UWF Grid Connection EIA Report (2019)

Volume C2: EIAR Main Report

Chapter 17: Landscape

October2019

Topic **Landscape**

Contents

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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
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
LVIA	Landscape and Visual Impact Assessment
LCA	Landscape Character Area
PD	Ecopower Project Design Environmental Protection Measure developed by members of the EIAR Team
ZTV	Zone of Theoretical Visibility
IEMA	Institute of Environmental Management and Assessment
GLVIA	Guidelines for Landscape and Visual Impact Assessment
UGC	Underground Cables
UWF	Upperchurch Windfarm

Executive Summary of the Landscape Chapter

Baseline Environment: The Landscape Character of the area is one of a rolling lowland rural landscape of fields and hedgerows at its western end in the vicinity of Newport, transitioning into a more extensively managed upland rural landscape of forestry and farmland within the Slievefelim to Silvermine Mountains, throughout the central and eastern extents. In recent years the strongest trend in the wider upland areas in the south and southeast of the Slievefelim to Silvermine Mountain upland area is the emergence of wind energy developments on upper slopes and ridges along with the ancillary development of roads and electrical infrastructure.

The Visual Amenity of the area includes two designated scenic routes one of which (V12) coincides with the 110kV UGC on the R503, between Newport and the L2264-50 junction, in Knockmaroe. The main amenity and heritage assets are way-marked walking and cycle trails- the Slieve Felim Way and the Ormond Way cycle route. The various trails, particularly in the upland area provide a recreational amenity for local residents, as well as a tourism amenity. Views in the uplands take in typical rural scenes of undulating farmland and forestry and occasional peaks of higher mountains passing through the Silvermines range. Views of the gently rolling lowland landscape of fields and hedgerows at the western end of the UWF Grid Connection have a something of a traditional 'pastoral' aesthetic and tend to be relatively contained by landform and vegetation.

In a general sense, the prevailing rural landscape character in these areas is sensitive to permanent changes to landscape patterns and features, which contribute to that character. It is also sensitive to the introduction of new and unfamiliar development, particularly that which includes intensive built development and activity of a typically non-rural nature

Survey Results for Sensitive Aspects in the Baseline Environment: The only permanent above ground feature of the development on the landscape will be Mountphilips Substation. The area was photographed and Zones of Theoretical Visibility within 2km of Mountphilips Substation and Photomontages of Mountphilips as it will appear from a Local Road in Coole townland were prepared.

Summary of the Significance of Impacts to Landscape Character: The impact on Landscape Character is evaluated as **Imperceptible** for alteration of land cover because of the typical and abundant nature of the affected land cover elements with excavations for the 110kV UGC taking place almost wholly within the public road; **Slight to Imperceptible** for construction activity causing a reduction in rural tranquillity, because of the small extent and visual containment of Mountphilips Substation and the small scale, transient nature of the 110kV UGC trenching works; the temporary duration of construction activities and; the works will not contravene the objectives of the Tipperary County Development Plan Landscape Character Areas; and **Slight to Imperceptible** for intensification of built development because the above ground structures associated with the development are essentially limited to Mountphilips Substation, which will have a minor, but permanent impact on the rural landscape fabric of its site and immediate surrounds. However, it is not readily visible from surrounding roads and residences, which limits the perceived impacts on landscape character and the development will not contravene the objectives of the Tipperary County Development Plan Landscape Character Areas. **The cumulative impact** of UWF Grid Connection with Other Elements of the Whole UWF Project and with Other Projects and Activities will be **Not Significant** mainly due to the temporary transient nature of construction works, and the separation distance and absence of inter-visibility between Mountphilips Substation and Other Elements of the Whole UWF Project and Other Projects.

Summary of the Significance of Impacts to Visual Amenity: it was evaluated that Intensification of activity during construction causing visual disharmony will be **Imperceptible to Slight** because of the degree of visual containment of the Mountphilips Substation site and the temporary and transient duration of construction

activities along the public road network; and **Imperceptible** for the addition of new features or loss of existing features causing visual disharmony in the operation stage because of the high level of screening around Mountphilips Substation; the barely discernible permanent surface expression of the 110kV UGC; combined with the medium sensitivity of visual receptors within the study area. **The cumulative impact** of UWF Grid Connection with Other Elements of the Whole UWF Project and with Other Projects and Activities will be **Not Significant** mainly due to the temporary transient nature of construction works, and the separation distance and absence of inter-visibility between Mountphilips Substation and Other Elements of the Whole UWF Project and Other Projects.

Conclusion: The UWF Grid Connection will not cause significant adverse effects to Landscape.

17 Environmental Factor: Landscape

17.1 Introduction to the Landscape Chapter

17.1.1 What is Landscape?

Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors[1].

Landscape is about the relationship between people and place it provides the setting for our day-to-day lives. The term does not mean just special or designated landscapes and it does not only apply to the countryside. Landscape can mean a small patch of urban wasteland as much as a mountain range, as much as an expansive lowland plain. It results from the way that different components of our environment - both natural (the influence of geology, soils, climate, flora and fauna) and cultural (the historical and current impact of land use, settlement, enclosure and other human interventions) are perceived by us.

People's perceptions turn land into the concept of landscape[2].

17.1.2 Overview of Landscape in the Local Environment

The landscape setting of the majority of the UWF Grid Connection is that of a rugged rural upland comprising of moderate and steep sided valleys that are cloaked in a combination of forestry and agricultural grassland. Aside from the small settlements of Rear Cross, Upperchurch and Kilcommon and the larger settlement of Newport the rural population is relatively sparse and dispersed. Nearer the Mountphilips Substation, the landscape transitions into a more gently rolling pastoral landscape of fields, hedgerows and mature treelines.

The location of the UWF Grid Connection is illustrated on OSI Mapping on Figure GC 17.1: Location of the UWF Grid Connection.

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

[1] European Landscape Convention (2002),
[2] Guidelines for Landscape and Visual Impact Assessment (2013)

17.1.3 Sensitive Aspects of the Landscape 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 Aspects **are included in this topic chapter** as they could be potentially impacted:

Sensitive Aspect No. 1	Landscape Character	Section 17.2
Sensitive Aspect No. 2	Visual Amenity	Section 17.3

Each of the above listed Sensitive Aspects are evaluated individually in Sections 17.2 to 17.3 of this Chapter.

To help readers navigate to individual sensitive aspect sections, the colour codes for each Sensitive Aspect used above are also used in the Sensitive Aspect sections Section 17.2 to 17.3. The colour-codes have been applied to section headings, tables and on side-tabs on the edge of the pages.

17.1.4 Sensitive Aspects excluded from further evaluation

No Sensitive Aspects were excluded from this topic chapter.

17.1.5 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 17-1 below.

Table 17-1: 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.

17.1.5.1 Changes to the development from the 2018 Application

This is the 2nd Application for UWF Grid Connection (2019 Application). The previous application (2018 Application) was refused by An Bord Pleanála in December 2018. 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 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 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. A new Photomontage has been prepared for this 2019 Application: Figure GC 17.4: Visibility of Mountphilips Substation from VP1 on the L2166-10 in Coole townland

  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.

17.1.6 The Authors of the Landscape Chapter

This report was written by Richard Barker, Master Landscape Architecture and corporate member of the Irish Landscape Institute, of Macro Works consultancy. Richard's experience includes the landscape and visual impact assessment of more than 90 wind energy development proposals including 5 no. Strategic Infrastructure Development (SID) projects, numerous linear infrastructure projects including road schemes, electricity transmission lines (overhead and underground) as well as water and sewage pipelines. Macro Works specialise in visual impact analysis and visual impact graphics.

17.1.7 Sources of Baseline Information

The information sources outlined in Table 17-2 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 17-2: Sources of Baseline Information for Landscape

Type	Source
Consultation	No feedback from Statutory Consultees or members of the public
Plans & Policy	• National Landscape Strategy for Ireland (2015-2025) • North Tipperary County Development Plan 2010-2016 (as varied), Chapter 7: Landscape, Water Quality and Heritage, Section 7.2 Landscape • Landscape Character Assessment of Tipperary 2017
Guidelines	• Institute of Environmental Management and Assessment (IEMA) • Landscape Institute (UK) 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA, 2013, 3rd Edition).
Desktop	• North Tipperary County Development Plan 2010 (as varied) • South Tipperary County Development Plan 2009 (as varied) • Landscape Character Assessment for County Tipperary (2017) • Online research and review of this EIA Report Chapter 6: Population to establish key tourist and amenity features, including waymarked walking and cycling routes in the study area • Review of planning/ environmental information documents for the Other Elements of the Whole UWF Project as contained in Volume F of the planning application • Chapter 8: Biodiversity • Chapter 9: Land
Fieldwork	• Site Visit • Baseline photography and drone survey

17.1.8 Methodology for Evaluating Effects

17.1.8.1 Landscape Evaluation Criteria

The criteria used by Macro Works for landscape and visual appraisals are derived from the above IEMA and GLVIA Guidelines (see Table 17-2). Whilst this is specific to the landscape and visual appraisal, the significance judgements correspond closely with the EPA significance criteria with the main point of note being that 'Substantial' impacts are equivalent to the EPA definition for 'Significant' impacts. The landscape and visual criteria are set out below.

When assessing the potential impacts on the landscape resulting from the development, the following criteria are considered:

- Landscape character, value and sensitivity
- Magnitude of likely impacts; and
- Significance of landscape effects

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. Landscape sensitivity is classified using the criteria in Table 17-3.

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the proposal site boundary that may have an effect on the landscape character of the area. The magnitude of landscape impact is classified using the criteria in Table 17-4.

Table 17-3: Landscape Sensitivity

Sensitivity	Description
Very High	Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically, this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

Table 17-4: Magnitude of Landscape Impacts

Magnitude of Landscape Impact	Description
Very High	Permanent change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
High	Permanent or long-term change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.
Medium	Permanent or long-term changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in landscape character, and quality. Alternatively, Medium term, short term or temporary changes of greater extent and scale.
Low	Permanent or long-term Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements. Alternatively, short term or temporary changes of greater scale and extent.
Negligible	Permanent changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable. Alternatively, temporary changes of slightly greater extent and scale

17.1.8.2 Visual Impact Criteria

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape.

In accordance with the IEMA Guidelines for Landscape and Visual Assessment, receptor type was used to estimate the level of sensitivity for a particular visual receptor, as outlined in Table 17.5.

Table 17-5: IEMA Criteria for Evaluating the Sensitivity of Visual Receptors

Visual receptors most susceptible to changes in views and visual amenity	**Visual receptors that are less susceptible to changes in views and visual amenity**
Residents at home;	People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape; and
People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;	People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life
Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;	
Communities where views contribute to the landscape setting enjoyed by residents in the area; and	
Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened	

The magnitude of visual impacts relates to the likely scale and nature of visual change in relation to the representative receptor location. It considers whether the proposal will be a visual obstruction (blocking a view) or just an intrusion on the view and how much of the view is affected. It is also a measure of whether the visual change is temporary or permanent and if such change conflicts or complements other elements within the scene in terms of tone, texture, scale and function for example. The textual criteria for determining visual impact magnitude are set out in Table 17.6.

Table 17-6: Magnitude of Visual Impacts

Criteria	Description
Very High	The proposed development is a permanent visual obstruction or intrusion into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual clutter or disharmony is also generated, strongly reducing the visual amenity of the scene
High	The proposed development is a permanent or long term visual obstruction or intrusion into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual clutter or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene.
Medium	The proposed development represents a permanent or long-term intrusion into a moderate proportion of the available vista. It is a readily noticeable element and/or it may generate a degree of visual clutter or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order judgements in relation to visual presence and visual amenity or a shorter duration.
Low	The proposed development represents a permanent or long-term intrusion into a minor proportion of the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene. Alternatively, it may represent short term or temporary visual intrusion of a greater extent.
Negligible	The proposal would be barely discernible within the available vista and/or it would not detract from, and may even enhance, the visual amenity of the scene. Alternatively, it may represent short term or temporary visual intrusion of a slightly greater extent.

17.1.8.3 Significance of Landscape and Visual Impacts

The significance of both landscape and visual impacts is based on a balance between the sensitivity of the landscape / visual receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the matrix in Table 17-7.

Table 17-7: Landscape and Visual Impact Significance Matrix

	Sensitivity of Receptor				
Scale/Magnitude	***Very High***	***High***	***Medium***	***Low***	***Negligible***
Very High	Profound	Profound-substantial	Substantial	Moderate	Minor
High	Profound-substantial	Substantial	Substantial-moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

***Note**: The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix. Judgements indicated in orange are considered to be 'significant impacts' in EIA terms (EPA definitions).*

17.1.9 Certainty and Sufficiency of Evaluation/Information

A clear documentary trail is provided throughout this chapter and chapter appendices to the competency of data and methods used and the rationale for selection of same. The information used to compile this chapter is collated from reports and documents generated by local authorities and in particular, the North Tipperary County Development Plan 2010 (as varied). In all cases the most recent publications are relied on. All documentation used is referenced at the end of the chapter.

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

17.2 Sensitive Aspect No.1: Landscape Character

This Section provides a description and evaluation of the Sensitive Aspect - Landscape Character.

17.2.1 BASELINE CHARACTERISTICS of Landscape Character

17.2.1.1 STUDY AREA for Landscape Character

The study area for Landscape Character in relation to the UWF Grid Connection is described in Table 17-8 and illustrated on Figure GC 17.2: UWF Grid Connection Study Area for Landscape Character (Volume C3 EIAR Figures).

Table 17-8: UWF Grid Connection Study Area for Landscape Character

Study Area for Landscape Character	Justification for the Study Area Extents
500m corridor from construction works areas 2km radius from the Mountphilips Substation	Distances outside of which, each aspect of the development could not materially affect prevailing landscape character

17.2.1.2 Baseline Context and Character of Landscape Character in the UWF Grid Connection Study Area

The Landscape of the UWF Grid Connection Study Area is contained within a combination of a rolling lowland rural landscape of fields and hedgerows at its western end in the vicinity of Newport, transitioning into a more extensively managed upland rural landscape of forestry and farmland within the Slievefelim to Silvermine Mountains throughout the central and eastern extents. See Appendix 17.1: Contextual Photographs and Theoretical Visibility within the Study Areas for contextual photographs illustrating the physical land cover of the receiving environment.

The Mountphilips Substation part of the UWF Grid Connection, along with the westernmost 10km of the 110kV UGC are contained within the rolling lowland farmland context around Newport. The remaining 20.5km of the 110kV UGC will be contained within the upland rural context of the Slievefelim to Silvermine Mountains.

The landscape encompassed by the Whole UWF Project is wholly rural (agriculture) in terms of land use and character, but varies slightly from typical upland agriculture to typical lowland agriculture. A recently updated Landscape Character Assessment (2017) is contained within the Tipperary Country Development Plan (2010 as varied) and this identifies that the uplands portions of the overall landscape context are contained within Landscape Character Areas (LCAs) '17 – Upperchurch, Kilcommon & Hollyford Mountain Mosaic' and '18 – 'Silvermines – Rearcross'. The westernmost lowland area is contained within 'LCA12 River Shannon – Newport'. Within LCA17 and LCA18 there is a relatively tranquil upland rural landscape character of low intensity land uses including pastoral farming and forestry with a sparse and dispersed population. Within the Lowland landscape of LCA12 River Shannon – Newport the population density is slightly greater and the land is farmed more intensively. Here the landscape character is more of a traditional pastoral one within gently rolling terrain.

The location of UWF Grid Connection in relation to LCA17, LCA18 and LCA12 is illustrated on Figure GC 17.1.

17.2.1.3 Importance of Landscape Character

Neither the upland nor lowland agricultural landscape within the study area is particularly rare or distinctive in a national or regional context. However, the tranquillity of the upland areas and the pastoral qualities of the lowland areas contributes to the rural amenity of residents in this area. The productive agricultural land uses also contribute to the subsistence of the rural lifestyle enjoyed by the local population.

17.2.1.4 Sensitivity of Landscape Character

The tranquil rural landscape character of the uplands and the traditional pastoral aesthetic of the lowlands contribute to the 'Class 3 - sensitive' sensitivity classification for LCA 17 and LCA18 and the 'Class 4 – transitional vulnerability' classification for LCA12 in the Tipperary Landscape Character Assessment.

In a general sense, the prevailing rural landscape character in these areas is sensitive to permanent changes to landscape patterns and features, which contribute to that character. It is also sensitive to the introduction of new and unfamiliar development, particularly that which includes intensive built development of a typically non-rural nature. Based on the universal landscape sensitivity criteria identified in Table 17.3 it is considered that the 'Class 3 – sensitive' landscape sensitivity classification from the Tipperary Landscape Character Assessment (classification specific to that document) corresponds to a **'Medium'** landscape sensitivity for both LCA17 – 'Upperchurch, Kilcommon & Hollyford Mountain Mosaic' and LCA18 – 'Silvermines – Rearcross'. For 'LCA12 River Shannon – Newport' the 'Class 4 – transitional vulnerability' classification is considered to correspond to a **'High medium'** sensitivity for the purposes of this appraisal.

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

In recent years the strongest trend in the wider upland areas in the south and southeast of the Slievefelim to Silvermine Mountain upland area is the emergence of wind energy developments on upper slopes and ridges along with the ancillary development of roads and electrical infrastructure.

This trend is likely to continue further to the north and west of these developments, with the recent development of Milestone Windfarm (operational since late 2018), and as the currently permitted wind energy developments such as Upperchurch Windfarm and Castlewaller Windfarm, and potentially Bunkimalta Windfarm, are constructed.

However, the predominant rural land use matrix of farming and forestry within the study area or wider upland area has not noticeably changed in recent years and is unlikely to change markedly or rapidly in the foreseeable future (see EIA Report Chapter 9 – Land).

17.2.1.6 Receiving Environment (the Baseline + Trends)

The identified trends are occurring gradually and in a consistent manner, so it is assumed in this report that the receiving landscape will be a very similar baseline environment to that identified above, albeit with Milestone Windfarm making the wind energy development a more characteristic feature of the overall rural landscape character, particularly in LCA17.

17.2.2 CUMULATIVE INFORMATION - Cumulative Projects & Baseline Characteristics

17.2.2.1 Cumulative Evaluation Study Areas

17.2.2.1.1 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 Landscape Character	Justification for the Study Area Extents
1km corridor from construction works areas 4km radius from the Mountphilips Substation	Doubling the distance for cumulative study areas, identifies those parts of the Other Elements or Other Projects or Activities with potential to cause cumulative impacts with UWF Grid Connection. At distances greater than 1km and 4km from the development, the prevailing landscape character will not be materially affected on the basis that the proposed development will have become a negligible component of the broader scale landscape fabric.

The study is illustrated on Figure CE 17.2: UWF Grid Connection Cumulative Evaluation Study Area for Landscape Character.

17.2.2.1.2 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 17.2.2.2.1 below.

The Whole Project Cumulative Evaluation Study Area comprises of the UWF Grid Connection Study Area along with the study areas for Other Elements and Other Projects or Activities which are described in Table 17-9 and illustrated on Figure WP 17.2: Whole Project Study Area for Landscape Character (Volume C3 EIAR Figures).

Table 17-9: Cumulative Evaluation Study Area for Landscape Character

Cumulative Project	Cumulative Study Area Boundary	Justification for Study Area Extent
Element 1: UWF Grid Connection	500m corridor from works areas and activity locations, 1km to identify any Other Projects or Activities 2km radius from above ground level structures, 4km to identify any Other Projects or Activities	Distances outside of which, the Mountphilips Substation, Telecoms Relay Pole, UWF Replacement Forestry could not have a material cumulative effect on prevailing landscape character or visual amenity – i.e. any effects beyond 2km from the aforementioned elements will be Neutral. Any cumulative landscape character and visual amenity impacts beyond
Element 2: UWF Related Works		
Element 3: UWF Replacement Forestry		
Element 4: Upperchurch Windfarm (UWF)		

Cumulative Project	Cumulative Study Area Boundary	Justification for Study Area Extent
Element 5: UWF Other Activities		these study areas will only relate to the presence of cumulative turbines in views containing the consented UWF turbines, the cumulative impacts of which have previously been assessed as acceptable by An Bord Pleanála.

17.2.2.2 Scoping for Other Projects or Activities & Potential for Impacts

The evaluation of cumulative impacts to Landscape Character 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 Landscape Character 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 the Cumulative Evaluations (Section A2.1.4.35).

The results of this scoping exercise are that: Milestone Windfarm, Foilnaman Mast, Cummermore Communications Pole and the activities of Forestry in the surrounding area have been scoped in for evaluation of cumulative effects to Landscape Character.

17.2.2.2.1 Potential for Other Elements or Other Projects to cause Impacts to Landscape Character

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 Landscape Character. The results of this evaluation are included in Table 17-10.

The location of the Other Elements and Other Projects or Activities which are included for cumulative evaluation is illustrated on Figure WP 17.2.

Table 17-10: 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	Included for the evaluation of cumulative effects
Element 4: Upperchurch Windfarm (UWF)	Included for the evaluation of cumulative effects
Element 5: UWF Other Activities	Evaluated as excluded: Neutral effects due to: • Upperchurch Hen Harrier Scheme: Once off activities will take place during the construction stage, and comprise planting and fencing at hedgerows, watercourse boundaries and areas of scrub. These activities will not generate any adverse effects on the landscape character or to visual amenity. • Haul Route Activities: It is considered that there will be Neutral effects to landscape character or visual amenity, as there will be no disturbance of land cover, and any tree trimming will be in the context of road boundary tree trimming that regularly takes place along the public road network, and the presence of any machinery in the context of busy regional and national roads. • Overhead Line Activities do not require any works to land and any brief visibility of such minor works will have a Neutral effect on visual amenity. • Monitoring Activities do not require any works to land, no effects are expected from brief periods of very minor activity.

Other Projects or Activities	
Milestone Windfarm Foilnaman Mast Cummermore Communications Pole	Yes, included for the evaluation of cumulative operational stage effects, Excluded from evaluation in relation to cumulative construction stage effects as the Foilnaman Mast, Cummermore Communications Pole and Milestone Windfarm already exist and are considered part of the baseline.
Forestry activities in the Surrounding Area	Yes, included for the evaluation of cumulative construction stage effects, Excluded from evaluation in relation to cumulative operational stage effects as these activities are the prevailing and characteristic land uses in this area, i.e. they are the baseline rather than other sources of impact.

17.2.2.3 Cumulative Information: Baseline Characteristics – Context & Character

17.2.2.3.1 Element 2: UWF Related Works

The Landscape of the UWF Related Works Study Area is contained within an extensively managed upland rural landscape of farmland and forestry within the eastern extents of the Slievefelim to Silvermine Mountains upland area.

The landscape is wholly rural (agriculture) in terms of land use and character, but varies slightly from typical upland agriculture to typical lowland agriculture. A recently updated Landscape Character Assessment (2017) is contained within the Tipperary Country Development Plan (2010 as varied) and this identifies that the overall landscape context is contained within Landscape Character Areas (LCAs) '17 – Upperchurch, Kilcommon & Hollyford Mountain Mosaic'. Within LCA17 there is a relatively tranquil upland rural landscape character of low intensity land uses including pastoral farming and forestry with a sparse and dispersed population.

The location of UWF Related Works in relation to LCA17 is illustrated on Figure WP 17.2.

17.2.2.3.2 Element 3: UWF Replacement Forestry

The Landscape of the UWF Replacement Forestry Study Area is contained within an extensively managed upland rural landscape of farmland and forestry within the eastern extents of the Slievefelim to Silvermine Mountains upland area. See Appendix 17.1 for contextual photographs illustrating the physical land cover of the receiving environment.

The landscape is wholly rural (agriculture) in terms of land use and character, but varies slightly from typical upland agriculture to typical lowland agriculture. A recently updated Landscape Character Assessment (2017) is contained within the Tipperary Country Development Plan (2010 as varied) and this identifies that the overall landscape context is contained within Landscape Character Areas (LCAs) '17 – Upperchurch, Kilcommon & Hollyford Mountain Mosaic'. Within LCA17 there is a relatively tranquil upland rural landscape character of low intensity land uses including pastoral farming and forestry with a sparse and dispersed population.

The location of UWF Replacement Forestry in relation to LCA17 is illustrated on Figure WP 17.2.

17.2.2.3.3 Element 4: Already Consented Upperchurch Windfarm

Upperchurch Windfarm is also located within the upland rural context of the Slievefelim to Silvermine Mountains upland area, in LCA17.

Consideration of the Passage of Time: With the exception of the Milestone Windfarm, which is now operational, there has been no material change in the landscape character in the Upperchurch Windfarm area. It should be noted that Milestone Windfarm was considered cumulatively in the 2013/2014 planning assessments, and therefore the descriptions in the 2013 and 2014 documents remain relevant to the cumulative evaluations in this 2019 EIAR.

17.2.2.3.4 Element 5: UWF Other Activities

Not applicable – Element evaluated as excluded. See Section 17.2.2.2.1

17.2.2.3.5 Other Projects or Activities

The existing Milestone Windfarm, Foilnaman Mast and Cummermore Communications Pole are also located in LCA17, within the upland rural context of the Slievefelim to Silvermine Mountains, where forestry and agriculture are the main land uses.

Forestry activity in the surrounding area, may include forestry harvesting operations from time to time, these activities occur frequently in the Slievefelim to Silvermines Mountains upland area resulting in familiar cutover forestry compartments with associated track widening and processing pads. Forest growth is also typical of these LCAs, with forest plots at various stages of growth located throughout the study area.

17.2.3 PROJECT DESIGN MEASURES for Landscape Character

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.

The Project Design Measures outlined in Table 17-11 are relevant to the Environmental Factor, Landscape, and in particular to the sensitive aspect **Landscape Character**.

Table 17-11: UWF Grid Connection Project Design Measures relevant to Landscape Character

PD ID	**Project Design Environmental Protection Measure (PD)**
PD05	At the Mountphilips Substation site, construction traffic will be restricted to the construction works area and tracking across adjacent ground will not be permitted. A speed limit of 25km/hr for all traffic/machinery will be implemented at the Mountphilips Substation site. Outside of Mountphilips Substation site, all construction will be restricted to the paved road surfaces or built surfaces along the 110kV UGC. A speed limit of 50km/hr for all delivery and construction traffic will be implemented on Local Roads ('L' roads).
PD07	110kV UGC construction works along the local roads L2264-50 and L6188-0, will not take place at the same time as the UWF Related Works Haul Route Works on these roads. The 110kV UGC construction works will also be scheduled so that the works do not occur on the same days as concrete deliveries for Consented UWF Turbines along these local roads.
PD11	Construction works for the 110kV UGC in Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons townlands, which are within 350m of local residences, will not take place at the same time as either the UWF Related Works or Upperchurch Windfarm where those works also occur within 350m.

Cumulative Information: Potential or likely significant impacts caused by the Other Elements of the Whole UWF Project were avoided, prevented or reduced by incorporating Project Design Measures into the design of the UWF Related Works, UWF Replacement Forestry and into the consented design of the Upperchurch Windfarm. These Project Design Measures are included in the description of these Elements, and can be found in this EIA Report in Appendices 5.3, 5.4 and 5.5 in Volume C4: EIAR Appendices.

Landscape Character

Sensitive Aspect

17.2.4 EVALUATION OF IMPACTS to Landscape Character

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) - Landscape Character.

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

Table 17-12: 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)*
Alteration or division of land cover and vegetation patterns (construction stage)	*Intensification of activity causing a reduction in rural tranquillity (operational stage)*
Intensification of activity causing a reduction in rural tranquillity (construction stage)	*Decommissioning Effects*
Intensification of built development and reduction in the integrity of rural landscape patterns (operational stage)	

The source-pathway-receptor links for included impacts are described in the **Impact Evaluation Tables,** which are presented in the **following sections 17.2.4.1 to 17.2.4.3.**

The source-pathway-receptor links and the rationale for excluded impacts are described in the section directly after the Impact Evaluation Table sections, in Section 17.2.4.4.

Relevant Figures and Appendices

A photomontage of the view from Coole townland of Mountphilips Substation when built is illustrated on Figure GC 17.4: Visibility of Mountphilips Substation from VP1 on the L2166-10 in Coole townland in **Volume C3 EIAR Figures**

Contextual photographs illustrating the physical land cover of the receiving environment and Zone of Theoretical Visibility mapping are presented in Appendix 17.1: Contextual Photographs and Theoretical Visibility within the Study Areas in **Volume C4 EIAR Appendices.**

Landscape

Topic

17.2.4.1 Impact Evaluation Table: Alteration or division of land cover and vegetation patterns

Impact Description	
Project Life Cycle Stage:	Construction stage

Impact Source: Excavation of soil, and vegetation removal
Cumulative Impact Source: Excavation of soil, and vegetation removal
Impact Pathway: Physical land cover disturbance / change

Impact Description: Temporary change to physical landscape elements in the form of excavation, removal or disruption of soils, grassland, forestry, scrub, hedgerows and riparian vegetation that will impact on the integrity of landscape patterns that contribute to the salient rural landscape character of the area.

Impact Quality: Negative

Evaluation of the Subject Development Impact – Alteration or division of land cover and vegetation patterns

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:
The Mountphilips Substation is proposed for a location in LCA-12, while the route of the 110kV UGC between the Mountphilips Substation and the Consented UWF Substation is located in all three Landscape Character Areas - LCA-12, LCA-18 and LCA-17.

The potential for alteration or disturbance of land cover or vegetation patterns is limited to the Mountphilips Substation site, and this impact will not occur outside of the Mountphilips Substation site due to the location of the 110kV UGC within public road pavements, with the eastern extremity of the 110kV UGC located under paved private road and future substation compound area, where no alteration or disturbance of land cover or vegetation patterns will occur as a consequence of the development of UWF Grid Connection.

In total 4.6ha of construction works areas will be carried out in LCA-12 in the open countryside at the Mountphilips Substation site (i.e. between the permanent site entrance to the east as far as the 2 new End Masts to the west).

Disturbance of landcover will comprise the removal of soils on grassland between the site entrance at Coole and the Mountphilips Substation, and the permanent change of c.1.75ha from grassland to hard surface area and new permanent berms in this area.

Alteration of vegetation patterns will comprise the permanent removal of a 40m of hedgerow (including 11 immature trees) from 2 no. locations of 30m and 10m in length along the new permanent access road. A new hedgerow, c.700m in length, will be planted on the berms on either side of the new Access Road between the Site Entrance and Mountphilips Substation and around Mountphilips Substation; the sides of the berms will be seeded with native grass and wildflower species, for the benefit of biodiversity in the area. 160m of hedgerow and 18 No. trees (1 of which is mature) will be removed at the Site Entrance, with an equivalent length of new hedgerow and equivalent number of trees (semi-mature) to be planted behind the new site entrance sightlines.

Significance of the Impact: Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the Negligible magnitude combined with the medium to high sensitivity of LCA-12.
- Compliance with the 'control' of unavoidable new development objective for LCA-12
- In the context of the size of the landscape character areas

Landscape Character

Sensitive Aspect

- The typical and abundant nature of the affected land cover elements
- The predominantly temporary duration of effects.

Element 1: UWF Grid Connection – cumulative impact

Cumulative Impact Magnitude: The potential for cumulative effects is limited to LCA-17, where works associated with UWF Grid Connection and Upperchurch Windfarm and UWF Related Works all occur. However UWF Grid Connection works will be confined to the public road, paved private road and future UWF Substation compound in this area and will not cause any disturbance, alteration or division of land cover within surrounding agricultural lands, therefore cumulative impacts with UWF Related Works or Upperchurch Windfarm works will not occur. The magnitude of cumulative impact is therefore deemed to be Negligible.

Significance of the Cumulative Impact: No Cumulative Impact

Rationale for Cumulative Impact Evaluation:

- The occurrence of UWF Grid Connection in paved surfaces and in future hardcore areas where UWF Related Works and Upperchurch Windfarm occur within the UWF Grid Connection Cumulative Evaluation Study Area.

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

Element 2: UWF Related Works

Impact Magnitude:
In total 20.9ha of construction works areas associated with the UWF Related Works will be carried out in LCA-17. Excavation and soil removal/disruption will take place in all construction works areas, 0.3ha of forestry will be felled along with the removal of 170m of hedgerow comprising primarily earthen banks and 4 No. mature trees, mainly along public road boundaries. Riparian habitat will be temporarily removed at 6 No. crossing points of watercourses along the routes of the Internal Windfarm Cabling and Realigned Windfarm Roads.

Significance of the Impact: Imperceptible

- Rationale for Impact Evaluation:
- As per Table 17-7 the Negligible magnitude combined with the medium sensitivity of LCA-17
- Compliance with the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17
- In the context of the extensive size of LCA-17
- the typical and abundant nature of the affected land cover elements
- The predominantly temporary duration and
- the reversibility of the impact with the restoration of the prevailing land cover over the vast majority of construction works areas.

Element 3: UWF Replacement Forestry

Impact Magnitude:
Change of 6 hectares, of agricultural grassland to plantation forestry in LCA-17. Minimal excavation of soils due to the planting of the new native woodland by hand. No removal of hedgerows or riparian habitats.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- The small scale of the native woodland planting area adjacent to existing forested areas in a wider landscape that is defined by a combination of forestry and farmland
- The negligible magnitude of land disturbance required during planting operations
- The temporary nature of forest planting activities.

Landscape

Topic

Element 4: Consented Upperchurch Windfarm

Impact Magnitude:
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". The LVIA for the Upperchurch Windfarm, which was considered by the inspector, found the physical impact on landscape features and impact on landscape character to be of a Low magnitude. The significance of landscape impact was deemed to be 'Low negligible' - equivalent of 'Slight-imperceptible' in respect of terminology used herein.

Significance of the Impact: Slight - Imperceptible

Rationale for Impact Evaluation:

- The negligible to low magnitude of change within a relatively small area of agricultural and forested land being disturbed during construction in the context of the extensive landscape character areas contained within the study area where the affected land cover elements are typical and abundant.

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 17.2.2.2.1*

Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Forestry Activities in the Surrounding Area

Impact Magnitude:
Forestry harvesting operations are periodic, of a modest scale and are a typical activity of the Slievefelim to Silvermines Mountains upland area resulting in familiar cutover forestry compartments with associated track widening and processing pads. Forest growth is also typical of these LCAs, with forest plots at various stages of growth located throughout the study area.

Significance of the Impact: Slight - Imperceptible

Rationale for Impact Evaluation:

- The modest scale and temporary nature of forest harvesting activities
- The reversibility of forest harvesting operations through forest replanting or agricultural conversion.

Evaluation of Other Cumulative Impacts – Alteration or division of land cover and vegetation patterns

Whole UWF Project Effect

Cumulative Impact Magnitude:

UWF Grid Connection, UWF Related Works, UWF Replacement Forestry and Upperchurch Windfarm works areas occur across three Landscape areas; LCA-12, LCA-18 and LCA-17, and three of these Elements overlap in the Knocknabansha, Knockmaroe and Knockcurraghbola area in LCA-17.

In relation to UWF Grid Connection, the alteration or disturbance of land cover or vegetation patterns is limited to the Mountphilips Substation site, outside of which the UWF Grid Connection (110kV UGC) is located predominately on the public road, with the eastern extremity of the 110kV UGC located under paved private road and future substation compound area.

In relation to UWF Related Works and Upperchurch Windfarm, the temporary disturbance of land cover in the Knocknabansha, Knockmaroe and Knockcurraghbola area will not occur at the same time, as the promoter has committed to undertake the works for the UWF Related Works and the Upperchurch Windfarm separately to avoid cumulative impacts to local residents.

UWF Related Works will only alter small and independent sections of land cover and vegetation, including at Foilnaman where the UWF Replacement Forestry is also located, that will be temporarily disrupted and restored independently, thereby avoiding noticeable cumulative effects. Planting works associated with UWF Replacement Forestry will be carried in the vicinity of some UWF Related Works and Upperchurch

Topic: Landscape

Sensitive Aspect: Landscape Character

Windfarm construction works locations, however the planting works will have a negligible magnitude of land disturbance.

The magnitude of cumulative impacts is reduced by the colocation of c.60% of Internal Windfarm Cabling in Upperchurch Windfarm roads, these works will be carried out by Upperchurch Windfarm crews and will not cause any noticeable increase in intensification.

The overall magnitude of cumulative impact is therefore deemed to be Low-negligible.

Significance of the Cumulative Impact: Slight

Rationale for Cumulative Impact Evaluation:

- the Low-negligible magnitude of impact in the context of the extensive size and medium sensitivity of landscape character area LCA-17
- The relatively small extent of works for UWF Grid Connection in the Mountphilips/Coole area, and the separation distance to the UWF Related Works/Upperchurch Windfarm area;
- The negligible magnitude of the UWF Replacement Forestry
- the typical and abundant nature of the affected land cover elements
- the predominantly temporary duration and the reversibility of the impact with the restoration of the prevailing land cover over the vast majority of construction works areas.

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

Cumulative Impact Magnitude:

During construction, the various elements of the Whole UWF Project in conjunction with periodic forest harvesting operations will result in discrete areas of land cover disturbance and vegetation removal. This will result in very minor impacts on the integrity and uniformity of the rural landscape fabric of the subject LCAs. The UWF Replacement Forestry will not cause noticeable cumulative effects, given the negligible magnitude of planting works associated with this Element.

Cumulative Impact with Other Projects: Slight Imperceptible

Rationale for Cumulative Impact Evaluation:

- The small scale and discrete areas of land cover that are affected, which are also typical and abundant in these LCAs.
- The temporary nature of construction works
- The reversibility of the vast majority of the Whole UWF Project works and forest harvesting through reinstatement / replanting

Note: No cumulative evaluation of Other Projects or Activities (Milestone Windfarm, Foilnaman Mast, Cummermore Communications Pole) is included in the table above, because these Other Projects or Activities were evaluated as excluded from this particular impact table (see Section 17.2.2.2.1).

17.2.4.2 Impact Evaluation Table: Intensification of activity causing a reduction in rural tranquillity

Impact Description	
Project Life Cycle Stage:	Construction stage

Impact Source: Construction related activities
Cumulative Impact Source: Construction related activities, forestry harvesting in the surrounding area
Impact Pathway: Visibility

Impact Description:
Construction activity will include the near constant movement, during daylight hours, of machinery, vehicles and people to and from both linear and fixed working areas. Temporary fencing and welfare facilities will be erected and there will be temporary stockpiling of excavated materials and construction materials. This intensity of construction activity is not typical of baseline land uses in this rural area and will detract from the tranquillity that forms an integral part of the rural landscape character in these LCAs.

Works along the public road, involving trenching (UWF Grid Connection and UWF Related Works) and road widening works in the verge/boundary (UWF Related Works); are unlikely to detract from rural tranquillity and will generally be perceived as road works, which are a common occurrence on the public road network.

Impact Quality: Negative

Evaluation of the Subject Development Impact – Intensification of activity causing a reduction in rural tranquillity

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:
The greatest intensity and duration of construction related activity for the UWF Grid Connection will occur at the Mountphilips Substation site which also includes a temporary construction compound that will provide office, welfare, storage and parking facilities to construction workers. The Mountphilips Substation site is well contained by existing terrain and vegetation and the substation compound and temporary construction compound are located 420m from the local public roads, which will restrict the extent to which construction activity can impact the surrounding landscape character, and as a result the impact magnitude is Low negligible.

Along the route of the 110kV UGC, which is entirely located on paved roads/hardstanding area, there will be up to 4 No. construction crews, each made up of 4-5 men, a large excavator and tractor and trailer, working from 4 separate locations along the 110kV UGC. While some sections of the 110kV UCG will be more visually exposed, than the substation, the intensity and duration of trenching works will be much lower and due to the largely transient nature (moving through the landscape) of construction works along the 110kV UGC, only short sections of the works for the 110kV UGC will be perceived from most locations in the study area, and it is considered the impact magnitude is Low negligible.

Significance of the Impact: Slight to Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the Low negligible magnitude combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- The small extent and visual containment of Mountphilips Substation works (including the new access road and construction compound) and the small scale, transient nature of the 110kV UGC trenching works
- The temporary duration of construction activities and the reversibility of effects once temporary construction areas along the road are reinstated, which will not contravene the 'control' of unavoidable new development objective for LCA-12 and the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17 and LCA-18.

Landscape Character

Sensitive Aspect

Element 1: UWF Grid Connection – cumulative impact

Cumulative Impact Magnitude: Cumulative effects of UWF Grid Connection with UWF Related Works and Upperchurch Windfarm may occur in the Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola Crownlands area where Haul Route Works and Internal Windfarm Cabling works and Upperchurch Windfarm works are located close to UWF Grid Connection 110kV UGC works. However, UWF Grid Connection works in this area are confined to the public road network at these locations, and therefore the magnitude of cumulative impact is deemed to be Negligible.

Surrounding area forestry operations are not likely to cause noticeable cumulative effects as UWF Grid Connection is not located within any forestry plots and does not involve any felling. While Mountphilips Substation is located adjacent to a small individual forestry plot, this forestry is not mature and will not be harvested during the same period as construction works for the new substation. In relation to the 110kV UGC, while the works along the public road will be in close proximity to forestry at some locations, the 110kV UGC works generally will be perceived as road works on the public road network. It is therefore evaluated that the magnitude of cumulative impact will be Negligible.

Significance of the Cumulative Impact: Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the Negligible magnitude combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- The absence of any felling required for UWF Grid Connection, and the location of the 110kV UGC within public road pavements with road works a common occurrence on Irish roads

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

Element 2: UWF Related Works

Impact Magnitude:
Construction activities will involve single 3-4 man crews each using an excavator and dump truck and working linearly at Internal Windfarm Cabling, Realigned Windfarm Roads and Haul Route Works locations. Construction activities at the Telecoms Relay Pole will be at a fixed location but will be minimal and will not be noticeable in the context of the windfarm construction works which will be carried out at the same time. It is considered that the reduction in rural tranquillity arising from the intensification of activity will have a negligible impact magnitude due to the small scale and somewhat transient nature of the construction activities within a relatively broad site area that will disperse the intensity of construction activity, even if it is all occurring at once.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium sensitivity of LCA-17
- compliance with the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17
- In the context of the size of LCA-17,
- The transient and dispersed nature of construction activity for this project element.
- The temporary duration of construction activities and
- The reversibility of effects once temporary construction areas and compounds are cleared and restored.

Element 3: UWF Replacement Forestry

Impact Magnitude:
Very low intensity planting activities involving the delivery and temporary storage of seedlings prior to hand planting by a small team of workers over a very short time period will have a negligible reduction in rural tranquillity.

Significance of the Impact: Imperceptible

Landscape

Topic

Rationale for Impact Evaluation:

- The medium sensitivity of LCA-17and the negligible magnitude of impacts due to the small extent and intensity of planting activities
- compliance with the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17
- The perception of the activities as typical rural activities in this landscape, which include forest planting
- The temporary duration of planting activities

Element 4: Consented Upperchurch Windfarm

Impact Magnitude:
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". The LVIA for the Upperchurch Windfarm, which was considered by the inspector, found the impact on landscape character to be of a Low magnitude. The overall significance of landscape impact was deemed to be 'Low negligible' - equivalent of 'Slight-imperceptible' in respect of terminology used herein.

Significance of the Impact: Slight to Imperceptible

Rationale for Impact Evaluation:

- The modest extent of construction activities, focused on somewhat dispersed turbine locations as well as the transient nature of such activity (moving between turbine locations at various times)
- The temporary – short-term duration of construction activity and the reversibility of effects once temporary construction areas and compounds are cleared and restored.

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 17.2.2.2.1*

Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Forestry Activities in the Surrounding Area

Impact Magnitude:
In the surrounding area Forestry harvesting operations are periodic, of a modest scale and are a typical activity of the Slievefelim to Silvermines Mountains upland area. Such operations also consist of frequent movement of HGV logging trucks along local and regional roads.

Significance of the Impact: Slight Imperceptible

Rationale for Impact Evaluation:

- The modest scale, familiar form and temporary nature of forest harvesting activities.

Evaluation of Other Cumulative Impacts – Intensification of activity causing a reduction in rural tranquillity

Whole UWF Project Effect

Cumulative Impact Magnitude:
UWF Grid Connection, UWF Related Works, UWF Replacement Forestry and Upperchurch Windfarm works areas occur across three Landscape areas; LCA-12, LCA-18 and LCA-17, and three of these Elements overlap in the Knocknabansha, Knockmaroe and Knockcurraghbola area, in LCA-17. However the promoter has committed to undertake the works for the UWF Grid Connection, UWF Related Works and the Upperchurch Windfarm, in the overlap area, separately to avoid cumulative impacts to local residents, and therefore there will be NO combined construction activity occurring over the same time period. The duration of the effect will be longer in this area, but does not increase the cumulative magnitude, which remains negligible. There will be no cumulative effects from construction activities relating to other discrete sections of the UWF Grid Connection, UWF Related Works and Upperchurch Windfarm works.

Due to the very low intensity of planting activities associated with UWF Replacement Forestry, this Element will not cause cumulative impacts with the Other Elements of the Whole UWF Project.

Landscape Character

Sensitive Aspect

Significance of the Cumulative Impact: Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- The separate construction / restoration periods for the UWF Grid Connection, UWF Related Works and the Upperchurch Windfarm, in the Knockmaroe and Knockcurraghbola area and the very small scale in the context of the extensive size and medium sensitivity of landscape character area LCA-17
- The modest scale and extent of construction activities with somewhat transient working areas dispersed across a relatively broad area of undulating topography (albeit with some common compound and welfare facilities for Upperchurch Windfarm and the UWF Related Works)
- The temporary – short-term duration of construction activity and the reversibility of effects once temporary construction areas and compounds are cleared and restored.

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

During construction, Elements of the Whole UWF Project (in particular Upperchurch Windfarm and to a lesser extent UWF Related Works) could potentially be constructed during the same time as periodic forest harvesting operations, and these activities cumulatively are likely to result in an overall intensity of construction related activity that is slightly greater than for the Whole UWF Project in its own right. However, working areas tend to be relatively discrete from each other and not generally intervisible.

Forestry harvesting in the area could also increase HGV traffic along local and regional roads, which along with Whole UWF Project HGV traffic and roadworks associated with UWF Grid Connection (110kV UGC) and Haul Route Works (UWF Related Works) and road related activities for UWF Other Activities (Haul Route Activities) is likely to have a Low-negligible in-combination effect due to the increased frequency and intensity of HGV traffic within this relatively tranquil rural area.

Due to the very low intensity of planting activities associated with UWF Replacement Forestry, this Element will not cause cumulative impacts with Other Projects or Activities.

Significance of the Cumulative Impact: Slight

- As per Table 17-7, the Low-negligible magnitude of cumulative effect combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- The small scale and extent of construction works in forestry landholdings
- The temporary – short-term duration of in-combination construction activity and the reversibility of effects once construction works are completed.

Note: No cumulative evaluation of Other Projects or Activities (Milestone Windfarm, Foilnaman Mast, Cummermore Communications Pole) is included in the table above, because these Other Projects or Activities were evaluated as excluded from this particular impact table (see Section 17.2.2.2.1).

Landscape

Topic

17.2.4.3 Impact Evaluation Table: Intensification of built development and reduction in the integrity of rural landscape patterns

Impact Description	
Project Life Cycle Stage:	Operational stage

Impact Source: Presence of above ground structures, permanent alterations to landform/ vegetation patterns
Cumulative Impact Source: Presence of above ground structures, permanent alterations to landform/ vegetation patterns
Impact Pathway: visibility

Impact Description: There will be an increase in the amount of above-ground built development within the rural landscape of the study area once construction of the Whole UWF Project is complete. There will also be very minor permanent/ long-term changes to land cover and vegetation patterns. These structures / above ground expressions of the Whole UWF Project will add to the intensity of development and alteration of existing landscape patterns within a rural area where low levels of built development currently occur and there is a strong degree of uniformity and integrity of typical rural landscape features and patterns.

Impact Quality: Negative

Evaluation of the Subject Development Impact – Intensification of built development and reduction in the integrity of rural landscape patterns

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:
The above ground structures associated with the UWF Grid Connection are limited to the Mountphilips Substation. This new substation will have a minor, but permanent impact on the rural landscape fabric of its site and immediate surrounds. However, it is not readily visible from surrounding roads and residences, which limits the perceived impacts on landscape character. At the Mountphilips Substation site 1.75ha of grassland will change land cover to: stone access road (0.25ha), permanent berms (0.5ha) and substation compound/end mast footprint (1.0ha). In addition, at the entrance, a length of hedgerow will change landcover to public road verge, while some narrow strips of grassland along the new access road and at the Mountphilips Substation site entrance will change cover to newly planted hedgerow, however these uses are a typical type of rural landscape feature that will have an imperceptible effect on landscape character. Overall the impact of the Mountphilips Substation and ancillary works at the Mountphilips Substation site is considered to have a Low-negligible magnitude of impact.
The 110kV UGC will be underground, and entirely located under paved roads (outside of the Mountphilips Substation site) with surface expression in the form of periodic joint bay covers, which will not be noticeable in the context of the location of joint bays within road structures.

Significance of the Impact: Slight to Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the Low negligible magnitude combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- compliance with the 'control' of unavoidable new development objective for LCA-12 and the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17 and LCA-18
- The visual containment of Mountphilips substation,
- the barely discernable permanent surface expression of the 110kV UGC.

Landscape Character

Sensitive Aspect

Element 1: UWF Grid Connection – cumulative impact
Cumulative Impact Magnitude: Above ground structures for UWF Grid Connection relate to the Mountphilips Substation which will be built in Mountphilips townland near Newport on the western side of the Slievefelim to Silvermines Mountain Upland area. Above ground structures for the Other Elements of the Whole UWF Project (i.e. the Consented UWF Turbines and Consented UWF Substation for Upperchurch Windfarm, Telecom Relay Pole for UWF Related Works, and new woodland for UWF Replacement Forestry) along with landcover changes associated with these projects will occur in the Upperchurch area on the eastern side of the upland area. The Mountphilips Substation element of the UWF Grid Connection is also not located close to any Other Projects or Activities (Foilnaman Mast, Milestone Windfarm or Cummermore Communications Pole). Therefore there is no potential for the UWF Grid Connection to cause cumulatively impacts to Landscape Character with either Other Elements of the Whole UWF Project or with Other Projects or Activities.
Significance of the Cumulative Impact: No Cumulative Impact
Rationale for Cumulative Impact Evaluation: • Separation distance, and absence of inter-visibility, between built structures and landcover changes associated with UWF Grid Connection and the Other Elements or Other Projects.
Cumulative Information: Individual Evaluations of Other Elements of the Whole UWF Project
Element 2: UWF Related Works
Impact Magnitude: Absence of surface expression and land cover changes following reinstatement of construction works relating to the Internal Windfarm Cabling and Haul Route Works areas. Some land cover changes (0.22ha) from forestry or agricultural grassland to Realigned Windfarm Roads. The Telecoms Relay Pole is a modest and typical rural feature, structurally similar to single wooden electricity poles and will have a Neutral effect on landscape character.
Significance of the Impact: Imperceptible
Rationale for Impact Evaluation: • As per Table 17-7, the negligible magnitude combined with the medium sensitivity of LCA-17 • compliance with the 'wise use and best choice' objective to maintain and enhance established patterns for LCA-17 • The barely discernable above ground expression and permanent changes to land cover resulting from the UWF Related Works.
Element 3: UWF Replacement Forestry
Impact Magnitude: 6ha of land cover change from one of the main characteristic land cover patterns contained within this upland rural area (agricultural grassland) to another (forestry).
Significance of the Impact: Neutral
Rationale for Impact Evaluation: • The exchange of a small section of one characteristic form of land cover in this upland rural area to another
Element 4: Consented Upperchurch Windfarm
Impact Magnitude:

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As per the ABP Inspectors Report (2014, Section 9.2 Reference Documents – Volume F10), "In overall terms the principle of locating windfarm development in the area which is the subject of this appeal is reasonable". The LVIA for the Upperchurch Windfarm, which was considered by the inspector, found the impact on landscape character to be of a Low magnitude. The overall significance of landscape impact was deemed to be 'Low negligible' - equivalent of 'Slight-imperceptible' in respect of terminology used herein.

Significance of the Impact: Slight to Imperceptible

Rationale for Impact Evaluation:

- The rationale provided in the Upperchurch Windfarm LVIA and ABP Inspectors Report (2014, Section 9.5.5 Reference Documents – Volume F10) "the undulating and rolling nature of the landscape coupled with the diverse vegetation does provide for a level of absorption capacity for the nature and scale of the proposed development. Therefore accepting that the development will impact visually on the area it will not be to a significant degree, I consider, to adversely impact on the area"

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 17.2.2.2.1*

Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Milestone Windfarm

Impact Magnitude:
Milestone Windfarm is an operational 4-turbine windfarm which comprises two planning permissions, the first for 5 turbines (of which 3 were constructed) at Knockcurraghbola Commons, Knockcurraghbola Crownlands, Graniera and Shevry, and the second for 2 turbines (of which 1 was granted planning permission and constructed) in Knockduff and Inchivara. The locality of the Milestone Windfarm was assessed by the planning authority to have a 'Medium' impact

Significance of the Impact: Not Significant

Rationale for Impact Evaluation: The rationale provided in the Milestone Windfarm Planners Report (Tipperary County Council Ref: 12510385, 28th November 2013) – '*I consider furthermore that the visual impact in the context of the local and regional topography is acceptable', and*

- The rationale provided in the Inchivara Windfarm ABP Inspectors report (ABP Ref: PL92.243611, page 19) – "I would consider that having regard to the permitted wind farms and the landscape designations applicable to the site that the proposed two turbines would not adversely impact on the visual amenities or the landscape character of the area. I would also consider that the proposed development would not adversely impact on the established residential amenities in the area from a visual perspective".

Other Project: Foilnaman Mast

Impact Magnitude:
The existing Foilnaman Mast is very small scale and a typical structure that does not noticeably detract from the integrity of landscape character in its own right. Thus, the magnitude of the cumulative impact is deemed to be negligible.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the Negligible magnitude of cumulative effect combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18

Other Project: Cummermore Communications Pole

Impact Magnitude:
The Cummermore Communications Pole is very small scale and will not not noticeably detract from the integrity of landscape character in their own right. Thus, the magnitude of the cumulative impact is deemed to be negligible.

Landscape Character

Sensitive Aspect

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the Negligible magnitude of cumulative effect combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18

Evaluation of Other Cumulative Impacts – Intensification of built development and reduction in the integrity of rural landscape patterns

Whole UWF Project Effect

Cumulative Impact Magnitude:
Above ground structures will be built in Mountphilips townland (UWF Grid Connection) near Newport on the western side of the Slievefelim to Silvermines Mountain Upland area, and in the Upperchurch area (UWF Related Works, UWF Replacement Forestry and Upperchurch Windfarm) on the eastern side of the upland area.

The Mountphilips Substation will not be visible with the Telecoms Relay Pole, the UWF Replacement Forestry or the Upperchurch Windfarm elements.

Any cumulative impacts only relate to the inter-visibility of the Telecoms Relay Pole and the UWF Replacement Forestry and the Upperchurch Windfarm. It is considered that due to the common and typical nature of the UWF Replacement Forestry and the similarity to common single wooden electricity poles in the area, that neither the UWF Replacement Forestry nor the Telecoms Relay Pole will contribute to cumulative landscape character effects with the Upperchurch Windfarm, as these elements (Telecoms Relay Pole and UWF Replacement Forestry) are unlikely to be noticeable when viewed in combination with the turbines and met masts. Thus, the magnitude of the cumulative impact is deemed to be negligible.

A 'Medium' (moderate) cumulative impact was previously assessed in the 2013 RFI for Upperchurch Windfarm, and ABP considered the impacts not to be significantly adverse.

Significance of the Cumulative Impact: Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the Negligible magnitude of cumulative effect combined with the medium to high sensitivity of LCA-12 and the medium sensitivity of LCA-17 and LCA-18
- Very minor, albeit long term / permanent, imperceptible impacts of the UWF Grid Connection and UWF Related Works, such that they will not cumulatively cause noticeable impacts with the Upperchurch Windfarm.

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

Cumulative Impact Magnitude:
The Mountphilips Substation element of the UWF Grid Connection is not located close to any of the Other Projects or Activities, therefore there is no potential for the UWF Grid Connection to cause cumulative impacts to Landscape Character with Other Projects or Activities.

The Telecom Relay Pole aspect of the UWF Related Works will contribute in a barely perceptible way to the intensity of built development (structures) in combination with Milestone Windfarm and the Foilnaman Mast or Cummermore Communications Pole.

A 'Medium' (moderate) cumulative impact was previously assessed in the 2013 RFI for Upperchurch Windfarm, in respect of the Consented Upperchurch Windfarm and Milestone Windfarm and ABP considered the same cumulative impacts not to be significantly adverse.

Significance of the Cumulative Impact: Not Significant

Rationale for Cumulative Impact Evaluation:

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- The very minor and localised contribution to cumulative impact arising from the Telecom Relay Pole in conjunction with Milestone Windfarm (and the Upperchurch Windfarm), which will be long-term and reversible.
- The rationale provided in the Upperchurch Windfarm LVIA and 2014 ABP Inspectors Report (Section 9.5.5 Reference Documents – Volume F10) "I also consider that, cumulatively when considered with existing and permitted wind energy developments the development will change the visual character of the area, but in overall terms it will not be to a significant degree as to be considered to adversely impact on the area."

Note: No cumulative evaluation of Other Projects or Activities (Forestry and Agricultural Activities) is included in the table above, because these Other Projects or Activities were evaluated as excluded from this particular impact table (see Section 17.2.2.2.1).

17.2.4.4 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 17-13 below.

Table 17-13: Description and Rationale for Excluded Impacts to Landscape Character

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(s)	Impacts (Consequences)	Rationale for Excluding (Scoping Out)
Operational Stage				
Operational Activities	1, 2, 3, 4	Visibility	Intensification of activity causing a reduction in rural tranquillity	Rationale for Excluding: Maintenance activities will range from annual testing of the UWF Grid Connection (with some very infrequent works at Joint Bays), to twice yearly maintenance on the UWF Replacement Forestry lands, to monthly inspection of UWF Related Works, to weekly maintenance of the Upperchurch Windfarm. All of these activities will take place from hard-core areas, with the vast majority of activity taking place on the turbine hardstands. Therefore, operational activities will have a Neutral effect on landscape character.
Decommissioning Stage				
Rationale for Excluding: No potential for impacts/ Neutral effects due to: Neither the UWF Grid Connection nor the UWF Replacement Forestry will be decommissioned/harvested. In relation to the UWF Related Works and Upperchurch Windfarm, decommissioning works will involve very minor temporary works resulting in no change or improved landscape condition and visual amenity due to the removal of structures and windfarm associated development. This will not result in negative impacts on landscape character.				

17.2.5 Mitigation Measures for Impacts to Landscape Character

Mitigation measures were incorporated into the UWF Grid Connection project design including the Project Design Measures. No additional mitigation measures are required as the topic authors conclude that **significant impacts are not likely to occur to Landscape Character**.

17.2.6 Evaluation of Residual Impacts to Landscape Character

Residual Impacts are the final or intended effects that will occur after mitigation measures have been put into place. No additional mitigation measures are required and thus the Residual Impact is the same as the Impact set out in Impact Evaluation Table sections for Landscape Character above (Section 17.2.4) – i.e. **no significant adverse impacts**.

17.2.7 UWF Grid Connection Environmental Management Plan

The Project Design measures will be implemented by the Project Manager and the main Contractor during the construction stage, under the Environmental Management Plan for the UWF Grid Connection (EMP). The EMP is appended to this EIA Report as Volume D.

The EMP will be an important contract document for the main construction contractor (Contractor) who will be contractually obliged to comply with the EMP. An Environmental Clerk of Works will be appointed, who will be independent of the construction Contractor, and it will be the responsibility of the Environmental Clerk of Works to monitor the compliance of the Contractor with the EMP through liaising with the Construction Site Manager and the Project Manager, monitoring construction works on a daily basis and by carrying out regular audits on EMP compliance. The Environmental Clerk of Works will be resourced to employ a team of environmental specialists including a Site Ecologist, Site Hydrologist and an Invasive Species Specialist.

17.2.8 Summary of Impacts to Landscape Character

A summary of the Impact to Landscape Character is presented in Table 17-14.

Table 17-14: Summary of the impacts to Landscape Character

Impact to Landscape Character:	**Alteration or division of land cover and vegetation patterns**	**Intensification of activity causing a reduction in rural tranquillity**	**Intensification of built development and reduction in the integrity of rural landscape patterns**
Evaluation Impact Table	*Section 17.2.4.1*	*Section 17.2.4.2*	*Section 17.2.4.3*
Project Life-Cycle Stage	*Construction*	*Construction*	*Operation*
UWF Grid Connection Impact *Direct/indirect impact*	**Imperceptible**	**Slight to Imperceptible**	**Slight to Imperceptible**
UWF Grid Connection Impact *Cumulative impact*	**No Cumulative Impact**	**Imperceptible**	**No Cumulative Impact**
Element 2: UWF Related Works	Imperceptible	Imperceptible	Imperceptible
Element 3: UWF Replacement Forestry	Imperceptible	Imperceptible	Neutral
Element 4: Upperchurch Windfarm	Slight to Imperceptible	Slight to Imperceptible	Slight to Imperceptible
Element 5: UWF Other Activities	Neutral Impacts/No Impacts - Evaluated as Excluded, see Section 17.2.2.2.1		
Cumulative Impact:			
All Elements of the Whole UWF Project	Slight	Imperceptible	Imperceptible
All Elements of the Whole UWF Project *cumulatively with* Other Projects or Activities Milestone Windfarm Foilnaman Mast Cummermore Communications Pole Forestry activities Agricultural activities	Slight to Imperceptible	Slight	Not Significant

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.

17.3 Sensitive Aspect No.2: Visual Amenity

This Section provides a description and evaluation of the Sensitive Aspect - Visual Amenity.

The visual amenity of a range of population-based receptor types, which are located within the UWF Grid Connection Study Area and/or within the Cumulative Evaluation Study Area and are relevant to this appraisal include; designated scenic views; local community views; and views from centres of population; major routes; heritage and amenity features.

17.3.1 BASELINE CHARACTERISTICS of Visual Amenity

17.3.1.1 STUDY AREA for Visual Amenity

The study area for Visual Amenity in relation to the UWF Grid Connection is described in Table 17-15 and illustrated on Figure GC 17.3: UWF Grid Connection Study Area for Visual Amenity (Volume C3 EIAR Figures).

Table 17-15: UWF Grid Connection Study Area for Visual Amenity

Study Area for Visual Amenity	Justification for the Study Area Extents
500m corridor from construction works areas 2km radius from the Mountphilips Substation	Distances outside of which, each aspect of the development could not materially affect prevailing visual amenity

17.3.1.2 Baseline Context and Character of Visual Amenity in the UWF Grid Connection Study Area

There are two designated scenic routes which also coincide with the only two major routes in the area; these are identified in Appendix 4 of the North Tipperary County Development Plan as; **V12** – 'Views north and south on sections of the R503 from Newport to Ballycahill, and; **V13** – 'Views east and west of the R497 from the R503 through the mountains to Dolla - including Mother Mountain to the West, Knockacreggan to the East, Coneen Hill to the East and the Silvermines to the west'.

The 110kV UGC will be located along the V12 scenic route for 22.1km, on the R503 between Derryleigh and the L2264-50 junction in Knockmaroe. The proposed development is not located on the R497.

Local community views include views from local residences which are located along public roads throughout the study area. Settlements relevant to the UWF Grid Connection includes the villages of Rear Cross and the town of Newport, while the main, amenity and heritage assets within the UWF Grid Connection study area are way-marked walking and cycle trails- the Slieve Felim Way and the Ormond Way cycle route. These routes are delineated on Figure GC 17-3.

Views from all visual receptor types take in typical upland rural scenes of undulating farmland and forestry and occasional peaks of higher mountains passing through the Silvermines range. Views from upper slopes and ridges such as those afforded from walking tracks can be extensive, but most other receptors in the base of valleys (roads and settlements) are afforded more enclosed views. Views of the gently rolling lowland landscape of fields and hedgerows at the western end of the UWF Grid Connection Study Area are only relevant to local community receptors. These views have a something of a traditional 'pastoral' aesthetic and tend to be relatively contained by landform and vegetation.

Contextual photographs illustrating the physical land cover of the receiving environment and Zone of Theoretical Visibility mapping are presented in Appendix 17.1: Contextual Photographs and Theoretical Visibility within the Study Areas in **Volume C4 EIAR Appendices**.

17.3.1.3 Importance of Visual Amenity

The value of the views on offer from all of these receptor types relates to the pleasant rural setting with strong landscape integrity rather than a strong sense of the naturalistic or the provision of vast, panoramas. Rural visual amenity is an integral and important aspect of the lifestyle of the local community who live and work in areas such as this. This visual amenity also extends to the greater number of major route users that pass through the Slievefelim to Silvermine Mountains upland area on regional roads, which are also designated scenic routes in this instance. The various walking trails within this upland area provide a recreational amenity for local residents as well as a tourism amenity for visitors to the area.

17.3.1.4 Sensitivity of Visual Amenity

The key visual amenity sensitivity for the relevant receptors is the permanent obstruction (blocking) of open views and/or permanent visual change in the form of new or unfamiliar landscape elements that detract from scenic and rural amenity. All of the relevant receptor types are identified in the first column of Table 17.5 as being amongst the 'most susceptible' to visual change. However, in accordance with GLVIA 2013 'susceptibility' must be balanced against the 'value' of the views on offer in order to determine overall sensitivity and in this case visual amenity relates to fairly typical upland and lowland rural views. On balance, visual sensitivity is considered to be **Medium**.

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

In recent years, the key contributor to visual change is the emergence of wind energy developments on upper slopes and ridges within the south and southeast of the Slievefelim to Silvermine Mountain upland area, which can be seen intermittently in the distance from all of these receptor types.

With the construction of nearer currently permitted wind farms including Milestone (constructed) Upperchurch, and *potentially* Bunkimalta wind energy development is likely to be more prominent and more frequent within views.

First rotation forestry compartments are also beginning to be harvested resulting in temporary visual impacts from harvesting operations and short to medium term loss of forest vegetation.

17.3.1.6 Receiving Environment (the Baseline + Trends)

The identified trends are occurring gradually and in a predictable and consistent manner, so it is assumed in this report that the receiving landscape is the same as the baseline environment identified above.

17.3.2 CUMULATIVE INFORMATION - Cumulative Projects & Baseline Characteristics

17.3.2.1 Cumulative Evaluation Study Areas

17.3.2.1.1 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 Landscape Character	Justification for the Study Area Extents
1km corridor from construction works areas 4km radius from the Mountphilips Substation	Doubling the distance for cumulative study areas, identifies those parts of the Other Elements or Other Projects or Activities with potential to cause cumulative impacts with UWF Grid Connection. At distances greater than 1km and 4km from the development, visual amenity will not be materially affected. This is due to the increased likelihood of screening by intervening landform and vegetation or the combined ameliorating factors of diminishing 'scale in relation to distance' and 'visual absorption' into the overall landscape setting.

The study is illustrated on Figure CE 17.3: UWF Grid Connection Cumulative Evaluation Study Area for Visual Amenity.

17.3.2.1.2 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 17.2.2.2.1 below.

The Whole Project Cumulative Evaluation Study Area comprises of the UWF Grid Connection Study Area along with the study areas for Other Elements and Other Projects or Activities which are described in Table 17-16 and illustrated on Figure WP 17.3: Whole Project Study Area for Visual Amenity (Volume C3 EIAR Figures).

Table 17-16: Whole Project Cumulative Evaluation Study Area for Visual Amenity

Cumulative Project	**Cumulative Study Area Boundary**	**Justification for Study Area Extent**
Element 2: UWF Related Works	500m corridor from works areas and activity locations, 1km to identify any Other Projects or Activities 2km radius from above ground level structures, 4km to identify any Other Projects or Activities	Distances outside of which, the Mountphilips Substation, Telecoms Relay Pole, UWF Replacement Forestry could not have a material cumulative effect on prevailing landscape character or visual amenity – i.e. any effects beyond 2km from the aforementioned elements will be Neutral. Any cumulative landscape character and visual amenity impacts beyond these study areas will
Element 3: UWF Replacement Forestry		
Element 4: Upperchurch Windfarm (UWF)		
Element 5:		

Cumulative Project	Cumulative Study Area Boundary	Justification for Study Area Extent
UWF Other Activities		only relate to the presence of cumulative turbines in views containing the Consented UWF Turbines, the cumulative impacts of which have previously been assessed as acceptable by An Bord Pleanála.

17.3.2.2 Scoping for Other Projects or Activities & Potential for Impacts

The evaluation of cumulative impacts to Visual Amenity 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 Visual Amenity 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 the Cumulative Evaluations (Section A2.1.4.36).

The results of this scoping exercise are that: Milestone Windfarm, Foilnaman Mast, Cummermore Communications Pole and the activities of Forestry and Agriculture have been scoped in for evaluation of cumulative effects to Visual Amenity.

17.3.2.2.1 Potential for Other Elements or Other Projects to cause Impacts to Visual Amenity

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 Visual Amenity. The results of this evaluation are included in Table 17-17.

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 17.3.

Table 17-17: 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	Included for the evaluation of cumulative effects
Element 4: Upperchurch Windfarm (UWF)	Included for the evaluation of cumulative effects
Element 5: UWF Other Activities	Evaluated as excluded: Neutral effects/No Effects due to: • Upperchurch Hen Harrier Scheme: Once off activities will take place during the construction stage, and comprise planting and fencing at hedgerows, watercourse boundaries and areas of scrub. These activities will not generate any adverse effects to visual amenity. • Haul Route Activities: It is considered that there will be Neutral effects to visual amenity, as there will be no disturbance of land cover, and any tree trimming will be in the context of road boundary tree trimming that regularly takes place along the public road network, and the presence of any machinery in the context of busy regional and national roads. • Overhead Line Activities do not require any works to land and any brief visibility of such minor works will have no effect on visual amenity.

	• Monitoring Activities do not require any works to land, no effects to visual amenity are expected from brief periods of very minor activity.
Other Projects or Activities	
Milestone Windfarm Foilnaman Mast Cummermore Communications Pole	Yes, included for the evaluation of cumulative operational stage effects, Excluded from evaluation in relation to cumulative construction stage effects as the Milestone Windfarm, Foilnaman Mast and Cummermore Communications Pole already exist and are considered part of the baseline.
Forestry activities in the surrounding area	Yes, included for the evaluation of cumulative construction stage effects, Excluded from evaluation in relation to cumulative operational stage effects as these activities are the prevailing and characteristic land uses in this area, i.e. they are the baseline rather than other sources of impact.

17.3.2.3 Cumulative Information: Baseline Characteristics – Context & Character

The visual amenity of a range of population-based receptor types, which are located within the within the Cumulative Evaluation Study Area and are relevant to this appraisal include; designated scenic views; local community views; and views from centres of population; major routes; heritage and amenity features.

Views from all visual receptor types take in typical upland rural scenes of undulating farmland and forestry and occasional peaks of higher mountains passing through the Silvermines range. Views from upper slopes and ridges such as those afforded from walking tracks can be extensive, but most other receptors in the base of valleys (roads and settlements) are afforded more enclosed views. Views of the gently rolling lowland landscape of fields and hedgerows at the western end of the Cumulative Evaluation Study Area are only relevant to local community receptors. These views have a something of a traditional 'pastoral' aesthetic and tend to be relatively contained by landform and vegetation.

17.3.2.3.1 Element 2: UWF Related Works

Visual amenity receptors within the study area for the UWF Related Works includes the two designated scenic routes; V12 and V13; the R503 and R497 regional roads, views from local residences which are located along public roads, and views from the settlement of Upperchurch village, while the main amenity and heritage assets are way-marked walking trails – the Ormond Way walking route, the Ormond Way cycle route and the Eamonn a Chnoic Loop. These routes are delineated on Figure WP 17.3.

17.3.2.3.2 Element 3: UWF Replacement Forestry

Visual amenity receptors within the study area for the UWF Replacement Forestry includes local residences which are located along public roads, and views from the Ormond Way cycle route The UWF Replacement Forestry will not be visible from designated scenic routes, major routes or from settlements..

17.3.2.3.3 Element 4: Already Consented Upperchurch Windfarm

The UWF Related Works and UWF Replacement Forestry are located in the near vicinity of the Upperchurch Windfarm, and many of the visual amenity receptors identified above for these Elements will view the UWF Related Works and the UWF Replacement Forestry in conjunction with the already consented Upperchurch Windfarm.

Consideration of the Passage of Time: With the exception of the Milestone Windfarm, which is now operational, there has been no material change in visual amenity in the Upperchurch Windfarm area. It should be noted that Milestone Windfarm was considered cumulatively in the 2013/2014 planning assessments, and therefore the descriptions in the 2013 and 2014 documents remain relevant to the cumulative evaluations in this 2019 EIAR for UWF Grid Connection.

17.3.2.3.4	Element 5: UWF Other Activities

Not applicable – Element evaluated as excluded. See Section 17.3.2.2.1

17.3.2.3.5	Other Projects or Activities

The existing Milestone Windfarm, comprises 4 turbines, and is located on lands adjacent to the Upperchurch Windfarm, and across a valley from the Telecom Relay Pole.

The existing Foilnaman Mast is located on the same hill as the Telecom Relay Pole (UWF Related Works).

The existing Cummermore Communications Pole is located c.2km to the southwest of the Upperchurch Windfarm.

Forestry activity in the surrounding area, may include forestry harvesting operations from time to time, these activities occur frequently in the Slievefelim to Silvermines Mountains upland area resulting in familiar cutover forestry compartments with associated track widening and processing pads. Forest growth is also typical of these LCAs, with forest plots at various stages of growth located throughout the study area.

17.3.3 PROJECT DESIGN MEASURES for Visual Amenity

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.

The Project Design Measures outlined in Table 17-18 are relevant to the Environmental Factor, Landscape, and in particular to the sensitive aspect **Visual Amenity**.

Table 17-18: UWF Grid Connection Project Design Measures relevant to Visual Amenity

PD ID	**Project Design Environmental Protection Measure (PD)**
PD05	At the Mountphilips Substation site, construction traffic will be restricted to the construction works area and tracking across adjacent ground will not be permitted. A speed limit of 25km/hr for all traffic/machinery will be implemented at the Mountphilips Substation site. Outside of Mountphilips Substation site, all construction will be restricted to the paved road surfaces or built surfaces along the 110kV UGC. A speed limit of 50km/hr for all delivery and construction traffic will be implemented on Local Roads ('L' roads).

Cumulative Information: Potential or likely significant impacts caused by the Other Elements of the Whole UWF Project were avoided, prevented or reduced by incorporating Project Design Measures into the design of the UWF Related Works, UWF Replacement Forestry and into the consented design of the Upperchurch Windfarm. These Project Design Measures are included in the description of these Elements, and can be found in this EIA Report in Appendices 5.3, 5.4 and 5.5, in Volume C4: EIAR Appendices.

Visual Amenity

Sensitive Aspect

17.3.4 EVALUATION OF IMPACTS to Visual Amenity

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) - Visual Amenity.

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

Table 17-19: 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)*
Intensification of activity causing visual disharmony, clutter or complexity (construction stage)	*Intensification of activity causing visual disharmony, clutter or complexity (operational stage)*
Addition of new features or loss of existing features causing visual disharmony, clutter or complexity (operational stage)	*Decommissioning Effects*

The source-pathway-receptor links for included impacts are described in the Impact Evaluation Tables, which are presented in the following **Sections 17.3.4.1 to 17.3.4.2.**

The source-pathway-receptor links and the rationale for excluded impacts are described in the section directly after the Impact Evaluation Tables, in Section 17.3.4.3.

Relevant Figures and Appendices

A photomontage of the view from Coole townland of Mountphilips Substation when built is illustrated on Figure GC 17.4: Visibility of Mountphilips Substation at VP1 on the L2166-10 in Coole townland in **Volume C3 EIAR Figures**

Contextual photographs illustrating the physical land cover of the receiving environment and Zone of Theoretical Visibility mapping are presented in Appendix 17.1: Contextual Photographs and Theoretical Visibility within the Study Areas in **Volume C4 EIAR Appendices.**

Topic

Landscape

17.3.4.1 Impact Evaluation Table: Intensification of activity causing visual disharmony, clutter or complexity

Impact Description	
Project Life Cycle Stage:	Construction Stage

Impact Source: Construction related activities
Cumulative Impact Source: Construction related activities, forestry harvesting in the surrounding area
Impact Pathway: Visibility

Impact Description: Construction activity will include the near constant movement, during daylight hours, of machinery, vehicles and people to and from both linear and fixed working areas and, to a lesser effect, to and from construction compounds. Temporary fencing and welfare facilities will be erected and there will be temporary stockpiling of excavated materials and construction materials. This intensity of construction activity is not a typical component of views in this upland rural area.

Impact Quality: Negative

Evaluation of the Subject Development Impact – Intensification of activity causing visual disharmony, clutter or complexity

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:
The greatest intensity and duration of construction related activity for the UWF Grid Connection will occur within and around the Mountphilips Substation site. The Mountphilips substation site is well contained by existing terrain and vegetation, which will restrict the extent to which construction activity can affect visual amenity. The Mountphilips Substation works and new access road/entrance works will be partially visible from a handful of local residences and will not be visible from any other sensitive visual receptors.

At the remaining UWF Grid Connection works (outside of the Mountphilips Substation site), where the 110kV UGC will be constructed within the public road network and along a short length of private paved road, terminating at the future (already consented) substation compound for Upperchurch Windfarm, construction activity will be largely transient in nature (moving through the landscape) with work areas coming into use and then becoming redundant. While some sections of these works areas will be more visually exposed, than the new substation, the intensity and duration of the works will be much lower. The remaining UWF Grid Connection works be intermittently visible from a number of receptors, mainly local community views from local residences that are located along the local public road network, and from the designated scenic routes comprising the Regional Roads the V12 scenic route between Derryleigh and Knockmaroe. Walkers on the Slievefelim Way could encounter works where the walk crosses the R503 at Rearcross, while the Ormond Way cycle route crosses the 110kV UGC at one point in the Knockcurraghbola area.

Due to the degree of visual containment of the Mountphilips Substation site and the temporary duration of construction activities along the public road network, it is considered that any visual disharmony, clutter or complexity caused by the construction works associated with the UWF Grid Connection will have a Low negligible impact magnitude.

Significance of the Impact: Slight to Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the Low negligible magnitude combined with the Medium sensitivity of visual receptors within the study area
- visual containment of Mountphilips Substation works transient nature of the 110kV UGC trenching works
- The temporary duration of construction activities and
- the reversibility of effects once construction works are completed, and road reinstatement/land reinstatement works are complete.

Visual Amenity

Sensitive Aspect

Element 1: UWF Grid Connection – cumulative impact

Cumulative Impact Magnitude: Cumulative effects of UWF Grid Connection with UWF Related Works and Upperchurch Windfarm may occur in the Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola Crownlands area where Haul Route Works and Internal Windfarm Cabling works and Upperchurch Windfarm works are located close to UWF Grid Connection 110kV UGC works. However, the construction activity for these elements will not occur at the same time. Although this deliberate sequencing of construction works will result in a slightly longer construction period, the intensity of activity will be much less than if each of these elements was constructed at the same time. There may be very minor cumulative effects from construction activities, where emerging turbines from the Upperchurch Windfarm are also visible in the distance in conjunction with more localised construction activity for UWF Grid Connection. Overall, the magnitude of impact is deemed to be **low-negligible**.

Forestry harvesting in the surrounding area could also increase HGV traffic along local and regional roads, which along with UWF Grid Connection HGV traffic and roadworks is likely to have a Low-negligible in-combination effect to visual amenity due to the increased frequency and intensity of HGV traffic within this relatively tranquil rural area.

Significance of the Cumulative Impact: Slight imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the Low-negligible magnitude combined with the medium to high sensitivity of scenic route V12 along the R503 regional road within which the works will take place.
- The absence of any felling required for UWF Grid Connection, and the location of the 110kV UGC within public road pavements with road works a common occurrence on Irish roads

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

Element 2: UWF Related Works

Impact Magnitude:
Construction activities will involve single 3-4 man crews working linearly at Internal Windfarm Cabling, Realigned Windfarm Roads and Haul Route Works locations and at the Telecoms Relay Pole site. Works will be minimal and will not be noticeable in the context of the windfarm construction works which will be carried out at the same time. Parts of the UWF Related Works will be visible from the V12 designated scenic route which is routed on the Regional Road R503, a small number of local residences and from sections of the Eamonn a Chnoic (4.2km within 500m), Ormond Way walking trail (5.4km within 500m) and the Ormond Cycle route (4.5km within 500m). It is considered that the magnitude of visual clutter, disharmony and complexity will be **negligible** due to the small scale and somewhat transient nature of the construction activities within a relatively broad site area that will disperse the intensity of construction activity, even if it is all occurring at once.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the **negligible** magnitude combined with the **medium sensitivity** of visual receptors within the study area
- The very small scale, transient and dispersed nature of construction activity for these project elements.
- The temporary duration of construction activities and
- the reversibility of effects once temporary construction areas are cleared and restored.

Element 3: UWF Replacement Forestry

Impact Magnitude: Very low intensity planting activities involving the delivery and temporary storage of seedlings prior to hand planting by a small team of workers over a short time period will cause negligible visual disharmony, clutter or complexity.

Significance of the Impact: Imperceptible

Landscape

Topic

Rationale for Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium sensitivity of visual receptors within the study area
- The very small extent and intensity of planting activities that will not conflict with typical rural activities in this landscape, which include forest planting
- The temporary duration (1 month) of planting activities

Element 4: Consented Upperchurch Windfarm

Impact Magnitude:
The Upperchurch Wind Farm LVIA (2013) evaluated visual impact magnitude at 21 no. viewpoints and this ranged between high and low depending on proximity and visual exposure. In reviewing this LVIA as part of his own assessment, the ABP Inspector concluded (2014 report, Section 9.5.5 Reference Documents – Volume F10) *"the undulating and rolling nature of the landscape coupled with the diverse vegetation does provide for a level of absorption capacity for the nature and scale of the proposed development. Therefore accepting that the development will impact visually on the area it will not be to a significant degree, I consider, to adversely impact on the area*".

Significance of the Impact: Not Significant

Rationale for Impact Evaluation:

- The rationale provided in the ABP Inspectors Report (2014, Section 9.5.5 Reference Documents – Volume F10) – reproduced in Impact Magnitude box above)
- The temporary / short term duration of construction related activities

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 17.3.2.2.1*

Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Milestone Windfarm

Impact Magnitude:
Milestone Windfarm is an operational 4-turbine windfarm which comprises two planning permissions, the first for 5 turbines (of which 3 were constructed) at Knockcurraghbola Commons, Knockcurraghbola Crownlands, Graniera and Shevry, and the second for 2 turbines (of which 1 was granted planning permission and constructed) in Knockduff and Inchivara. The locality of the Milestone Windfarm was assessed by the planning authority to have a 'Medium' sensitivity.

Significance of the Impact: Not Significant

Rationale for Impact Evaluation:

- The rationale provided in the Milestone Windfarm Planners Report (Tipperary County Council Ref: 12510385, 28th November 2013) – '*I consider furthermore that the visual impact in the context of the local and regional topography is acceptable'*
- The rationale provided in the Inchivara Windfarm ABP Inspectors report (ABP Ref: PL92.243611, page 19) – "I would consider that having regard to the permitted wind farms and the landscape designations applicable to the site that the proposed two turbines would not adversely impact on the visual amenities or the landscape character of the area. I would also consider that the proposed development would not adversely impact on the established residential amenities in the area from a visual perspective".

Other Project: Forestry Activities in the Surrounding Area

Impact Magnitude:
Forestry is one of the prevailing land uses in the area. Forest harvesting operations are periodic, of a modest scale and are a typical activity of the Slievefelim to Silvermines Mountains upland area. Forestry harvesting operations, in the surrounding area, also consist of periodic frequent movement of HGV logging trucks along local and regional roads.

Significance of the Impact: No impact

Visual Amenity

Sensitive Aspect

Rationale for Impact Evaluation:

- Forestry is one of the prevailing and characteristic land uses in this area (i.e. part of the baseline rather than a source of impact)

Evaluation of Other Cumulative Impacts – Intensification of activity causing visual disharmony, clutter or complexity

Whole UWF Project Effect

Cumulative Impact Magnitude:

UWF Grid Connection, UWF Related Works, UWF Replacement Forestry and Upperchurch Windfarm works areas will occur across a wide (c.30 km) area, with construction of UWF Grid Connection, UWF Related Works and Upperchurch Windfarm overlapping in the Knocknabansha, Knockmaroe and Knockcurraghbola areas. However, the construction activity for these elements will not occur at the same time. Although this deliberate sequencing of construction works will result in a slightly longer construction period, the intensity of activity will be much less than if each of these elements was constructed at the same time.

There may be very minor cumulative effects from construction activities relating to other discrete aspects of the UWF Grid Connection and to the UWF Replacement Forestry where emerging turbines from the Upperchurch Windfarm are also visible in the distance in conjunction with more localised construction activity and planting works. Overall, the magnitude of impact is deemed to be **low-negligible**.

Significance of the Cumulative Impact: Slight to Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the low negligible magnitude combined with the medium sensitivity of visual receptors within the study area
- The modest scale and extent of construction activities with somewhat transient working areas dispersed across a relatively broad area of undulating topography (albeit with common compound and welfare facilities)
- The very low intensity of planting activities associated with the UWF Replacement Forestry
- The temporary – short-term duration of construction activity and the reversibility of effects once temporary construction areas and compounds are cleared and restored.

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

Cumulative Impact Magnitude:

No above ground UWF Grid Connection structures inter-visible with the Milestone Windfarm.

Milestone Windfarm was previously assessed in the 2013 RFI for Upperchurch Windfarm, to have a 'Medium' (moderate) cumulative impact in conjunction with Upperchurch Windfarm and ABP considered the same cumulative impacts not to be significantly adverse.

If the construction of the Whole UWF Project occurs at the same time as periodic forest harvesting operations, this would result in an overall intensity of activity that is slightly greater than for the Whole UWF Project in its own right. However, working areas tend to be relatively discrete from each and not generally intervisible. HGV traffic along local and regional roads is likely to have a **Low** in-combination effect.

Forestry harvesting activities in the area could also increase HGV traffic along local and regional roads, which along with Whole UWF Project HGV traffic and roadworks associated with UWF Grid Connection (110kV UGC) and Haul Route Works (UWF Related Works) and road related activities for UWF Other Activities (Haul Route Activities) is likely to have a Low-negligible in-combination effect to visual amenity due to the increased frequency and intensity of HGV traffic within this relatively tranquil rural area.

Landscape

Topic

Significance of the Cumulative Impact: Slight *(with Forestry),* Not Significant *(with Milestone)*

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, the low magnitude combined with the medium sensitivity of visual receptors within the study area
- The modest scale and extent of construction/forestry activities where hubs of intensive activity are dispersed and discrete from each other
- The temporary – short-term duration of in-combination construction activity and the reversibility of effects once temporary construction areas and compounds are cleared and restored
- The rationale provided in the ABP Inspectors Report (2014, Section 9.5.5 Reference Documents – Volume F10) - "I also consider that, cumulatively when considered with existing and permitted wind energy developments the development will change the visual character of the area, but in overall terms it will not be to a significant degree as to be considered to adversely impact on the area."

Note: No cumulative evaluation of Other Projects or Activities (Foilnaman Mast, Cummermore Communications Pole) is included in the table above, because these Other Projects or Activities were evaluated as excluded from this particular impact table (see Section 17.3.2.2.1)

Visual Amenity

Sensitive Aspect

Landscape

Topic

Visual Amenity

Sensitive Aspect

17.3.4.2 Impact Evaluation Table: Addition of new features or loss of existing features causing visual disharmony, clutter or complexity

Impact Description	
Project Life Cycle Stage:	Operational stage

Impact Source: Presence of above ground structures, permanent alterations to landform/ vegetation patterns
Cumulative Impact Source: Construction related activities, forestry harvesting in the surrounding area
Impact Pathway: Visibility

Impact Description: There will be an increase in the amount of above-ground built development within the rural landscape of the study area once construction of the UWF Grid Connection and Other Elements of the Whole UWF Project are complete. There will also be very minor permanent/ long-term changes to land cover and vegetation. Partial enclosure of views in also likely to result from the UWF Replacement Forestry. These structures / above ground expressions of the UWF Grid Connection (Mountphilips Substation) and of the Other Elements of the Whole UWF Project will add to the intensity of development and alteration of existing landscape patterns within a rural area where low levels of built development currently occur and there is a strong degree of landscape uniformity and integrity within rural vistas.

Impact Quality: Negative

Evaluation of the Subject Development Impact – Addition of new features or loss of existing features causing visual disharmony, clutter or complexity

Element 1: UWF Grid Connection – direct/indirect impact

Impact Magnitude:
The Mountphilips Substation will have a very minor impact on visual amenity due to the fact that it is substantially screened from view. See Figure GC 17.4: Visibility of the Mountphilips Substation from VP1 on the L2166-10 in Coole townland and Appendix 17.1, Section A-17.1.2 for Zone of Theoretical Visibility Mapping. In conjunction with fieldwork investigation, these figures highlight the strong degree of both landform and vegetative screening that surrounds the Mountphilips Substation site. Indeed, the main permanent visible components will be the site entrance and the initial section of the access road along with the very top sections of the lattice towers amongst treetops at distances of around 500m. It is considered that the magnitude of visual impacts caused by the **Mountphilips Substation** will be of a **negligible** magnitude.

The 110kV UGC will be underground, predominately along the public road, and will have negligible effects on visual amenity, the sole surface expression of the 110kV UGC will be in the form of periodic link box man-hole type covers at Joint Bay locations. It is considered that the magnitude of visual impacts caused by the 110kV UGC will be **negligible.**

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium sensitivity of visual receptors within the study area
- The high level of screening around Mountphilips Substation,
- the barely discernible permanent surface expression of the 110kV UGC.

Element 1: UWF Grid Connection – cumulative impact

Cumulative Impact Magnitude:
Above ground structures for UWF Grid Connection relate to the Mountphilips Substation which will be built in Mountphilips townland near Newport on the western side of the Slievefelim to Silvermines Mountain Upland area. Above ground structures for the Other Elements of the Whole UWF Project (i.e. the Consented UWF

Landscape

Topic

Turbines and Consented UWF Substation for Upperchurch Windfarm, Telecom Relay Pole for UWF Related Works, and new woodland for UWF Replacement Forestry) along with landcover changes associated with these projects will occur in the Upperchurch area on the eastern side of the upland area.

The Mountphilips Substation element of the UWF Grid Connection is also not located close to any Other Projects or Activities (Foilnaman Mast, Milestone Windfarm or Cummermore Communications Pole).

Therefore there is no potential for the UWF Grid Connection to cause cumulatively impacts to Landscape Character with either Other Elements of the Whole UWF Project or with Other Projects or Activities.

Significance of the Cumulative Impact: No Cumulative Impact

Rationale for Cumulative Impact Evaluation:

- Separation distance, and absence of inter-visibility, between built structures and landcover changes associated with UWF Grid Connection and the Other Elements or Other Projects.

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

Element 2: UWF Related Works

Impact Magnitude: No surface expression or land cover change following reinstatement of construction works relating to the Internal Windfarm Cabling, Haul Route Works and RW Ancillary Works. Barely discernible surface expression and land cover change (0.22ha) following reinstatement of construction works relating to the Realigned Windfarm Roads and the Telecoms Relay Pole which are also both modest and typical rural features that will have a very minor effect on the visual amenity from immediately surrounding local roads and several nearby dwellings. Though visible, the Telecom Relay Pole is the type of small scale, innocuous structure that is unlikely to be noticed by a casual observer or even by local residents a short period of time after it is initially erected. The Telecoms Relay Pole will not be visible / have any impact on visual amenity from any other types of receptor than local roads and residents and for these reasons the magnitude of impact is negligible.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium sensitivity of visual receptors within the study area
- The barely discernable, permanent above-ground expression of all aspects of the UWF Related Works except the Telecoms Relay Pole.
- The barely noticeable, localised, long-term impact on visual amenity arising from the presence of the Telecoms Relay Pole.

Element 3: UWF Replacement Forestry

Impact Magnitude:
Small scale (6 hectares) visual change of a typical nature (farmland to woodland) in this upland rural area. Likely very localised partial enclosure of views from several residences and from the Ormond Way cycle route which is routed along the adjacent local road a short distance to the west and only when the new native woodland is reaching maturity.

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- As per Table 17-7, the negligible magnitude combined with the medium sensitivity of visual receptors within the study area the small scale and typical nature of visual change
- The very minor visual enclosure experienced by a few very localised receptors

Element 4: Consented Upperchurch Windfarm

Impact Magnitude:

Topic: Landscape
Sensitive Aspect: Visual Amenity

The Upperchurch Wind Farm LVIA evaluated visual impact magnitude 21 no. viewpoints and this ranged between high and low depending on proximity and visual exposure. In reviewing this LVIA as part of his own assessment, the ABP Inspector concluded (2014 report, Section 9.5.5 Reference Documents – Volume F10) *"the undulating and rolling nature of the landscape coupled with the diverse vegetation does provide for a level of absorption capacity for the nature and scale of the proposed development. Therefore accepting that the development will impact visually on the area it will not be to a significant degree, I consider, to adversely impact on the area*".

Significance of the Impact: Not Significant

Rationale for Impact Evaluation:

- The rationale provided in the Upperchurch Windfarm LVIA and ABP Inspectors Report (2014, Section 9.5.5 Reference Documents – Volume F10) "the undulating and rolling nature of the landscape coupled with the diverse vegetation does provide for a level of absorption capacity for the nature and scale of the development. Therefore accepting that the development will impact visually on the area it will not be to a significant degree, I consider, to adversely impact on the area"

Element 5: UWF Other Activities – *N/A, evaluated as excluded, see Section 17.3.2.2.1*

Cumulative Information: Individual Evaluations of Other Projects or Activities

Other Project: Milestone Windfarm

Impact Magnitude:
Milestone Windfarm is an operational 4-turbine windfarm which comprises two planning permissions, the first for 5 turbines (of which 3 were constructed) at Knockcurraghbola Commons, Knockcurraghbola Crownlands, Graniera and Shevry, and the second for 2 turbines (of which 1 was granted planning permission and constructed) in Knockduff and Inchivara. The locality of the Milestone Windfarm was assessed by the planning authority to have a 'Medium' sensitivity.

Significance of the Impact: Not Significant

Rationale for Impact Evaluation:

- The rationale provided in the Milestone Windfarm Planners Report (Tipperary County Council Ref: 12510385, 28th November 2013) – '*I consider furthermore that the visual impact in the context of the local and regional topography is acceptable'*
- The rationale provided in the Inchivara Windfarm ABP Inspectors report (ABP Ref: PL92.243611, page 19) – "I would consider that having regard to the permitted wind farms and the landscape designations applicable to the site that the proposed two turbines would not adversely impact on the visual amenities or the landscape character of the area. I would also consider that the proposed development would not adversely impact on the established residential amenities in the area from a visual perspective"

Other Project: Foilnaman Mast

Impact Magnitude:
The existing Foilnaman mast is a modest scale telecommunications structure, which is unlikely to be noticed by casual observers and has a very minor impact on visual amenity in a relatively localised area

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- The small scale permanent impacts arising from the existing Foilnaman mast

Other Project: Cummermore Communication Pole

Impact Magnitude:
The existing Cummermore Communications Pole is a modest scale telecommunications structure, which is unlikely to be noticed by casual observers and have a very minor impact on visual amenity in a relatively localised area

Significance of the Impact: Imperceptible

Rationale for Impact Evaluation:

- The small scale permanent impacts arising from the existing Cummermore Communications Pole

Evaluation of Other Cumulative Impacts – Addition of new features or loss of existing features causing visual disharmony, clutter or complexity

Whole UWF Project Effect

Cumulative Impact Magnitude:
Above ground structures will be built in Mountphilips townland (UWF Grid Connection) near Newport on the western side of the Slievefelim to Silvermines Mountain Upland area, and in the Upperchurch area (UWF Related Works, UWF Replacement Forestry and Upperchurch Windfarm) on the eastern side of the upland area.

Following reinstatement of construction works areas, other than the Upperchurch Windfarm, there will be very minor surface expression of Whole UWF Project elements in the overlapping study areas and only the Telecoms Relay Pole aspect of the UWF Related Works will have any potential to cause visual impact in the form of visual clutter in-combination with the Consented UWF Turbines and this will be a very minor effect and only from a very limited sections of the local road and several residences.

The UWF Replacement Forestry is also likely to be visible from very localised receptors in-combination with some of the Consented UWF Turbines. However the cumulative effect of this is likely to eventually be neutral as the new native woodland will eventually screen the turbines as it matures.

The cumulative magnitude of visual effects is considered to be **negligible.**

Significance of the Cumulative Impact: Imperceptible

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, **negligible** magnitude combined with the **medium sensitivity** of visual receptors within the study area
- The very limited visible expression of the UWF Grid Connection, UWF Related Works or UWF Replacement Forestry in conjunction with the Upperchurch Windfarm

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

Cumulative Impact Magnitude:
The Telecoms Relay Pole aspect of the UWF Related Works will contribute in a barely perceptible way to the intensity of built development (structures) in combination with Milestone Windfarm and the Foilnaman and Cummermore Communications Poles.

The UWF Replacement Forestry will not have any discernible in-combination impact other than the potentially positive screening of structures over time.

Milestone Windfarm was previously assessed in the 2013 RFI for Upperchurch Windfarm, to have a 'Medium' (moderate) cumulative impact in conjunction with Upperchurch Windfarm and ABP considered the same cumulative impacts to be acceptable.

Significance of the Cumulative Impact: Not Significant

Rationale for Cumulative Impact Evaluation:

- As per Table 17-7, **negligible** magnitude combined with the **medium sensitivity** of visual receptors within the study area
- The very minor and localised contribution to cumulative impact arising from the Telecom Relay Pole in conjunction with the Foilnaman and Cummermore Communications Poles and the Milestone Windfarm (and the Upperchurch Windfarm), which will be long-term and reversible.

Visual Amenity

Sensitive Aspect

- The rationale provided in the ABP Inspectors Report (2014, Section 9.5.5 Reference Documents – Volume F10) - "I also consider that, cumulatively when considered with existing and permitted wind energy developments the development will change the visual character of the area, but in overall terms it will not be to a significant degree as to be considered to adversely impact on the area."

Note: No cumulative evaluation of Other Projects or Activities (Forestry and Agricultural Activities) is included in the table above, because these Other Projects or Activities were evaluated as excluded from this particular impact table (see Section 17.3.2.2.1).

Landscape

Topic

17.3.4.3 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 17-20 below.

Table 17-20: Description and Rationale for Excluded Impacts to Visual Amenity

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)
Operational Stage				
Operational Activities	1, 2, 3, 4	Visibility	Intensification of activity causing visual disharmony, clutter or complexity	Rationale for Excluding: Maintenance activities will range from annual testing of the UWF Grid Connection (with some very infrequent works at Joint Bays), to twice yearly maintenance on the UWF Replacement Forestry lands, to monthly inspection of UWF Related Works, to weekly maintenance of the Upperchurch Windfarm. All of these activities will take place from hard-core areas, with the vast majority of activity taking place on the turbine hardstands. Therefore operational activities will have a Neutral effect on visual amenity.
Decommissioning Stage				
No potential for impacts/ Neutral effects due to: Neither the UWF Grid Connection nor the UWF Replacement Forestry will be decommissioned/harvested. In relation to the UWF Related Works and Upperchurch Windfarm, decommissioning works will involve very minor temporary works resulting in no change or improved visual amenity due to the removal of structures and windfarm associated development. This will not result in negative neutral impact on visual amenity.				

17.3.5 Mitigation Measures for Impacts to Visual Amenity

Mitigation measures were incorporated into the UWF Grid Connection project design. No additional mitigation measures are required as the topic authors conclude that **significant impacts are not likely to occur to Visual Amenity**.

17.3.6 Evaluation of Residual Impacts to Visual Amenity

Residual Impacts are the final or intended effects that will occur after mitigation measures have been put into place. No additional mitigation measures are required and thus the Residual Impact is the same as the Impact set out in Impact Evaluation Table sections for Visual Amenity above (Section 17.3.4) – i.e. **no significant adverse impacts**.

17.3.7 UWF Grid Connection Environmental Management Plan

The Project Design measures will be implemented by the Project Manager and the main Contractor during the construction stage, under the Environmental Management Plan for the UWF Grid Connection (EMP). The EMP is appended to this EIA Report as Volume D.

The EMP will be an important contract document for the main construction contractor (Contractor) who will be contractually obliged to comply with the EMP. An Environmental Clerk of Works will be appointed, who will be independent of the construction Contractor, and it will be the responsibility of the Environmental Clerk of Works to monitor the compliance of the Contractor with the EMP through liaising with the Construction Site Manager and the Project Manager, monitoring construction works on a daily basis and by carrying out regular audits on EMP compliance. The Environmental Clerk of Works will be resourced to employ a team of environmental specialists including a Site Ecologist, Site Hydrologist and an Invasive Species Specialist.

17.3.8 Summary of Impacts to Visual Amenity

A summary of the Impact to Visual Amenity is presented in Table 17-21.

Table 17-21: Summary of the impacts to Visual Amenity

Impact to Visual Amenity:	**Intensification of activity causing visual disharmony, clutter or complexity**	**Addition of new features or loss of existing features causing visual disharmony, clutter or complexity**
Evaluation Impact Table	*Section 17.3.4.1*	*Section 17.3.4.2*
Project Life-Cycle Stage	*Construction*	*Operational*
UWF Grid Connection Impact *Direct/indirect impact*	**Slight to Imperceptible**	**Imperceptible**
UWF Grid Connection Impact *Cumulative impact*	**Slight to Imperceptible**	**No Cumulative Impact**
Element 2: UWF Related Works	Imperceptible	Imperceptible
Element 3: UWF Replacement Forestry	Imperceptible	Imperceptible
Element 4: Upperchurch Windfarm	Not Significant	Not Significant
Element 5: UWF Other Activities	Neutral Impacts/No Impacts - Evaluated as Excluded, see Section 17.3.2.2.1	
Cumulative Impact:		
All Elements of the Whole UWF Project	**Slight to Imperceptible**	**Imperceptible**
All Elements of the Whole UWF Project *cumulatively with* Other Projects or Activities Milestone Windfarm Foilnaman Mast Cummermore Communications Pole Forestry activities Agricultural activities	**Slight** *(forestry)* **Not Significant** *(Milestone)*	**Not Significant**

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.

Visual Amenity

Sensitive Aspect

Landscape

Topic

17.4 Reference List

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Irish Sports Council, *Irish Trails*. Retrieved from https://www.irishtrails.ie/trails.aspx?c=Tipperary