26.7%), than across the South-West (24.8%) and Ireland (24.1%). People in these social classes are likely to be in manual occupations, including in agriculture which is a major industry within Co. Kerry. The proportion of people who are classed as 'unskilled' is slightly higher in Co. Kerry (3.3%) than across both the South-West (2.9%) and Ireland (3.1%).

Table 13.15: The Proportion of the Total Population in Each Social Class for the Study Area and its Comparator Areas

Area	% of Total Population by Social Class						
	Profession al	Managerial / Technical	Non-Manual	Skilled	Semi- skilled	Un- skilled	Other
Co. Kerry	7.2%	29.5%	16.5%	14.7%	12.0%	3.3%	16.7%
South-West	9.9%	30.4%	15.8%	13.4%	11.4%	2.9%	15.8%
Ireland	9.3%	30.7%	16.2%	12.9%	11.2%	3.1%	16.6%

Source : CSO, Census 2022

13.4.3.3 Deprivation

According to the latest data from the Pobal HP Deprivation Index, County Kerry as a whole, is classified as 'marginally below average' in 2022 with a relative score of -1.86. Similarly, the ED that make up the Study Area are all classified by the Irish Deprivation Index as 'marginally below average' (the 4th least deprived rank of six at ED level).

13.4.4 Land Use

The Study Area is rural and the primary land use is agricultural land. However, there are some community resources and commercial facilities. These are identified below.

13.4.4.1 Community Resources

In the Study Area, community resources are primarily located in the town of Tarbert and the village of Ballylongford.

Tarbert comprises a high street with a number of facilities for the local community, including a post office, a church (St. Mary's Roman Catholic Church), a healthcare facility (Tarbet Medical Centre), a community centre and three schools: a pre-school (Wishing Tree Pre-School), a primary school (Tarbert National School) and a secondary school (Tarbert Comprehensive School). There are a number of facilities which cater for tourists in the area, including a Hostel / Bed & Breakfast (Ferry House Hostel), a museum (Tarbert Bridewell Courthouse and Jail Museum) and a visitor centre. There is also a Gaelic Athletic Association (GAA) facility in the town, and a children's play area known as the Tarbert Community Playground. A national forest is located to the north of the town which contains a number of walking routes, including the popular John F. Leslie Woodland Walk.

Community resources in Ballylongford include a church (St. Michael's Catholic Church), a primary school (St. Oliver's National School), a village hall (Ballylongford Parish Hall) and a playground (Ballylongford Community Playground). Carrigafoyle Castle is a popular tourist attraction located north of the village on Carrig Island. There is also a Bed & Breakfast (Castle View House) which caters for tourists of the castle and the surrounding coastline.

The only community resource in the Study Area which is located outside of Ballylongford and Tarbert is the Kilnaughtin Church and Graveyard. This is a mediaeval church and graveyard which dates back to the 15th century. It also serves as a tourist attraction.

The Wild Atlantic Way is a defined touring route, stretching along the Atlantic coast from Donegal to West Cork, with protected viewpoints. Sections of this touring route are located in Co. Kerry, Co. Limerick and Co. Clare, including a section following the route of the R551 road between Ballylongford and Tarbert.

13.4.4.2 Commercial Facilities

In Tarbert, there are many commercial facilities along the town's high street, including four bars, two restaurants, a post office, a pharmacy, a convenience store and a butcher.

In Ballylongford, commercial facilities are primarily located to the west of the village along the R551 road and include an auto parts store, a garage, a convenience store, two fast food outlets, a butchers and two bars. In the centre of the village, along Main Street, there is a funeral home and two bars.

There are no commercial facilities located outside of Ballylongford and Tarbert in the Study Area.

13.4.5 Travel Patterns and the Existing Transport Network

13.4.5.1 Travel Patterns

Table 13.16 shows the travel time to work, school, or college for residents of the Study Area and its comparator areas in 2022.

According to the Census 2022, 62% of residents within the Study Area have a journey time to work, school or college which is less than 30 minutes. This is in line with the South-West region (62.0%), a lower proportion than Co. Kerry (65.9%), yet a higher proportion than Ireland (57.5%). In all 9.7% of residents in the Study Area travel over one hour to their destination, compared to 8.6% in Ireland and only 6.1% in the South-West and 6.2% in Co. Kerry.

Table 13.16: Travel Time to Work, School, or College

	Under 15 mins	15-29 mins	30-44 mins	45-60 mins	1-1.5 hours	>1.5 hours
Study Area	35.5%	26.5%	14.6%	7.0%	7.0%	2.7%
Co. Kerry	38.4%	27.5%	14.2%	3.4%	3.7%	2.5%
South-West	32.0%	30.0%	17.6%	5.1%	4.5%	1.6%
Ireland	29.4%	28.1%	17.3%	5.9%	6.1%	2.5%

Source: CSO, Census 2022

Table 13.17 shows the modes of transport most commonly used to travel to work, school, and college for residents of the Study Area and its comparator areas in 2022. The results show that 70.6% of residents in the Study Area are either drivers or passengers in a car / van. This is a higher proportion than using a car / van than in Co. Kerry (68.8%), the South-West (65.1%) and Ireland (57.9%).

A higher proportion of residents in the Study Area use public transport (8.0%) compared to Co. Kerry (6.6%), but a lower proportion travel by foot or bicycle (8.7% compared to 10.6% in Co. Kerry). Ireland has a higher proportion of its population travelling via both public transport (11.4%) and by foot or bicycle (15.3%).

Table 13.17: Travel Mode to Work, School, or College

Area	Foot	Bicycle	Bus or Coach	Train	Car / Van Driver	Car Passenger	Other
Study Area	8.3%	0.4%	8.0%	0.0%	50.6%	20.0%	12.7%
Co. Kerry	9.4%	1.2%	6.3%	0.3%	45.7%	23.1%	14.1%
South-West	11.4%	1.2%	7.3%	0.5%	43.0%	22.1%	14.4%
Ireland	12.6%	2.7%	9.0%	2.4%	38.8%	19.1%	15.4%

Source: CSO, Census 2022

The above statistics are representative of the Study Area and Co. Kerry both being rural areas. In the Study Area, there are schools and some employment opportunities in the villages of Ballylongford and Tarbert. However, for residents of properties not located in these villages, there are few public transport options and residents are required to own a car to access the villages and towns outside of the Study Area.

13.4.5.2 Existing Transport Network

Chapter 11 (Traffic and Transport) presents a description of the local transport network in the Study Area. This is summarised below to provide context on the existing transport infrastructure used by the local community to travel within both the local and wider area.

The L1010 is the road which will connect the Site to Ballylongford in the west and Tarbert in the east. The road currently facilitates access between the residential properties and farms located along the road and Tarbert and Ballylongford. However, the road is generally not used for access between Ballylongford and Tarbert as the R551 road, located to the south, offers a shorter and faster route between the areas.

There are two national secondary roads located in the Study Area: the N67 and the N69. The N67 road connects the Study Area with Co. Clare in the north and includes a ferry crossing over the Shannon Estuary. To the north of the estuary, the road travels to Kilrush and leads on to Ennis. The N69 road connects Tarbert with Limerick City in the east and Listowel and Tralee in the south. These locations offer both employment and educational facilities not offered within the Study Area and thus it is likely that residents in the Study Area use these roads regularly to access these locations. A bus route also travels along this road.

13.4.6 Human Health

The below section provides an overview of the health profile of residents in the Study Area using the best available data. Data on general health and the prevalence of disabilities has been taken from a self-assessment on health carried out as part of the 2022 Census. This data is available by Electoral Division (ED) and presented via the same areas as in the rest of the baseline. Data on prevalence on physical activity and condition of mental health has been taken from the Irish Health Survey. The Irish Health Survey is based on self-reported data from persons aged 15 years and over and gathers their view on key components of their health. This data is available only at a regional level and subsequently it has been reported as such in this section. The Study Area is within the South-West region.

13.4.6.1 General Health

According to the Census 2022, 85.8% of residents in the Study Area identified themselves as having either 'very good' or 'good' health. This is higher than recorded in Co. Kerry (84.3% reporting 'very good' or 'good' health), the South-West (84.3%) and Ireland (82.9%). However, the proportion of people reporting 'Bad' or 'Very Bad' health in the Study Area (2.0%) was higher than recorded in Co. Kerry (1.7%), the South-West (1.6%) and Ireland (1.7%).

Table 13.18: Proportion of the Population by General Health for the Study Area and its Comparators

	Very Good	Good	Fair	Bad	Very Bad
Study Area	50.7%	35.1%	9.6%	1.7%	0.3%
Co. Kerry	51.7%	31.7%	9.2%	1.4%	0.3%
South-West	54.4%	29.9%	8.4%	1.3%	0.3%
Ireland	53.2%	29.7%	8.6%	1.4%	0.3%

Source : CSO, Census 2022

13.4.6.2 Disability

Table 13.19 shows the proportion of the population with a disability in the Study Area and its comparator areas from the 2022 Census. A disability has been defined as a long-lasting condition or difficulty and may be physical or mental. Approximately 23.8% of the Study Area's population identifies as having a

disability which is higher than the proportion of the population in Co. Kerry (21.6%), the South-West (21.9%) and Ireland (21.5%).

Table 13.19: Proportion of the Population with a Disability for the Study Area and its Comparators

Area	Proportion of population with a disability (%)
Study Area	23.8%
Co. Kerry	21.6%
South-West	21.9%
Ireland	21.5%

Source : CSO, Census 2022

13.4.6.3 Physical Health

Table 13.20 shows the proportion of residents which undertake different types of physical activity for the South-West region and for Ireland as a whole, according to the Irish Health Survey. The table shows that in 2019 comparatively less people in the Study Area undertake all types of physical activity identified. The largest difference in activity rates between the South-West and Ireland is for ‘*sports, fitness, or recreational physical activities*’. Only 47% of residents of the South-West region partake in these activities, compared to 52% of residents in Ireland.

Table 13.20: Proportion of Residents Undertaking Types of Physical Activity by Region

Type of physical activity undertaken	South-West Region	Ireland
Walking to get to and from places	81	83
Cycle to get to and from places	10	13
Sports, fitness or recreational physical activities	47	52
Muscle strengthening activities	24	28

Source: CSO, The Irish Health Survey 2019

13.4.6.4 Mental Health

Table 13.21 shows the mental health status of residents for the South-West region and for Ireland as a whole (aged 15 years and over) according to the Irish Health Survey. The table shows that in 2019 a higher proportion of residents suffer from mild depression or moderate depression in the South-West region compared to Ireland as a whole. Approximately 72% of residents of the South-West region suffer from ‘none to minimal depression’, compared to 74% of residents of Ireland. The prevalence rate of ‘moderately severe or severe depression’ is the same (3%) in the South-West region as it is in Ireland.

Table 13.21: Proportion of Residents Undertaking Types of Physical Activity by Region

Mental Health Indicator	South-West Region	Ireland
None to minimal depression	72%	74%
Mild depression	19%	18%
Moderate depression	6%	5%

Moderately severe or severe depression	3%	3%
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Source: CSO, The Irish Health Survey 2019

13.5 Assessment of Impact and Effect

13.5.1 Land Use and Amenity

The Site is currently owned by Shannon LNG Limited (the Applicant). The Site boundary ('red line') encloses an area of approximately 41 ha and is entirely owned by the Applicant.

As outlined in **Chapter 02** (Description of the Proposed Development), there are a number of old disused farm buildings and structures on the Site and a small number of residential properties located within 500 m of the Site. Residential properties are also located along the existing L1010 road immediately south of the Site, with additional residential properties, again to the south of the Site, to the east and west along the L1010 road.

Chapter 10 (Landscape and Visual) considers effects on the Wild Atlantic Way touring route. Visual effects on views from the Co. Kerry sections are considered to be not significant. The magnitude of visual change from Co. Clare is considered ranging between medium and high, and the resulting significance is considered ranging between moderate and significant adverse depending on the distance to the Proposed Development and the openness and panoramic quality of available views. However, while the Proposed Development will intensify the industrial nature of views, it will not be totally uncharacteristic as it will often be seen in conjunction with existing industrial developments.

Overall, the Proposed Development is expected to have a **Slight Negative (Not Significant)** impact on land use during both the construction and operation phases.

Table 13.22: Summary of Impacts on Land Use in the Construction and Operation Phase

Impact Criteria	Indirect amenity impacts on users of the Wild Atlantic Way touring route	
	Effect & Significance	Comment
Quality / Nature	Negative	A number of farmers will be displaced from that part of the Site currently leased out as pastureland for cattle grazing. Tourist views using the Wild Atlantic Way will be negatively impacted.
Type	Direct; indirect	Direct and indirect effect of the Proposed Development.
Frequency	Constant	During the proposed construction programme and the operational phase.
Extent	Local; regional (Co. Clare)	Farmers will be displaced from part of the Site. Tourist views from Co. Clare will be affected.
Duration	Long-term	During the proposed construction programme and the operational phase.
Probability	Likely	The probability of farmers being displaced and views being impacted is likely.
Magnitude	Low	A relatively small area of farmland will be affected. Views from a relatively small section of the Wild Atlantic Way will be affected.
Receptor Sensitivity	Low	There is no agricultural infrastructure on the land in question, and there are likely to be alternative local pastures which can be accessed by farmers. Views of the Proposed Development will be seen in conjunction with existing industrial developments.
Impact Significance	Slight Negative	

Impact	Indirect amenity impacts on users of the Wild Atlantic Way touring route	
Criteria	Effect & Significance	Comment
Residual Impact Significance	Slight Negative	

13.5.2 Severance

As stated in the baseline, the Study Area is predominantly rural with limited public transport available. Local residents rely heavily on the local and regional road network to access workplaces, educational facilities, and community facilities. The L1010 and the R551 roads are the primary routes used to travel between Ballylongford and Tarbert in the local area. The N69 enables access to the city of Limerick in the east and the towns of Listowel and Tralee in the south, and the N67 can be used to access towns in Co. Kerry via a ferry link including Kilrush and Ennis. The impact of the Proposed Development on the potential severance of these links is considered below.

13.5.2.1 Construction Phase

During the construction phase, heavy goods vehicle (HGV) traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The majority of this construction traffic is likely to travel to and from the Study Area via the N69 between Limerick and Tarbert. The rest of the traffic will use either the stretch of the N69 south of Tarbert towards Limerick and the N67 towards the Tarbert ferry crossing. The Site is located on the L1010 road between Tarbert and Ballylongford and therefore all construction traffic will be required to use this stretch of road to access the Site.

Chapter 11 (Traffic and Transport) finds that this construction traffic will lead to a considerable increase in the number of vehicles using many of the junctions within or near to Tarbert. For example, in the AM period (between 06:30 and 10:00), there will be a 107% increase in the number of vehicles (from 263 vehicles in the Do Nothing to 545 in the Do Something) using the N67 / N69 / R551 junction and a 167% increase in the number of vehicles (from 169 in the Do Nothing to 451 in the Do Something) using the R551 / L1010 road junction. The transport assessment also modelled the impact of these construction traffic flows on local junctions. It found that due to the increased volume of construction traffic on the network as a result of the Proposed Development there will be a slight effect on junction capacity, but this will be a temporary effect. However, due to the low existing number of vehicles using these junctions, the increase in traffic flows at these junctions due to construction traffic does not lead to any junctions becoming over capacity. There is therefore not expected to be congestion considerable enough to deter local residents from accessing the workplaces, educational facilities, or community facilities which they use.

Therefore, the Proposed Development is assessed to have a **Low** impact on severance between local residents in the Study Area and the facilities which they use during the construction period. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Not Significant**. **Table 13.23** presents a summary of the assessment.

Table 13.23: Summary of Impacts on Severance in the Construction Phase

Impact	Impact of construction traffic on severance between residents and the workplaces, community facilities and educational facilities which they frequently access.	
Criteria	Effect & Significance	Comment
Quality / Nature	Negative	The presence of construction traffic has potential to lead to severance between residential properties and the workplaces, community facilities and educational facilities which they frequently access.
Type	Indirect	An indirect effect of the project.
Frequency	Hourly	Throughout the proposed construction programme.
Extent	Local	Residential properties in the Study Area using local and regional roads in and around Tarbert and Ballylongford to access workplaces, community facilities and educational facilities.
Duration	Short-Term	Length of construction period (approximately 32 months).
Probability	Likely	The probability of haulage activities increasing congestion in the Study Area is likely.
Magnitude	Low	Impact of construction traffic on congestion in the study area is low.
Receptor Sensitivity	Negligible	There are limited existing severance or accessibility issues.
Impact Significance	Not Significant Imperceptible	
Residual Impact Significance	Not Significant Imperceptible	

13.5.2.2 Operational Phase

The operation of the Proposed Development will require a number of staff to travel to and from the Site. This is expected to create approximately 38 trips in the AM peak hour (08:00 - 09:00) and 30 trips in the PM peak hour (17:00 - 18:00). This low and imperceptible degree of increase in vehicles on the road network is not expected to lead to any congestion which may deter local residents from accessing the workplaces, educational facilities, or community facilities which they use. Therefore, the Proposed Development is assessed to have **No Impact** on severance between local residents in the Study Area and the facilities which they use during the operation period.

13.5.3 Employment

13.5.3.1 Construction Phase

As stated in **Chapter 02** (Description of the Proposed Development), the construction phase of the Proposed Development will comprise four phases:

- Enabling, Earthworks & Site Preparation.
- 200 kV and Medium voltage (10 / 20 kV) connections³.
- CCGT – 2 Blocks.
- CCGT – 1 Block.

³ The 200 kV and Medium voltage (10 / 20 kV) connections will be subject to a separate planning application. The 220 kV connection has been considered in the cumulative impact assessment within each technical chapter of this EIAR.

Construction of the Proposed Development is expected to commence in January 2026 and will last 32 months. It is expected that peak staffing levels will occur in September 2027, when 1,070 no. staff will be required.

Construction of the Proposed Development will involve the construction of three CCGT blocks, 20kV connection, and 220kV substation and connection. The three CCGT blocks will be constructed concurrently, i.e. two CCGT blocks followed by the last CCGT block. The peak number of workers onsite will be 600 for the construction of the two CCGT blocks and 350 for the construction of the third CCGT block. The construction of the 200kV substation will require a peak of 105 No. workers onsite whilst the connection will require a peak of 15 no. workers. Additionally, the enabling works will require a peak of 75 no. workers onsite. **Figure 13.3** identifies the number of workers which will be required onsite to construct all elements of the Proposed Development.

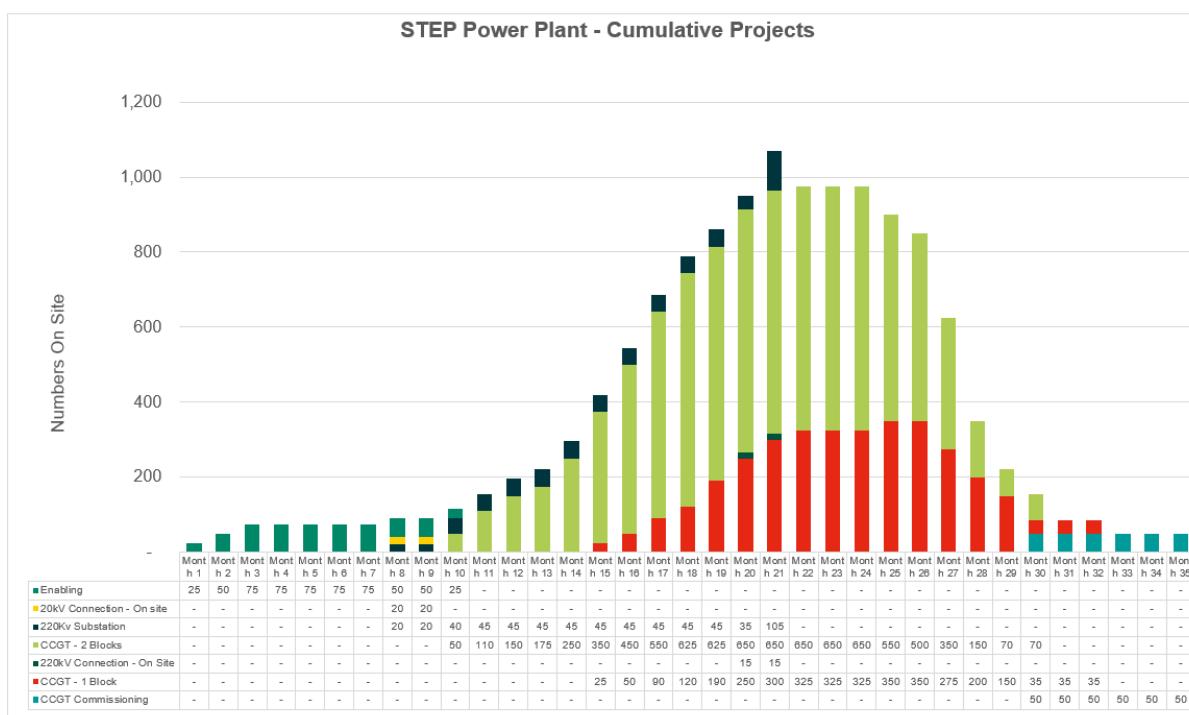


Figure 13.3: Estimated Number of Construction Workers Required onsite by Month

Source: AECOM (2024)

It is expected that temporary indirect jobs will also be created in the supply chain to provide material, specialist labour and construction services for the workforce. Based on the information available at present, it is not possible to quantify the extent of the indirect employment created, however, based on typical additionality assessments of such jobs created in other projects, employment creation could increase by 40 to 50% (of direct employment).

Section 13.4 identifies that Co. Kerry has a higher proportion of residents classed as ‘skilled’ and ‘semi-skilled’ and likely to be employed in manual labour occupations than across the south-west and Ireland. Additionally, Co. Kerry has a higher proportion of residents employed in building and construction industries than regional and national rates. As a result, the local labour force has some tolerance to adapt to and accommodate the anticipated labour demand. Therefore, the Proposed Development is assessed to have a **Medium** impact on the employment workforce in Co. Kerry during the construction

period. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Moderate Positive**. **Table 13.24** presents a summary of the assessment.

Table 13.24: Summary of Impacts on Employment in the Construction Phase

Impact Criteria	Impact of construction works on the workforce in Co. Kerry	
	Effect & Significance	Comment
Quality / Nature	Positive	The works will lead to an increase in the number of employed workers in Co. Kerry.
Type	Direct / Indirect	A direct and indirect effect of the Proposed Development.
Frequency	Hourly	Throughout the proposed construction programme.
Extent	Local	The works will provide temporary employment for residents primarily in Co. Kerry
Duration	Short-Term	Length of construction period (approximately 32 months).
Probability	Likely	The probability of the works leading to an increase in employment in Co. Kerry is likely.
Magnitude	Medium	The Proposed Development is likely to have a low impact on the number of employed workers in Co. Kerry
Receptor Sensitivity	Low	A high proportion of residents in Country Kerry are classed as 'skilled' and 'semi-skilled' and employed in building and construction industries in Co. Kerry.
Impact Significance	Moderate Positive	
Residual Impact Significance	Moderate Positive	

13.5.3.2 Operational Phase

The operation of the Proposed Development will require a number of employees onsite:

- The Proposed Development (Power Plant) will have 26 day staff (08:30 - 17:30).
- 24 hr shift staff, consisting of three shifts of eight employees (08:00 - 16:00; 16:00 - 00:00; 00:00 – 08:00).
- One delivery outside of the peak hour and two within the peak hour are assumed.

This translates to approximately 34 full-time employed (FTE) workers required for the operation of the Power Plant. Therefore, the Proposed Development is assessed to have a **Slight** impact on the employment workforce in Co. Kerry during the operation period. Considering the frequency, extent, duration and probability of the impact, the significance of effect is assessed to be **Slight Positive**. **Table 13.25** presents a summary of the assessment.

Table 13.25: Summary of Impacts on Employment in the Operational Phase

Impact Criteria	Impact of the operation of the Proposed Development on the workforce in Co. Kerry	
	Effect & Significance	Comment
Quality / Nature	Positive	The works will lead to an increase in the number of employed workers in Co. Kerry.
Type	Direct	A direct effect of the project.
Frequency	Hourly	Throughout the operational phase of the Proposed Development.
Extent	Local	The works will provide permanent employment for residents primarily in Co. Kerry.
Duration	Long-Term	The duration of the operational phase of the Proposed Development (25 years).
Probability	Likely	The probability of the works leading to an increase in employment in Co. Kerry is likely.
Magnitude	Low	The Proposed Development is likely to have a low impact on the number of employed workers in Co. Kerry.
Receptor Sensitivity	Medium	A high proportion of residents in Co. Kerry are classed as 'skilled' and 'semi-skilled' and therefore likely to be employed in manual labour occupations.
Impact Significance	Slight Positive	
Residual Impact Significance	Slight Positive	

13.5.4 Human Health

The tables below set out the potential human health impacts associated with the Proposed Development during the construction and operational phases.

Table 13.26: Access to Healthcare Services and Other Social Infrastructure

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal assess the impact on healthcare services?	<p>There is one healthcare facility in Tarbert, namely Tarbert Medical Centre. This is the closest healthcare service for local residents. Local residents are required to travel to Listowel to access the nearest hospital (Listowel Community Hospital). The Study Area is primarily rural and there are many residential properties located away from Tarbert in the Study Area (such as residents in Ballylongford) who are required to travel to these healthcare facilities by car.</p> <p>Construction</p> <p>During the construction period, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The majority of this construction traffic is likely to travel to and from the Study Area via the N69 between Limerick and Tarbert. The rest of the traffic will use either the stretch of the N69 south of Tarbert towards Limerick and the N67 towards the Tarbert ferry crossing. The Site is located on the L1010 between Tarbert and Ballylongford and therefore all construction traffic will be required to use this stretch of road to access the Site.</p> <p>However, the transport assessment finds that though construction activity will cause an increase in traffic – it will not lead to congestion. The low existing number of vehicles using these roads means that even with traffic increases these junctions do not become congested. Therefore, there is expected to be no effect on residents’ ability to access healthcare facilities in Tarbert or in Listowel. The potential health impact during construction related to access to healthcare services is therefore assessed to be Neutral.</p> <p>Operational</p> <p>During the operational period, a number of staff will be required to travel to and from the Site. It is expected that staff travelling to and from the Site will create approximately 38 trips in the AM peak hour (08:00 - 09:00) and 30 trips in the PM peak hour (17:00 - 18:00). This is not expected to lead to congestion and it will not impact accessibility between local residents and the healthcare facilities they use in Tarbert or in Listowel. The potential health impact during operation related to access to healthcare services is therefore assessed to be Neutral.</p>	<p>0 during construction</p> <p>0 during operation</p>	<p>Construction</p> <p>Ensure measures in the Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) related to construction traffic are implemented accordingly.</p> <p>Operation</p> <p>None required.</p>
Does the proposal assess the capacity, location, and accessibility of other social infrastructure, e.g. schools, social care and community facilities?	<p>Residents in the Study Area are likely to use the educational facilities and community facilities located in Tarbert and Ballylongford. There are three schools in Tarbert and a variety of community resources in the town’s high street. In Ballylongford, there is a primary school, a church, a village hall and a playground. Residents are also likely to travel outside of the Study Area to the nearby towns of Listowel and Ballybunion to access community resources.</p> <p>Construction</p> <p>During the construction period, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The majority of this construction traffic is likely to travel to and from the Study Area via the N69 between Limerick and Tarbert. The rest of the traffic will use either the stretch of the N69 south of Tarbert towards Limerick and the N67 towards the Tarbert ferry crossing. The Site is located on the</p>	<p>0 during construction</p> <p>0 during operation</p>	<p>Construction</p> <p>Ensure measures in the CEMP and CTMP related to construction traffic are implemented accordingly.</p> <p>Operational</p> <p>None required.</p>

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
	<p>L1010 road between Tarbert and Ballylongford and therefore all construction traffic will be required to use this stretch of road to access the Site.</p> <p>However, the transport assessment finds that though construction activity will cause an increase in traffic – it will not lead to congestion. The low existing number of vehicles using these roads means that even with traffic increases these junctions do not become congested. Therefore, there is expected to be no effect on residents' ability to access educational and community facilities in Tarbert or in Listowel. The potential health impact during construction related to access to other social infrastructure is therefore assessed to be Neutral.</p> <p>Operation</p> <p>During the operational period, a number of staff will be required to travel to and from the Site. It is expected that staff travelling to and from the Site will create approximately 38 trips in the AM peak hour (08:00 - 09:00) and 30 trips in the PM peak hour (17:00 - 18:00). This is not expected to lead to congestion and it will not impact accessibility between local residents and the community facilities they use in Tarbert / Ballylongford and outside of the Study Area. The potential health impact during operation related to access to social infrastructure is therefore assessed to be Neutral.</p>		

Table 13.27: Air Quality, Noise, and Neighbourhood Amenity

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal minimise construction impacts such as dust, noise, vibration and odours?</p>	<p>Construction</p> <p>An assessment of Airborne Noise and Groundborne Vibration is provided in Chapter 09. The noise assessment identifies two ‘peaks’ in construction activity across the 32-month construction period: ‘Peak 1’ in June to July 2026 and ‘Peak 2’ in May to September 2026. The assessment finds that construction sound levels are below the criteria at all identified residential receptors during all periods, except for Saturdays where there is a predicted exceedance between 13:00 and 14:00. However, the assessment states that if exceedances during this period are avoided through the careful scheduling of works, no noise impacts are expected at any residential properties due to onsite noise activities. The vibration assessment states that the primary sources of vibration associated with construction of the Proposed Development are the 16T Vibratory rollers used during Peak 1. However, the rollers are understood to only operate at a distance of 80 m or greater from nearby receptors. Therefore, vibration arising from this is not expected to lead to any impacts on any residential properties or community resources.</p> <p>An assessment of the impact on air quality due to site plant and non-road mobile machinery emissions is provided in Chapter 08 (Air Quality). The assessment finds that providing that adequate dust mitigation measures are implemented onsite, there are likely to be No Significant air quality impacts due to onsite activity during the construction phase.</p> <p>Overall, therefore, provided that the appropriate noise and air quality mitigation measures are followed (see Chapter 08 (Air Quality) and Chapter 09 (Airborne Noise and Groundborne Vibration) for more detail on these measures), the potential health impact during construction due to dust, noise, vibration, and odours is assessed to be Neutral.</p> <p>Operational</p> <p>N/A</p>	<p>0 during construction N/A during operation</p>	<p>Construction</p> <p>Ensure measures in the CEMP and CTMP related to onsite construction activities are implemented accordingly.</p> <p>Operation</p> <p>N/A</p>
<p>Does the proposal minimise noise pollution caused by traffic and commercial uses?</p>	<p>Construction</p> <p>During the construction period, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The majority of this construction traffic (80% of HGVs, 70% of LGVs and 70% of site operates) is likely to travel to and from the Study Area via the N69 between Limerick and Tarbert. This means that the majority of construction traffic will travel through Tarbert.</p> <p>As stated in Chapter 11 (Traffic and Transport), during the peak year of construction (2027), there is expected to be approximately 260 construction trips travelling westbound through Tarbert along the L1010 and Church Street between 07:00 and 08:00. A similar number of vehicles will be required to travel eastbound through Tarbert during the PM peak (16:30 - 17:30). The presence of these vehicles will be a nuisance to residents of these properties.</p> <p>An assessment of the noise that this construction traffic creates is provided in Chapter 09. The assessment predicts that the presence of construction traffic will lead to a moderate noise impact on</p>	<p>- during construction 0 during operation</p>	<p>Construction</p> <p>Ensure measures in the CEMP and CTMP related to construction traffic are implemented accordingly.</p> <p>Operational</p> <p>None required.</p>

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
	<p>residential properties along the L1010 between the Site entrance and Tarbert. This impact is anticipated to be limited to the relatively small number of noise sensitive properties located along this stretch of existing road.</p> <p>In summary, residential properties on the L1010 road and Church Street in Tarbert will experience nuisance impacts due to the presence of construction traffic. Some of these properties on the L1010 road will also experience noise impacts. Therefore, the potential health impact during construction due to noise pollution caused by traffic is assessed to be Negative.</p> <p>Operational</p> <p>The operation of the Proposed Development will require a number of staff to travel to and from the Site. Staff and delivery vehicles travelling to and from the Site are expected to create approximately 38 trips in the AM peak hour (08:00 - 09:00) and 30 trips in the PM peak hour (17:00 - 18:00). The majority of vehicles will be cars rather than HGV/LGVs. Therefore, the operation of the Proposed Development is not expected to lead to any nuisance impacts on residents in Tarbert. Chapter 09 (Airborne Noise and Groundborne Vibration) assesses the impact of this additional traffic on residential properties in the Study Area. It finds that no residential receptors will experience a noise impact due to operational traffic which is greater than negligible. The potential health impact during operation due to noise pollution caused by traffic is therefore assessed to be Neutral.</p>		
<p>Does the proposal minimise air pollution caused by traffic and energy facilities?</p>	<p>Construction</p> <p>During the construction period, HGV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The majority of this construction traffic (80% of HGVs, 70% of LGVs and 70% of site operates) is likely to travel to and from the Study Area via the N69 between Limerick and Tarbert. This means that the majority of construction traffic will travel through Tarbert. As stated in Chapter 11 (Traffic and Transport), during the peak year of construction (2027), there is expected to be approximately 260 construction trips travelling westbound through Tarbert along the L1010 and Church Street between 07:00 and 08:00. A similar number of vehicles will be required to travel eastbound through Tarbert during the PM peak (16:30 – 17:30).</p> <p>Chapter 08 (Air Quality) conducts a construction phase road traffic emissions assessment. The assessment concludes that the construction of the Proposed Development is not expected to result in significant air quality effects. The magnitude of change in annual mean NO₂ concentrations at the worst affected human health receptors is described as low, based on the IAQM planning guidance, equating to a negligible or imperceptible impact. The magnitude of change in annual mean PM₁₀ and PM_{2.5} concentrations is described as very low, also equating to a negligible or imperceptible impact. Therefore, the potential health impact during construction due to air pollution caused by construction traffic is assessed to be Neutral.</p> <p>Operational</p>	<p>0 during construction 0 during operation</p>	<p>Construction</p> <p>Ensure measures in the CEMP and CTMP related to construction traffic are implemented accordingly.</p> <p>Operational</p> <p>None required.</p>

Assessment Criteria

Details and Evidence

**Potential Health
Impact**

**Further Action or
Mitigation
Recommended**

Chapter 08 (Air Quality) sets out that the operation of the Proposed Development will include a number of onsite sources of emissions associated with the combustion plant to enable the generation of heat and power for onsite activity. The operational phase of the Proposed Development emissions identifies some impacts on local air quality. However, according to IAQM guidance, 33 of the 47 human health receptors considered for all pollutants are assessed to have an imperceptible to slight adverse effect, and the remaining 14 receptors still fall well below the Air Quality Standard for NO₂. Additionally, mitigation is embedded within the Proposed Development design (source release height), and the facility's Emission Limits will be set by the EPA within its IE licence.

Sources of emissions due to operational traffic are associated with the vehicles required to access the Site. **Chapter 08** (Air Quality) sets out an operational phase road traffic emissions assessment. The assessment concludes that the operational traffic impact on sections of the L1010 road and the N69 fall well below the screening criteria set out in the chapter. It has therefore not conducted any further assessment. The potential health impact during operation due to air pollution caused by construction traffic is therefore assessed to be **Neutral**.

Table 13.28: Access to Work and Training

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent 'end-use' jobs?</p>	<p>Employment and income are among the most significant determinants of long-term health, influencing a range of factors including the quality of housing, education, diet, lifestyle, coping skills, access to services and social networks. Many epidemiological studies consistently show better health outcomes are associated with higher socio-economic status.</p> <p>Construction</p> <p>The construction workforce of the Proposed Development will peak in September 2027 for one month, requiring approximately 1,070 no. workers on-site. Training will be provided to all employees in the construction workforce.</p> <p>There is also expected to be indirect jobs created in the supply chain to provide material, specialist labour and construction services for the workforce. It is not possible to quantify the extent of the indirect employment created, however, based on typical additionality assessments of such jobs created in other projects, employment creation could increase by 40 to 50% (of direct employment).</p> <p>The Proposed Development will therefore lead to employment and training opportunities and the potential health impact during construction on access to employment and training opportunities is assessed to be Positive.</p> <p>Operation</p> <p>During the operation period, there will be approximately 34 FTE workers required for the operation of the Power Plant. Training will be provided to all employees in the workforce.</p> <p>The Proposed Development will lead to employment and training opportunities and the potential health impact during operation on access to employment and training opportunities is therefore assessed to be Positive.</p>	<p>+ during construction + during operation</p>	<p>Construction None required.</p> <p>Operation None required.</p>

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal include opportunities for work for local people via local procurement arrangements?</p>	<p>Construction Construction of the Proposed Development will require a maximum of 1,070 no. workers onsite. While some of the construction personnel will be specialists who will travel from outside the area, it is intended that many of the jobs will be filled by personnel recruited locally, with appropriate training provided as necessary. The Proposed Development will therefore lead to employment opportunities for local people, as well as training, and the potential health impact on the local employment workforce is therefore assessed to be Positive.</p> <p>Operation There will be approximately 34 FTE workers required for the operation of the Power Plant. As far as practicable, these workers will be sourced from the local area and training opportunities will be available to them. The Proposed Development will therefore lead to employment opportunities for local people and the potential health impact on the local employment workforce is therefore assessed to be Positive.</p>	<p>+ during construction + during operation</p>	<p>Construction Ensure opportunities are provided to the local workforce, to increase the scheme's local impact.</p> <p>Operation Ensure opportunities are provided to the local workforce, to increase the scheme's local impact.</p>

Table 13.29: Climate Change

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal incorporate renewable energy?	<p>Construction</p> <p>N/A</p> <p>Operational</p> <p>Kerry Co. Co. Local Authority Climate Action Plan 2024-2029 sets out Co. Kerry's five-year plan to adopt mitigation and adaptation measures that will provide pathways to decarbonise society. As stated in Chapter 02 (Description of the Proposed Development), the Proposed Development will be operated using natural gas, a finite energy source. However, the Proposed Development is designed to operate alongside intermittent renewable electricity power generation and is expected to mainly operate at full capacity during periods of low renewable supply, and otherwise to be turned down or turned off. For example, during periods of high wind (renewable) generation it is expected that the Proposed Development will be turned off to give priority to renewable power. Furthermore, it is noted that after the 25-year operational phase of the Proposed Development, the Power Plant may transition to a hydrogen powered facility which will aid decarbonisation of the national grid.</p> <p>The impact of the Proposed Development on climate change during its operational phase is assessed in Chapter 15 (Climate). The operation of the Proposed Development will result in annual carbon emissions which will result in a major adverse climate effect. The total GHGs estimated to be emitted from the operational phase of the Proposed Development have been calculated to be 21,742,544 tCO₂e over the course of the 25-year period. The annual emissions of the Proposed Development will be 2.7% of Irelands carbon budget for the year 2030. The potential health impact during operation due to the generation of GHGs leading to climate change is therefore assessed to be Negative.</p> <p>However, the Proposed Development will support the achievement of energy security by providing an alternative electricity supply to the typically intermittent electricity supply from wind power, enabling the expansion of renewable energy generation capacity and the transition to a reliable and consistent low carbon energy network through comparatively fast response times and the integration of the battery energy storage system (BESS). Additionally, it is acknowledged that without a supply of gas-powered electricity generation, Ireland would not meet its 80% by 2030 renewable energy electricity target, in turn allowing Ireland to meet its national carbon reduction target. It is important to note that the emissions associated with the Power Plant could reduce over time based upon projected running hours. Finally, the ability of the Power Plant to operate at a 50% blend of hydrogen by design, offers the potential for the Power Plant to become even more efficient in emission terms over the period to 2050 as and when the required policies and supply chains for hydrogen are implemented.</p>	N/A during construction - during operation	<p>Construction</p> <p>N/A</p> <p>Operational</p> <p>Undertake operations and monitoring in accordance with all legal, regulatory and licence conditions.</p> <p>Ensure measures in the CEMP related to climate change resilience are implemented accordingly.</p>

Assessment Criteria	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal maintain or enhance biodiversity?	<p>Construction</p> <p>Chapter 07B (Terrestrial Ecology) assesses potential impacts of the construction of the Proposed Development on a range of local species and habitats. During the construction phase, negative impacts are identified on numerous terrestrial and freshwater habitats, terrestrial mammals and fish due to loss of habitat, increased noise and disturbance, lighting and road traffic. Various measures are described to mitigate impacts on individual habitats and species. A CEMP has been prepared (Appendix A2.4) and emphasises in particular the protection of habitats and species of designated areas that adjoin the Site. Additionally, during construction the potential for introduction of invasive species will be managed by established protocols and biosecurity measures, such as the visual inspection of vehicles for evidence of attached plant or animal material prior to entering and leaving the works area. Significant negative residual impacts are identified on the sedimentary sea cliffs and on badgers (at a local level). Given that all other residual impacts are not significant, and that the residual effects are not on habitats or species with which people do not directly or substantially interact, it is concluded that there is no overall human health impact and is assessed to be Neutral.</p> <p>Operational</p> <p>Chapter 07B (Terrestrial Ecology) identifies numerous potential negative impacts on various terrestrial habitats and species. After mitigation, a significant negative impact on badgers at a local level is identified due to a loss of feeding territory. While this residual negative effect is acknowledged, given that residual impacts on all other terrestrial habitats and species are not significant, it is concluded that there is no overall human health impact.</p> <p>During operation, mitigation and monitoring will be put in place to reduce risk of accidental fuel, lubricating oils, solvent spills and ensure such material is appropriately controlled, in accordance with regulatory requirements and industry best practice. The discharge of wastewater could affect water quality or invertebrate and fish abundance in the estuary; however, it is concluded that no significant impact is likely. Given this conclusion and that these invasive species will not directly or substantially interact with people, it is concluded that there is no overall human health impact and is assessed to be Neutral.</p>	<p>0 during construction 0 during operation</p>	<p>Construction N/A</p> <p>Operational N/A</p>

13.6 Cumulative Impacts and Effects

This section assesses the potential impacts of the Proposed Development in combination with the potential impacts of other committed development schemes (referred to as 'cumulative schemes') within the surrounding area, as listed in **Appendix A1.2**. In addition, a cumulative assessment of the SLNG Natural Gas Pipeline, SLNG Strategic Gas Reserve Facility, Data Centre Campus and High Voltage 220 kV and Medium Voltage (10 / 20 kV) Power Transmission Networks and L1010 road widening works has also been undertaken.

13.6.1 Land Use and Amenity

The Proposed Development results in a **Slight Negative (Not Significant)** impact on land use and amenity as detailed in **Section 13.5.1** due to the loss of agricultural land and impacts on views from the Wild Atlantic Way. A number of the committed cumulative schemes, including Tarbert Power Station and Moneypoint Generating Station, also have potential to lead to loss of agricultural land and to negatively impact on views from the Wild Atlantic Way. This could lead to a negative cumulative impact on land use, though overall this impact is not considered likely to be significant.

The SLNG Gas Pipeline, SLNG Strategic Gas Reserve Facility, Data Centre Campus and High Voltage 220 kV and Medium Voltage (10 / 20 kV) Power Transmission Networks also have the potential to lead to the loss of agricultural and impacts on the Wild Atlantic Way. This could lead to a negative cumulative impact on land use, though overall this impact is not considered likely to be significant.

13.6.2 Severance

The assessment of severance is inherently cumulative as the traffic data which the assessment is based on includes the change in traffic generated by other committed developments in the baseline. Cumulative impacts of approved developments are therefore included in the assessment of severance in **Section 13.5.2**, with the exception of the outstanding L1010 road works. The L1010 road widening works are to be completed prior to the start of the main construction elements but may overlap with the enabling works. Given the L1010 road works would not coincide with the peak months of construction associated with the Proposed Development, it is envisioned that this would not pose a significant impact on the surrounding road network.

Planning applications for Tarbert Power Station and Moneypoint Generating Station are awaiting decision. As outlined in **Chapter 11** (Traffic and Transport), if approved, both developments could potentially have an overlapping construction period with the Proposed Development. However, the potential overlap in development at Tarbet Power Station is not expected to result in a significant impact as the N67 / N69 /R551 junctions will have capacity to deal with the additional traffic. Additionally, due to the location of Moneypoint Generating Station, there are not anticipated to be any impacts on severance near the Proposed Development.

It is envisioned that the SLNG Gas Pipeline and SLNG Strategic Gas Reserve Facility will be constructed outside of the peak construction periods associated with the Proposed Development and therefore this would not pose a significant impact on the surrounding road network.

13.6.3 Employment

The construction phase of the Proposed Development is expected to generate employment. The construction phases of the other committed developments also have the potential to create employment opportunities and this could therefore lead to cumulative effects on employment in the local area. In the absence of commercially sensitive information relating to the construction costs and construction phasing of each of the committed developments, it is not possible to make a quantitative assessment of the employment likely to be generated from the construction stage of the other development schemes. However, on the basis that some degree of employment is anticipated to arise from the schemes cumulatively, it is expected that there will be a positive cumulative impact on construction related employment within the local area.

13.6.4 Human Health

The cumulative assessment of 'Access to Healthcare Services and other Social Infrastructure' is as per the cumulative assessment of 'Severance' set out above and the cumulative assessment of 'Access to Work and Training' is as per the cumulative assessment of 'Employment' set out above.

For the assessment of 'Air Quality, Noise and Neighbourhood Amenity', **Chapter 08** (Air Quality) provides a cumulative assessment of the impact of the Proposed Development's emissions during the construction phase. Due to the distance of the limited number of receptors to the main construction activities associated with the Proposed Development there is low risk of the Proposed Development contributing to cumulative dust effect, and therefore not considered a significant effect. **Chapter 08** (Air Quality) also provides a cumulative assessment of the impact of the Proposed Development's emissions during the operational phase together with potential emissions from the Moneypoint and Tarbert Power Stations. It finds that even with the increased Predicted Environmental Concentration (PEC) of pollutants, the air quality remains well below air quality standards and therefore no significant cumulative effects.

Chapter 07B (Terrestrial Ecology) identifies no significant cumulative effects on relevant features, assuming works are appropriately phased and planned as proposed and best practice standard construction environmental measures are implemented.

The assessment of 'Climate Change' is based on the Greenhouse Gas emissions assessment provided in **Chapter 15** (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. By comparing the Proposed Development against the national GHG inventory, as being representative of the global climate, the cumulative impact of the scheme is being considered on a national scale.

13.7 Residual Impacts

13.7.1 Construction Phase

Construction of the Proposed Development will lead to a **Slight Negative** effect on land use due to the loss of agricultural land currently used for grazing and impacts on views experienced by users of the Wild Atlantic Way. Construction will lead to a **Moderate Positive** effect on the local employment workforce due to the number of construction workers required and the resulting job opportunities. It will also lead to a **Not Significant Negative** effect on severance between the local population and the services which they frequently use due to construction traffic travelling to and from the Site.

The Proposed Development will also lead to the following impacts on human health during the construction phase:

- A **Negative** human health impact due to the presence of construction traffic leading to nuisance and noise level increases at residential properties on the L1010 road and Church Street in Tarbert.
- A **Positive** human health impact due to the workforce required to construct the Proposed Development leading to increased accessibility to employment opportunities and training for the employment workforce in the local and wider community. Employment and income are among the most significant determinants of long-term health and so this project could improve the socio-economic circumstance and therefore the health and wellbeing of the workforce.

13.7.2 Operational Phase

Operation of the Proposed Development will lead to a **Slight Negative** effect on land use due to the loss of agricultural land currently used for grazing and impacts on views experienced by users of the Wild Atlantic Way. Operation of the Proposed Development will lead to a **Slight Positive** effect on the local employment workforce due to the number of construction workers required.

The Proposed Development will also lead to the following impacts on human health during the operation phase:

- A **Positive** human health impact due to workforce required to operate the Proposed Development leading to increased accessibility to employment opportunities and training for the employment workforce in the local and wider community; and
- A **Negative** human health impact due to the impact of the Proposed Development on GHG emissions and climate change.

Table 13.30: Summary

Proposed Development Phase	Aspect / Impact Assessed	Existing Environment / Receptor Sensitivity	Impact / Magnitude	Significance (Prior to Mitigation)	Mitigation and Monitoring Measures (the Proposed Development design embedded environmental mitigation and monitoring measures detailed herein are included in the CEMP)	Residual Impact Significance
Construction	Land Use – negative impacts due to loss of agricultural grazing land and on views from Wild Atlantic Way.	Low	Low	Slight Negative – Not Significant	Mitigation and monitoring measures relating to visual impacts are detailed in Chapter 10 (Landscape and Visual).	Slight Negative – Not Significant
Construction	Severance – negative impact of construction traffic on severance between residents and the workplaces, community facilities and educational facilities.	Negligible	Low	Imperceptible – Not Significant	Mitigation and monitoring measures relating to construction traffic (e.g. relating to traffic routing) are to be detailed in the Construction Traffic Management Plan prepared by the appointed Contractor.	Imperceptible – Not Significant
Construction	Employment - Impact of construction works on the workforce in Co. Kerry.	Low	Medium	Moderate Positive	None required	Moderate Positive
Construction	Human Health – negative nuisance and noise impacts due to the presence of construction traffic.	N/A	N/A	N/A	Mitigation and monitoring measures are detailed in Chapter 09 (Airborne Noise and Groundborne Vibration), Section 9.8.1.	N/A
Construction	Human Health – positive employment and training impacts.	N/A	N/A	N/A	Ensure opportunities are provided to the local workforce, to increase the Proposed Development's local impact. See Section 2.12 of Chapter 02 (Description of the Proposed Description).	N/A
Operational	Land Use – negative impacts due to loss of agricultural grazing land and on views from Wild Atlantic Way.	Low	Low	Slight Negative – Not Significant	Mitigation and monitoring measures relating to visual impacts are detailed in Chapter 10 (Landscape and Visual Impacts).	Slight Negative – Not Significant
Operational	Employment - Impact of the operation of the Proposed Development on the workforce in Co. Kerry.	Low	Low	Slight Positive	None required.	Slight Positive
Operational	Human Health – positive employment and training impacts.	N/A	N/A	N/A	Ensure opportunities are provided to the local workforce, to increase the Proposed Development's local impact.	N/A
Operational	Human Health – generation of GHGs leading to climate change.	N/A	N/A	N/A	Embedded mitigation measures to reduce GHG emissions are set out in Chapter 15 (Climate), Section 15.9.	N/A

13.8 References

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