UWF Grid Connection EIA Report (2019)

Volume C2: EIAR Main Report

Chapter 6: Population

October 2019

Topic

Population

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Figures and mapping referenced in this topic chapter can be found in **Volume C3 EIAR Figures.**

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Appendices referenced in this topic chapter can be found in **Volume C4 EIAR Appendices.**

Glossary of Terms

Term	Definition
Electoral Districts (EDs)	Defined by the CSO as the smallest legally defined administrative areas in the State for which Small Area Population Statistics (SAPS) are published from the Census. There are 3,440 legally defined in the State.
National Economy	The economy of the Republic of Ireland. It encompasses the value of all goods and services manufactured within the country.
Local Economy	The economic system and range of economic activity in a local area that serves a local population.
Gross Domestic Product (GDP)	The measure of the value of total output of an economy in a given period
Gross Value Added (GVA)	The measure of the values of goods and services produced in an area, industry or sector of an economy
Induced Spending	Induced spending is the increased spending that is generated by increased incomes.
Sensitive Aspect	Any sensitive receptor in the local environment which could be impacted by the project.
Project Design Measure	Measures for environmental protection, incorporated into the design of the project.

List of Abbreviations

Abbreviation	Full Term
BPM	Ecopower Best Practice Measure developed by members of the EIAR Team
UGC	Underground Cables
UWF	Upperchurch Windfarm

Topic Population

Executive Summary of the Population Chapter

Baseline Environment: Impacts on population are considered in the context of the local economy. The Study Area for the Local Economy is the Electoral Divisions (EDs) surrounding the development and includes the town of Newport and the villages of Rear Cross, Upperchurch and Hollyford in County Tipperary, and the town of Cappamore and the village of Murroe in County Limerick.

Survey Results for Sensitive Aspects in the Baseline Environment: The latest Census figures, Tipperary and Limerick County Development Plans and the GeoDirectory Database of Business and Residential Premises in the area were examined, along with a site visit to the area, to identify local services and businesses. There are no local residents in close proximity to the Mountphilips Substation site. Along the route of the 110kV UGC, residents and businesses are concentrated in and around Newport town and Rear Cross village. According to Census 2016, a significant proportion of the local workforce commutes to work, with the key employment sectors in the area being Commerce & Trade and Professional Services, so it is likely that they are accessing employment opportunities in the nearby urban areas, notably Limerick, Thurles and Nenagh. Agriculture and forestry are important sectors within the upland area, accounting for almost 10% of business premises and 13% of the workforce, higher than the State average of 4%. Tourism is relatively strong in Tipperary County however much of this concentrated in South Tipperary. Outside of Newport town, there are low numbers (c.12) of accommodation and food services premises in the study area. There are a number of walks and trails within the area; of these trails part of the Slievefelim Way walking trail and the Ormond Way Cycle route overlap the route of the 110kV UGC. A scenic driving route is also routed along the regional R503 and R497 regional roads in the upland area.

Summary of the likely Impact on Local Economy: There will be c.100 persons working directly on the UWF Grid Connection project, most of them on-site, over the course of the construction phase; c.€900,000 will be paid to local landowners, in the form of wayleave agreements and land purchases; c.€1.5 million will be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty) and c.€500,000 expenditure on locally sourced goods and services will be generated. The impact is evaluated as **Neutral (Positive)** because the additional GVA generated, €2.9 million, is equivalent to approximately 1% per cent of the overall size of the local economy in the Study Area, in the year of construction; and because of the temporary duration of the construction stage. **Summary of the likely Cumulative Impact:** The UWF Grid Connection will be constructed with the Other Elements of the Whole UWF Project, notably Upperchurch Windfarm, and could also *potentially* be constructed during the same period as Castlewaller Windfarm and Bunkimalta Windfarm. The cumulative Gross Value Added for the 3 renewable energy projects (€7.35 million to €11.35 million), should they be constructed during the same period, is expected to be approximately 4% to 5% of the value of the local economy and therefore the cumulative significance is evaluated as an **Imperceptible (Positive)** Impact.

Other Population receptors/impacts: The Local Economy during the construction phase, was deemed to be the only Sensitive Aspect of Population which could be materially affected by the UWF Grid Connection and therefore was brought forward for evaluation more in-depth evaluation in this Population chapter (as summarised above). **Other likely impacts that could affect Population** are evaluated more directly in the other topic chapters. Effects on human health are evaluated in Chapter 7: Human Health; Effects of disruption to land users during construction are evaluated Chapter 9: Land; Effects to people of construction dust and noise, and operational noise and electromagnetic fields are evaluated in Chapter 12: Air; Potential effects to local people of interruption to water supply are evaluated in Chapter 14: Material Assets (Built Services); and Effects on road users of traffic disruption are evaluated in Chapter 15: Material Asset (Roads).

Conclusion: The UWF Grid Connection will not cause significant adverse effects to Population, effects will be positive.

Topic
Population

6 Environmental Factor: Population

6.1 Introduction to the Population Chapter

6.1.1 What is Population?

Population relates to the people living in the area, and includes the demographic makeup, economic activity and social functioning of local communities.

6.1.2 Overview of Population in the Local Environment

UWF Grid Connection is located in County Tipperary. The surrounding area of the UWF Grid Connection is largely rural with agricultural grassland, commercial forestry plantations, public roads and private roads being the main land uses. Isolated residences and farmsteads are also scattered throughout the area. Nearby settlements include the villages of Upperchurch, Kilcommon and Rear Cross and Newport town.

The location of the UWF Grid Connection is illustrated on OSI Mapping on Figure GC 6.1: Location of the UWF Grid Connection**.**

Figures and mapping referenced in this topic chapter can be found in **Volume C3 EIAR Figures.**

6.1.3 Sensitive Aspects of the Population Environment included for further evaluation

Any sensitive receptor in the local environment which could be impacted by the project is a Sensitive Aspect. The following Sensitive Aspect is **included in this topic chapter** as it could be potentially impacted:

Sensitive Aspect No. 1	Local Economy	Section 6.2

The above listed Sensitive Aspect is evaluated in Section 6.2 of this Chapter.

To help readers navigate, the colour code for the Sensitive Aspect used above is also used in the Sensitive Aspect Section 6.2. The colour-code has been applied to the section headings, tables and on side-tabs on the edge of the pages.

6.1.4 Sensitive Aspects excluded from further evaluation

The following Sensitive Aspects **are excluded from this topic chapter**:

National Economy	Rationale for exclusion: Neutral effects The National economy relates to economic activity and employment over the territory of the entire State. In 2018 national Gross Domestic Product (GDP) amounted to €324 billion, while Gross National Product (GNP), which nets out the profits of foreign-owned companies, amounted to €253 billion.[1] At a national level, the financial transactions (positive impact) associated with the construction and operation of the UWF Grid Connection alone and cumulatively with the Other Elements of the Whole UWF Project will be very low, representing substantially less than 1% of the national economy and therefore will have a neutral effect on the national economy.
Settlement Patterns	Rationale for exclusion: Impacts will be Neutral The financial transactions (positive) and business disruption impacts (negative) during the construction and operation of the UWF Grid Connection alone and cumulatively with the Other Elements of the Whole UWF Project, will not be of a nature as to impact on local settlement patterns i.e. it will not require or result in the temporary or permanent relocation of business or population.[2]
Land Users	Rationale for exclusion: Evaluated in Chapter 9: Land
Local Residents & Community,	Rationale for exclusion: Evaluated in Chapters 7: Human Health; Chapter 12: Air; Chapter 17: Landscape.
Transient People (which includes tourists)	Rationale for exclusion: Evaluated in Chapters 7: Human Health; Chapter 12: Air; Chapter 17: Landscape. Note: Tourism revenue is evaluated as part of Local Economy Sensitive Aspect.
End users of Built Services	Rationale for exclusion: Evaluated in Chapter 14: Material Assets - Built Services
Road Users	Rationale for exclusion: Evaluated in Chapter 15: Material Assets - Roads

[1] https://www.cso.ie/en/releasesandpublications/ep/p-nie/nie2018/expenditure/

[2] As per the Tipperary Wind Strategy Policy (2016), 'By their nature, wind farm developments are typically located on more elevated, isolated locations which coincide with lower population densities...' See http://www.tipperarycoco.ie/sites/default/files/Tipperary%20Wind%20Energy%20Strategy%202016.pdf

6.1.5 Overview of the Subject Development

The UWF Grid Connection is the subject development, being the subject of a current application to An Bord Pleanála. The main parts of the UWF Grid Connection are identified in Table 6-1 below.

Table 6-1: Subject Development – UWF Grid Connection

Project ID	The Subject Development	Composition of the Subject Development
Element 1	The Subject Development UWF Grid Connection (GC)	Mountphilips Substation Mountphilips – Upperchurch 110kV UGC Ancillary works at Mountphilips Substation site

Note: The UWF Grid Connection is 'Element 1' of the Whole UWF Project.

A description of the location, size and design, life-cycle stages, use of natural resources, emissions and wastes, and the vulnerability to major accidents and natural disasters is provided in Chapter 5: Description of the Development – UWF Grid Connection (Volume C2 EIAR Main Report).

This EIA Report is also available on www.upperchurchwindfarmgridconnection.ie.

6.1.5.1 Changes to the development from the 2018 Application

There are changes in this 2019 UWF Grid Connection Application from the 2018 Application. These comprise:

- In this 2019 Application, the route of the 110kV UGC from Mountphilips Substation Site entrance to the Consented UWF Substation site entrance is wholly under the public road (except for 700m under a private paved road at the Consented UWF Substation end) and is 30.5km in length. By comparison, the 2018 Application 110kV UGC route was through agricultural and forestry tracks and lands with some public road crossings and 27.5km in length.
- Mountphilips Substation Site is at the same location, but the footprint of the Substation Compound is increased by 15% (from 8930m^2 to 10290m^2) and the footprint of the control building is increased from 205m^2 to 375m^2. ***Note***: Details of the changes/no changes to the Mountphilips Substation Site as a result of the increased dimensions are listed in Chapter 5: Description of the Development: Section 5.1.1.1.

6.1.6 The Authors of the Population Chapter

This report has been written by John Lawlor (M. Econ. Sc. Hons), Director at EY-DKM Economic Advisory Services (EY-DKM) and Ciara Morley (Ph.D. Finance), Manager with EY-DKM. John has over 20 years' experience of economic analysis with EY-DKM and DKM, and prior to that worked in the Environmental Policy Research Centre of the ESRI. Ciara works on issues in the Irish and global economy and in the areas of urban economics, transport, construction and tourism, and also previously worked in the ESRI. EY-DKM Economic Advisory Services was formed following the acquisition of DKM Economic Consultants by EY (Ernst and Young) in 2018.

6.1.7 Sources of Baseline Information

The information sources outlined in Table 6-2 were reviewed during desktop studies and confirmed during fieldwork in order to gather information on the baseline environment. The recommendations in the guidelines listed in the table, have been considered during the preparation of this chapter.

Table 6-2: Sources of Baseline Information for Population

Type	Source
Consultation	Feedback was received from • Fáilte Ireland • Members of the public during the Public Information Day See Chapter 3: The Scoping Consultations, and Appendices for further details.
Legislation, Regulations & Policy	• Mid-West Regional Planning Guidelines 2010-2022 • North Tipperary County Development Plan 2010 (as varied in 2016) • South Tipperary County Development Plan 2009 (as varied in 2016) • Limerick County Development Plan 2010-2016 • Newport Local Area Plan 2010-2016
Desktop	• Census of Population 2016 and 2011, various volumes published by the CSO. • GeoDirectory database of business and residential premises. In co-ordination with and by review of the other EIA Report Chapters as follows: • Chapter 12: Air • Chapter 15: Material Assets – Roads • Chapter 17: Landscape • Review of planning/ environmental information documents for the Other Elements of the Whole UWF Project as contained in Volume F of the planning application
Fieldwork	• Site Visit to assess extent of local businesses and populations

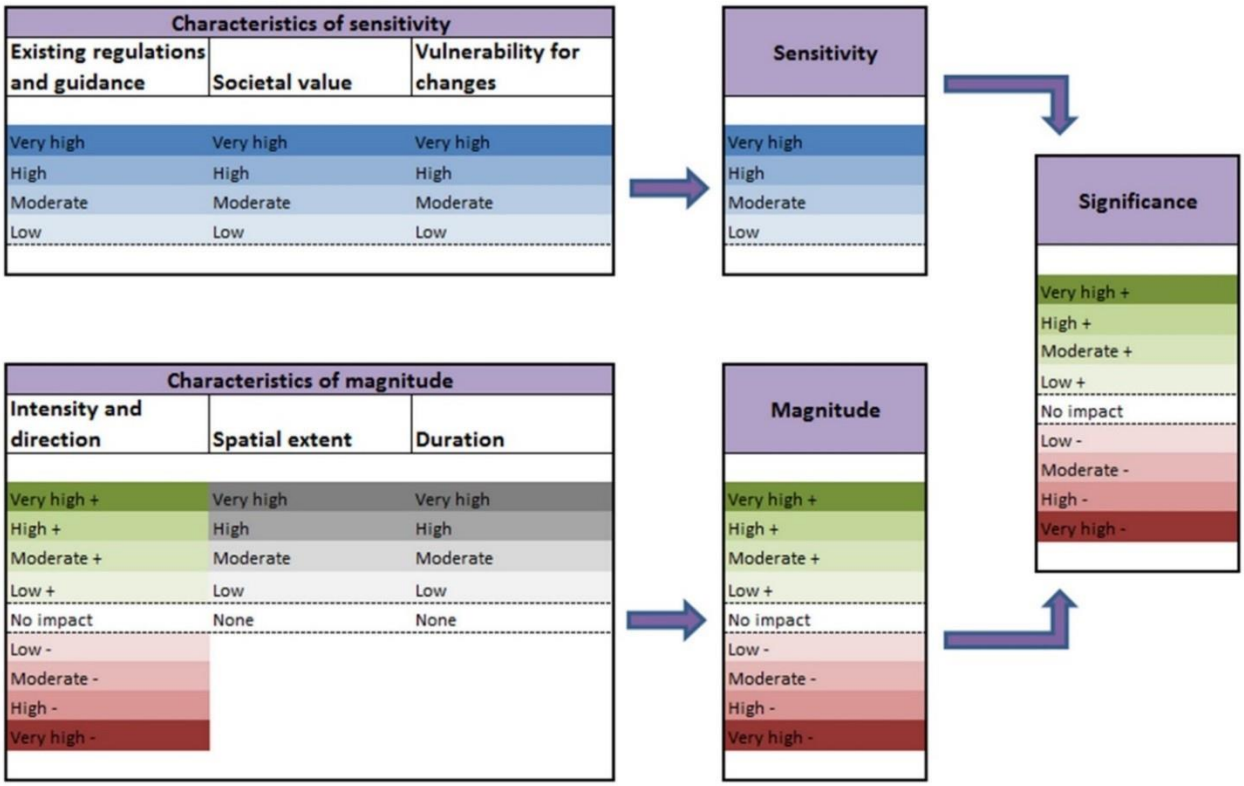
6.1.8 Methodology used to Describe the Baseline Environment and to Evaluate Impacts

European Commission Guidance: As outlined in the Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017), it is important to ensure that methods employed in a population assessment are proportionate and tailored to meet the assessment requirements of the project in question, which can differ considerably depending on the scale and nature of a proposal, but are further influenced by local context and varying community circumstance and sensitivity.

As there are no industry guidelines/standards for the evaluation of socio-economic related effects to population, a standard methodology – using the IMPERIA methodology – is employed. The IMPERIA methodology is described in Section 6.1.8.1 below.

6.1.8.1 Overview of the IMPERIA Methodology

In the framework developed under the EC LIFE project - IMPERIA, the evaluation of impact significance uses a replicable, multi-criteria decision analysis, where the sensitivity of the receptor (i.e. the sensitivity of a Sensitive Aspect of the environment) and the magnitude of the change caused by a project are rated using sub-criteria or scales, and then the overall significance is evaluated using a matrix.



The criteria for determining the overall sensitivity of a receptor and magnitude of the change (impact) to the receptor, is provided in the tables below. The matrix for determining the significance of the impact to the receptor is provided after these tables.

6.1.8.1.1 Criteria for Evaluating the Sensitivity of a Receptor

Sensitivity of the receptor is a description of the characteristics of the receptor or aspect of the environment which will be affected by the development. It is a measure of 1) existing regulations and guidance, 2) societal value and 3) vulnerability for the change. The sensitivity of a receptor is estimated in its current state prior to any change implied by the project.

Existing regulations and guidance describes whether there are any such objects in the impact area, which have some level of protection by law or other regulations (e.g. prohibition against polluting groundwater and Natura areas), or whose conservation value is increased by programs or recommendations (e.g. landscapes designated as nationally valuable).

Societal value describes the value of the receptor to the society and depending on the type of impact may be related to economic values (e.g. water supply), social values (e.g. landscape or recreation) or environmental values (e.g. natural habitat). Societal value measures general appreciation from the point of view of the society. When relevant, the number of people impacted is taken into account.

Vulnerability for the change describes how liable the receptor is to be influenced or harmed by changes to its environment.

Sensitivity	Criteria Existing regulations/guidance	Criteria Societal value	Criteria Vulnerability to change
Low	Few or no recommendations which add to the conservation value of the impact area, and no regulations restricting use of the area (e.g. zoning plans).	The receptor is of small value or uniqueness. The number of people impacted is small.	Even a large external change would not have substantial impact on the status of the receptor. There are only few or none vulnerable receptors in the area.
Moderate	Regulation sets recommendations or reference values for an object in the impact area, or the project may impact an area conserved by a national or an international program.	The receptor is valuable and locally significant but not very unique. The number of people impacted is moderate.	At least moderate changes are needed to substantially change the status of the receptor. There are some vulnerable receptors in the area.
High	The impact area includes an object that is protected by national law or an EU directive (e.g. Natura 2000 areas).	The receptor is unique and valuable to society. It may be deemed nationally significant and valuable. The number of people impacted is large.	Even a small external change could substantially change the status of the receptor. There are many vulnerable receptors in the area.
Very High	The impact area includes an object that is protected by national law or an EU directive (e.g. Natura 2000 areas).	The receptor is highly unique, very valuable to society and possibly irreplaceable. It may be deemed internationally significant and valuable. The number of people affected is very large.	Even a very small external change could substantially change the status of the receptor. There are very many vulnerable receptors in the area.

The **overall sensitivity of a receptor** is assessed by the competent expert on the basis on his/her assessment of the components of sensitivity. A general guide for deriving the overall sensitivity is to pick the maximum of existing regulations and guidance and societal value and then adjust that value depending on the level of vulnerability.

Determining the Overall Sensitivity of a Receptor	
Low	The receptor has minor social value, low vulnerability for the change and no existing regulations and guidance. Even a receptor which has major or moderate social value may have low sensitivity if it's not liable to be influenced by the development.
Moderate	The receptor has moderate value to society, its vulnerability for the change is moderate, regulation may set reference values or recommendations, and it may be in a conservation program. Even a receptor which has major social value may have moderate sensitivity if it has low vulnerability, and vice versa.
High	Legislation strictly conserves the receptor, or it is very valuable to society, or very liable to be harmed by the development.
Very High	Legislation strictly conserves the receptor, or it is irreplaceable to society, or extremely liable to be harmed by the development. Even minor influence by the proposed development is likely to make the development unfeasible.

6.1.8.1.2 Criteria for Evaluating the Magnitude of an Impact

Magnitude of the impact describes the characteristics of the changes or effects that the planned project is likely to cause. Magnitude is a combination of 1) intensity and direction, 2) spatial extent, and 3) duration. Assessment of magnitude evaluates the likely changes affecting the receptor *without* taking into account the receptors sensitivity to those changes.

Intensity describes the physical dimension of a development. The direction of the change/effect is either positive (green) or negative (red).

Magnitude	**Criteria – Intensity & Direction**
Very High	The proposal has an extremely beneficial effect on nature or environmental load. A social change benefits substantially people's daily lives.
High	The proposal has a large beneficial effect on nature or environmental load. A social change clearly benefits people's daily lives.
Moderate	The proposal has a clearly observable positive effect on nature or environmental load. A social change has an observable effect on people's daily lives.
Low	An effect is **positive** and observable, but the change to environmental conditions or on people is small.
No impact	An effect so small that it has no practical implication. Any benefit or harm is negligible.
Low	An effect is **negative** and observable, but the change to environmental conditions or on people is small.
Moderate	The proposal has a clearly observable negative effect on nature or environmental load. A social change has an observable effect on people's daily lives and may impact daily routines.
High	The proposal has a large detrimental effect on nature or environmental load. A social change clearly hinders people's daily lives.
Very High	The proposal has an extremely harmful effect on nature or environmental load. A social change substantially hinders people's daily lives.

Spatial extent describes the geographical reach of, or the range within which, an effect is observable.

Duration describes the length of time during which an impact is observable and it also takes other related issues such as timing and periodicity into account. These are relevant for impacts which aren't observable all the time such as periodic impacts.

Magnitude	Criteria Spatial Extent	Criteria Duration
Low	Impact extends only to the immediate vicinity of a source. Typical range is < 1 km.	An impact whose duration is at most one year, for instance during construction and not operation. A moderate-term impact may fall into this category if it's not constant and occurs only at periods causing the least possible disturbance.
Moderate	Impact extends over one municipality. Typical range is 1-10 km.	An impact lasts from one to a number of years. A long-term impact may fall into this category if it's not constant and occurs only at periods causing the least possible disturbance.
High	Impact extends over one region. Typical range is 10-100 km.	An impact lasts several years. The impact area will recover after the project is decommissioned.
Very High	Impact extends over several regions and may cross national borders. Typical range is > 100 km.	An impact is permanent. The impact area won't recover even after the project is decommissioned.

Deriving the overall magnitude of the change from components of magnitude

Magnitude of the change is a comprehensive synthesis of its component factors. In a case, where intensity, spatial case and duration all get the same value, the magnitude would also be given this value. In other cases, intensity should be taken as a starting point, and the assessment should be adjusted based on spatial extent and duration to obtain an overall estimate. The aim is that the overall assessment should capture the characteristics of an effect. The table below describes some example descriptions of different categories for the magnitude of the change.

Determining the Overall Magnitude of the Change/Effect	
Very High	The proposal has beneficial effects of very high intensity and the extent and the duration of the effects are at least high.
High	The proposal has beneficial effects of high intensity and the extent and the duration of the effects are high.
Moderate	The proposal has clearly observable positive effects on nature or people's daily lives, and the extent and the duration of the effects are moderate.
Low	An effect is positive and observable, but the change to environmental conditions or on people is small.
No impact	No change is noticeable in practice. Any benefit or harm is negligible.
Low	An effect is negative and observable, but the change to environmental conditions or on people is small.
Moderate	The proposal has clearly observable negative effects on nature or people's daily lives, and the extent and the duration of the effects are moderate.
High	The proposal has harmful effects of high intensity and the extent and the duration of the effects are high.
Very High	The proposal has harmful effects of very high intensity and the extent and the duration of the effects are at least high.

6.1.8.2 Assessing the significance of an impact

The **assessment of the overall significance uses the matrix below,** where positive impacts are in green and negative in red. The matrix is based on the **magnitude of the change** affecting a receptor and on the **sensitivity of the receptor** to those changes.

The values obtained from the table are indicative because the most relevant dimensions for characterising an impact are dependent on the type of impact. Thus, some discretion from the expert is required, in particular in cases, where the one component is low and the other one high or very high.

Determining the Overall Significance of an Impact

Impact Significance		Magnitude of change								
		Very High	High	Moderate	Low	No Change	Low	Moderate	High	Very High
Receptor Sensitivity	Low	Significant*	Moderate*	Slight	Imperceptible	Neutral	Imperceptible	Slight	Moderate*	Significant*
	Moderate	Significant	Significant	Moderate	Slight	Neutral	Slight	Moderate	Significant	Significant
	High	Profound	Significant	Significant	Moderate*	Neutral	Moderate*	Significant	Significant	Profound
	Very High	Profound	Profound	Significant	Significant*	Neutral	Significant*	Significant	Profound	Profound

* Especially in these cases, significance might get a lower estimate, if sensitivity or magnitude is near the lower bound of the classification

Note on Terms used in 'Determining the Overall Significance of an Impact' Table: *The Significance rating ascribed in the Table above have been refined from the ARVI tool, to provide a more nuanced understanding of the significance and also to be compatible with the terms used throughout this EIA Report, which have been informed by the EPA Guidelines on Information to be contained in EIAR (2017) for description of effects.*

In the above Table - Low has been refined as Slight or Imperceptible depending on context; High has been renamed as Significant; Very High has been renamed as Profound; No Impact is understood to also mean Neutral effect, which is defined in the EPA Guidelines as 'no effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error'.

6.1.9 Certainty and Sufficiency of the Evaluation/Information

There is no specific guidance on the production of a Population chapter of an EIA Report, with respect to economic activity and employment. However, extensive experience with EIA and planning systems together with the EPA guidance on EIS preparation (2002 & draft 2017) and the application of the IMPERIA methodology, has informed the production of this chapter.

Baseline data and trends for the local population have been derived from a range of national statistical data sources which annually collect and report statistics for geographic areas across the whole of Ireland. Data was sourced from the Central Statistic Offices Census 2011 and Census 2016 and from GeoDirectory.

The Sensitivity of the Local Population to change or to impacts by UWF Grid Connection has been calculated based on the EU IMPERIA LIFE project, this methodology is included in Section 6.1.8 of this Report.

There is some degree of uncertainty around future trends, particularly in relation to international market influences such as Brexit, which are difficult to predict. However, on the basis that these future trends are not anticipated to change enough to alter the baseline scenario when compared to the national average, the baseline environment information provided within this chapter is considered sufficient for the purpose of this assessment.

In respect of Population no significant limitations or difficulties were encountered.

6.2 Sensitive Aspect No.1: Local Economy

This Section provides a description and evaluation of the Sensitive Aspect - Local Economy.

6.2.1 BASELINE CHARACTERISTICS of Local Economy

6.2.1.1 STUDY AREA for Local Economy

The study area for Local Economy in relation to the UWF Grid Connection is described in Table 6-3 and illustrated on Figure GC 6.2: UWF Grid Connection Study Area for Local Economy (Volume C3 EIAR Figures).

Table 6-3: UWF Grid Connection Study Area for Local Economy

Study Area for Local Economy	Justification for the Study Area Extents
Electoral Divisions (EDs): Kilcomenty, Newport, Killoscully, Kilnarath, Abington[3], Foilnaman, Upperchurch, Glengar and Curraheen in County Tipperary; and Glenstal, Doon West and Bilboa in County Limerick	Includes surrounding urban areas containing local businesses and local labour force that could potentially be impacted by the UWF Grid Connection.

6.2.1.2 Baseline Context and Character of Local Economy in the UWF Grid Connection Study Area

The UWF Grid Connection Study Area is located in the Slievefelim to Silvermines upland area, and includes the town of Newport and the villages of Rear Cross, Upperchurch and Hollyford in County Tipperary, and the town of Cappamore and the village of Murroe in County Limerick. Along the UGC 110kV cable route residents are concentrated in Newport town and Rear Cross village.

Population: In Census 2016, the population of the UWF Grid Connection Study Area was 7,966 persons. The population has generally been growing steadily (in line with the State average) over the previous 20 years. Of note is Newport, which has a rapidly growing population, doubling in size from 1,536 in 1996 to 2,949 in 2016, most likely as a result of its proximity to Limerick city. The EDs which make up the UWF Grid Connection Study Area are located in the Mid-West region, which accounts for approximately 10 per cent of the national population of 4.8 million people. With the exception of Newport, the UWF Grid Connection Study Area is typical of a rural upland area in Ireland and is sparsely populated, with a population density below the State average.

Gross Value Added: CSO data for incomes and the economy is available at a regional level rather than at a county or sub-county level. The UWF Grid Connection Study Area is in the Mid-West Region which comprises Tipperary North, Limerick, and County Clare[4]. In 2014, the latest year for which the regional data is available, GDP per person in the Mid-West region was €29,196, below the State average of €42,040; while GVA stood at €26,695 per person, again below the State average of €38,267[5]. Based on the 2016 population of the UWF Grid Connection Study Area (7,966 persons), the size of the local economy within the UWF Grid Connection

[3] Abington is located in both Counties Tipperary and Limerick

[4] The former North Tipperary forms part of the Mid-West NUTS III area while the former South Tipperary is in the South-East NUTS III area. The unified county is fully incorporated in Southern Assembly region. Arising from the strong linkage between the northern part of the county and Limerick and between the southern part and Waterford, the 3 Tipperary assembly members will be members of both the Mid-West and South-East Strategic Planning Areas (SPAs). Source: http://www.southernassembly.ie/regional-planning/mid-west-spa

[5] GDP and GVA data for most regions are available up to 2017, but are suppressed for the Mid-West region from 2015 onwards, for confidentiality reasons.
https://www.cso.ie/en/releasesandpublications/er/cirgdp/countyincomesandregionalgdp2016/

Study Area is estimated at €213 million in GVA terms. Detailed data from the Census of Population and GeoDirectory is included in Appendix 6.1: Central Statistics Office & GeoDirectory Data (see Volume C4: EIAR Appendices).

Census data from 2016 indicates that a significant proportion of the local workforce commutes to work, and that the key employment sectors in the study area are Commerce & Trade and Professional Services. So it is likely that they are accessing employment opportunities in the nearby urban areas, notably Limerick, Thurles and Nenagh. Agriculture and forestry are also notable sectors in the study area, accounting for 10 per cent of business premises and 13 per cent of the workforce, higher than the State average of 4 per cent[6].

Tourism is relatively strong in Tipperary County however much of this is driven by South Tipperary, with only 28 per cent of tourists to the county in 2016 travelling to North Tipperary (where the County Tipperary EDs comprising the study area are located). Data indicates the revenue generated by overseas visitors to North Tipperary in 2016 accounted for 39 per cent of all tourism revenues in County Tipperary[7].

Walking and hiking are popular tourism pursuits in Ireland. Fáilte Ireland's *Tourism Facts 2017*[8] indicates that walking/cross country hiking was by some margin the most cited activity by international tourists in Ireland, while for domestic holidaymakers it was the second most cited activity. The importance of walking/hiking to Tipperary's tourist product is highlighted in the Tipperary *Strategic Tourism Marketing, Experience & Destination Development Plan 2016-2021*.[9] The Strategy refers to the village of Upperchurch as "a gateway to the Slieve Felim Mountains and environs as a walking destination. The location of the village is very lovely and although not far from Thurles in miles, feels like a million miles away." It designates the village as a "priority Level 2 village with strategic potential".

Outside of Newport town, there are low numbers (c.12) of accommodation and (no.3) food services scattered throughout the UWF Grid Connection Study Area. These tourism services are identified on Figure GC 6.2.

There are a number of walks and trails within the UWF Grid Connection Study Area; the Ballyhourigan Loop, Keeper Hill Walk; Clare Glens Loop; Slievefelim Way; Kilcommon Pilgrim Walk; Ormond Way Cycle; Multeen Way; Ormond Way Walk; Eamonn an Chnoic Walk; and Knockalough Loop. These trails are identified on Figure GC 6.2. Of these trails, the 110kV UGC works will overlap with the routes of the Slievefelim Way walking trail and the Ormond Way Cycle route only. A scenic driving route is also routed along the regional R503 and R497 regional roads.

6.2.1.3 Importance of Local Economy

The local economy is key to Population well-being, and sustains and underpins the structures of society. Through economic activity and employment, the local economy generates incomes for the population, which enables individuals and families to prosper and achieve their social aspirations, all of which is important in creating sustainable local communities. These issues are particularly important at a local level for a predominantly rural area, where the range of economic opportunities is limited compared to larger more urban areas.

[6] CSO Census of Population 2016.
[7] http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/4_Visitor_Insights/Regional-tourism-performance-in-2016-(Revised-March-2018.pdf?ext=.pdf
[8] http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/5_International_Tourism_Trends/Tourism-Facts-2017_1.pdf?ext=.pdf
[9] http://www.tipperarycoco.ie/sites/default/files/Publications/Tipperary%20Tourism%20Development%20Strategy%202016%20-%202021.pdf

6.2.1.4 Sensitivity of Local Economy

Within the study area, four EDs have experienced falling population in the past 20 years; with Templederry in particular experiencing a population decline of 39 per cent between 1996 and 2016 (see Table 1 in Appendix 6.1). This may be an indication of limited economic opportunities in these areas.

Brexit also represents a particular sensitivity. According to a recent paper by the Irish Farmers Association (IFA) [10], 40 per cent of food exports from Ireland go to the UK. Potential impacts from Brexit are therefore likely to be particularly felt by the agriculture sector.

Broadly speaking, tourism is also sensitive to global uncertainties. The most immediate impact facing tourism in Ireland is the threat of euro-sterling parity which could see a large drop in the number of tourists visiting Ireland from the UK.

Based on the IMPERIA methodology, outlined in Section 6.1.8, the Local Economy is considered to have '**Low Sensitivity'** as 'even a large external change would not have substantial impact on the status of the local economy, which has few or none vulnerable receptors in the study area'.

6.2.1.5 Trends in the Baseline Environment (the 'Do-Nothing' scenario)

There is limited data on trends in the Local Economy. In terms of population in the area, data from the past 10 years of Censuses suggests that population growth peaked in the decade to 2016, with a notable slowdown in population growth in the last five years recorded in Census 2016. Within the study area, Newport town has experienced rapid population growth, doubling in population between 1996 and 2016.

Disposable incomes (per person) in the Mid West continue to increase from their lowest recession levels in 2010. In the intervening six years, to 2016 (latest data available), disposable income has increased by 4.2% in the Region. Disposable income in the Mid-West (€20,306) is the highest of all the regions outside of Dublin (€24,449).

Fáilte Ireland's *Tourism Facts* for recent years point to very strong growth in both international and domestic tourist numbers in Ireland. The statistics confirm that walking and hiking have maintained their strong popularity for tourists as overall numbers have grown, pointing to growing opportunities for locations and business catering for these activities.

6.2.1.6 Receiving Environment (the Baseline + Trends)

It is anticipated that construction of the subject development will commence in late 2020 or 2021 and as such economic forecasts for 2018 through 2021, as described above, are relevant.

In relation to operational impacts, the UWF Grid Connection will be operated on a permanent basis. While forecasting the level of economic change that will occur over this timeframe is beyond the scope of this appraisal, it can be expected that the local economy will change over this period. It is assumed in this EIAR that the area will remain predominantly rural, and as such agriculture and forestry are likely to remain important. Under moderate assumptions, the CSO projects that the State population will increase by 19% from 4.7 million people in 2016 to 5.6 million by 2046.[11] Should local populations grow in tandem; the population of the UWF Grid Connection Study Area will grow by from 7,966 to c.9,480 persons by 2046.

[10] See https://www.ifa.ie/wp-content/uploads/2017/03/763773Brexit-imperatives-policy-paper55629.pdf
[11] http://www.cso.ie/en/media/csoie/releasespublications/documents/population/2013/poplabfor2016_2046.pdf

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6.2.2 CUMULATIVE INFORMATION - Cumulative Projects & Baseline Characteristics

6.2.2.1 Cumulative Evaluation Study Areas

6.2.2.1.1 UWF Grid Connection Cumulative Evaluation Study Area

The UWF Grid Connection was evaluated for cumulative effects with other projects and the study area is set out in the table below.

UWF Grid Connection Cumulative Evaluation Study Area for Local Economy	Justification for the Study Area Extents
Electoral Divisions (EDs): Kilcomenty, Newport, Killoscully, Kilnarath, Abington[12], Foilnaman, Upperchurch, Glengar and Curraheen in County Tipperary; and Glenstal, Doon West and Bilboa in County Limerick	Includes EDs containing local businesses and local labour force that could potentially be impacted by the UWF Grid Connection alone and cumulatively with other projects

The study is illustrated on Figure CE 6.2: UWF Grid Connection Cumulative Evaluation Study Area for Local Economy.

6.2.2.1.2 Whole Project Cumulative Evaluation Study Area

UWF Grid Connection is part of a whole project which comprises the following Other Elements; Element 2: UWF Related Works, Element 3: UWF Replacement Forestry, Element 4: Upperchurch Windfarm (UWF), and Element 5: UWF Other Activities. The Subject Development, UWF Grid Connection is Element 1. All five elements are collectively referred to as the Whole UWF Project in this EIA Report.

The Other Elements must be considered because UWF Grid Connection is part of a whole project. Therefore, the cumulative information and evaluations for the Other Elements of the Whole UWF Project are included in order to present the totality of the project. A description of these Other Elements is included in this EIA Report at Appendices 5.3, 5.4, 5.5 and 5.6**,** in Volume C4 EIAR Appendices**.** Scoping of these Other Elements is presented in Section 6.2.2.2.1 below

The Whole Project Cumulative Evaluation Study Area comprises of the UWF Grid Connection Study Area along with the study areas for Other Elements which are described in Table 6-4 and the study area is illustrated on Figure WP 6.2: Whole Project Study Area for Local Economy.

Table 6-4: Whole Project Cumulative Evaluation Study Area for Local Economy

Cumulative Project	Whole Project Cumulative Study Area Boundary	Justification for Study Area Extent
Element 1: UWF Grid Connection	Slieve Felim to Silvermines Uplands Area comprising the Electoral Divisions (EDs) of Kilcomenty, Newport, Killoscully, Kilnarath, Abington, Foilnaman, Upperchurch, Gortakelly Dolla, Templederry, Borrisoleigh, Glengar, Curraheen, Cappagh, Donohill, Clonoulty West, Clogher, Moyaliff, Greenhall/ Lackagh and Kilmore in County Tipperary and Glenstal, Doon West, Cappamore and Bilboa in County Limerick	Electoral Districts comprising the general extent of the Slievefelim to Silvermines uplands area.
Element 2: UWF Related Works		
Element 3: UWF Replacement Forestry		
Element 4: Upperchurch Windfarm		
Element 5: UWF Other Activities		

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[12] Abington is located in both Counties Tipperary and Limerick

6.2.2.2 Scoping for Other Projects or Activities & Potential for Impacts

The evaluation of cumulative impacts to Local Economy also considered Other Projects or Activities. A scoping exercise was carried out to determine which projects or activities, if any, have potential to cause cumulative effects to Local Economy with either the UWF Grid Connection or the Other Elements of the Whole UWF Project and therefore should be brought forward for evaluation in this topic chapter. A brief overview of the Other Projects or Activities and the scoping exercise by the topic authors is included in Appendix 2.1: Scoping of Other Projects or Activities for Cumulative Evaluations (Section A2.1 .4.1).

The results of this scoping exercise are that: Bunkimalta Windfarm (potential windfarm and consented grid connection) and Castlewaller Windfarm (consented windfarm and potential grid connection) have been scoped in for evaluation of cumulative effects to the Local Economy.

6.2.2.2.1 Potential for Other Elements or Other Projects to cause Impacts to Local Economy

An evaluation was carried out by the topic authors of the likelihood for the Other Elements of the Whole UWF Project and for the Other Projects or Activities to cause cumulative effects to the Sensitive Aspect Local Economy. The results of this evaluation are included in Table 6-5.

The location of, and study area boundary associated with, the Other Elements and Other Projects or Activities which are included for cumulative evaluation is illustrated on Figure WP 6.2. The baseline character of the areas around these projects is described in Section 6.2.2.3.

Table 6-5: Results of the Evaluation of the Other Elements and Other Projects or Activities

Other Elements of the Whole UWF Project	
Element 2: UWF Related Works	Included for the evaluation of cumulative effects
Element 3: UWF Replacement Forestry	Evaluated as excluded: Impacts will be Neutral due to UWF Replacement Forestry is located in Foilnaman Electoral Division, which has a population of 333 people in 2016 (CSO). Based on a population of 333 persons and a regional GVA per person of €26,695, the Local Economy of Foilnaman ED is estimated to have a GVA of €8.9 million. The trees required for the UWF Replacement Forestry will be sourced from a nursery (Dundrum or further afield) located outside the Foilnaman Electoral District and just outside the wider Cumulative Evaluation Study Area for the Whole UWF Project. At a local scale, the financial transactions (positive impact) associated with the Replacement Forestry will be very low. Capital expenditure will be greatest during the planting stage and will represent approximately 1% of the GVA for Foilnaman ED.
Element 4: Upperchurch Windfarm (UWF)	Included for the evaluation of cumulative effects
Element 5: UWF Other Activities	Evaluated as excluded: Impacts will be Neutral due to: At a local scale, the financial transactions (positive impact) associated with the UWF Other Activities (Haul Route Activities, Overhead Line Activities, Monitoring Activities and the Upperchurch Hen Harrier Scheme) will be very low in the context of the size of the local economy. Specifically in relation to the Haul Route Activities, no business disruption is likely given the location of these Activities on the verges of regional and national roads, the small extent and momentary to temporary duration of the activities.
Other Projects or Activities	
Bunkimalta Windfarm Castlewaller Windfarm	Yes, included for the evaluation of cumulative effects

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6.2.2.3 Cumulative Information: Baseline Characteristics – Context & Character

The population of the Cumulative Evaluation Study Area was 15,323 in 2016, with GVA in the Mid-West region at €26,695 per person (latest value 2014), therefore the value of the Local Economy in the Cumulative Evaluation Study Area is €409 million.

6.2.2.3.1 Element 2: UWF Related Works

The UWF Related Works are located in two EDs – Upperchurch and Foilnaman, which include the village of Kilcommon. Upperchurch village lies immediately adjacent to Upperchurch ED in the ED of Gortakelly. Due to its proximity, Gortakelly is also included in the study area.

In Census 2016, the population of the UWF Related Works Study Area was 1,176 persons. Over the previous 20 years, population increases of between 13% and 20% have occurred in Foilnaman and Gortakelly EDs, while a population decrease of 9% has occurred in Upperchurch ED. Overall the population has increased by 9.5% in the three EDs of Foilnaman, Upperchurch and Gortakelly.

Based on the total population of the Foilnaman, Upperchurch and Gortakelly EDs (1,176 persons), and a GVA per person of €26,695, the Local Economy is estimated to have a GVA of €31.4 million.

In 2014, disposable income per person was approximately 4 per cent lower in Tipperary, compared to the State average of €20,638.[13]

Agriculture and forestry accounted for 78 per cent of business premises. Across the study area some 17 per cent of the workforce was engaged in Agriculture, Forestry & Fishing, higher than the State average of 4 per cent[14] (see Table 6 in Appendix 6.1).

As indicated on Figure WP 6.2, there are a very small number (c.4) Accommodation or (c.1) Food Services within the Electoral Districts in the UWF Related Works area

The Eamonn a Chnoic Loop, Ormond Way (currently under development), and the Ormond Way Cycle route are located in the area.

6.2.2.3.2 Element 3: UWF Replacement Forestry

Not applicable – Element evaluated as excluded. See Section 6.2.2.2.1

6.2.2.3.3 Element 4: Already Consented Upperchurch Windfarm

The Upperchurch Windfarm is located in two EDs – Upperchurch and Foilnaman, which include the village of Kilcommon. Upperchurch village lies immediately adjacent to Upperchurch ED in the ED of Gortakelly. The villages of Rear Cross and Borrisoleigh are located in the surrounding EDs of Abington and Borrisoleigh (both County Tipperary). The baseline characteristics of the UWF Related Works area above, also relates to the Upperchurch Windfarm.

Consideration of the Passage of Time: Local Economy was not explicitly evaluated in the 2013 and 2014 assessments for the consented Upperchurch Windfarm. However, this environmental factor is now considered in the evaluations in this EIAR for UWF Grid Connection, and a cumulative evaluation is carried out for Upperchurch Windfarm

6.2.2.3.4 Element 5: UWF Other Activities

Not applicable – Element evaluated as excluded. See Section 6.2.2.2.1

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[13] https://www.cso.ie/en/releasesandpublications/er/cirgdp/countyincomesandregionalgdp2016/

[14] CSO Census of Population 2016.

6.2.2.3.5 Other Projects or Activities

Bunkimalta Windfarm – potential 34MW windfarm, possibly comprising approximately 16 turbines and substation, with a consented underground grid connection mainly along roads to Nenagh town. The potential Bunkimalta Windfarm is potentially located in the EDs of Greenhall/Lackagh, Kilnarath and Abington. In Census 2016, the population of these EDs was 1,297 persons, this equates to a GVA of the local economy of €34.6 million.

Castlewaller Windfarm, if constructed, will consist of 16 turbines and one substation, located in the ED of Kilnarath, with a potential site entrance off the R503 and a potential underground grid connection mainly along public roads to Killonan Station on the outskirts of Limerick. In Census, the population of Kilnarath ED was 330 persons, this equates to a GVA of the local economy of €8.8 million.

Note: Although neither of these windfarms are likely to be constructed during the same period as UWF Grid Connection (because the Castlewaller Windfarm has not yet been offered a grid connection from EirGrid, and has to obtain planning consent for its grid connection; and because Bunkimalta Windfarm has to obtain new planning consent for the windfarm), there is *some possibility* that these windfarms could be built during the same period as UWF Grid Connection, and therefore there is potential for cumulative impacts (positive) to the local economy.

6.2.2.4 Cumulative Information Baseline Characteristics - Sensitivity of Local Economy

Within the study area, one of the three EDs – Upperchurch, has experienced a fall in population in the past 20 years, with a decline of 9 per cent between 2011 and 2016 (see Table 1 in Appendix 6.1). This may be an indication of reducing economic opportunities in this area.

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6.2.3 PROJECT DESIGN MEASURES for Local Economy

At the conception of the UWF Grid Connection, the design team evaluated the potential for significant impacts to the environment. Impacts will only take place where three components exist together; (1) the source of the impact (project), (2) the receptor of the impact (sensitive aspect) and (3) a pathway between the source and the sensitive aspect. The objective of mitigation measures is to avoid, prevent or reduce, one of the three components of an impact by choosing an alternative location, alternative design or an alternative process.

Potential or likely significant impacts were avoided, prevented or reduced by integrating mitigation measures into the fundamental design of the development – these are the Project Design Environmental Protection Measures, which are shortened to 'Project Design Measures' in this EIA Report.

The development as evaluated in the EIA Report incorporates the Project Design Measures.

There are no Project Design Mitigation Measures specific to Local Economy.

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Topic

6.2.4 EVALUATION OF IMPACTS to Local Economy

In this Section, the likely direct and indirect effects of the UWF Grid Connection are identified and evaluated. Then the likely cumulative effects of the UWF Grid Connection together with the Other Elements of the Whole UWF Project and Other Projects or Activities are identified and evaluated.

A conceptual site model exercise was carried out to facilitate the identification of source-pathway-receptor links between the project (source) and the sensitive aspect (receptor) - Local Economy.

As a result of the exercise, some impacts were included and some were excluded.

Table 6-6: List of all Impacts included and excluded from the Impact Evaluation Table sections

Impacts Included (Evaluated in the Impact Evaluation Table sections)	***Impacts Excluded*** *(Justification at the end of the Impact Evaluation Table sections)*
Gross Value Added to Businesses & Employment Opportunities (construction stage)	*Business disruption (construction stage)*
	Reduction in tourism revenue (construction stage)
	Gross Value Added to Businesses & Employment Opportunities (operational stage)
	Reduction in tourism revenue (operational stage)

The source-pathway-receptor links for the impact included are described in the Impact Evaluation Table in the next section - **Section 6.2.4.1**.

The source-pathway-receptor links and the rationale for impacts excluded are described in the section directly after the Impact Evaluation Table in Section 6.2.4.2.

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6.2.4.1 Impact Evaluation Table: Gross Value Added to Businesses & Employment Opportunities

Impact Description	
Project Life Cycle Stage:	Construction stage

Impact Source: Construction contracts, purchasing of material and services, landowner payments
Cumulative Impact Source: Construction contracts, purchasing of material and services, landowner payments
Impact Pathway: Financial transactions

Impact Description: An increase in gross value added to business and employment opportunities in the study area due to the purchase of goods, materials and services, employment, and payments to landowners, which will also result in secondary induced spending in the local economy.

Impact Quality: **Positive**

Evaluation of the Subject Development Impact – Gross Value Added to Business & Employment Opportunities

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:

- c.100 persons working directly on the project, most of them on-site, over the course of the construction phase
- c.€0.9 million to local landowners, in the form of wayleave agreements and land purchases
- c.€1.5 million to be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty).
- c.€500,000 induced expenditure on locally sourced goods and services
- The total Gross Value Added, is expected to be approximately 1% of the value of the local economy of the UWF Grid Connection Study Area (estimated at €213 million)

Significance of the Impact: Neutral (positive)

Rationale for Impact Evaluation:

- the Low sensitivity of the local economy
- the Low magnitude of the effect -the additional GVA generated, €2.9 million, is equivalent to approximately 1% per cent of the overall size (estimated at €213 million) of the local economy in the UWF Grid Connection Study Area, in the year of construction.
- Temporary duration of the construction stage.

Element 1: UWF Grid Connection – cumulative impact

Cumulative Impact Magnitude: UWF Grid Connection is expected to be constructed at the same time as the other elements of the Whole UWF Project, in addition, although unlikely, Bunkimalta Windfarm and Castlewaller Windfarm could potentially could be constructed at the same time as UWF Grid Connection. Cumulative local impacts include:

- c.460 persons (200 UWF Grid connection and Other Elements, 130 Bunkimalta Windfarm, 130 Castlewaller Windfarm) working directly on the projects, most of them on-site, over the course of the construction phase
- c.€1.15 million to local landowners (UWF Grid Connection and the Other Elements) in the form of wayleave agreements, option payments and land purchases.
- Between c.€3.2 million (UWF Grid Connection and Other Elements of Whole UWF Project) and circa €7.2 million (if Bunkimalta Windfarm and Castlewaller Windfarm source stone regionally) to be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty)

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- C.€3 million induced expenditure on locally sourced goods and services

In total, the cumulative Gross Value Added for the 3 projects (€7.35 million to €11.35 million) being constructed during the same period, is expected to be approximately 4% to 5% of the value of the local economy of the UWF Grid Connection Cumulative Evaluation Study Area (estimated at €213 million).

Significance of the Cumulative Impact: Imperceptible (positive)

Rationale for Cumulative Impact Evaluation:

- the Low sensitivity of the local economy
- the Low magnitude of the effect -the additional GVA generated (€7.35 million to €11.35 million), is equivalent to approximately 4% to 5% of the overall size of the local economy in the UWF Grid Connection Cumulative Evaluation Study Area, in the year of construction.
- Temporary duration of the construction stage.

Cumulative Information: Individual Evaluations of Other Elements of the Whole UWF Project

Element 2: UWF Related Works

Impact Magnitude:

- c.8 persons working directly on the project during construction
- c.€100,000 in landowner payments
- c.€500,000 induced expenditure on locally sourced goods and services

Significance of the Impact: Neutral (positive)

Rationale for Impact Evaluation:

- the additional GVA generated, €600,000, is equivalent to approximately 2% per cent of the GVA of the EDs of Foilnaman, Upperchurch and Gortakelly, and
- Temporary duration of the construction stage.

Element 3: UWF Replacement Forestry – *N/A, evaluated as excluded, see Section 6.2.2.2.1*

Element 4: Consented Upperchurch Windfarm

Impact Magnitude:

- c.100 persons working directly on the project, most of them on-site, over the course of the construction phase
- c.€120,000 to local landowners in the form of annual option payments and wayleave agreements.
- c.€1.7 million to be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty).
- c.€500,000 induced expenditure on locally sourced goods and services

Significance of the Impact: Slight (positive)

Rationale for Impact Evaluation:

- the value of the EDs of Foilnaman, Upperchurch and Gortakelly is €31.4m, the population of these EDs was 1,176 in 2016,
- the additional GVA generated, €2.3 million, is equivalent to approximately 7% per cent of the overall size of the Local Economy, in the year of construction,
- Temporary duration of the construction stage

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 6.2.2.2.1*

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Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Potential Bunkimalta Windfarm

Impact Magnitude: the potential Bunkimalta Windfarm (34MW), possibly comprises 16 turbines, a substation, and an already consented grid connection.

- It is estimated, based on employment levels for the Upperchurch project, that c.130 people will be employed during the construction phase
- It is estimated, based on the Upperchurch Project that c.€2 million could be spend locally on stone & concrete, if sourced locally.
- It is estimated, based on induced spending for the Upperchurch Project, that there will be c.€750,000 of induced expenditure on locally sourced goods and services

Significance of the Impact: Slight (positive)

Rationale for Impact Evaluation:

- the value of the Local Economy (Kilnarath, Abington and Greenall/Lackagh EDs) is €34.6m, the population of these EDs was 1,297 in 2016,
- the additional local GVA generated, €2.75 million, is equivalent to approximately 8% per cent of the Local Economy in the year of construction,
- Temporary duration of the construction stage.

Other Project: Consented Castlewaller Windfarm (and potential grid connection)

Impact Magnitude: Castlewaller Windfarm if constructed, will consist of 16 turbines and one substation and a potential underground grid connection mainly along public roads. This windfarm would be of a similar size to Bunkimalta Windfarm so the Bunkimalta Windfarm magnitude values above are applied to Castlewaller Windfarm.

- c.130 people will be employed during the construction phase
- c.€2 million could be spend locally on stone & concrete, if sourced locally.
- c.€750,000 of induced expenditure on locally sourced goods and services

Significance of the Impact: Slight (positive)

Rationale for Impact Evaluation:

- the value of the Local Economy (Kilnarath ED) is €8.8m, the population of this ED was 330 in 2016,
- the additional local GVA generated, €2.75 million, is equivalent to approximately 8% per cent of the Local Economy in the year of construction,
- Temporary duration of the construction stage.

Evaluation of Other Cumulative Impacts – Gross Value Added to Business & Employment Opportunities

Whole UWF Project Effect

Cumulative Impact Magnitude:

- c.200 persons working directly on the project, most of them on-site, over the course of the construction phase
- c.€1.15 million to local landowners in the form of wayleave agreements, option payments and land purchases.
- c.€3.2 million to be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty).
- c.€1.5 million induced expenditure on locally sourced goods and services.

In total, the cumulative Gross Value Added (€5.85 million) of the Whole UWF Project construction, is expected to be approximately 1% of the value of the local economy of the Whole Project Cumulative Evaluation Study Area (estimated at €409 million).

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Significance of the Cumulative Impact: Neutral (positive)

Rationale for Impact Evaluation:

- the cumulative GVA generated, €5.85 million, will be equivalent to approximately 1% per cent of the overall size of the Local Economy in the Whole Project Cumulative Evaluation Study Area, in the year of construction,
- Temporary duration of the construction stage,

All Elements of the Whole UWF Project with Other Projects or Activities

Cumulative Impact Magnitude: Both Upperchurch, Castlewaller and Bunkimalta Windfarms potentially could be constructed at the same time. All these windfarms are of similar scale. Cumulative local impacts include:

- c.460 persons (200 Whole UWF Project, 130 Bunkimalta Windfarm, 130 Castlewaller Windfarm) working directly on the projects, most of them on-site, over the course of the construction phase
- €1.6 million to local landowners in the form of wayleave agreements, option payments and land purchases.
- Between c.€3.2 million (Whole UWF Project) and €7.2 million (if Bunkimalta Windfarm and Castlewaller Windfarm sources stone regionally) to be spent regionally on Stone & Concrete from Rear Cross Quarry (Holycross) and Roadstone (Bunratty)
- C.€3 million induced expenditure on locally sourced goods and services

In total, the cumulative Gross Value Added for the 3 projects (€7.35 million to €11.35 million) being constructed during the same period, is expected to be approximately 2% to 3% of the value of the local economy of the UWF Grid Connection Cumulative Evaluation Study Area (estimated at €409 million).

Significance of the Cumulative Impact: Imperceptible (positive)

Rationale for Cumulative Impact Evaluation:

- the cumulative additional local GVA generated, of between c.€7.35 and €11.35 million, will be equivalent to 1% to 2% of the overall size of the Local Economy in the Whole Project Cumulative Evaluation Study Area, in the year of construction,
- Temporary duration of the construction stage.

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6.2.4.2 Description and Rationale for Excluded (scoped out) Impacts

The source-pathway-receptor links and the rationale for impacts excluded from the Impact Evaluation Table sections are described in Table 6-7 below.

Table 6-7: Description and Rationale for Excluded Impacts to Local Economy

Key: 1: UWF Grid Connection; 2: UWF Related Works; 3: UWF Replacement Forestry; 4: Upperchurch Windfarm; 5: UWF Other Activities

Source(s) of Impacts	Project Element	Pathway	Impacts (Consequences)	Rationale for Excluding (Scoping Out)
Construction Stage				
Traffic Management Measures Increased Traffic Volumes	1, 2, 4	Roads	Business disruption	Rationale for Excluding: Based on the evaluations in Chapter 15: Material Assets - Roads, it is considered that any business disruption caused by interrupted/disrupted access will have a neutral effect on the local economy. Chapter 15: Material Assets - Roads assesses the impact of construction works i.e. traffic management works on increased journey times and interruption or disruption of access to property. Chapter 15 concludes that in the case of journey times, the effect of the Whole UWF Project construction works will be negative and ranging from imperceptible to slight due to the temporary duration of the works, the implementation of traffic management, the use of 'stop/go' systems and flagmen, and the relatively lightly trafficked nature of the roads upon which the works will take place.
Construction activities	1, 2, 4	Air, Visibility	Reduction in tourism revenue	Rationale for Excluding: Based on the evaluations in Chapter 12: Air and Chapter 17: Landscape, it is considered that any increased dust and noise levels or a reduction in rural tranquillity during construction works will have a neutral effect on tourism revenue or the local economy. Chapter 12: Air (Air Quality) assesses the effects of dust soiling on Transient People (tourists). In this Chapter it is determined that at the construction stage there will be a Neutral impact, due to a Low receptor sensitivity, a Low sensitivity of the area (of walking routes, public roads or agricultural/forestry lands), combined with the medium magnitude of construction activities, it is considered that the risk of dust effects to Transient People is Low, furthermore the duration of any effects will be momentary to brief in duration. In addition Chapter 12: Air (Noise) assesses the impact of increases in ambient noise levels on transient people. At the construction stage it is found that the effect will be Neutral, as per the IEMA 2014 transient people are considered to have a Low sensitivity to noise effect, any walkers or cyclists will only momentarily encounter construction works at four locations where waymarked trails come into close proximity with construction works areas. In

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Source(s) of Impacts	Project Element	Pathway	Impacts (Consequences)	Rationale for Excluding (Scoping Out)
				addition, there will be no unauthorized access by transient people to construction works areas. Chapter 17: Landscape deals with the impact of the construction phase of UWF Grid Connection and the Whole UWF Project in causing a reduction in rural tranquillity. It is found that the negative impact will be of imperceptible significance due to the modest scale and extent of construction activities and the temporary and short-term duration of construction activity and reversibility of effects.
Operational Stage				
Contracts Purchase of Materials and services, Landowner agreements	1, 2, 4	Financial Transactions	Gross Value Added to Businesses & Employment Opportunities	Rationale for Excluding: The financial transactions (positive) during the operational stage of the UWF Grid Connection and of the Whole UWF Project will be low, representing less than 1 per cent of the local economy of the study areas on an annual basis. As such the operational phase will have a neutral effect on the local economy.
Operating turbines Operating substations Operating telecoms relay pole	1,2,4	Air, Visibility	Reduction in tourism revenue	Rationale for Excluding: Based on the evaluations in Chapter 12: Air and Chapter 17: Landscape, it is considered that any reduction in air quality due to maintenance activities or an increase in ambient noise or vibration levels or a reduction in rural tranquillity due to the operational turbines during the operational stage will have a neutral effect on tourism revenue or the local economy. As per Chapter 12: Air (Air Quality), all parts of the operational stage of the Whole UWF Project has been scoped out due to the fact that air quality impacts resulting from maintenance vehicle emissions will be very minimal and will have a Neutral impact on the air quality. As per Chapter 12: Air (Noise and Vibration) the effect of an increase in ambient noise levels from either the operational Mountphilips Substation or the Consented UWF Substation will not be audible at a distance beyond 200m. As there are no waymarked trails within this distance, there is no potential for impacts to Transient People (tourists). The Eamonn a Chnoic Loop is routed in close proximity to turbines in Knocknamena, however it is considered that while the noise emitted by the turbines will be heard in close proximity, this noise will not be intrusive – the levels will not cause any change in behaviour, such as having to speak more loudly as a conversation can be carried out normally while standing underneath a turbine. In the context of the momentary/brief duration of any effects, it is considered that the noise emitted by the Consented Upperchurch Turbines will have a neutral effect on any walkers that may be on this looped walk. In relation to vibration; emissions from operational plant/vehicles using site access

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Source(s) of Impacts	Project Element	Pathway	Impacts (Consequences)	Rationale for Excluding (Scoping Out)
				roads will be almost impossible to detect and therefore there will be no potential for impacts. Chapter 17: Landscape deals with the impact of the operational phase of UWF Grid Connection, either alone or cumulatively, in causing a reduction in rural tranquillity. These impacts are found to be negative but of imperceptible significance due to the very limited visible expression of UWF Grid Connection, UWF Related Works and UWF Replacement Forestry. In relation to the Upperchurch Windfarm, as per the ABP Inspectors Report (2014, Section 2), "In overall terms the principle of locating windfarm development in the area which is the subject of this appeal is reasonable" In addition, research by Fáilte Ireland[15] in 2012 found that 48 per cent of tourists to Ireland declared that viewing a wind farm did not impact on their sightseeing and a further 32 per cent reported the viewing of a windfarm to have a positive impact on sightseeing. In the same report, when asked what impact the likelihood of further windfarms have on their decision to visit Ireland again 43 per cent said it would have no impact/it depends with a further 28 per cent saying it would have a positive impact.
Decommissioning Stage				
Rationale for Excluding: The UWF Grid Connection will not be decommissioned, therefore no impacts will occur. UWF Related Works & Upperchurch Windfarm: The financial transactions (positive) associated with the decommissioning of the these elements will be very low, representing substantially less than 1% of the total capital costs of the project and relates to substantially less than 1% of the local economy. No business disruption is likely given the temporary duration and very low traffic volumes which will be associated with decommissioning activities.				

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[15] http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/4_Visitor_Insights/WindFarm-VAS-(FINAL)-(2).pdf?ext=.pdf

6.2.5 Mitigation Measures for Impacts to Local Economy

No additional mitigation measures are required as the topic authors conclude that **significant impacts are not likely to occur** to occur to the Local Economy as a consequence of the UWF Grid Connection.

6.2.6 Evaluation of Residual Impacts to Local Economy

Residual Impacts are the final or intended effects that will occur after mitigation measures have been put into place. No additional mitigation measures were required, and thus the Residual Impact is the same as the Impact set out in the Impact Evaluation Table above (Section 6.2.4.1) – i.e. **positive impacts.**

6.2.7 Application of Best Practice and the EMP for Local Economy

The UWF Grid Connection Environmental Management Plan also includes Best Practice Measures (BPM), which although not part of the Project Design for the UWF Grid Connection, will be employed to afford further protection to the Environment.

The following Best Practice Measures have been developed, for the protection of **Local Economy,** by the authors of this topic chapter, using industry best practice:

GC-BPM-09	Local Employment and Local Sourcing

These Best Practice Measures form part of the UWF Grid Connection Environmental Management Plan, which is appended to the EIA Report as Volume D.

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6.2.8 Summary of Impacts to Local Economy

A summary of the Impact to Local Economy is presented in Table 6-8.

Table 6-8: Summary of the impacts to Local Economy

Impact to Local Economy:	**Gross Value Added to Businesses & Employment Opportunities**
Evaluation Impact Table	*Section 6.2.4.1*
Project Life-Cycle Stage	Construction
UWF Grid Connection *direct/indirect impact*	**Neutral (positive)**
UWF Grid Connection *cumulative impact*	**Imperceptible (positive)**
Element 2: UWF Related Works	Neutral (positive)
Element 3: UWF Replacement Forestry	Neutral Impact - Evaluated as Excluded, see Section 6.2.2.2.1
Element 4: Upperchurch Windfarm	Slight (positive)
Element 5: UWF Other Activities	Neutral Impact - Evaluated as Excluded, see Section 6.2.2.2.1
Cumulative Impact:	
Whole UWF Project Effect	**Neutral (positive)**
All Elements of the Whole UWF Project with Other Projects or Activities -Potential Bunkimalta Windfarm -Consented Castlewaller Windfarm (potential grid connection)	**Imperceptible (positive)**

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The greyed out boxes in the above summary table relate to the cumulative information for the Other Elements of the Whole UWF Project, which are included to show the totality of the project.

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