

Moyvannan Electricity Substation

Environmental Impact Assessment Report

Chapter 9: Landscape

Energia Renewables ROI Limited

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9.1 Introduction

This chapter describes the landscape context of the project and assesses the likely significant landscape and visual impacts on the receiving environment.

Although closely linked, landscape and visual impacts are assessed separately. Landscape Impact Assessment (LIA) relates to changes in the physical landscape brought about by the project, which may alter its character and how the landscape is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together to make up the overall landscape character of that area. By understanding the aspects that contribute to landscape character, it is possible to make judgements about its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape in question to accommodate the type and scale of change associated with the project without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing effects on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from: visual obstruction (blocking of a view, be it full, partial or intermittent) or Visual Intrusion (interruption of a view without blocking).

Cumulative landscape and visual impact assessment is concerned with additional changes to the landscape or visual amenity caused by the project in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.

This assessment uses methodology as prescribed in the following guidance documents:-

- European Union (2017) Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU);
- Environmental Protection Agency (EPA) Guidelines on the Information to be contained in Environmental Impact Statements (2022) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015); and,
- Landscape Institute and the Institute of Environmental Management and Assessment Guidelines for Landscape and Visual Impact Assessment Third Addition (2013) ('GLVIA3').

9.1.1 Statement of Authority

This landscape and visual assessment (LVIA) was prepared by Rory Curtis (GDip.LA MILI) of Macro Works Ltd; a specialist LVIA company with over 20-years of experience in the appraisal of effects from various energy, infrastructure and commercial developments. Relevant experience extends to numerous electrical infrastructure developments, including transmission lines and substations, and the assessment of over 140 no. wind energy developments 120 no. solar energy developments. Macro Works and its senior staff are affiliated with the Irish Landscape Institute.

9.1.2 Description of Project

The project site is located in rural Co. Roscommon, approximately 8 kilometres (km) northwest of Athlone, c. 6km south of Lecarrow and immediately north/northeast of



Brideswell. In summary, the project comprises the following main components as described in full at **Chapter 3**:-

- A 110kV 'loop-in/loop-out' electricity substation;
- Approximately 270m of 110kV underground electricity line between the electricity substation and the Athlone-Lanesborough overhead transmission line and the provision of 2 no. interface masts;
- Approximately 7.5km of underground electricity line between the electricity substation and the permitted Seven Hills Wind Farm grid connection infrastructure; and,
- All associated and ancillary site development, access, excavation, construction, landscaping and reinstatement works, including provision of site drainage infrastructure.

The entirety of the project is located within the administrative area of County Roscommon; while electrical equipment suppliers, construction material suppliers and candidate quarries which may supply aggregates are located nationwide. As there is no likelihood of the works associated with the supply of such materials, including their delivery, resulting in significant landscape effects, areas outside of County Roscommon have, therefore, been screened out from further assessment within this chapter.

9.1.3 Definition of Study Area

Based on assessments undertaken with respect to similarly sized developments, it is assessed that the project is likely to be difficult to visually discern beyond approximately 5km and is not likely to give rise to significant landscape or visual impacts beyond this distance. Therefore, the study area for this assessment is a 5km radius around the electricity substation site, which also encompasses the entire length of the underground electricity line.

9.2 Methodology

The preparation of this chapter involved desktop studies to understand the existing baseline environment; fieldwork recording the elements and characteristics of the landscape and selecting and capturing images to allow the preparation of photomontages; and the professional evaluation of the baseline environment and the effects that may occur as a result of the project with the aid of the accompanying photomontages, enclosed at **Annex 9.2**.

9.2.1 Desktop Study

The desk study involved:-

- Establishing an appropriate study area from which to study the landscape and visual impacts of the project;
- Review of a Zone of Theoretical Visibility map, which indicates areas from which the project is potentially visible given the terrain within the study area;
- Review of relevant legislation and guidance, including County Development Plans, particularly concerning sensitive landscape and scenic view/route designations; and,
- Selection of potential Viewshed Reference Points (VRPs/VPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.



9.2.2 Fieldwork

The fieldwork undertaken to inform this assessment included:-

- Recording a description of the landscape elements and characteristics within the study area;
- Selection of a refined set of VRPs for assessment. This includes the capture of reference images and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages; and,
- Following the selection of VRPs, photo-realistic images (photomontages) of the project were prepared by Macro Works.

9.2.3 Appraisal

This assessment, undertaken following the completion of fieldwork and the preparation of photomontages, includes:-

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the study area, including landform, drainage, vegetation, land use and landscape designations;
- Consideration of the visual environment, including receptor locations such as centres of population and houses; transport routes; public amenities and facilities; designated and recognised views of scenic value;
- Consideration of design guidance and planning policies;
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects;
- Estimation of the significance of residual landscape impacts;
- Estimation of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations; and,
- Estimation of cumulative landscape and visual effects in combination with other surrounding developments which are existing, permitted or proposed.

9.2.3.1 Assessment Criteria for Landscape Impact

The assessment of landscape effects evaluates how the introduction of the project will affect the physical features and fabric of the landscape and how the project will influence landscape character with reference to published descriptions of character and an understanding of the contemporary character of the landscape, as informed through desktop and site studies.

When assessing the likely landscape effects of the project, the value and sensitivity of the landscape receptor is weighed against the magnitude of impact to determine the significance of the landscape effect. Criteria outlined below are used to guide these judgements.

Landscape Sensitivity

The sensitivity of the landscape to change is the degree to which a particular setting can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. In accordance with GLVIA3, the sensitivity of a landscape receptor (Landscape Character Area or feature) is derived from combining judgements in relation to its susceptibility to change and its value. The judgement reflects such factors as its quality, value, contribution to landscape character and the degree to which the particular element or characteristic can be replaced or substituted. Landscape Sensitivity is classified using the criteria set out in



Table 9.1.

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 9.1: Landscape Value and Sensitivity

Magnitude of Change - Landscape

The magnitude of change is a product of the scale, extent or degree of change that is likely to be experienced as a result of the project and, to a lesser extent, the duration and reversibility of that effect. 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 immediate setting that may have an effect on the landscape character. **Table 9.2** outlines criteria used to inform this judgement.

Magnitude of Impact	Description
Very High	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 extensive change of the landscape in terms of character, value and quality.
High	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 a considerable change of the landscape in terms of character, value and quality.
Medium	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 noticeable changes in landscape character, and quality.
Low	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 that would lead to discernible changes in landscape character, and quality.
Negligible	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



leading to no material change to landscape character, and quality.

Table 9.2: Magnitude of Landscape Impacts

9.2.3.2 Assessment Criteria for Visual Impact

The assessment of visual impact evaluates how the introduction of the project will affect views within the landscape. It therefore needs to consider:

- Direct impacts of the project upon views through intrusion or obstruction;
- The reaction of viewers who may be affected, e.g. residents, walkers, road users; and,
- The overall impact on visual amenity.

In accordance with best practice guidance, it has been deemed appropriate to structure the assessment around a series of representative viewpoint locations. All viewpoints are located within the public domain and are representative of views available from main thoroughfares and pedestrian areas within the vicinity of the project. The selected viewpoints are considered to be comprehensive in communicating the variable nature of the visual effects.

When assessing the likely visual effects of the development, the sensitivity of the visual receptor is weighed against the magnitude of the visual impact to determine the significance of the visual effect. Criteria outlined below are used to guide these judgements.

Sensitivity of Visual Receptors

As with landscape sensitivity, the sensitivity of a visual receptor is categorised as Very High, High, Medium, Low, and Negligible. Unlike landscape sensitivity however, the sensitivity of visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity the viewer is engaged in and whether this heightens their awareness of the surrounding environment.

A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below to establish visual receptor sensitivity at each viewpoint location.

Susceptibility of Visual Receptors to Change

In accordance with GLVIA3, visual receptors most susceptible to changes in views and visual amenity are:-

- Residents at home;
- 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;
- 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.

Visual receptors that are less susceptible to changes in views and visual amenity include:-



- People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape; and,
- 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.

Values attached to Views

The value attached to a view is determined by considering the following:-

- Recognised scenic value of the view (Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Developments Plans, for example, a public consultation process is required;
- Views from within highly sensitive landscape areas. These are likely to be in the form of Architectural Conservation Areas, which are incorporated within the Development Plan and therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;
- Primary views from residential receptors. Even within a dynamic city context, views from residential properties are an important consideration in respect of residential amenity;
- Intensity of use, popularity. This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a national or regional scale;
- Provision of vast, elevated panoramic views. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;
- Sense of remoteness and/or tranquillity. Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;
- Degree of perceived naturalness. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features;
- Presence of striking or noteworthy features. A view might be strongly valued because it contains a distinctive and memorable landscape / townscape feature such as a cathedral or castle;
- Historical, cultural and / or spiritual significance. Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;
- Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;
- Integrity of the landscape character. This looks at the condition and intactness
 of the landscape in view and whether the landscape pattern is a regular one of
 few strongly related components or an irregular one containing a variety of
 disparate components;



- Sense of place. This considers whether there is special sense of wholeness and harmony at the viewing location; and,
- Sense of awe. This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity, and no relative importance is inferred by the order of listing.

It is recognised that a viewer's interpretation and experience of the landscape can have preferential and subjective components. Where relevant, judgements are made on those elements of the landscape that are considered to contribute more prominently and positively to the visual landscape resource as well as those elements that contribute negatively. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

Magnitude of Change - Visual

The magnitude of change is again a product of the scale, extent, or degree of change that is likely to be experienced as a result of the project. This is directly influenced by its 'visual presence/prominence', as experienced by visual receptors in the landscape. These terms are somewhat quantitative in nature, and essentially relate to how noticeable or dominant the project is within a particular view. Aside from the obvious influence of scale and distance, a project's visual presence is influenced by the extent and complexity of the view, contextual movement in the landscape, the nature of its backdrop, and its relationship with other focal points or prominent features within the view. It is often, though not always, expressed using one of the following terms: Minimal; Sub-dominant; Co-dominant; Dominant; Highly dominant. Criteria used to inform judgements are provided at **Table 9.3**.

Criteria	Description
Very High	Complete or very substantial change in view, dominant, involving complete or very substantial obstruction of existing view or complete change in character and composition of baseline, e.g., through removal of key elements.
High	A major change in the view that is highly prominent and has a strong influence on the overall view. This may involve the substantial obstruction of existing views or a complete change in character and composition of baseline, e.g. through removal of key elements or the introduction of new features that would heavily influence key elements.
Medium	Moderate change in view: which may involve partial obstruction of existing view or partial change in character and composition of baseline, i.e., pre-development view through the introduction of new elements or removal of existing elements. Change may be prominent but would not substantially alter scale and character of the surroundings and the wider setting. View character may be partially changed through the introduction of features which, though uncharacteristic, may not necessarily be visually discordant.
Low	Minor change in baseline, i.e. pre-development view - change would be distinguishable from the surroundings whilst composition and character would be similar to the pre change circumstances.
Negligible	Very slight change in baseline, i.e. pre-development view - change would be barely discernible. Composition and character of view substantially unaltered.

Table 9.3: Magnitude of Change – Visual

9.2.3.3 Significance of Effect

The significance of a landscape or visual effect is based on a balance between the



sensitivity of the receptor and the magnitude of change, and is categorised as Profound, Substantial, Moderate, Slight, or Imperceptible. Intermediate judgements are also provided to enable an effect to be more accurately described where relevant. 'No Effect' may also be recorded as appropriate where the effect is so negligible that it is not noteworthy.

The significance category judgement is arrived at using the Significance Matrix at **Table 9.4** as a guide. This applies the principle of significance being a function of magnitude weighed against sensitivity, but employs slightly different terminology that avoids the potentially confusing use of the term 'significant' (as recommended by GLVIA3 Statement of Clarification 1/13 (Landscape institute, 10 June 2013)).

Indicative criteria descriptions used in relation to the significance of effect category are presented at **Table 9.5**.

Magnitude	Sensitivity of Receptor						
	Very High	High	Medium Low		Negligible		
Very High	Profound	Profound- substantial	Substantial	ostantial Moderate Slig			
High	Profound- substantial	ound- 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		
*Categories with orange shading are considered to equate with 'significant' impacts in EIA terms **The significance matrix provides an indicative framework from which the significance of impact is							
derived. The s judgement. D up to one ca	significance jud oue to nuances tegory higher or	gement is ultimat within the constitu lower than indic	ely determined by uent sensitivity and ated by the matrix	the assessor using p I magnitude judgen K.	professional nents, this may be		

Table 9.4: Impact Significance Matrix

	Landscape	Visual
Profound	There are notable changes in landscape characteristics over an extensive area or a very intensive change over a more limited area.	The view is entirely altered, obscured or affected.
Substantial	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the landscape. There are notable changes in landscape characteristics over a substantial area or an intensive change over a more limited area.	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the visual environment. The proposal affects a large proportion of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. There are minor changes over some of the area or moderate changes in a localised area.	An effect that alters the character of the visual environment in a manner that is consistent with existing and emerging trends. The proposal affects an appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.
Slight	An effect which causes noticeable changes in the character of the	An effect which causes noticeable changes in the character of the visual environment



	landscape without affecting its sensitivities. There are minor changes over a small proportion of the area or moderate changes in a localised area or changes that are reparable over time.	without affecting its sensitivities. The affected view forms only a small element in the overall visual composition or changes the view in a marginal manner.
Imperceptible	An effect capable of measurement but without noticeable consequences. There are no noticeable changes to landscape context, character or features.	An effect capable of measurement but without noticeable consequences. Although the development may be visible, it would be difficult to discern resulting in minimal change to views.

Table 9.5: Indicative Significance of Effect Criteria Descriptions

It is important that the likely effects of projects are transparently assessed and understood in order to ensure that the competent authority can reach a balanced, well-informed judgement. As such, whilst the significance matrix and criteria provide a useful guide, the significance of an effect is ultimately determined by the landscape specialist using professional judgement and also in the context of occasionally using hybrid judgements to account for nuance.

9.2.3.4 Quality of Effects

In addition to assessing the significance of landscape/townscape effects and visual effects, EPA guidance also requires that the quality of the effects is determined. This could be negative/adverse, neutral, or positive/beneficial, as follows:-

- Positive Effects: A change which improves the quality of the environment;
- Neutral and/or balanced Effects: No effects, or imperceptible effects, within normal bounds of variation or the margin of forecasting error; and,
- Negative/adverse Effects: A change that reduces the quality of the environment.

In the case of new energy/infrastructure developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of built form is seldom considered positive/beneficial. Effects in these contexts are generally considered adverse in nature or neutral, where the effect has little influence on the landscape/views. Therefore, unless otherwise stated, the quality of the landscape and visual effect judgements herein can be taken as negative.

9.2.3.5 Timescale of Effects

Landscape and visual effects are also categorised according to their duration:-

- Temporary Lasting for 1-year or less;
- Short Term Lasting 1-years to 7-years;
- Medium Term Lasting 7-years to 15-years;
- Long Term Lasting 15-years to 60-years; and,
- Permanent Lasting over 60-years.

9.3 Description of Existing Environment

9.3.1 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the project will be assessed. This also includes reference to any relevant landscape character appraisals



and the current landscape policy context (both are generally contained within county development plans).

A description of the landscape context of the project site and wider study area is provided below under the headings of 'landform and drainage', 'vegetation and land use', 'centres of population', 'transport routes and 'public amenities and facilities' as well as the immediate site context. Additional descriptions of the landscape, as viewed from each of the selected VRPs, are provided under the detailed assessments using a similar structure. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the project. The visual resource will be described in greater detail in **Section 9.3.3** below.



Figure 9.1: Aerial photograph showing the landscape context within the 5km radius study area.

9.3.1.1 Landform and Drainage



At a macro level, the study area is situated in a lowland area in the midlands of Ireland. The site is situated in a low-lying rolling landscape west of Lough Ree and south of a slightly more distinctly undulating landscape to the north. The area to the north has the most elevated portions in the study area, with Red Hill in the far northwest of the study area reaching c.130m above ordnance datum (AOD). Apart from the Cross (Roscommon) River in the southern portion of the study area, there are few watercourses, but lands generally drain towards either Lough Ree or Lough Funshinagh.

9.3.1.2 Vegetation and Land Use

Vegetation within the study area is relatively uniform, predominantly consisting of rolling agricultural farmland mainly of pasture. Drystone walls and tree-lined hedgerows of varying density bind the irregular, small-sized fields and, occasionally, neat, low-clipped hedgerows. Areas of bog woodland and mixed broadleaved/conifer woodland can be found on the shores of Lough Ree. Blocks of commercial conifer forest occur in the southeast of the study area (**Figure 9.1** refers).

9.3.1.3 Transport Routes and Centres of Population

The N61 national secondary road is the most substantial transport corridor in the study area, passing through the eastern portion of the study area. The railway line between Dublin and Westport is located c. 2km to the east. The R362 and R363 regional roads pass within the southwestern portion of the study area, while a network of local roads serves dwellings scattered across the study area. The centre of Athlone is located c. 4.5km southeast of the study area, but there are no defined or notable centres of population within the study area, with other settlements generally comprising single dwellings or dwellings associated with agricultural landholdings.

9.3.1.4 Ecological Designations

Lough Ree Special Areas of Conservation, Lough Ree Special Protection Area and Lough Funshinagh Special Area of Conservation occur within the study area to the east and northwest, respectively. They are also proposed Natural Heritage Areas, but none are in the immediate vicinity of the site (see **Figure 9.2**). Moyvannan Electricity Substation





Figure 9.2: Map showing the location of Ecological Designations

9.3.2 Landscape Policy Context and Designations

As the project is located within County Roscommon, the focus of the policy context for the landscape will be on reviewing the Roscommon County Development Plan 2022-2028.

9.3.2.1 Roscommon County Development Plan 2022-2028

The current Roscommon County Development Plan includes a landscape character assessment, which divides the County into seven Landscape Character Types (LCTs). The 'River Corridor' LCT is the most relevant to the proposed electricity substation as it encompasses the western banks of the River Shannon and Lough Ree. The underground electricity line passes through this LCT and the 'Dry Farmland' LCT, which occupies the southwestern half of the study area and, briefly, the 'Bog and Farmland Complex' (**Figure 9.3**). The generic LCTs are then further divided into 36 no. geographically distinct Landscape Character Areas (LCAs) (**Figure 9.4**). Within the 'Dry Farmland' and 'Bog and Farmland Complex' LCTs, the underground electricity line passes through Funshinagh, Stone Wall Grasslands and Esker Ridges' and the 'LCA 35 - Brideswell Esker Belt' LCAs which are categorised as being of 'Moderate Value'.

The 'River Corridor' LCT, within the northeastern half of the study area, contains 2 no. LCAs; namely 'LCA 8 – Lower Lough Ree and Athlone Environs' and 'LCA 7 - Mid Lough Ree Pastureland'. No part of the project is located in the former, but the electricity substation and a short section of the underground electricity line are situated in the



latter. These LCAs have been designated as landscapes of 'Very High Value' (second highest of 4 classifications). LCA 7 is described in the Landscape Character Assessment as:-

'The overall image of the Mid Lough Ree Pastureland character area is one of gently rolling good quality farmland, with extensive views of Lough Ree and its islands in more elevated places.'

The landscape contained in 'LCA 7 – Mid Lough Ree Pastureland' is described as:-

'....from the Hind River in the north to just north of Hudson's Bay. Its western boundary is formed by the hills to the east of Lough Funshinagh, which drain in an easterly direction down to the shores of Lough Ree. The shoreline of Lough Ree is defined by secluded bays dotted with small marinas and harbours, as well as peninsulas....'

LCA 7 is identified as being a 'Very High' value landscape "due to extent of Natura 2000 designations, good quality farmland landscape and extensive lake views as well as built heritage such as the canal connecting the village of Lecarrow and Blackbrink Bay and the medieval site at Rhindoon. There are two designated Scenic Views on tops of hills which provides panoramic views overlooking Lough Ree - one at Killeenrevagh and the other at Lissanisky."

Chapter 10 of the Roscommon County Development Plan provides details relating to landscape character and includes the following policy objective:-

"NH 10.25 - Minimise visual impacts on areas categorised within the County Roscommon Landscape Character Assessment including "moderate value"," high value", "very high value" and with special emphasis on areas classified as "exceptional value" and where deemed necessary, require the use of Visual Impact Assessment where proposed development may have significant effect on such designated areas."





Figure 9.3: Extract of Figure 6 from the Roscommon Landscape Character Assessment - LCTs relative to the project





Figure 9.4: Extract of Figure 7 from the Roscommon Landscape Character Assessment - LCAs relative to the project

9.3.3 Visual Baseline

The assessment of visual effects is only concerned with those parts of the study area that potentially afford views of the project. Therefore, the first part of the visual baseline establishes a 'Zone of Theoretical Visibility' and subsequently identifies important visual receptors on which to base the visual impact assessment.

9.3.3.1 Zone of Theoretical Visibility

A computer-generated Zone of Theoretical Visibility map has been prepared to illustrate the locations from where the electricity substation is potentially visible. The Zone of Theoretical Visibility map is based solely on terrain data (bare ground visibility). It ignores features such as trees, hedges or buildings, which may screen or obscure views of the electricity substation. Given the complex vegetation patterns within this landscape, the main value of this form of Zone of Theoretical Visibility map is to



determine those parts of the landscape from which the electricity substation will not be visible due to terrain screening within the 5km study area. Given the sub-surface nature of the electricity line, it is not assessed in terms of theoretical visibility.



Figure 9.5: Bare-ground Zone of Theoretically Visibility Map. (see also Volume II, Annex 9.1)

The following key points are illustrated by the 'bare-ground' Zone of Theoretical Visibility map (**Figure 9.5** refers). It should be noted that the colouring system used in the above figure relates to the degree of visibility of the electricity substation based on a 'bare-ground' scenario (Magenta = single-storey control building and lightning and interface masts; Orange = just the lightning and interface masts are theoretically visible). Where there is no colour pattern, visibility of the electricity substation is not afforded. The following conclusions are drawn from the Zone of Theoretical Visibility mapping:-

• Hilly terrain within the study area will screen views of the electricity substation from large areas in the study area's western, northern, and southeastern portions.



These are the areas with an absence of any coloured Zone of Theoretical Visibility pattern in **Figure 9.5**;

- Similarly, the low-lying landform related to the Cross (Roscommon) River valley results in a corridor in the southern portion of the study area with no theoretical visibility of the electricity substation;
- The orange-coloured portions of the Zone of Theoretical Visibility pattern represent locations where it is theoretically possible to see some portion of at least one of the proposed lightning or interface masts but will not be afforded a view of the control building. This pattern is similar to but larger than the purple pattern formed by the analysis of just the control building. However, it should be noted that the slender lightning masts become difficult to discern beyond distances of 2-3km and thus, the orange pattern can be largely discounted in the outer extents of the study area; and,
- It is theoretically possible to obtain a view of at least some part of one of the lightning/interface masts and some part of the control building (purple colour Zone of Theoretical Visibility pattern) from agricultural land, a section of the N61 national secondary road, some sections of the local road network and several isolated rural dwellings scattered along the local road network within the study area.

9.3.3.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/routes designations, but they may also be indicated on touring maps, guidebooks, roadside rest stops, or postcards that represent the area.

If scenic routes and views fall inside the Zone of Theoretical Visibility pattern, they would be investigated during fieldwork to determine whether actual views of the project might be afforded. Where visibility could occur, a viewshed reference point would be selected for use in the visual impact appraisal later in this chapter.

9.3.3.3 Roscommon County Development Plan 2022-2028

The Roscommon County Development Plan 2022-2028 indicates designated 'Scenic Routes and Scenic Views' at Figure 10, Appendix 1 of the Landscape Character Assessment (Figure 9.6 refers). Figure 9.6 illustrates that there is 1 no. Scenic Route (R8) and 1 no. Scenic View (V22) located within the study area. Scenic View V22 is orientated to the northwest, which is in the opposite direction to the project, and occurs outside of the Zone of Theoretical Visibility pattern; therefore, no visual effects can occur. Scenic Route R8 is located in the townland of Lisfelim and orientated to the southeast. Half of this route is within the Zone of Theoretical Visibility pattern and thus has been selected for assessment as a VRP (VP1).

Chapter 10 of the Roscommon County Development Plan 2022-2028 includes the following policy objective relating to designated scenic routes and views:-

NH 10.26 - Protect important views and prospects in the rural landscape and visual linkage between established landmarks, landscape features and views in urban areas.





Figure 9.6: Excerpt from Figure 10 of the Roscommon County Development Plan 2022-2028 showing the location of the electricity substation in the context of Scenic Routes and Views.

9.3.3.4 Tourism, Recreational and Heritage Features

Green Heartlands Cycle Route passes along several roads within the study area (see **Figure 9.7**) and, at the closest point, passes the electricity substation c. 450m to the west. It is within the Zone of Theoretical Visibility at this location, thus being selected as VRP (VP3 &VP1). Golf, camping, and water-based activities are available at Lough Ree.





Figure 9.7: Study area (illustrated in blue) and the route of Green Heartlands Cycle Route (illustrated in orange)

9.3.4 Identification of Viewshed Reference Points

The Zone of Theoretical Visibility analysis results provide a basis for selecting VRPs, which are the locations used to study the landscape and visual impact of the project in detail. It is not warranted to include every location that provides a view of this development, as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, receptor locations were selected that are likely to provide views of the project from different distances, angles, and contexts.

The visual impact of the project is assessed using up to 6 no. categories of receptor type as listed below:-

- Key views (from features of national or international importance);
- Designated scenic routes and views;
- Local community views;
- Centres of population;
- Major transport routes; and,
- Amenity and heritage features.

Where a VRP might have been initially selected for more than one reason, it will be assessed according to the primary criterion for which it was chosen. The characteristics of each receptor type vary, as does how the view is experienced. These are described below.



9.3.4.1 Key Views

These VRPs are at features or locations that are significant at the national or even international level, typically in terms of heritage, recreation or tourism. They are locations that attract many viewers who are likely to be in a reflective or recreational frame of mind, possibly increasing their appreciation of the landscape around them. The location of this receptor type is usually quite specific.

9.3.4.2 Designated Scenic Routes and Views

Due to their identification in a County Development Plan, this type of VRP location represents a general policy consensus on locations of high scenic value within the study area. These are commonly elevated, long-distance panoramic views that may or may not be mapped from precise locations. They are more likely to be experienced by static viewers who seek out or stop to take in such vistas.

9.3.4.3 Local Community Views

This type of VRP represents those people who live and/or work in the locality of the project. Although the VRPs are generally located on local level roads, they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not critical; however, clear elevated views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles using several VRPs is necessary in order to sample the spectrum of views that would be available from surrounding dwellings.

9.3.4.4 Centres of Population

VRPs are selected at population centres primarily due to the number of viewers likely to experience that view. The relevance of the settlement is based on the significance of its size in terms of the study area or its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view of the project within or close to the settlement.

9.3.4.5 Major Transport Routes

These include national and regional level roads and rail lines and are relevant VRP locations due to the number of viewers potentially impacted by the project. The precise location of this category of VRP is not critical. It might be chosen anywhere along the route that provides clear views towards the site, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion, and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

9.3.4.6 Tourism, Recreational and Heritage Features

These views are often the same given that heritage locations can be important tourist and visitor destinations, and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind concerning the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the viewer's experience at a heritage site as distinct from



simply the view of it. This complex phenomenon is likely to be different for every site.

Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for a landscape and visual assessment is not synonymous with its importance to the archaeological or architectural heritage record.

5 no. VRPs were selected from which to assess the project. They are listed at **Table 9.6** and illustrated at **Figure 9.8**.

VRP No.	Location	Distance to site	Direction of view
VP1	Local road, Lisfelim	3.2km	S
VP2	N61 national secondary road, Kiltoom	600m	SW
VP3	Local road, Carrownolan	600m	E
VP4	Local road, Moyvannan	300m	W
VP5	Local road, Feamore	700m	Ν

Table 9.6: Outline description of selected VRPs





Figure 9.8: VRP Locations

9.4 Description of Likely Effects

9.4.1 Landscape Effects

Landscape effects were assessed for both the construction phase and the operational phase. The first aspect of determining the significance of landscape effects is establishing the sensitivity of the receiving landscape. The significance of landscape effects is assessed based on landscape sensitivity weighed against the magnitude of physical landscape effects within the project site and effects on landscape character in the wider landscape setting.

9.4.1.1 Landscape Character, Value and Sensitivity

Following the GLVIA(2013), sensitivity is a function of the landscape's susceptibility to the type of change proposed and the value placed on that landscape. Landscape value and sensitivity are considered in relation to a number of factors highlighted in the GLVIA (2013), which are set out below and discussed relative to the project and study area. Landscape character, value and sensitivity are assessed using the



methodology described at Section 9.2.

Landscape Quality (condition)

Landscape quality relates to the physical state of the landscape and its elements. The landscape of the study area varies in terms of condition and quality.

The study area is divided in two in terms of landscape value as identified by the categorisations in the Roscommon Landscape Character Assessment. The southwestern half, associated with low-lying, rolling terrain, is categorised as Moderate Value, and the north-eastern half, associated with Lough Ree and the wider Shannon River corridor, is categorised as Very High Value. The electricity substation is located in the latter. However, it is situated at the transition between 3 no. LCAs and 3 no. LCTs which hints at the transitional nature of the site. Lough Ree has the highest value of the LCAs in the study area, but its influence begins to reduce as the distance from the lake increases.

The study area consists of predominantly intensive agriculture, with some woodland plots and wetlands. The conifer plantations in this area are commercial operations that highlight the economic and productive processes at work in the landscape.

Scenic Quality

There is a degree of scenic value associated with Lough Ree. However, views tend to be rather limited to the immediate vicinity of the lake due to the enclosed character of the area and the low-lying topography. Distant views are also afforded from elevated hills in the northern portion of the study area. A lesser degree of scenic quality exists in the southern and western extents of the study area, where agriculture is more intensive. Although these areas have a pleasant pastoral aesthetic, it is not valued in terms of scenic quality beyond their immediate environs, which is reflected in the fact that there are no designated views in these areas.

Rarity and Representativeness

Apart from Lough Ree, this landscape is not considered rare, although Lough Funshinagh and other turloughs (seasonal lakes) are locally distinctive to the landscape setting.

Conservation Interests

Lough Ree and Lough Funshinagh are subject to ecological designations, reinforcing their value as landscape components.

Recreation Value

Lough Ree is a major public amenity resource for water-based activities. The Green Heartlands Cycle Route is the only known land-based public amenity.

Perceptual Aspects and Associations

Some parts of the study area experience a degree of rural tranquillity. Areas to the west and north have more pastoral characteristics, with a degree of consistency in terms of the scale and pattern of the fields and hedgerows. There are distinctive drystone walls which form part of the field boundaries in the vicinity of the electricity substation site, and across the study area there are mature tree lines and hedgerows which offer a moderate degree of containment. The areas along the banks of Lough



Ree and Lough Funshinagh contribute to a sense of the naturalistic, offering a sense of tranquillity and remoteness. Generally, the study area is a productive rural area dotted with farmsteads and dispersed dwellings.

Evaluation of Landscape Sensitivity

Based on the factors outlined above, this is considered to be a diverse and productive rural setting with relatively high integrity in parts, contributing to the rural subsistence and amenity of the surrounding dispersed rural population. Notwithstanding the scenic qualities in the elevated areas in the northern portion of the study area and the naturalistic values associated with the lakes, this is a landscape with robust, productive landscape values. On balance, for these reasons, the landscape sensitivity is assessed to be **medium**.

9.4.1.2 Construction Phase

Magnitude of Landscape Impact - Underground Electricity Line

Trenches will be excavated to allow the installation of ducting and the electricity line below ground level. There will also be c. 11 no. joint bays positioned at intervals along the route. The physical impact of the trench on the landscape will be modest in scale. There will be an increase in heavy goods vehicle movements within the road network near the project, which will be more noticeable along the local roads within the study area. Horizontal Directional Drilling techniques will be used at the Cross (Roscommon) River in the southern portion of the study area to avoid direct impacts on the watercourse itself.

During the construction phase, temporary landscape impacts may be experienced along the route. However, any impacts would not be at a scale that would have any material effect on the overall landscape fabric or the landscape character in the study area. Although construction activity may alter the landscape character near where the electricity line is being installed, it will be transitory and temporary with the in-road section of the electricity line being fully reinstated on completion of construction activities.

Where the underground electricity line is to be installed within private lands (as it approaches the electricity substation, the electricity line will be installed adjacent to the proposed access track and will result in the loss of agricultural pasture. However, the trench will be backfilled, top soiled and re-vegetated, having regard for agricultural land-use and/or biodiversity requirements.

Construction phase works are therefore assessed to be negative, transient, reversible and, in terms of duration, temporary (less than or equal to one year duration). During the construction phase, it is assessed that the underground electricity line will result in a **low** magnitude of impact.

Magnitude of Landscape Impact - Electricity Substation

Physical landscape impacts will occur during the construction phase at the electricity substation site. These will arise from disturbance to the landform and land cover for the various structures, building and access track. Topsoil and subsoil will be excavated as required for the electricity substation compound, control building foundation, electrical apparatus foundations, interface mast foundations and the access track. This is a gently sloping site and there is no requirement to modify the existing terrain through substantial excavations. The project has been designed to minimise the



generation of excess soil with excavated material to be re-used in the construction process insofar as possible. This approach has been adopted to minimise the impact on the physical landform and landscape. The existing land cover to be disturbed as part of the construction phase is predominantly agricultural grassland with minor works to be undertaken at an existing agricultural site entrance.

In addition to the permanent physical disturbance of the landform and land cover of the site during construction, there will also be temporary effects on the landscape character of the site and its immediate surroundings. This will occur due to the intensity of construction activities involving the movement of heavy vehicles to and from the site and within the site. There will be site welfare facilities, vehicle parking, and areas of the site dedicated to the storage of excavated earth and building materials. Construction plant and machinery and partially completed structures will also be characteristic elements of the construction phase and more visible from a broader area than surface-level construction activities. These are all typical construction phase activities for a project of this type and scale. They represent a noticeable increase when compared to the baseline activity levels experienced within and in the immediate environs of this rural site. However, there are few visual receptors within proximity of the substation site. It is assessed as likely that construction phase works will temporarily impact landscape character.

Based on the factors discussed above, it is assessed that the magnitude of construction phase landscape impacts as a result of the electricity substation is **medium**.

Significance of Landscape Effect

Construction phase landscape impacts arising from the project are assessed as likely to be negative. The duration of the impact is assessed to be temporary for the underground electricity line as the works will be transitory; and short-term for the works at the electricity substation. Based on the impact significance matrix (**Table 9.3**), the significance of landscape effect during the construction phase is summarised at **Table 9.7**.

Aspect	Landscape sensitivity	Quality	Magnitude of landscape impact	Significance of landscape effect	Duration
Underground Electricity Line	Medium	Negative	Low	Slight (Not significant)	Temporary
Electricity Substation	Medium	Negative	Medium	Moderate (Not significant)	Short-Term

Table 9.7: Significance of Landscape Effect – Construction Phase

9.4.1.3 Operational Phase

Magnitude of Landscape Impact - Underground Electricity Line

As the underground electricity line will be located entirely below ground level and all sections of the affected public road will have been fully reinstated, it is assessed not to have any likely adverse impacts on the physical landscape or landscape character within the receiving landscape.

For these reasons, the magnitude of impact on the landscape character within the study area is assessed as likely to be **low-negligible** during the operational phase and will be permanent in duration.



Magnitude of Landscape Impact – Electricity Substation

The electricity substation is likely to generate effects on landscape character. The main effect will be an increased sense of industrialisation within the predominantly rural setting of the site and its immediate surrounds. From a landscape character perspective, the electricity substation will increase the intensity of industrialisation within the landscape, but only to a limited and localised extent. It will not markedly alter the wider landscape setting.

Based on the factors discussed above, the operational phase magnitude of landscape impact is assessed as likely to be **medium-low** within the immediate vicinity of the electricity substation (i.e., those lands contained within approximately 1km). Thereafter, the magnitude of landscape impact is assessed as likely to reduce as it becomes a progressively smaller component of the overall landscape fabric.

Significance of Landscape Effect

Operational phase landscape impacts arising from the project will be negativeneutral for the underground electricity line and negative for the electricity substation. The duration of the landscape impacts is assessed as likely to be permanent for the underground electricity line and the electricity substation. Based on the impact significance matrix (**Table 9.3**), the significance of landscape effects during the operational phase is outlined at **Table 9.8**.

Aspect	Landscape sensitivity	Quality	Magnitude of landscape impact	Significance of landscape effect	Duration
Underground Electricity Line	Medium	Negative- Neutral	Low-negligible	Slight- imperceptible (Not significant)	Permanent
Electricity Substation	Medium	Negative	Medium-low	Moderate-slight (Not significant)	Permanent

Table 9.8: Significance of Landscape Effect – Operational Phase

9.4.1.4 Decommissioning Phase

As set out at **Chapter 3** (Sections 3.2 and 3.7), the project will form part of the national electricity network and decommissioning of the project is not proposed. Therefore, decommissioning phase effects will not occur.

9.4.2 Visual Effects

The likelihood of visual impacts has been assessed for the construction phase and the operational phase. The first aspect in determining the significance of visual impacts is establishing the sensitivity of each of the selected VRPs.

9.4.2.1 Visual Receptor Sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess viewers' susceptibility and views' amenity value, the assessor uses a range of criteria and provides a four-point weighting scale to indicate how strongly the viewer/view is associated with each criterion identified in **Section 9.2** above.



Strong association	Moderate association	Mild association			Negligible association		
Values associated with the	e view		VP1	VP2	VP3	VP4	VP5
Susceptibility of viewers to	changes in views		ł				
Recognised scenic value of	of the view						
Views from within highly se	ensitive landscape areas						
Primary views from residen	ces						
Intensity of use, popularity	(number of viewers)						
Viewer connection with th	e landscape						
Provision of vast, elevated	panoramic views						
Sense of remoteness/tranc	quillity at the viewing locat	ion					
Degree of perceived natu	ralness						
Presence of striking or note	eworthy features						
Sense of Historical, cultural	l and/or spiritual significan	се					
Rarity or uniqueness of the	view						
Integrity of the landscape	character within the view						
Sense of place at the viewing location							
Sense of awe							
Overall sensitivity assessme	ent		Μ	ML	ML	ML	ML
N = Negligible; L = low sens sensitivity; H = high sensitivi	sitivity; ML = medium-low s ity; VH = very high sensitivit	ensitivity M = n	nediu	m sens	itivity; HN	∧ = Higł	n-mediun

Table 9.9: Analysis of Visual Receptor Sensitivity at Viewshed Reference Points

9.4.2.2 Construction Phase

Magnitude of Visual Impact

It is not considered gainful to assess construction phase visual impacts from specific receptor locations using photomontages. Instead, it is reserved for the operational phase of the project concerning both pre-mitigation and residual (post-mitigation establishment) impact scenarios. This approach is partly because construction phase visual effects are constantly changing in nature, intensity and location. Furthermore, many potential construction-related visual effects, such as dust, lighting and heavy vehicle movements, are also not easily depicted or readily experienced through static photomontages. Furthermore, a more generalised approach to assessing construction phase visual impacts is also warranted because such effects are only short-term or temporary.

Construction phase visual effects will occur in relation to the project throughout the predicted 15-18 month construction period. Visual receptors most likely to be affected by the project during the construction phase are the residents of dwellings to the west and, to a lesser extent, the south of the site.

The greatest construction phase visual effects for these receptors will likely occur when



the proposed structures have emerged above existing ground level and construction vehicles and associated traffic are moving within and to and from the site.

Construction-related visual effects from the project will be short-term in duration. Their combined magnitude of effect is considered to be similar to the construction stage effects on landscape character, i.e. Medium, and only for the closest receptors with the clearest views towards the site.

Significance of Visual Effects

Despite the fact that there are a variety of receptors with differing sensitivities (medium to medium-low) within the study area, as illustrated at **Table 9.9**, it is not assessed that the medium magnitude of construction phase effects will result in any significant construction phase visual impacts as a result of any part of the project. Instead, such effects are not assessed as likely to exceed Moderate/Negative during the construction phase.

9.4.2.3 Operational Phase

Magnitude of Impact and Significance of Visual Effects at VRPs

Each of the identified VRPs have been assessed to determine the magnitude of effect of visual impacts during the operational phase. This judgement, based on the photomontages presented at **Volume II**, **Annex 9.2**, has been considered with respect to the sensitivity of the receptor, as determined in **Table 9.9**, to yield a judgement on the significance of visual impact.

VP	Title and Description of Existing View	Receptor Sensitivity	Description and Magnitude of Visual impact	Quality / Significance / Duration of Visual Effect
VP1	Local road, Lisfelim – This VRP is located along a designated scenic route. Nearby residential dwellings are afforded this view towards the project site. This VRP location is elevated with panoramic views towards Lough Ree to the east and over a rolling lowland landscape to the south.	Medium	The scale of the electricity substation will be very modest due to the viewing distance. Most structures in the electricity substation will be screened from view by intervening terrain, and most of the lightning masts will be screened by intervening vegetation to the northwest of the site. However, the proposed interface masts will be visible. They will be viewed against a backcloth of a low ridge at Kiltoom to the south of the site and thus will not protrude above the skyline and their dark tone will be visually recessive. The visual change will be discernible but unlikely to be noticeable to a casual observer. The project will integrate readily into the farmed and settled landscape and will not detract from views towards Lough Ree. The magnitude of visual impact is assessed to be Low-negligible.	Slight- imperceptible (Not significant)
VP2	N61 national secondary road, Kiltoom – This VRP represents a transient view afforded to road users. This portion of the road is on an embankment, so the fields in the middle ground are at a lower elevation. The landform rises into a low ridge in the background, which hosts large agricultural buildings that protrudes above the ridgeline.	Medium- Iow	Most structures in the electricity substation will be screened from view by intervening terrain. The interface masts located on locally elevated terrain will be the most visible structures. They will be viewed in silhouette against a backcloth of the sky where they will stand in notable contrast. Therefore, the project is assessed to have a sub- dominant visual presence in the context of this scene. Other pole sets and treetops penetrate above the skyline in this setting making for a complex skyline ridge. Furthermore, electrical infrastructure such as this is a common place feature is rural areas and the project will not appear as ambiguous or out of place. The magnitude of visual impact is assessed to be Low.	Slight- imperceptible (Not significant)
VP3	Local road, Carrownolan – This VRP represents views towards the site from the west that are afforded to the local community. The views are of gently undulating farmland, with fields enclosed by drystone walls and hedgerows and large	Medium- Iow	The electricity substation will be seen rising above the low skyline ridge in the middle distance adjacent to large agricultural buildings. The control building will appear with a mass and scale similar to the existing agricultural buildings. The lower portion of the electricity substation	Moderate-slight (Not significant)



	agricultural buildings in the background.		will be screened by intervening terrain. The upper portions of the various electrical apparatus and the lightning masts will be visible new features on the horizon, as will the interface masts. Therefore, the project is assessed to be sub-dominant in terms of visual presence. The presence of the existing agricultural buildings and timber pole-sets assists the electricity substation to integrate with the other elements within the view, but nonetheless, there will be a modest increase in the intensity of built structures in the otherwise lightly developed rural setting. For these reasons, the magnitude of visual impact is assessed to be Medium-low.	
VP4	Local road, Moyvannan – This VRP is representative of views towards the site from the east that the local community is afforded. The views are of gently undulating farmland with fields enclosed by drystone walls and hedgerows, including large agricultural buildings in the middle distance.	Medium- low	The electricity substation will be seen in the middle distance, with the interface masts positioned to the rear of the large agricultural buildings. The lower portions of the electricity substation will be screened from view by intervening terrain, and intervening buildings will screen the lower portions of the interface masts. Vegetation in the middle distance also assists to screen and visually assimilate the equipment in the electricity substation but the control building will continue to be identifiable as a house-like structure. These structures will be viewed against a backcloth formed by a low, farmed and settled ridge in the background of the view. However, the lightning masts and the interface masts will alter the skyline, albeit above the existing agricultural buildings. Therefore, the visual presence of the project is assessed to be sub-dominant. The existing agricultural buildings and timber pole-sets assist the AIS electricity substation to integrate with the other elements within the view, but nonetheless, there will be an increase in the scale and intensity of built structures in the view. For these reasons, the magnitude of visual impact is assessed to be Low.	Slight (Not significant)
VP5	Local road, Feamore – This VRP represents a fleeting view from a gateway on a local road to the south of the site. Over a drystone wall in the foreground are gently undulating fields separated by post-and- wire fences, drystone walls and hedgerows. A ridgeline in the view's background forms a	Medium- Iow	The project will be located in the background of the view, and the lateral extents of the electricity substation will occur between the 5 no. existing pole-sets. As the landform within the site slopes gently to the south, the full height of the control building is legible, and most of the electrical apparatus will be viewed against a backcloth	Slight- imperceptible (Not significant)



backcloth and hosts 5 no. timber pole-sets on its ridgeline.	formed by the terrain immediately to the north of the site. The upper portions of the lightning masts and most of the interface masts will be visible as new silhouette features in the skyline, but they will present at a similar height to the existing timber pole-sets in the same portion of the view. The control building will look similar to the existing rural dwelling in the view, but the electrical apparatus will intensify the presence of electrical infrastructure within the view and generate some visual clutter. For these reasons, the magnitude of visual impact is assessed to be Low.	
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Table 9.9: Visual Magnitude of Impact and Significance of Effect - Operational Phase



9.4.2.4 Decommissioning Phase

As set out at **Chapter 3** (Sections 3.2 and 3.7), the project will form part of the national electricity network and decommissioning of the project is not proposed. Therefore, decommissioning phase effects will not occur.

9.4.3 Cumulative Effects

Cumulative effects will be assessed in the context of other relevant permitted and proposed developments within the study area (see **Chapter 1**), which are of a scale nature and proximity to generate material in-combination effects with the project. Existing developments are not included within this cumulative assessment as the already form part of the baseline context against which the main landscape and visual assessment has been conducted.

The main likelihood of cumulative effects arising in-combination with the project is with the permitted Seven Hills Wind Farm. This development is interrelated and is located just beyond the study area.

It should be noted that the cumulative effects of the permitted Seven Hills Wind Farm with other nearby developments have previously been assessed by An Bord Pleanála.

In respect of the Seven Hills Wind Farm, the Board's Inspector concluded that "The proposed development would not give rise to any significant adverse cumulative impacts with other windfarms in the wider area¹." Having regard to this conclusion, a further evaluation of the landscape and visual context has been undertaken to determine whether there have been any alterations to the baseline environment which could alter the conclusions of An Bord Pleanála and, in turn, this assessment of cumulative effects.

In terms of landscape designations, the Landscape Character Assessment of Roscommon County Council has not been altered since the decision of An Bord Pleanála. Similarly, no new scenic views or prospects have been introduced that could affect the assessment previously completed. Therefore, it is concluded that the findings and conclusions of the previous assessment, and those of An Bord Pleanála, remain valid and are not conflicted by any changes to the baseline environment.

The following sections assess the likelihood of cumulative effects arising from the subject project in combination with proposed and permitted developments.

9.4.3.1 Cumulative Landscape Impact Assessment

The project and the permitted Seven Hills Wind Farm are thematically linked features routinely encountered together. Combined, they represent part of the county's evolution and growth of the national electricity grid network. Neither are particularly unique types of developments, and they are typically encountered in rural landscapes such as this throughout the country.

The electricity substation is situated in the 'Mid Lough Ree Pastureland' LCA, while the permitted wind turbines of the Seven Hills Wind Farm are located in the western extents of the 'Lough Funshinagh, Stone Wall Grasslands and Esker Ridges' LCA. The underground electricity line and the permitted development meet at the R363

¹ABP:https://www.pleanala.ie/anbordpleanala/media/abp/cases/reports/313/r313750.pdf?r=593963589918[Accessed 26/08/2024]



regional road in the townland of Brideswell, in the 'Brideswell Esker Belt' LCA. This is the only direct physical connection between the respective developments and will be underground. Construction phase cumulative impacts may occur if the construction phases overlap; however, if this were to occur, the cumulative impact would be negligible as impacts would occur in the existing road corridor and be extremely localised. It is assessed that there would be no material operational phase impacts at this location as both respective developments would be below ground. Apart from the interface masts, the electricity substation is largely recessed into the landscape and has a relatively low profile compared with the considerably taller turbines of the permitted Seven Hills Wind Farm, which rise prominently from the underlying terrain.

The permitted Seven Hills Wind Farm will have a greater influence on the landscape character in this area than the project and sets the context (of renewable energy production) in which the project will be perceived. For these reasons, when the development subject project is assessed in combination with the permitted development, it is assessed as likely to contribute a low and extremely localised magnitude of impact and is not, therefore, considered to be significant.

Having regard to the scale and characteristics of other permitted and proposed projects listed at **Chapter 1**, significant cumulative effects are not assessed as likely to arise.

9.4.3.2 Cumulative Visual Impact Assessment

The photomontages enclosed in (**Volume II, Annex 9.2**) depict the permitted Seven Hills Wind Farm at each VRP location where it is theoretically possible for it to be visible during the operational phase of the project.

An assessment of the likely visual cumulative effects finds that the predicted effect will be limited due to the project's nature, scale, and discrete siting within the landscape; thus, it is not considered necessary to discuss the cumulative visual impacts for each individual VRP separately. Therefore, similar to the approach taken for the construction phase visual impact assessment, the cumulative visual impact will examine visual effects collectively.

While a portion of the Seven Hills Wind Farm will be visible from 2 no. of the 5 no. selected VRPs (VP2 and VP4), it will occupy only a tiny fraction of the view due to intervening vegetation and/or topography. This visual/functional association between the wind farm and the landscape is a common occurrence in similar rural contexts across Ireland. When viewed in combination, they contribute to an intensification of electrical infrastructure in the immediate area, but they are readily absorbed into the views, which generally encompass broad sections of the wider landscape.

From VP2, the blade tip of 1 no. turbine of the permitted Seven Hills Wind Farm will be visible in the view's background and will be located behind the project. The blade tip will appear as a small new element in the view but is not likely to be noticeable to a casual observer and, if seen, would likely be read as a moving element within the project and, as a result, will be visually absorbed by the project. From VP4, the permitted Seven Hills Wind Farm will be heavily screened by a combination of landform and vegetation. However, blade sets, or 1 no. turbine and the blade tips of up to 4 no. turbines, are likely to be identifiable rising above the skyline to the southwest from a portion of the horizon that contains vegetation, electrical pole sets and a residential dwelling. These turbines are visually separated from the project by a viewing angle of approximately 40-degrees and are divided by a local road. Both



have sub-dominant visual presence within the existing context of each of these scenes. The project's contribution to cumulative visual impacts is assessed to be extremely minor in the overall context of the interrelated permitted Seven Hills Wind Farm.

Overall, it is assessed that the project will contribute to the intensity of built development and particularly electrical infrastructure in this area, but in a very localised way and only to a degree that is consistent with a Medium-low magnitude of impact. Therefore, given the characteristics of the receiving environment, the modest nature of the project, the siting of the project and the functional interdependence of the developments, visual impacts are not assessed to be significant.

9.5 Mitigation Measures

The main mitigation measure employed in this instance is mitigation by avoidance. As part of the design process, detailed consideration was given to the appropriate siting of the project to ensure that it would be located in a robust rural area capable of absorbing it and where it would not be prominent. The overall site design also sought to maximise, to the greatest possible degree, the retention of existing field boundaries within the site and bordering the site to avoid a sense of ambivalence, to aid visual screening, and maintain the existing field pattern.

In addition, planting is proposed around the perimeter of the electricity substation. The southern, eastern, and western perimeters will incorporate screen planting, which will assist the electricity substation assimilate within the site and surrounding landscape. The mitigation planting has been depicted in the photomontages to demonstrate the degree of additional screening which will be afforded following its establishment. While the planting will have a limited effect on screening the interface masts, due to their presence on elevated terrain, it will assist in assimilating the electricity substation compound within the surrounding landscape.

9.5.1 Construction Phase

Aside from standard construction phase measures to minimise land and vegetation disturbance (such as delineating the works area) and dust emissions (through damping down of access tracks if necessary), no specific landscape and visual mitigation measures are to be implemented. The appropriate management and reinstatement of excavations promptly will ensure that any adverse effects caused, for example, at the site entrance or along the route of the underground electricity line, are minimised insofar as possible.

Similarly, the progressive reinstatement and landscaping of the site will remediate any short-term adverse effects on the local landscape. As part of the reinstatement and landscaping process, the planting of hedgerows will also be completed at the electricity substation site entrance.

9.5.2 Operational Phase

The following measures will be implemented to minimise the visibility of the electricity substation throughout the operational phase:-

- The land between the western and northwestern perimeter of the electricity substation and the nearest existing field boundaries (including spoil deposition area) will be managed as a meadow for biodiversity;
- New hedgerows will be planted along the southern and eastern perimeter of the



electricity substation and the northern side of the access track. The species to be planted will, in the first instance, be agreed with the Ecological Clerk of Works and selected to reflect the species composition of existing hedgerows in the local landscape. The species mix is likely to comprise low-growing woody species of local provenance, including Blackthorn, Hawthorn and Hazel;

- The hedgerow along the western boundary of the site will be retained and supplemented by additional planting where deemed appropriate. The proposed species will be whip species to complement the existing hedgerow species mix in the vicinity of the site and will be of local provenance; and,
- It is intended to manage and maintain proposed hedgerows at c. 3-4m in height.

Any exposed cut faces arising from excavations to construct the level platform for the electricity substation will be allowed to re-vegetate naturally. As a result, and by default, the most suitable species for the conditions will colonise and help the raw-cut face blend into its surroundings.

These mitigation measures are illustrated in the Landscape & Ecological Mitigation Plan enclosed at **Annex 9.3** (Volume II).

As the route of the underground electricity line predominately follows the public road network (paved carriageway), no specific mitigation measures, other than appropriate reinstatement, are proposed or required. In the event that excavations are undertaken within roadside verges (e.g. installation of joint bays), these areas will also be sown with a grass and wildflower seed mix.

9.6 Residual Impacts

No likely significant effects were assessed during the construction or operational phases that require specific mitigation. However, there would be benefits from the proposed additional mitigation planting at the electricity substation, which relate to non-significant landscape and visual effects, and these are detailed in **Table 9.8** and **Table 9.9**.

The assessment is structured to account for embedded architectural/site layout mitigation, including the colour tone of buildings, as part of the operational phase pre-mitigation assessment. This is reflected visually in the pre-mitigation photomontage set at **Annex 9.2** (**Volume II**). The post-mitigation scenario is that which incorporates proposed additional mitigation planting after an establishment period that would allow it to perform the function intended (approximately five to seven years) while acknowledging that it would be of increasing mitigation benefit up until that point (post-mitigation photomontage set at **Annex 9.2** (**Volume II**). It would continue to increase in screening benefits (thicker/taller vegetation) thereafter.

9.6.1 Post-mitigation Landscape Impacts

Whilst mitigation screen planting and replacement planting will assist in assimilating the project within the landscape setting, it is not assessed that the macro-level effects on landscape character and landscape fabric will be noticeably reduced from those predicted for the operational phase and described at **Section 9.4.3**. Therefore, it is assessed that the landscape effects, post-mitigation, will remain as assessed with respect to the pre-mitigation effects.

9.6.2 Post-mitigation Visual Impacts

The visual screening effect of the planting/mitigation measures has been illustrated in



the photomontages at Annex 9.2 (Volume II).

Once the planting becomes established, it will aid the project to visually blend in with the receiving landscape; however, it will not entirely screen the electricity substation from any VRP. Where views are afforded of the project from the surrounding landscape, the mitigation planting will help assimilate the project into the view, thus slightly reducing the magnitude of the visual effect; however, in no instance will it be sufficient to reduce the visual impact significance at any of the selected VRPs by a full assessment category.

However, and notwithstanding the above, it should be reiterated that the predicted significance is already at the lower end of the significance spectrum for each VRP.

9.7 Summary

9.7.1 Landscape Impacts

An assessment of the existing baseline conditions for landscape effects was undertaken having regard to the prevailing policy context and the sensitivity of the receiving landscape. The receiving landscape is assessed to be of medium sensitivity.

The magnitude of construction phase landscape effects is assessed as likely to be low along the underground electricity line and medium at the electricity substation. Consequently, the significance of construction phase impacts on the landscape is assessed to be Slight and Moderate, respectively.

The magnitude of operational phase landscape effects is assessed to be lownegligible, arising from the underground electricity line and medium-low arising from the electricity substation. Therefore, based on the medium sensitivity judgement, the significance of the operational phase impact is assessed as likely to be Slightimperceptible and Moderate-slight, respectively.

It is assessed that the project could contribute to cumulative landscape impacts in conjunction with the permitted Seven Hills Wind Farm. Cumulative landscape effects were assessed for the construction and operational phases, but are not assessed as likely to be significant.

The proposed mitigation measures will not alter any of the predicted impacts on the landscape and, consequently, the significance of residual impacts on the landscape remains unchanged when compared to the pre-mitigation effects.

9.7.2 Visual Impacts

An assessment of the existing baseline conditions for visual effects was undertaken having regard to the prevailing visual policy context and the sensitivity at each of the selected VRPs. The visual sensitivity is assessed to range from medium to medium-low.

The magnitude of visual effects during the construction phase is assessed to be no greater than medium, even at the closest receptor locations where clear views towards the project site are afforded.

A set of photomontages from 5 no. representative VRPs was produced to visually represent the project during the operational phase (pre- and post-mitigation) and to allow for a comprehensive cumulative assessment in combination with other developments including the permitted Seven Hills Wind Farm.

Sensitivity across the 5 no. VRPs range between medium and medium-low. The magnitude of visual impacts range between medium-low and low-negligible. Based



on the combination of visual receptor sensitivity and impact magnitude the highest level of significance occurred at VP3 and was Moderate-slight.

Screen planting is proposed to the south, east, and west of the electricity substation. The mitigation planting has been depicted in the post-mitigation photomontages to demonstrate the degree of additional screening which will be provided following its establishment. The planting will not be visible from VP1 and VP2. The proposed planting will have the effect of assisting in screening the electricity substation as viewed from VP3, VP4 and VP5; however, it will not alter any of the predicted visual impacts at these VRPs and, consequently, the significance of residual visual impacts remains unchanged when compared to the pre-mitigation effects.

Based on the landscape, visual, and cumulative assessment contained herein, it is assessed that there will be no significant landscape or visual effects arising from the project.

