TECHNICAL APPENDIX 1: LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Colehill 110kV Substation and Grid Route

20/11/2025

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EXECUTIVE SUMMARY

1.1. This LVIA (Landscape Visual Impact Assessment) considers the potential direct and indirect effects of the Proposed Development upon the landscape resources, views and visual amenity receptors within the existing landscape and visual baseline across a 5km study zone.

1.2. The Proposed 110kV substation will be located within agricultural land and with the surrounding fields consisting of a mixture of tillage and grazing agricultural fields. The immediate land-use which surrounds the site is mainly agricultural lands, primarily used as pastureland for livestock. The field boundaries are comprised of mature hedgerows and treelines reinforcing the boundary. The Proposed 110kV substation is situated within a rural setting. The grid route and substation boundaries are approximately 250m and 5.8km northeast from Tullamore Town, respectively.

1.3. For the purposes of this assessment, the Proposed Development is considered in two parts:

- The *'Proposed 110kV Substation'* - comprising the substation and associated permanent built elements, which may give rise to notable landscape and visual effects; and
- The '*Grid Connection Route'* - including c7.5km cable route and the horizontal direction drilling (HDD) crossing for interconnection cables, which will give rise to temporary, construction-related effects only, with no long-term change anticipated following reinstatement.

1.4. Together, these two elements are referred to as the *'Proposed Development'*, which comprises a 110kV substation, access road, interconnection cables, and grid route.

Landscape Effects:

1.5. The Proposed 110kV Substation is located within County Offaly's Landscape Classification Area of Low Sensitivity. The grid connection route, is situated on the edge of a High Sensitivity Landscape Character Area, as indicated in Figure 1.1 - Landscape Character Areas (Appendix 1A).

1.6. The main landscape effects of the Proposed 110kV Substation will be associated with the introduction of industrial elements within fields previously used for agricultural practices. The introduction of the substation will lead to a change of character within the confines of the Proposed 110kV Substation site boundary, i.e. where the Proposed 110kV Substation is physically located. The grid connection route and interconnection cabling including the HDD crossing, will give rise to temporary landscape effects during the construction phase only, after which the land will be reinstated and no long-term change to landscape character is anticipated. The introduction will result in a localised change to landscape character within

the site, introducing a functional, infrastructural element that imparts a more industrial character to the site and its immediate surroundings, where visible. However, unlike larger-scale industrial developments, substations are typically small to medium in scale and, in many cases, can be effectively screened and assimilated into the surrounding landscape. It is also noted that existing 110kV overhead lines are located west of the Proposed 110kV substation, running in a north-northwest to south-southeast direction, which contributes to the existing baseline of infrastructural presence in the area. The Proposed 110Kv Substation, is located within County Offaly's Landscape Classification Area of *Low Sensitivity*. The grid connection route, which incorporates a section of HDD for interconnection cables, is situated on the edge of a *High Sensitivity* Landscape Character Area, as indicated in **Figure 1.1 - Landscape Character Areas** (**Appendix 1A**). These works will be temporary in nature and limited to the construction phase.

1.7. Indirect change will occur outside of the Proposed 110kV substation boundary, where the visibility of the Proposed 110kV substation has an influence on the perception of the character of the landscape. Generally, the indirect change in landscape character is greatest in its immediate and close surroundings where open and partial views are possible within approximately 500m radius from the development boundary. However, the Proposed 110kV substation is generally very well screened. As seen in the Viewpoint Assessment within this report, (refer to **Figure 1.4 – 1.7** of **Appendix 1A**), views from the east, west, north and south are largely screened by vegetation and landform.

1.8. Indirect change and the significance of landscape effects will reduce with increasing distance from the Proposed 110kV substation in the remaining study area (between approximately 500m and 2km from the Site boundary). Given the nature, scale and setting of the Proposed 110kV substation, the change in character will not be recognised over long distances throughout the wider study area in accessible views. The magnitude of change in these areas is considered **Very Low/Negligible.** The significance of landscape effects on the landscape character is therefore considered to be **Not Significant.**

Visual Effects:

1.9. The majority of residential dwellings in the immediate environment of the Proposed 110kV substation are located mainly to the northwest.

1.10. The highest visual effects will be experienced within an approximate 250m radius of the Proposed 110kV substation boundary, from locations with open or partial views of the Proposed 110kV substation. However, areas experiencing visibility have been found to be extremely limited given the level of existing vegetation screening the majority of views. Therefore, the possible views from many of these locations are often glimpsed and fleeting in nature.

1.11. The magnitude of visual effects on local residents and residential areas with views of the Proposed 110kV substation within approximately 250m are considered **Negligible/ Very Low** depending on the openness of views and intervening screening by vegetation, topography or built structures.

1.12. The Proposed 110kV substation will add an industrial character to accessible views. Distance will become a mitigating factor, and the development will be seen in the context of the wider landscape. However, vegetation will screen potential views of the Proposed 110kV substation from elevated areas of the study area.

1.13. In long-distance views ranging between approximately 1km and 3km, particularly from the road network to the south the effects will be Negligible. The Grand Canal situated c.1.74km south of the Proposed 110kV substation will also have limited views towards the site. This is discussed further below. While the Proposed 110kV substation will add an industrial element to the view when seen, the change will be not be seen in the context of the wider landscape, where mitigation measures will help integrate the Proposed 110kV substation into its setting.

INTRODUCTION

Background

1.14. Neo Environmental Ltd has been appointed by Renewable Energy Systems on behalf of Ballyteige Solar Limited (the "Applicant") to undertake a Landscape and Visual impact Assessment for a Strategic Infrastructure Development ("SID") Application for a new 110kV Substation ("Colehill 110kV Substation") and grid connection to the existing Thornsberry 110kV substation.

Development Description

1.15. "The Proposed Development" comprises of a 110kV substation, access road, interconnection cables and grid route. The Proposed Development is to facilitate the connection of Ballyteige (PA Ref: 2198) and Derrygrogan (PA Ref: 22378 and ABP 318041-23) solar farms to the national grid. The method of connection to the national grid for the new substation will be a 110kV tail-fed connection into the existing Thornsberry Substation.

1.16. The Proposed Development will consist of:

- 1No. substation compound comprising of No.3 work areas with CCTV and associated drainage which will be enclosed by 2.6m high palisade fencing and gates:
    - 1No. Eirgrid control building, 110kV bay arrangements, 4No. lightning poles, compound road,
    - Crane hardstand, 2No. transformers and 2. No auxiliary transformers, 110kV electrical equipment, back up generator,
    - 2No. Independent Power Purchaser (IPP) control buildings and compound including toilet, 2No. grid code compliance equipment, 2No. harmonic filters, car parking and telecoms pole),
- Property boundary fencing;
- Access tracks (upgraded existing and new);
- Temporary construction compound and temporary access track,
- Temporary and permanent road re-alignment of a section of O of Wood local road;
- c.7.5km of underground 110kV cabling with joint bays, over and under watercourse crossing and a potential horizontal directional drill on access track and local roads;

- c.610m of medium voltage underground interconnection cable with associated horizontal directional drill.

1.17. Please see **Figure 103** in **Volume 2** for a layout of the Proposed Development.

Site Description

1.18. The Proposed Development is situated within the townlands of Ballyteige Little, Wood of O, Corndarragh, Derrynagall or Ballydaly, Ardan and Puttaghan, Co. Offaly.

1.19. The Colehhill 110kV Substation is proposed to be located in one relatively flat agriculture field. The proposed c.7.5km grid route will run in a northeast direction from the proposed Colehill 110kV substation to the existing ESB Thornsberry 110kV substation via private land and local roads. Interconnection cables from the eastern sections of Derrygrogan Solar Farm will be installed via horizontal directional drilling on a section of an agricultural field underneath the dry canal into the proposed access and track of Colehill 110kV Substation.

1.20. The Proposed Development lies at an elevation of c. 71.7 to 77.8m AOD and covers a total area of c. 11.2 hectares. The approximate Irish Grid Reference points (ITM) of the proposed Colehill 110kV substation are X 639234 and Y 727175. Access to the proposed substation will be from the Kilbeggan Road to the east of the Proposed 110kV substation which is the same entrance point for the consented Ballyteige Solar Farm (**PA Ref: 2198**).

1.21. The grid route and substation boundaries are approximately 250m and 5.8km northeast from Tullamore Town.

Assessment Scope

1.22. This Landscape and Visual Impact Assessment (LVIA) identifies and assesses the potential effects of a Proposed Substation Development on the landscape and visual resources of the study area, within Co. Offaly.

1.23. This report summarises the likely impacts and significant effects of the Proposed Development on landscape and views, and proposes measures to mitigate these impacts and effects where necessary.

1.24. For the purposes of this assessment, the Proposed Development is considered in two parts. The term refers to the main element of the development, namely the substation, which incorporates permanent built elements that may give rise to notable landscape and visual effects. The grid connection route with potential HDD and the interconnection cabling with HDD crossing is assessed separately, as it will result in temporary construction-related effects only, with no long-term change anticipated following reinstatement.

1.25. The LVIA has taken the following approach:

- Identify and evaluate the existing landscape and visual baseline within an initial 5km study area. A detailed study area of 1.5km has identified and evaluated the existing landscape and visual baseline through desk-based analysis, GIS mapping, and fieldwork based on professional judgement and guidance;
- The area in which the Proposed 110kV substation may be visible was established through the preparation of Zone of Theoretical Visibility (ZTV) plans;
- Determine the landscape and visual receptors with the potential to be affected by the Proposed Development and their sensitivity to the proposed changes resulting from the Proposed Development;
- Assess the interaction of the Proposed Development with the landscape and visual receptors to establish a judgement of the degree of effects the Proposed Development would have upon each receptor.

1.26. This report considers how:

- Landscape effects associated with a development relate to changes to the fabric, character and quality of the landscape resource and how it is experienced; and
- Visual effects relate closely to landscape effects, but also concern changes in views as visual assessment is also concerned with people's perception and response to changes in visual amenity.

1.27. The Planning Statement (Volume 1) of this planning application provides a full description of the Proposed Development. The type and duration of the landscape and visual effects fall within three main stages: the construction, operational, and decommissioning phases.

1.28. Landscape and visual effects are interrelated with other environmental effects but are assessed separately. Whilst elements of cultural heritage, such as heritage landscapes, are important elements of the landscape and contribute to its character and influence its quality and value, effects on the significance of these designated features and their setting do not form part of this assessment.

1.29. The following figures are included in Appendix 1A:

- Figure 1.1 – Landscape Character Areas;
- Figure 1.2 – Colehill 110kV Substation Zone of Theoretical Visibility;
- Figure 1.3 - Landscape Designations with ZTV;
- Figure 1.4 – Viewpoints Locations with ZTV

- Figure 1.5– Viewpoints 1 & 2
- Figure 1.6 – Viewpoints 3 & 4
- Figure 1.7 – Viewpoints 5 & 6
- Figure 1.8 – Landscape and Ecology Management Plan (LEMP) (Sheet 01)
- Figure 1.9 – Viewpoint 4 – Photomontage
- Figure 1.10 – Viewpoint 5 – Photomontage

METHODOLOGY

Guidance and other Information used in the Landscape and Visual Impact Assessment

1.30. The following sources and guidelines were used in the assessment:

- 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA), 3rd Edition, 2013, Landscape Institute (UK) & Institute of Environmental Management and Assessment (IEMA)[1];
- *'Visual Representation of Development Proposals'*, Landscape Institute, Technical Guidance Note 06/19, 17 September 2019[2];
- *"Guidelines on the information to be contained in Environmental Impact Assessment Reports"*, Environmental Protection Agency (EPA); Draft, August 2017[3];
- Offaly County Development Plan 2021-2027[4];
- National Parks and Wildlife Service (NPWS) [5]
- Irishtrails[6]

Project Scope

1.31. The type and duration of the landscape and visual effects fall within three main stages, those being the construction, operational and decommissioning phases

1.32. The potential construction phase (temporary and of a short duration) effects include:

- Physical effects arising from construction of the Proposed Development on the landscape resource within the study area;

[1] https://www.landscapeinstitute.org/technical/glvia3-panel/

[2] https://www.landscapeinstitute.org/visualisation/

[3] https://www.epa.ie/publications/monitoring--assessment/assessment/guidelines-on-the-information-to-be-contained-in-environmental-impact-assessment-reports-eiar.php

[4] https://www.offaly.ie/c/county-development-plan/

[5] https://www.npws.ie/

[6] https://www.sportireland.ie/outdoors/find-your-trails

- Effects to landscape character and visual amenity within the wider study area of 5km as a result of changes to elements present within the landscape and/ or visual amenity as a result of construction activities;
- Effects of temporary site infrastructure such as site traffic and construction compounds;
- Effects of partially built Proposed Development in various stages of construction; and
- Cumulative effects of the Proposed Development with other permitted developments of a similar type and scale upon the landscape and visual resource of the study area.

1.33. The potential operational phase effects include:

- Effects of the Proposed Development on landscape resources and landscape character, including the perceptual qualities of the landscape;
- Effects of the Proposed Development on views and visual amenities; and
- Cumulative effects of the Proposed Development in combination with other permitted developments of a similar type and scale upon the landscape and visual resource of the study area.

1.34. Following the completion of construction works, elements of the Proposed Development will become a long-term feature in the visual amenity of parts of the study area. The assessment takes this into account in determining residual visual effects.

1.35. Offaly County landscape designations[7] have been reviewed as part of this assessment. However, given the nature of the development, its location, scale and setting, it is considered that likely significant effects will occur within the locality of the Proposed Development that will not affect the wider landscape character or visual amenity.

1.36. The Proposed Development will be decommissioned when it reaches the end of its period of consent. At that time, detailed decommissioning procedures will be produced in line with prevailing best practice to ensure that no significant negative environmental effects arise from the decommissioning of the Proposed Development. As a result, additional potential impacts and associated effects arising during the decommissioning phase are not anticipated above and beyond those already assessed during the construction phase.

1.37. The primary focus of the LVIA is the proposed substation development, which represent the most visually prominent components of the project. While the grid connection route is

[7] https://www.offaly.ie/app/uploads/Council/Council_Services_A-Z/Planning_Building/Chapter-10-Built-Heritage.pdf

considered as part of the overall development, it is assessed separately within the LVIA due to its linear nature and lower visual prominence.

1.38. There are scattered residential settlements dispersed along the local roads which surround the site to the east and north northeast. Further residential properties and farmsteads can be seen along the L1025, north of the Proposed 110kV substation. There is a patch of forestry south west of the Proposed 110kV substation. This creates an enclosed landscape character within the site itself. This report identifies the mitigation and compensation measures that will be implemented to prevent, reduce or offset potential adverse landscape and visual effects or enhance potential beneficial effects, where possible.

1.39. This report considers how:

- Landscape effects associated with a development relate to changes to the fabric, character and quality of the townscape resource and how it is experienced; and
- Visual effects relate closely to landscape effects but also concern changes in views as visual assessment is also concerned with people's perception and response to changes in visual amenities.

Assessment Process

1.40. The assessment is undertaken based on the following key tasks and structure:

- Establishment of the Baseline or receiving environment;
- Appreciation of the Proposed Development; and
- Assessment of effects.

Establishment of the Receiving Environment

1.41. A baseline study was undertaken through a combination of desk-based research and site appraisal in order to establish the existing conditions including landscape value, susceptibility and sensitivity of the landscape and visual resources of the study area. Desk based research involved a review of mapping and aerial photography, relevant planning and other policy documents, existing Landscape Character Assessments and other relevant documents and publications.

Assessment of Effects

1.42. This LVIA seeks to identify, predict and evaluate the significance of the potential effects of the Proposed Development on landscape characteristics and established views. The assessments conducted as part of this LVIA are based on an evaluation of the value and susceptibility, and

therefore sensitivity to change and the magnitude of change for each landscape or visual receptor.

1.43. This assessment acknowledges that landscape and visual effects change over time as the existing landscape evolves and proposed planting establishes and matures. The assessment therefore reports on likely effects during both the construction and operational phases of the Proposed Development. The visibility of the Proposed Development in the landscape or view will vary according to the existing screening effects of local topography, structures and buildings, intervening existing vegetation and type and height of the proposed structures.

Study Area

1.44. A core study area of 5km radius has been set from the Proposed 110kV substation boundary for the assessment. The core study area has been selected to identify potential significant landscape and visual impacts within County Offaly (refer to **Figure 1.1 & Figure 1.2 of Appendix 1A**). The extent of the study area has been identified through the production of a Zone of Theoretical Visibility (ZTV) mapping (refer to **Figure 1.3 of Appendix 1A**), a review of maps and aerial photographs and site survey data. It is acknowledged that the Proposed Development may be visible from locations beyond the core study area of 5km radius. As such, it is important to note that the core study area defines the area within which potential effects could be significant, rather than defining the extent of visibility.

Effects Scoped Out

1.45. It is envisaged that the Proposed Development will have a design life for a period of time. It will therefore become a long-term feature in the landscape following the completion of construction works. The assessment takes account of this in the determination of residual landscape and visual effects.

1.46. Effects arising from the decommissioning of the Proposed Development, are of a similar nature and duration to those arising from the construction process, and therefore have not been considered separately in this chapter. Where this assessment refers to potential construction effects of structures, these are also representative of predicted decommissioning effects.

Landscape Effects

1.47. Landscape effects describe the impact on the fabric or structure of a landscape or its landscape character.

1.48. Assessing the potential effects of a development on the landscape firstly requires the identification of the components of the landscape. The landscape components are also described as landscape receptors and comprise the following:

- Individual landscape elements or features;

- Specific aesthetic or perceptual aspects; and
- Landscape character, or the distinct, recognisable and consistent pattern of elements (natural and man-made) in the landscape that makes one landscape different from another.

1.49. This LVIA report identifies the interaction between these components and the Proposed Development during the construction and operational phases. The condition of the landscape and any evidence of current pressures causing change in the landscape will also be documented and described.

Landscape Value

1.50. Landscape value is frequently addressed by reference to international, national, regional and local designations, determined by statutory and planning agencies. However, absence of such a designation does not necessarily imply a lack of quality or value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality as a highly valuable local resource. The quality and condition are also considered in the determination of the value of a landscape. The evaluation of landscape value is undertaken with reference to the definitions stated in the Table 1.1.

Table 1.1: Landscape Value

LANDSCAPE VALUE	CLASSIFICATION CRITERIA
High	Nationally designated or iconic, unspoilt landscape with few, if any, degrading elements.
Medium	Regionally or locally designated landscape, or an undesignated landscape with locally important landmark features and some detracting elements.
Low	Undesignated landscape with few if any distinct features or with several degrading elements.

Landscape Susceptibility

1.51. Landscape susceptibility relates to the ability of a particular landscape to accommodate the Proposed Development. Landscape susceptibility is appraised through consideration of the baseline characteristics of the landscape, and in particular the scale or complexity of a given landscape.

1.52. The evaluation of landscape susceptibility is undertaken with reference to a three-point scale, as outlined in the Table 1.2.

Table 1.2: Landscape Susceptibility Criteria

LANDSCAPE SUSCEPTIBILITY	CLASSIFICATION CRITERIA
High	Small scale, intimate or complex landscape considered to be intolerant of even minor change.
Medium	Medium scale, more open or less complex landscape considered tolerant to some degree of change.
Low	Large scale, simple landscape considered tolerant of a large degree of change.

Landscape Sensitivity

1.53. Landscape sensitivity to change is determined by employing professional judgment to combine value and susceptibility in order to determine landscape sensitivity, with reference to the Table 1.3 outlined below.

Table 1.3: Landscape Sensitivity to Change Criteria

LANDSCAPE SENSITIVITY	CLASSIFICATION CRITERIA
High	Landscape characteristics or features with little or no capacity to absorb change without fundamentally altering their present character. Landscape designated for its international or national landscape value or with highly valued features. Outstanding example in the area of well cared for landscape or set of features that combine to give a particularly distinctive sense of place. Few detracting or incongruous elements.
Medium-High	Landscape characteristics or features with a low capacity to absorb change without fundamentally altering their present character. Landscape designated for regional or county-wide landscape value where the characteristics or qualities that provided the basis for their designation are apparent or a landscape with highly valued features locally. Good example in the area of a well-cared for landscape or set of features that combine to give a clearly defined sense of place.
Medium	Landscape characteristics or features with moderate capacity to absorb change without fundamentally altering their present character. Landscape designated for its local landscape value or a regional designated landscape where the characteristics and qualities that led to the designation of the area are less apparent or are partially eroded or an undesignated landscape which may be valued locally – for example an important open space. An example of a landscape or a set of features which is relatively coherent, with a good but not exceptional sense of place - occasional buildings and spaces may lack quality and cohesion.

Medium-Low	Landscape characteristics or features which are reasonably tolerant of change without determent to their present character. No designation present or of little local value. An example of an un-stimulating landscape or set of features; with some areas lacking a sense of place and identity.
Low	Landscape characteristics or features which are tolerant of change without determent to their present character. An area with a weak sense of place and/ or poorly defined character/ identity. No designation present or of low local value or in poor condition. An example of monotonous unattractive visually conflicting or degraded landscape or set of features.

Magnitude of Landscape Change

1.54. Magnitude of change is an expression of the size or scale of change in the landscape, the geographical extent of the area influenced and the duration and reversibility of the resultant effect. The variables involved are described below (from Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute and IEMA, 2013)[8]:

- The extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;
- The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;
- Whether the effect changes the key characteristics of the landscape, which are integral to its distinctive character;
- The geographic area over which the landscape effects will be felt (within the site itself; the immediate setting of the site; at the scale of the landscape type or character area; on a larger scale influencing several landscape types or character areas); and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

1.55. Changes to landscape characteristics can be both direct and indirect. **Direct change** occurs where the Proposed Development will result in a physical change to the landscape within or

[8] https://www.taylorfrancis.com/books/mono/10.4324/9780203436295/guidelines-landscape-visual-impact-assessment-landscape-institute

adjacent to the site. **Indirect changes** are a consequence of the direct changes resulting from the Proposed Development. They can often occur away from the site (for example, off-site construction staff parking) and may be a result of a sequence of interrelationships or a complex pathway (for example, a new road or footpath construction may increase public access and associated problems e.g. littering). They may be separated by distance or in time from the source of the effects. The magnitude of change affecting the baseline landscape resource is based on an interpretation of a combination of the criteria set out in **Table 1.4.**

Table 1.4: Magnitude of Landscape Change Criteria (Landscape Effects)

MAGNITUDE OF LANDSCAPE CHANGE	CLASSIFICATION CRITERIA
None	No change.
Negligible	Little perceptible change.
Low	Minor change, affecting some characteristics and the experience of the landscape to an extent; and Introduction of elements that is not uncharacteristic.
Medium	Noticeable change, affecting some key characteristics and the experience of the landscape; and Introduction of some uncharacteristic elements.
High	Noticeable change, affecting many key characteristics and the experience of the landscape; and Introduction of many incongruous developments.
Very High	Highly noticeable change, affecting most key characteristics and dominating the experience of the landscape; and Introduction of highly incongruous development.

Visual Effects

1.56. Visual effects are determined by the extent of visibility and the nature of the visibility (i.e. how a development is seen within the landscape); for example, whether it appears integrated and balanced within the visual composition of a view or whether it creates a focal point.

1.57. Adverse visual effects may occur through the intrusion of new elements into established views, which are out of keeping with the existing structure, scale and composition of the view. Visual effects may also be beneficial, where an attractive focus is created in a previously unremarkable view, or the influence of previously detracting features is reduced. The significance of effects will vary, depending on the nature and degree of change experienced and the perceived value and composition of the existing view.

Receptors

1.58. For there to be a visual impact, there is the need for a viewer. Views experienced from locations such as settlements, recognised routes and popular vantage points used by the public have been included in the assessment. Receptors are the viewers at these locations. The degree to which receptors, i.e. people, will be affected by changes as a result of the Proposed Development depends on a number of factors, including:

- Receptor activities, such as taking part in leisure, recreational and sporting activities, travelling or working;
- Whether receptors are likely to be stationary or moving and how long they will be exposed to the change at any one time;
- The importance of the location, as reflected by designations, inclusion in guidebooks or other travel literature, or the facilities provided for visitors;
- The extent of the route or area over which the changes will be visible;
- Whether receptors will be exposed to the change daily, frequently, occasionally or rarely;
- The orientation of receptors in relation to the site and whether views are open or intermittent;
- Proportion of the developments that will be visible (full, sections or none);
- Viewing direction, distance (i.e. short-, medium- and long-distance views) and elevation;
- Nature of the viewing experience (for example, static views, views from settlements and views from sequential points along routes);
- Accessibility of viewpoint (public or private, ease of access);

- Nature of changes (for example, changes in the existing skyline profile, creation of a new visual focus in the view, introduction of new man-made objects, changes in visual simplicity or complexity, alteration of visual scale, landform and change to the degree of visual enclosure); and
- Nature of visual receptors (type, potential number and sensitivity of viewers who may be affected).

Value of the View

1.59. Value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey Ireland (OSi) tourist maps and in guidebooks, literature or art. Value can also be indicated by the provision of parking or services and signage and interpretation. The nature and composition of the view is also an indicator. The value of the view is determined with reference to the definitions outlined in **Table 1.5.**

Table 1.5: Value of the View

VALUE	CLASSIFICATION CRITERIA
High	Nationally recognised view of the landscape, with no detracting elements.
Medium	Regionally or locally recognised view, or unrecognised but pleasing and well composed view, with few detracting elements.
Low	Typical or poorly composed view often with numerous detracting elements.

Visual Susceptibility

1.60. GLVIA3 identify that the susceptibility of visual receptors to changes in views and visual amenity is a function of:

- The occupation or activity of people experiencing the view at a particular location; and
- The extent to which their attention or interest may therefore be focused on the views and visual amenity they experience at particular locations.

1.61. For example, residents in their home, walkers whose interest is likely to be focused on the landscape or a particular view, or visitors at an attraction where views are an important part of the experience often indicate a higher level of susceptibility. Whereas receptors occupied in outdoor sport, where views are not important, or at their place of work, are often considered less susceptible to change. Visual susceptibility is determined with reference to the three-point scale and criteria outlined in **Table 1.6.**

Table 1.6: Visual Susceptibility

SUSCEPTIBILITY	CLASSIFICATION CRITERIA
High	Receptors for which the view is of primary importance and are likely to notice even minor change.
Medium	Receptors for which the view is important but not the primary focus and are tolerant of some change.
Low	Receptors for which the view is incidental or unimportant and are tolerant of a high degree of change.

Visual Sensitivity

1.62. Sensitivity to change considers the nature of the receptor; for example, a person occupying a residential dwelling is generally more sensitive to change than someone working in a factory unit. The importance of the view experienced by the receptor also contributes to an understanding of the susceptibility of the visual receptor to change as well as the value attached to the view.

1.63. A judgment is also made on the value attached to the views experienced. This takes account of:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations;
- Indicators of the value attached to views by visitors, for example through appearance in guidebooks or on tourist maps, provision of facilities for their enjoyment (sign boards, interpretive material) and references to them in literature or art; and
- Possible local value; it is important to note that the absence of view recognition does not preclude local value, as a view may be important as a resource in the local or immediate environment due to its relative rarity or local importance.

1.64. The visual sensitivity to change is based on interpretation of a combination of all or some of the criteria outlined in Table 1.7.

Table 1.7: Sensitivity to Change Criteria

LANDSCAPE SENSITIVITY	CLASSIFICATION CRITERIA

High	Landscape characteristics or features with little or no capacity to absorb change without fundamentally altering their present character. Landscape designated for its international or national landscape value or with highly valued features. Outstanding example in the area of well cared for landscape or set of features that combine to give a particularly distinctive sense of place. Few detracting or incongruous elements.
Medium-High	Landscape characteristics or features with a low capacity to absorb change without fundamentally altering their present character. Landscape designated for regional or county-wide landscape value where the characteristics or qualities that provided the basis for their designation are apparent or a landscape with highly valued features locally. Good example in the area of a well-cared for landscape or set of features that combine to give a clearly defined sense of place.
Medium	Landscape characteristics or features with moderate capacity to absorb change without fundamentally altering their present character. Landscape designated for its local landscape value or a regional designated landscape where the characteristics and qualities that led to the designation of the area are less apparent or are partially eroded or an undesignated landscape which may be valued locally – for example an important open space. An example of a landscape or a set of features which is relatively coherent, with a good but not exceptional sense of place - occasional buildings and spaces may lack quality and cohesion.
Medium-Low	Landscape characteristics or features which are reasonably tolerant of change without determent to their present character. No designation present or of little local value. An example of an un-stimulating landscape or set of features; with some areas lacking a sense of place and identity.
Low	Landscape characteristics or features which are tolerant of change without determent to their present character. An area with a weak sense of place and/ or poorly defined character/ identity. No designation present or of low local value or in poor condition. An example of monotonous unattractive visually conflicting or degraded landscape or set of features.

Magnitude of Visual Change

1.65. Visual effects are direct effects as the magnitude of change within an existing view will be determined by the extent of visibility of the Proposed Development. The magnitude of the visual effect resulting from the Proposed Development at any particular viewpoint or receptor is based on the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved, as per *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute, IEMA, 2013,* are described below:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the development;
- The degree of contrast or integration of any new features or changes in the landscape form, scale, mass, line, height, skylining, back-grounding, visual clues, focal points, colour and texture;
- The nature of the view of the Proposed Development, in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpses;
- The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the development and the extent of the area over which the changes will be visible; and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

1.66. The magnitude of visual effect resulting from the development at any particular viewpoint or receptor is based on the interpretation of the above range of factors and is set out in Table 1.8.

Table 1.8: Magnitude of Visual Change Criteria (Visual effects)

MAGNITUDE OF LANDSCAPE CHANGE	CLASSIFICATION CRITERIA
None	No change.
Negligible	Little perceptible change.
Low	Minor change, affecting some characteristics and the experience of the landscape to an extent; and Introduction of elements that is not uncharacteristic.

Medium	Noticeable change, affecting some key characteristics and the experience of the landscape; and Introduction of some uncharacteristic elements.
High	Noticeable change, affecting many key characteristics and the experience of the landscape; and Introduction of many incongruous developments.
Very High	Highly noticeable change, affecting most key characteristics and dominating the experience of the landscape; and Introduction of highly incongruous development.

Duration and Quality of Effects

1.67. Table 1.9 provides the definition of the duration of landscape and visual effects.

Table 1.9: Definition of Duration of Effects

DURATION	DESCRIPTION
Temporary	Effects lasting one year or less.
Short Term	Effects lasting one to seven years.
Medium Term	Effects lasting seven to fifteen years.
Long Term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years.

1.68. Both, landscape and visual effects, can be beneficial (positive), adverse (negative) or Neutral according to the definitions set out in the Table 1.10.

Table 1.10: Definition of Quality of Effects

QUALITY OF EFFECTS	DESCRIPTION
Neutral	This will neither enhance nor detract from the landscape character or view.
Beneficial (positive)	This will improve or enhance the landscape character or view.
Adverse (negative)	This will reduce the quality of the existing landscape character or view.

Significance Criteria

1.69. The objective of the LVIA is to identify and evaluate the potentially significant effects arising from the Proposed Development. It will identify the residual effects likely to arise from the finalised design considering mitigation measures and the change over time.

1.70. The significance of effects is assessed by considering the sensitivity of the receptor and the predicted magnitude of effect in relation to the baseline conditions. In order to provide a level of consistency and transparency to the assessment and allow comparisons to be made between the various landscape and visual receptors subject to assessment, the assessment of significance is informed by pre-defined criteria as outlined in **Table 1.11**. When assessing significance, individual effects may fall across several different categories of significance and professional judgment is therefore used to determine which category of significance best fits the overall effect to a landscape or visual receptor.

Table 1.8: Categories of Significance of Landscape and Visual Effects

SIGNIFICANCE CATEGORY	DESCRIPTION OF EFFECT
Profound	An effect that obliterates sensitive characteristics within the landscape and/ or visual environment.
Very Significant	An effect which, by its character, magnitude, duration, or intensity significantly alters most of a sensitive aspect of the landscape and/ or visual environment.
Significant	An effect which, by its character, magnitude, duration, or intensity alters a sensitive aspect of the landscape and/ or visual environment.
Moderate	An effect that alters the landscape in a manner that is consistent with existing and emerging baseline trends.
Slight	An effect which causes noticeable changes in the landscape and/ or visual environment without affecting its sensitivities.
Not Significant	An effect which causes noticeable changes in the landscape and/ or visual environment but without significant landscape and/ or visual consequences.
Imperceptible	An effect capable of measurement but without significant landscape and/ or visual consequences.

1.71. The significance of the effect is determined by considering the magnitude of the effect and the quality of the baseline environment affected by the Proposed Development. The basis for consideration of the significance of effects is included in **Plate 1.1**, below.

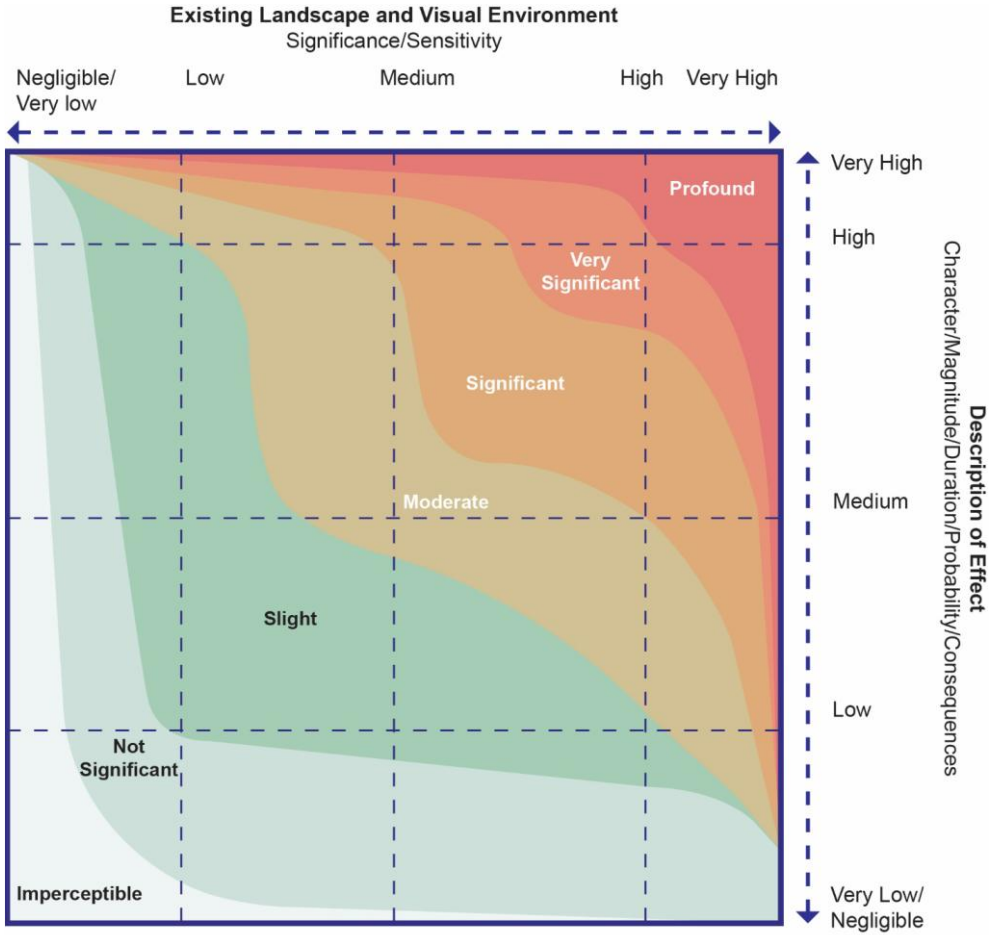

Plate 1.1 Basis for consideration of significance of effects

1.72. Effects will be assessed for all phases of the Proposed Development. Construction and decommissioning effects are considered to be temporary, short-term effects which occur during the construction and decommissioning phases only. Operational/ residual effects are those long-term effects, which will occur as a result of the presence or operation of the Proposed Development.

1.73. The quality of each effect is based on the ability of the landscape character or visual receptor to accommodate the Proposed Development, and the impact of the development within the receiving context. Once this is done, the quality of the effect is then assessed as being neutral, beneficial or adverse. A change to the landscape or visual resource is not considered to be adverse simply because it constitutes an alteration to the existing situation.

Cumulative Effects

1.74. The approach used to determine cumulative effects has drawn on guidance on cumulative impact assessment, documented in the GLVIA3. Cumulative landscape and visual effects may result from additional changes to the baseline landscape or views as a result of the Proposed Development in conjunction with other developments of a similar type and scale.

1.75. As stated within the Planning Statement within Volume 1 of this planning application, cumulative effects are those that accrue over time and space from a number of development activities – the impact of the Proposed Development is considered in conjunction with the potential impacts from other projects or activities which are both reasonably foreseeable in terms of delivery (i.e. have planning consent or relevant applications which have been submitted and are in the planning system) and are located within a realistic geographical scope where environmental impacts could act together with the Proposed Development to create a more significant overall effect.

1.76. Combined effects are those resulting from a single development (the Proposed Development) on any one receptor that may collectively cause a greater effect.

Magnitude of Cumulative Effects

1.77. The principle of magnitude of cumulative effects makes it possible for the Proposed Development to have a major impact on a particular receptor, while having only a minor cumulative impact in conjunction with permitted developments of similar scale and nature as the Proposed Development.

1.78. The evaluation of the magnitude of cumulative change is based on the criteria outlined in the assessment methodology for landscape and visual effects as stated above as well as on the interpretation of the following parameters:

- The additional extent, direction and distribution of existing and other developments in conjunction with the Proposed Development;
- The distance between the viewpoint, the Proposed Development and the cumulative developments; and
- The landscape setting, context and degree of visual coalescence of the Proposed Development and cumulative developments.

Significance of Cumulative Effects

1.79. As for the assessment of landscape and visual effects, the significance of any cumulative effects follows a similar classification. Basis for consideration of significance of effects, as listed in Table 1.11, and will be assessed as Profound, Very Significant, Moderate, Slight, Not Significant, Imperceptible.

1.80. The cumulative assessment focuses on potential cumulative effects relating to the main permanent structure of other solar, wind and BESS developments within the 5km area. This is due to the uncertainty of the timing of construction activities for identified developments.

As a result, temporary structures and activity relating to construction have not been considered within the cumulative assessment.

Fieldwork

1.81. Site surveys of the study area were carried out most recently in September 2025, identifying the potential visibility of the Proposed Development and key viewpoints (**Figure 1.4**) within the study area. The extent of the study area has been identified through the production of a ZTV mapping, refer to **Figure 1.2 & Figure 1.3** within **Appendix 1A**, a review of maps and aerial photographs and site survey data. Photomontages showing the existing view and the superimposed development have been produced from key representative viewpoints, considering topography, existing buildings, screening vegetation and other localised factors. The viewpoints included in **Appendix 1A (refer to Figure 1.5 – Figure 1.10)** provides details on viewpoint locations.

Interaction of landscape and visual effects with other environmental factors including historic landscapes

1.82. The LVIA focuses on the physical and visual appearance and character of the landscape as it is experienced today.

1.83. Landscape is also a consideration under other environmental aspects and assessments, e.g. the natural landscape (biodiversity), the geological landscape (soil and geology), the cultural/ historical landscape (cultural heritage) and the human landscape (human health).

1.84. While it is evident that an interaction of effects exists between the landscape and visual environment and these other related landscape environments/ environmental factors – not least in terms of potential for interactions of effects – assessments under these areas are generally addressed separately by other competent specialists in separate appendices of this planning application. However, the presence/ absence of such indicators can inform judgments on quality and therefore, sensitivity.

Selection of Viewpoints

1.85. It is not feasible to take photography from every possible viewpoint located in the study area. Photography has been taken from viewpoints, which are representative of the nature of visibility at various distances and in various contexts. Viewpoint photography is used as a tool to come to understand the nature of likely significant effects. The selection process of viewpoint locations is consistent with the Guidance Note; 'Visual Representation of

Development Proposals', Landscape Institute, Technical Guidance Note 06/19, 17 September 2019[9] and is as follows:

- The location of viewpoints within the study area is informed by desktop and site surveys;
- Identification and selection of representative viewpoints showing typical open or intermittent views within a local area, which will be frequently experienced by a range of viewers; and
- Identification and selection of specific viewpoints from key viewpoints in the landscape such as protected focal points and views.

VIEWPOINT PHOTOGRAPHY

1.86. The viewpoints provided give a reasonable impression of the scale of the development and the distance to the development. Still, it is recognised and understood within the industry that they can never be 100% accurate. It is recommended that decision-makers and any interested parties or members of the public should ideally visit the viewpoints, where visualisations can be compared to the 'real life' view, and the full impact of the Proposed Development can be understood.

1.87. There are no photomontages included in this report as there are no views of the Proposed development.

1.88. The LVIA identified a range of viewpoints (**Figure 1.4 - 1.7 of Appendix 1A**) located within the study area at varying distances from the Proposed 110kV substation to show the effect of the Proposed Development in key close, middle and distant views.

Zone of Theoretical Visibility (ZTV)

1.89. Mapping the extent of the area from which a development is likely to be visible is commonly referred to as a Zone of Theoretical Visibility.

1.90. ZTV mapping has been prepared for a 5km radius from the centre of the Proposed 110kV substation to illustrate the theoretical extent of visibility of its principal components. For the purposes of the analysis, spot heights of 12m were used to represent the majority of the 18m lighting masts, and 8.8m to represent the proposed control building and associated transformers. Ground levels were sourced from the OSI National DTM 10m Height Data (Series 2, accuracy ±1.5m).

[9] https://www.taylorfrancis.com/books/mono/10.4324/9780203436295/guidelines-landscape-visual-impact-assessment-landscape-institute

1.91. It should be noted that the ZTV does not take account of screening from vegetation, buildings, or localised landform, nor does it reflect variations in weather, seasonal changes, or lighting conditions. The mapping therefore illustrates a 'worst-case scenario'. Its primary function is to assist in identifying potential viewpoints for field verification and more detailed assessment.

REGULATORY / POLICY FRAMEWORK

1.92. This section of the LVIA sets out the relevant planning policy context for the Proposed Development.

European

1.93. The European Landscape Convention provides guidelines for managing landscape/ landscapes. The Convention is not an EU Directive. Countries that sign and ratify the Convention make a commitment to upholding the principles it contains within the context of their own domestic legal and policy frameworks. The convention was ratified by Ireland in March 2002 and came into effects in Ireland in 2004. The European Landscape Convention requires *"landscape to be integrated into regional and town planning policies and in cultural, environmental, agricultural, social and economic policies, as well as any other policies with possible direct or indirect impacts on Landscape".*

National

1.94. The National Landscape Strategy (NLS) for Ireland 2015-2025[10] was launched in May 2015 and is to be implemented by the Government in the future. The NLS promotes the sustainable protection, management and planning for the landscape/landscapes.

1.95. The NLS states that the

"National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape (landscape) while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions."

1.96. It also states that

"The Strategy sets out Ireland's high-level objectives and actions with regard to landscape (landscape). It also positions landscape in the context of existing Irish and European strategies, policies and objectives, and outlines methods of ensuring co-operation at a sectoral and at a European level by the State."

Regional

Offaly County Development Plan 2021-2027

[10] https://www.heritagecouncil.ie/content/files/The-National-Landscape-Strategy-for-Ireland-2015-2025.pdf

1.97. The Offaly County Development (CDP)[11] was adopted on the 10th September 2021 and came into effect 22nd October 2021, and it sets out the council's policies and objectives and the overall strategy for the development of the Offaly County Council area over the period 2021-2027.

1.98. The following policies and objectives within the CDP are relevant to landscape resources and visual amenity:

Climate Action and Energy

1.99. The noted CDP aim states;

"To achieve a transition to an economically competitive, low carbon climate resilient and environmentally sustainable county, through reducing the need to travel, promoting sustainable settlement patterns and modes of transport, and by reducing the use of non-renewable resources, whilst recognising the role of natural capital and ecosystem services in achieving this."

"Under EU Directive 2001/77/EC Renewable Energy, renewable energy sources are defined as renewable non-fossil energy sources such as, but not limited to wind, solar, geothermal, wave, tidal, hydropower, bioenergy, landfill gas, sewage treatment plant gas, bio-gases and bio-char (i.e. the thermal treatment of natural organic materials in an oxygen-limited environment)."

Biodiversity and Landscape

1.100. The Strategic aim; "*Protect and enhance Offaly's natural assets of clean water, biodiversity, landscape, green infrastructure, heritage and agricultural land*."

Lakes, Waterways and Wetland Landscapes

"The Council recognises the importance of riparian buffer zones, which are strips of vegetated land bordering a river or stream, which can protect a watercourse from the impact of human activity or development in an area."

"County Offaly contains a number of important rivers, canals, lakes and wetland landscapes, listed in Table 4.12 below, which are of great importance both as amenity resources and wildlife habitats but also are of benefit for the management of fluvial and pluvial flooding. The number of wetland landscapes in the county is expected to increase post Bord na Móna harvesting, as part of the targeted rehabilitation under the company's Integrated Pollution Control Licences (cessation of pumping, drain blocking and dam building) of former bare peat production areas and also due to the continued effects of climate change. Existing and new wetland landscapes create a rich mosaic of semi-natural habitats including open water, poor fen, rich fen, scrub grassland and heathland."

[11] Volume I Written Statement - Offaly County CouncilOffaly County Council

1.101. The Objectives include;

BLP-20

"It is Council policy to preserve riparian buffer strips free from development by reserving a minimum of 10 metres either side of all watercourses (measured from top of bank) with the full extent Offaly County Development Plan 2021-2027 Chapter 4 Biodiversity and Landscape Page 153 of the protection determined on a case by case basis by the Council, based on site specific characteristics and sensitivities."

BLP-23

"It is Council policy to consider the Waterways Corridor Study 2002 and protect the recreational, educational and amenity potential of navigational and non-navigational waterways within the county, such as the Grand Canal Corridor, towpaths and adjacent wetland landscapes, taking into account more recent heritage and environmental legislation (including the SEA Directive) and environmental policy commitments."

Trees, Forestry and Hedgerows

"Trees, forestry and hedgerows make a valuable contribution to the landscape and visual amenity of County Offaly and provide wider environmental benefits that include carbon storage. Trees, either individually, as specimen trees, or in groups also make an important contribution to the landscape of many of the country house demesnes throughout the county."

"The Council aims to protect individual trees, groups of trees or woodland, which are of environmental and/or amenity value. This can be done so with a Tree Preservation Order (TPO) that can be made through the development plan process or a separate TPO process under Section 205 of the Planning and Development Act 2000 (as amended)."

"There is an extensive network of hedgerows throughout County Offaly. There will be a firm presumption against the removal of hedgerows to facilitate development unless an equivalent compensatory length of native hedgerow is proposed. In general, trees and hedgerows should be included in design plans for development proposals."

1.102. Objectives include;

BLP-24

"It is Council policy to support the protection and management of existing networks of woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character, and to strengthen local networks. "

BLP-25

"It is Council policy to encourage the planting of native species in all new residential developments (individual and multiple units) and as part of landscaping for commercial and industrial developments. "

BLP-26

"It is Council policy to require, where practical, the management of mature trees, such as tree surgery instead of felling particularly where the trees contribute to amenity."

BLO-14

"It is an objective of the Council to preserve individual trees and groups of trees that are included in Table 4.13 and 4.14."

BLO-17

"It is an objective of the Council to encourage pursuant to Article 10 of the Habitats Directive, the management of features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species. "

BLO-18

"It is an objective of the Council to encourage the retention, wherever possible, of hedgerows and other distinctive boundary treatment in the county. Where removal of a hedgerow, stone wall or other distinctive boundary treatment is unavoidable, provision of the same type of boundary will be required of similar length and set back within the site in advance of the commencement of construction works on the site (unless otherwise agreed by the Planning Authority)."

Green Infrastructure Strategy

"The term Green Infrastructure (GI) can be broadly defined as integrated and interconnected networks of green space and water capable of delivering ecosystem services and quality of life benefits to people. It includes features such as parks, gardens, green roofs, green walls, rivers, lakes, canals, peatland, wetland landscapes, uplands, greenways, blueways, woodlands and farmlands in our countryside and settlements."

"The multiple benefits of GI are recognised in a number of national policy documents. The National Biodiversity Plan sees GI as crucial to achieving biodiversity targets and developing ecological corridors that allow the movement of species through their entire natural habitat."

"County Offaly's GI includes NHAs, SACs, SPAs designated areas, Areas of High Amenity in the county, woodlands and boglands connected by walking routes, eskers, riparian ways, Bord an Móna rail links and the Grand Canal."

1.103. Objectives include;

BLP-27

"It is Council policy to recognise the economic, social, environmental and physical value of green infrastructure. "

BLP-28

"It is Council policy to protect existing green infrastructure within the county, to provide additional green infrastructure where possible and to encourage green infrastructure to be spatially connected to facilitate the extension or establishment of ecological corridors. "

BLP-29

"It is Council policy to seek to increase investment in green infrastructure provision and maintenance by accessing relevant EU funding mechanisms and national funding opportunities."

BLP-30

"It is Council policy to integrate the provision of green infrastructure with infrastructure provision and replacement, including walking and cycling routes, as appropriate, while protecting natural heritage. "

BLP-31

"It is Council policy to support the use of green infrastructure for carbon sequestration to combat climate change."

BLO-19

"It is an objective of the Council to require all new developments to identify, protect and enhance ecological features by making provision for local biodiversity (for example, through provision of swift boxes or towers, bat roost sites, green roofs, etc.) and provide ecological links to the wider Green Infrastructure network as an essential part of the design process."

Areas of High Amenity

1.104. "*Areas of High Amenity (AHA) are areas worthy of special protection / enhancement due to their uniqueness and scenic / amenity value. These designations are additional to statutory national and European designations which may overlap with these AHA. It is a priority of the Council to protect and preserve the AHAs."*

The Grand Canal

"The Offaly section of the Grand Canal comprises of some 70 kilometres from Edenderry to Shannon Harbour. It passes through the towns of Daingean and Tullamore and the village of Pollagh. The canal traverses' large tracts of boglands and is bordered by hedgerows dating back 200 years and fringes of wild vegetation along the bank. The Grand Canal is a focus for a wide range of uses, especially for recreation and tourism purposes. The visual quality of the surrounding areas is intrinsic to maintain the attractiveness of the Grand Canal corridor. Hence, the corridor is especially sensitive to large development structures, insensitively designed or sited housing and large-scale land uses such as extractive industries. The Heritage

Council published Waterway Corridor Studies pertaining to Offaly in 2002 and in 2004. The Council will consider these studies in relation to funding and planning applications."

"The recreational value of the Grand Canal is recognised, and it is intended to preserve its attractiveness by carefully controlling development in order to protect its amenity and tourism potential. Developments, which require vehicular access from public roads that were formerly towpaths or from existing towpaths along the Grand Canal, are required to be strictly controlled (refer to Policy BHP-27 in Chapter 10). The development of the canal in relation to walking, cycling, coarse fishing and cruising will however be encouraged whilst achieving a balance with active management of the canal to keep the canal navigable. The potential for the Kilbeggan to Ballycommon link of the Grand Canal, as a cycling, walking and possibly a navigational route is acknowledged."

BLP-35

"It is Council policy to protect and preserve the county's Areas of High Amenity namely the Slieve Bloom Mountains, Clonmacnoise Heritage Zone, Durrow High Cross, Abbey and surrounding area, the River Shannon, Lough Boora Discovery Park, Grand Canal, Croghan Hill, Raheenmore Bog, Pallas Lake, Clara Bog, Clara eskers, Eiscir Riada and other eskers. Notwithstanding the location of certain settlements, or parts of, for which there are settlement plans (Towns, Villages, Sráids), within the Areas of High Amenity, it is not the intention of this policy to hinder appropriate sustainable levels of development (as set out in the plans and subject to proper planning). Further, it is policy to facilitate the sustainable extension and expansion of existing visitor, tourist related or other rural enterprises within the Areas of High Amenity, where such development is appropriate and where it can be demonstrated that it gives 'added value' to the extending activity and to the immediate area which is the subject of the 'Area of High Amenity' designation. "

BLP-36

"It is Council policy, to ensure that issues of scale, siting, design and overall compatibility (including particular regard to environmental sensitivities) with a site's location within an Area of High Amenity are of paramount importance when assessing any application for planning permission. The merits of each proposal will be examined on a case-by case basis."

BLO-22

"It is an objective of the Council to ensure that new development, whether individually or cumulatively, does not impinge in any significant way on the character, integrity and distinctiveness of or the scenic value of the Areas of High Amenity."

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. The Council of Europe's 'European Landscape Convention', signed and ratified by Ireland, recognises the importance of all landscapes, and

not just exceptional landscapes and encourages public bodies to adopt policies and measures at national, regional and local level to promote, manage and plan landscapes. "

"The National Landscape Strategy for Ireland (NLS) 2015-2025 recognises the importance of landscape protection and its interconnectivity with biodiversity and climate change. Both the NLS and the Eastern and Midland Regional Spatial and Economic Strategy (RSES) identify the need for national and regional landscape character assessments to provide a framework for comprehensive and consistent local (county) landscape character assessments advising on the proper collection, monitoring and review of the landscapes' physical, scientific, ecological, biodiversity and cultural assets. Once the necessary national and regional landscape character assessments and maps are in place, in addition to guidance on local landscape character assessments, the Council will carry out a comprehensive county landscape character assessment to ensure a consistent approach."

1.105. Objectives include;

BLP-38

"It is Council policy to protect and enhance the county's landscape, by ensuring that development retains, protects and where necessary, enhances the appearance and character of the county's existing landscape."

BLP-39

"It is Council policy to seek to ensure that local landscape features, including historic features and buildings, hedgerow, shelter belts and stone walls, are retained, protected and enhanced where Offaly County Development Plan 2021-2027 Chapter 4 Biodiversity and Landscape Page 155 appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development."

BLP-40

"It is Council policy to ensure that consideration of landscape sensitivity is an important factor in determining development uses."

BLP-41

"It is Council policy to require a Landscape/Visual Impact Assessment to accompany significant proposals, located within or adjacent to sensitive landscapes. This assessment will provide details of proposed mitigation measures to address likely negative impacts."

BLO-25

"It is an objective of the Council to protect skylines and ridgelines from development where such developments will create significant visual intrusion."

Landscape Sensitivity

"The sensitivity of a landscape is the measure of its ability to accommodate change or intervention without suffering unacceptable effects to its character and values. The sensitivity of the landscapes of County Offaly varies and is thereby classified within the following sensitivity classes: Low, Moderate and High Sensitivity."

"The capacity of each landscape character type to absorb new development will largely depend on the sensitivity of the landscape type. Developments which are likely to create a significant environmental and particularly visual impact will best be absorbed into areas where the landscape is most robust, i.e. has the capacity to absorb development without significantly changing its character. All developments should be assessed on a site by site basis to avoid, minimise or mitigate any potential environmental or visual impact"

The Grand Canal Corridor

Characteristics:

• The Grand Canal is a focus for a wide range of uses, in particular, for recreation and tourism purposes.

• The visual quality of the surrounding areas is intrinsic to maintaining the attractiveness of the Grand Canal corridor.

Sensitivities:

• Hence, the corridor particularly outside of settlements is especially sensitive to large development structures, insensitively designed sporadic housing and large-scale land uses such as extractive industries.

• Offaly County Council will have regard to the Waterway Corridor Study 2002 (and any relevant successive studies) in relation to development in the Grand Canal Corridor.

BLO-24

"It is an objective of the Council to have regard to the Landscape Sensitivity Areas in Tables 4.18, 4.19 and 4.20 in the consideration of planning applications."

Protection of Key Scenic Views, Prospects and Key Amenity Routes

1.106. "County Offaly contains a number of valuable views and prospects which offer a very attractive cross-sectional view and overall impression of differing landscapes as one traverses the county. The Council recognises the need to protect the character of the county by protecting Key Scenic Views, Prospects and Key Amenity Routes within the county. The Council will aim to protect sensitive areas from injurious development, while providing for development and change that will benefit the rural community by ensuring that appropriate standards of location, siting, design, finishing and landscaping are achieved from

implementing the development management standards contained in Chapter 13 of the County Development Plan."

1.107. Objectives include;

BLP-43

"It is Council policy to require a Landscape/Visual Impact Assessment to accompany significant proposals that are likely to significantly affect Key Scenic Views."

BLO-26

"It is an objective of the Council to protect Key Scenic Views and Key Prospects contained in CDP."

BLO-27

"It is an objective of the Council to ensure that proposed developments take into consideration their effects on views from Key Scenic Views and Prospects and Key Amenity Routes and are designed and located to minimise their impact on this views and prospects."

BASELINE ENVIRONMENT CONDITION & CONSTRAINTS

Outline Methodology

1.108. A baseline study has been undertaken through a combination of desk-based research and site appraisal in order to establish the existing conditions of the landscape and visual resources of the study area. Desk-based research involved a review of mapping and aerial photography, relevant planning and policy documents, the relevant Offaly County Landscape Character Assessments and other relevant documents and publications. A study area radius of 5km from the Proposed 110kV substation boundary has been selected to identify potential significant landscape and visual effects (refer to Landscape Designation **Figure 1.3, Appendix 1A**). The extent of the study area has been defined via a combination of a desktop survey, including a review of maps and aerial photographs of the Proposed Development and site survey data.

1.109. The study area was defined to an area where landscape and visual effects could potentially be significant rather than defining the extent of the visibility of the Proposed Development. The extent of the study area has been identified through the production of a Zone of Theoretical Visibility (ZTV) mapping (refer to **Figure 1.2 Appendix 1A**), a review of maps and aerial photographs and site surveys. Given the nature of the Proposed Development works and existing site context, the visual extent, in reality, is often far less than 5km, and significant effects are mainly confined to immediately adjacent locations.

Landscape Character Assessment

1.110. The landscape within the 5km study area falls within County Offaly and a small portion of County Westmeath to the north northwest. Both local planning authorities have used different parameters to classify landscape to help inform planners of the suitability of the landscape to change and as an input into the drafting of landscape planning policies for the County Development Plan. County Offaly have is classified the landscape into 'Landscape Classification Areas'. These are separated into areas of Low, Moderate or High Sensitivity to various kinds of development rather than into Landscape Character Types (LCTs) or Areas (LCAs). The neighbouring Westmeath Council has divided landscape into 11 unique LCAs.

1.111. The various Offaly landscape sensitivity gradings and the South Westmeath LCA found within the study area are mapped in **Figure 1.1** of **Appendix 1A**. The Proposed 110kV substation falls within the County Offaly's Landscape Classification Area of 'Low Sensitivity'.

1.112. The majority of County Offaly lands within the study area are classified as being of **Low Sensitivity**, as they consist of improved agricultural farmland and the urban areas within the town of Tullamore. Between these areas of farmland are small blocks of cut bogland which have been worked or planted up with forestry plantation which have been classed as having moderate sensitivity. The more intact bogland areas and the various waterways which transverse the landscape, including the Grand Canal, are classed as having High Sensitivity.

1.113. The Proposed 110kV substation is located in a LCA that will directly affect a Low Sensitivity Area. The Grid Connection corridor is located on the boundary of High Sensitivity Area.

1.114. The South Westmeath Eskers LCA No.11 covers the northern portion of the study area falling within County Westmeath c. 4.1km to the north. This LCA will not be directly or indirectly affected by the Proposed Development given the intervening distance and screening by conifer forest plantation so is therefore not considered further in this appraisal.

1.115. "The key characteristics and guidance provided for landscape sensitivity in County Offaly is included within the section **4.14.1 Landscape Sensitivity**[12] of the **Offaly CDP 2021-2027**[13]. The characteristics of the Low Sensitivity Area are described as:

- *"County Offaly is largely a rural county which comprises of a predominantly flat and undulating agricultural landscape coupled with a peatland landscape.*
- *"Field boundaries, particularly along roadside verges which are primarily composed of mature hedgerows typify the county's rural landscape."*
- *"Low sensitivity areas are robust landscapes which are tolerant to change, such as the county's main urban and farming areas, which have the ability to accommodate development."*
- *"These areas in general can absorb quite effectively, appropriately designed and located development in all categories (including: telecommunication masts and wind energy installations, afforestation and agricultural structures). "*
- *"Within the rural areas, development shall be screened by appropriate natural boundaries that are sympathetic to the landscape generally, where possible."*
- *"New housing proposed in rural areas should respect Offaly County Councils Rural Housing Design Guidelines, together with conformity with development standards."*

1.116. The characteristics of the Grand Canal Corridor (high sensitivity) is described as:

- *"The Grand Canal is a focus for a wide range of uses, in particular, for recreation and tourism purposes."*
- *"The visual quality of the surrounding areas is intrinsic to maintaining the attractiveness of the Grand Canal corridor."*

[12] Chapter-4-Biodiversity-and-Landscape-pdf.pdf

[13] Draft Offaly County Development Plan 2021-2027 - Offaly County CouncilOffaly County Council

1.117. The areas of High Sensitivity state;

> *"High Sensitivity Areas are vulnerable landscapes with the ability to accommodate limited development pressure. In this category of landscape, landscape elements are highly sensitive to certain types of change. If pressure for development exceeds the landscapes limitations the character of the landscape may change. This area is extremely sensitive to all categories of development, given its scientific, ecological, recreational and scenic value. The protection of views of special interest and the landscape of this area is paramount."*

Study Area

1.118. As outlined within the Offaly Landscape Character Assessment and from fieldwork undertaken on-site and within the surrounding study area, the immediate study area lies in a generally flat agricultural landscape with some areas of elevated land. The landscape is dominated by the field patterns, formed by thick and high mature hedgerows.

1.119. The result of the low-lying terrain, thick field boundary vegetation and hedgerows means views are sporadic and limited by local features.

Landuse and Settlement

1.120. The Proposed 110kV substation will be located within an agricultural landscape with the immediate land-use which surrounds the site is mainly agricultural lands, currently used for pastoral farming, the Grid Route mainly runs along the local road network and some agricultural fields. The field boundaries consist of a mixture of vegetation such as hedgerows and mature trees, and post-and-wire fencing. There are existing 110kV overhead electrical lines in close proximity to the site. The overhead lines west of the Proposed 110kV substation which traverse north north-west to south. The Grand Canal is c.1.74km south of the Proposed 110kV substation.

Future Baseline

1.121. In landscape terms, if the works did not go ahead, the site and agricultural character will remain unchanged.

1.122. In visual terms, the content in available views will remain the same, although changes will occur to existing vegetation due to maturing, pruning or natural decay.

IMPACT ASSESSMENT (CONSTRUCTION & OPERATIONAL PHASES)

Construction Phase

1.123. Landscape and visual effects during the construction stage will vary depending on the location and intensity of active works. Construction activities will include the development of the substation, associated infrastructure, the grid and interconnection route which includes Horizontal Directional Drilling (HDD) element. The Proposed 110kV substation is irregular in shape and comprises agricultural land currently under pastoral use. The field boundary where the substation is to be located features a mix of hedgerows, mature trees, and post-and-wire fencing. The dry canal lies just east of the Proposed 110kV substation, with the HDD route running beneath it and crossing into another agricultural field. The Grand Canal is located approximately 1.74km to the south.

1.165. The underground grid connection will largely follow existing road corridors with a short section across private lands. Effects will be limited to localised vegetation clearance, trenching, and reinstatement along the roadside and verge environments. These activities will be short-term and linear in nature, progressing steadily along the route, with no long-term alteration to the physical landscape fabric.

1.166. Mitigation measures will include the re-use of excavated materials, replanting of any lost roadside vegetation (where feasible), and timely reseeding of exposed soils. Given the transient and reversible nature of these works, the grid connection is assessed as having Slight, short-term, and temporary effects on the landscape during construction.

1.124. The majority of groundworks will be screened by intervening vegetation and existing buildings or partially visible from the local road network to the northeast of the site. The construction works are expected to be the most visually and physically disruptive elements during the construction phase. However, these effects will be temporary and confined to the construction period. Once operational, these elements will not be perceptible within the landscape. Construction phase effects will result in:

- Likely effects to landscape character or visual amenity within the locality or the wider study area as a result of the visibility of construction activities such as, the movement of construction vehicles along local roads, and other tall equipment such as machinery on site;
- Effects of temporary site infrastructure, such as site traffic; and
- Likely physical effects arising from the construction of the development will be confined to the Site.

1.125. The highest landscape and visual effects during the construction stage will be experienced in the immediate vicinity of the Substation Site, particularly from locations with open or partial views to the east and south of the site.

1.126. More distant views of the construction works, beyond 500 metres, are unlikely due to the extent of screening provided by surrounding vegetation and existing built features. While occasional glimpses may be possible through breaks in vegetation or from elevated locations within the study area, these views would be limited. At such distances, visibility is considered not significant owing to the combined effects of distance attenuation, the modest scale of construction activities, and reliance on clear weather conditions. Where visible, construction activities will be seen as a small component within a broader panoramic setting and are therefore not considered significant.

1.127. The landscape and visual effects arising from the construction of both the substation and the Grid Connection works will be temporary and adverse. However, given the extent of existing screening and the limited visual exposure of the works, the magnitude of effect is assessed as Very Low both within the wider study area and in closer proximity to the Proposed 110kV substation boundary. In areas where views are available, they are typically filtered or limited by intervening vegetation and built form. As such, the significance of landscape and visual effects during the construction stage is considered Not Significant and temporary in duration.

Operational Phase

1.128. Figure 1.4: Appendix 1A illustrates viewpoints from locations selected as 'Representative Viewpoints' for the assessment of landscape and visual effects of the Proposed Development.

1.129. Operational effects will result in:

- Likely effects of the development on views and visual amenity such as the potential for the development to alter (beneficial or adverse) the composition of the view from a viewpoint; and
- Likely cumulative effects of the development in conjunction with other committed developments of similar type and scale upon the landscape and visual resource of the study area.

Landscape Effects

1.130. The following likely direct and indirect landscape effects have been identified (along with their duration and nature) arising from the Proposed Development. Direct or indirect landscape effects on the fabric of the landscape and its receptors are closely related to the nature and extent of visibility.

1.131. The Proposed Development falls within two differing Landscape Character Areas. It is located within the County Offaly's Landscape Classification Areas noted as '**Low Sensitivity**' and **'High Sensitivity'**. This has been indicated in **Figure 1.1 – Landscape Character Areas**: **Appendix 1A**.

1.132. The main landscape effects of the Proposed Development will be associated with the introduction of a substation and associated infrastructure within the field previously used for agricultural practices. The introduction of the substation will alter the character within the confines of the Proposed 110kV substation boundary, i.e. where the Proposed 110kV substation is physically located. It is considered that the development will alter the landscape character within the confines of the site, adding an industrial character to the site and immediate site surroundings where views are possible. The magnitude of landscape change is **Very Low/ Negligible** and the resulting significance **Not Significant** as the site is used for agriculture and is industrial in character. Overall, the magnitude of landscape change is **Very Low/Negligible**. It should also be noted that the existing farming practices of cattle grazing will change to industrial.

1.133. Indirect change will occur outside of the Proposed 110kV substation boundary where the visibility of the Proposed 110kV substation has an influence on the perception of the character of the landscape. The indirect change in landscape character is greatest in its immediate and close surroundings where the views are limited. Views from the north, east, south and west are largely screened by vegetation and landform. The magnitude of change in these areas is considered **Very Low/Negligible**. The significance of landscape effects on the landscape character is therefore considered to be **Not Significant**.

1.134. Indirect change and the significance of landscape effects will reduce with increasing distance from the Proposed 110kV substation in the remaining study area (between approximately 500m and 2km from the Site boundary) to **Not Significant**. Given the nature, scale and setting of the Proposed 110kV substation, the change in character will not be recognised over long distances throughout the wider study area in available views.

Visual Effects

1.135. There are a number of residential dwellings and farmsteads along the local road network which surround the Proposed 110kV substation. There is a Church also adjacent to the Proposed 110kV substation site entrance. The existing fields where the Proposed 110kV substation is located are well-screened by boundary vegetation. This existing vegetation will aid in heavily screening the Proposed 110kV substation. There is a forestry section to the southwest of the Proposed 110kV substation. Local roads surround the Proposed 110kV substation, with the L1025 situated c.80km north northwest, the Wood of O located road situated c.0.30km north-northeast and the Grand Canal way situated c.1.74km south of the Proposed 110kV Substation. The site will be accessed from an existing access point off the L1025 which runs to the northwest of the Proposed 110kV substation. The grid connection route, including the HDD crossing, will give rise to temporary visual effects during the construction phase only. Once works are completed, these elements will be fully reinstated and will not give rise to ongoing operational visual effects.

1.136. The ZTV mapping shows that the extent of theoretical visibility differs across the study area, with restricted visibility to the east owing to intervening landform and vegetation patterns. In practice, the most visually evident features are expected to be the upper sections of the lighting masts and tower, while the lower-lying elements, including the control building and transformers, will generally be screened or only partially perceptible. This pattern of visibility further limits the potential for significant visual effects at distance.

1.137. The main visual receptor groups comprise local residents, road users, pedestrians, amenity users of the Grand Canal. Residents and pedestrians are considered to have higher sensitivity to change than road users, whose primary focus is on traffic and for whom views of the Proposed 110kV substation will be fleeting and transitory.

1.138. The majority of residential dwellings in the immediate environment of the Proposed 110kV substation are located to the north-west. Existing forestry and tree cover will provide a degree of screening. The greatest potential for visual effects arises within approximately 250m of the Proposed 110kV substation, as indicated in the ZTV (**Figure 1.2**). However, due to intervening vegetation and landform, direct views of the Proposed 110kV substation from nearby receptors are limited. The magnitude of visual change for views within this distance is therefore assessed as **Very Low** to **Negligible**, resulting in effects that are **Not Significant**.

1.139. For residential receptors within approximately 250m that may have partial visibility, the magnitude of change is considered to remain Very Low to Negligible, with the significance of effects assessed as Not Significant. The level of effect is dependent on the degree of screening provided by vegetation, topography, and built form.

1.140. The Proposed 110kV substation will be experienced in the context of existing infrastructure, including the 110kV overhead lines to the west, which traverse the landscape on a north - northwest to south alignment. At greater distances, weather conditions and the wider landscape context will act as mitigating factors, further reducing visibility and perceived effect.

1.141. Viewpoint 01 – 06 refer to (**Figure 1.4 – 1.10**: **Appendix 1A**) illustrate views from representative viewpoints within both, the core study area and the wider study area.

Viewpoint 1 - View northwest along the Grand canal at Colehill, southeast of the Proposed 110kV substation boundary

1.142. Viewpoint 1 (Figure 1.5) is representative of views northwest along the Grand canal at Colehill, southeast of the Proposed 110kV substation boundary. The distance to the nearest section of the Proposed 110kV substation from this viewpoint is approximately c. 2.1km. At this location, the canal corridor is enclosed by mature boundary vegetation, with only a limited, glimpsed view through a field gate to agricultural land beyond. Mature hedgerows further restrict outward visibility to the wider surrounding landscape. The surrounding area contains only a small number of residential properties. The Grand Canal Greenway runs through this location, with pedestrian movement primarily along an east–west axis.

1.143. The value of this view is considered High due to the recognised amenity importance of the Grand Canal. The principal visual receptors comprise nearby residents and, more significantly, pedestrians using the canal walkway. The sensitivity and susceptibility of these receptors to visual change is therefore assessed as **High**, reflecting the amenity-focused nature of the route.

1.144. Although the viewpoint is located in a 'High Sensitivity' landscape classification area, the Proposed 110kV substation will be screened in its entirety by intervening landform and dense vegetation, and therefore will not alter this view. The Proposed 110kV substation will result in no visual change and visual effects will be 'not significant'. It is a 'no change' scenario.

Viewpoint 2 - View west along local road L1023, northeast of the Proposed 110kV substation at Ballycommon, Tullamore.

1.145. Viewpoint 2 (**Figure 1.5**) is located at a farm entrance on the L1023 local road. The distance to the nearest section of the Proposed 110kV substation from this viewpoint is approximately c. 2.5km Views are characterised by a foreground of agricultural activity, including farm structures, gates, and pasture fields. Beyond, mature hedgerows and tree belts enclose the landscape, restricting visibility to the wider surroundings. Vegetation along the field boundaries provides substantial screening, with no views available towards the Proposed 110kV substation. The area is primarily rural in character, with receptors limited to local residents and occasional road users.

1.146. The value of this view is considered Low, reflecting its functional rural character and limited amenity importance. The sensitivity of receptors is assessed as **Medium**, as while the local road is lightly trafficked, there are nearby residential properties whose occupants are more susceptible to changes in their immediate surroundings.

1.147. The development is screened from view. Therefore, the Proposed 110kV substation will result in no visual change and visual effects will be 'not significant'. It is a 'no change' scenario.

Viewpoint 3 - View southwest along local road L1023, northeast of the Proposed 110kV substation at Ballycommon, Tullamore.

1.148. Viewpoint 3 (**Figure 1.6**) is taken from the local road to the east of the Proposed 110kV substation. The distance to the nearest section of the Proposed 110kV substation from this viewpoint is approximately c. 930m. The foreground consists of pastoral farmland enclosed by hedgerows and scattered mature trees. Views are framed by intervening vegetation and field boundaries, which restrict visibility towards the wider landscape. The Proposed 110kV substation is not visible from this location, as existing boundary vegetation provides effective screening. Receptors here include local residents and road users, although the road users will be in transit with only fleeting views along the local road.

1.149. The value of the view is considered Low, as it is representative of a typical rural working landscape with limited scenic or amenity importance. Sensitivity is assessed as **Medium**,

reflecting the presence of nearby residential receptors who are more susceptible to change, alongside transient views experienced by local road users.

1.150. The development is screened from view. Therefore, the Proposed 110kV substation will result in no visual change and visual effects will be 'not significant'. It is a 'no change' scenario.

Viewpoint 4 - View southwest from St Francis of Assisi and St Brigid RC Church on the Grand Canal Greenway (L-60051), northeast of the Proposed 110kV substation at Ballyteige Little, Tullamore, Co. Offaly.

1.151. Viewpoint 4 (**Figure 1.4 & Figure 1.9**) is located at the entrance to St Francis of Assisi and St Brigid RC Church, looking southwest towards the Proposed 110kV substation, approximately 330m from the Proposed 110kV substation. The foreground comprises church grounds and roadside vegetation, with hedgerows, mature trees, and farmland visible beyond.

1.152. The value of this view is considered High, reflecting its association with a community and ecclesiastical setting and its location along the Grand Canal Greenway, an important amenity route. Sensitivity is therefore assessed as **High**, given the presence of both community and amenity receptors who are highly susceptible to visual change.

1.153. Elements of the Proposed 110kV substation are perceptible in the middle distance, visible above and between intervening vegetation. While partially screened, the vertical components of the substation compound appear in contrast to the surrounding rural setting. The Proposed 110kV substation is located within an existing field boundary, which helps to contain and integrate it into the surrounding landscape framework. From this viewpoint, it occupies only a limited portion of the wider scene and is seen in the context of existing hedgerows and field patterns, thereby reducing its visual prominence. The magnitude of change is considered **Low**, resulting in a significance of **Moderate**.

Viewpoint 5 - View south from the Grand Canal Greenway L-60051 near St Francis of Assisi and St Brigid RC Church, Ballyteige Little, Tullamore, Co. Offaly

1.154. Viewpoint 5 (**Figure 1.7 & Figure 1.10**) viewpoint is taken from the Grand Canal Greenway, approximately 0.29km north of the Proposed 110kV substation. The immediate foreground consists of pasture fields framed by hedgerows and scattered mature trees, with partial glimpses available through field boundaries. The Proposed 110kV substation is partially perceptible above and behind intervening vegetation, though much of the compound is screened by existing hedge lines. The setting retains a strong rural and amenity character, with receptors including local residents and recreational users of the canal walkway.

1.155. The value of this view is considered High, reflecting its association with a community and ecclesiastical setting and its location along the Grand Canal Greenway, an important amenity route. Sensitivity is therefore assessed as **High**, given the presence of both community and amenity receptors who are highly susceptible to visual change.

1.156. Elements of the Proposed 110kV substation are partially perceptible above and behind existing hedgerows, occupying a limited portion of the view. Although receptors are of High sensitivity, the development is contained within the field boundary and does not dominate the wider scene. The magnitude of change is assessed as **Low**, resulting in a **Moderate** significance of effect.

Viewpoint 6 - View southeast from local road L-1025 at Wood of O, Ballyteige Little, Tullamore, Co. Offaly.

1.157. Viewpoint 6 (**Figure 1.7**) is located along the L-1025, approximately 0.78km northwest of the Proposed 110kV substation. The immediate foreground is defined by roadside hedgerows and farmland, with views framed by intervening vegetation. The Proposed 110kV substation is fully screened by intervening farm buildings and vegetation and is not visible from this location. Receptors include local residents and road users, though the latter experience only fleeting views when travelling along the road.

1.158. The value of this view is considered Low, reflecting its typical rural character and limited scenic or amenity qualities. Sensitivity is assessed as **Medium**, due to the presence of nearby residential receptors who are more susceptible to change than passing road users.

1.159. The Proposed 110kV substation will be screened in its entirety by intervening landform and dense vegetation and therefore will not alter this view. The Proposed 110kV substation will result in no visual change and visual effects will be '**not significant**'. It is a 'no change' scenario.

Table 1.14 Summary of Visual Effects from representative viewpoint locations

RECEPTOR	SUSCEPTIBILITY	SENSITIVITY	MAGNITUDE OF VISUAL EFFECTS	SIGNIFICANCE / QUALITY OF VISUAL EFFECTS
Viewpoint 1	High	High	No Change	Not Significant
Viewpoint 2	Medium	Medium	No Change	Not Significant
Viewpoint 3	Medium	Medium	No Change	Not Significant
Viewpoint 4	High	High	Low	Moderate
Viewpoint 5	High	High	Low	Moderate
Viewpoint 6	Medium	Medium	No Change	Not Significant

CUMULATIVE EFFECTS

1.160. Cumulative effects are defined in GLVIA3 as:

"Result from additional changes to the landscape or visual amenity caused by the Development in conjunction with other developments (associated with or separate to it), actions that occurred in the past, present or are likely to occur in the foreseeable future".

1.161. Cumulative landscape effects may occur to the landscape components e.g., loss of hedgerows or landscape characteristics by introducing new features.

1.162. Cumulative visual effects may occur where one development is viewed in combination (static views of up to 90-degree arc), successively (turning around on the spot) or sequentially where the user moves along routes, roads or paths with one or more development evident.

1.163. Developments that are subject to a valid planning application are included within such an assessment, where specific circumstances indicate there is potential for cumulative effects to occur, with progressively decreasing emphasis placed on those which are less certain to proceed.

1.164. Typically, operational and consented developments are treated as being part of the landscape and visual baseline. i.e., it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed. Schemes that are at earlier stages such as scoping are not usually considered within such an assessment unless specifically requested by the planning authority.

1.165. A search of Offaly County Council and Westmeath County Council planning portals was undertaken of any existing, approved or proposed (in planning) substations, solar or wind farm developments or similar developments within the 5km study area, as of September 2025, which could have potential notable cumulative landscape or visual effects with the Proposed Development.

1.166. The most notable planning applications include was Planning Ref 2198, 218 and 22378. The Substation assessed in this LVIA is to facilitate the Ballyteige Solar Farm (PA Ref: 2198) and Derrygrogan Solar Farm (PA Ref: 22378). Those identified as having potential to act cumulatively with the Proposed Development. Given the size, scale, nature and distance to site of other planning applications, it will have some impact on the proposed development.

Table 1:15: Developments within 5km of the Proposed Development

Planning Reference	Project Type	Distance and Direction	Status	Date Granted
N/A	Amendment to consented Ballyteige Solar Farm (PL Ref: 2198) – 50.53-hectare solar development	0.00km – Within the site boundary.	N/A	N/A
2198	Ballyteige Solar Farm – 50.53-hectare solar development and substation building.	0.00km – south	Conditional	03/03/2022
218	Battery Energy Storage System – Solar farm, battery storage and grid connection.	1.60km northeast	Conditional	12/01/2022
1711	A 10-year permission (to construct development). the development will consist of a solar farm comprising: the installation of photovoltaic panels on ground mounted frames in rows on a site of c. 17.7 hectares	3.15km northwest	Conditional	31/08/2017
22378(Appeal Ref:318041)	A period of 10 years to construct and complete a solar pv energy development with a total site area of 73.9 hectares, to include a control building, inverter substations, modules, solar pv ground mounted on support structures, temporary construction compounds, internal access tracks, security fencing, electrical cabling and ducting, CCTV and other ancillary infrastructure, drainage, additional landscaping and habitat enhancement as required and	0.00km east	Conditional	24/08/2023

	associated site development works relating to access of the site. A natura impact assessment (nis) has been submitted with this application. The solar farm will be operational for 35 years.			
20579	A compound containing 2 no. energy storage containers with a capacity of up to 10mw and associated transformers, inverters, a switchroom building of approximately 88m2 (containing switch and control rooms), internal cabling, electrical and communications.	3.5km South	Conditional	09/02/2021
18167	A grid system services facility within a total site area of 0.84 hectares, to include 1 no. single storey electrical substation building, 1 no. customer switchgear container, 17 no. 2mw electrical inverter/transformer station modules (skids), 10 no. cont	0.27km East	Conditional	12/07/2018
23315	The replacement of a permitted single storey terminal electrical station and separate permitted switchgear enclosure (both previously permitted as part of a solar farm permission by Offaly county council under planning ref. 17/11)	0.32km West	Conditional	24/08/2023
2460250	The construction of a solar PV development with an installed capacity of up to 2.6 MWdc (MEC=0) to	3.8km South	Conditional	14/11/2024

	provide electrical power to the existing distillery comprising approximately 4,100 no. photovoltaic panels on ground mounted frames etc.			
2460514	A new prefabricated substation building within the existing car park to cater for 5no. electric car charging points for 10no. electric car parking spaces, along with all associated ancillary site works	2.1km South	Conditional	19/02/2025

Cumulative Landscape

1.167. The majority of planning applications within the area of the Proposed 110kV substation are some small residential, agricultural developments and renewable energy developments.

1.168. Planning Application Reference: 1711 is an application for a solar farm (granted - conditional), has been considered in this cumulative assessment. This proposed solar farm is located approximately c.3.15km northwest of the Proposed 110kV substation and is also located within an agricultural context. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Cumulative impacts are anticipated as a result of this application as the construction phase could occur within the same timeframe.

1.169. Planning Application Reference: 2198 is an application for a solar farm (conditional), has been considered in this cumulative assessment. This proposed solar farm is located approximately c.0.08km south of the Proposed 110kV substation and is also located within an agricultural context. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Due to the close proximity of the site, cumulative impacts are anticipated as a result of this application, as both sites will use the same entrance.

1.170. The adjacent Ballytiege solar farm (Planning Ref: 2198) is proposed for amendment, and this will be submitted at the same time as this application. An updated walkover has been completed and with the proposed design, best practice and mitigation it has been concluded there will be no changes from the conclusions of the original submission. In line with the consented solar farm, as there are no further impacts anticipated prom the proposed amendment it was determined that this development would not have any significant impacts. An assessment of in-combination effects was also undertaken, and it was found that, in

combination with other projects, this development would not have a significant cumulative impact.

1.171. Planning Application Reference: 218 is an application for a Battery Energy Storage System – Solar farm, battery storage and grid connection(conditional) and has been considered in this cumulative assessment. This proposed a Battery Energy Storage System and solar farm is located approximately c.1.60km northeast of the Proposed 110kV substation and is also located within an agricultural context. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Cumulative impacts are anticipated as a result of this application.

1.172. Planning Application Reference: 20579 is an application for a Battery Energy Storage System –and has been considered in this cumulative assessment. This proposed a Battery Energy Storage System and solar farm is located approximately c.3.5km south of the Proposed 110kV substation and is also located within an agricultural context. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Cumulative impacts are not anticipated as a result of this application.

1.173. Planning Application Reference: 18167 is an application for a Grid System which and has been considered in this cumulative assessment. This proposed a Grid System is located approximately c.0.27km east of the Proposed 110kV substation and is also located within an agricultural context. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this Grid Connection application. Cumulative impacts are anticipated as a result of this application.

1.174. Planning Application Reference: 23315 is an application for a Grid System which and has been considered in this cumulative assessment. This proposed a Grid System is located approximately c.3.2km west of the Proposed 110kV substation. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Cumulative impacts are not anticipated as a result of this application.

1.175. Planning Application Reference: 2460250 is an application for a Solar Farm which and has been considered in this cumulative assessment. This proposed a Solar Farm is located approximately c.3.8km south of the Proposed 110kV substation. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this solar farm. Cumulative impacts are anticipated as a result of this application.

1.176. Planning Application Reference: 2460514 is an application for a Grid System which and has been considered in this cumulative assessment. This proposed a Grid System is located approximately c.2.1km south of the Proposed 110kV substation. An Appropriate Assessment report has been uploaded to the Offaly planning portal for this Grid Connection. Cumulative impacts are not anticipated as a result of this application.

1.177. Planning Application Reference: 22378 (Appeal Ref:318041) is an application for a Solar Farm which and has been considered in this cumulative assessment. This proposed a Solar Farm is located approximately c.0.00km south of the Proposed 110kV substation. It is in conjunction

to the Proposed 110kV substation. An Appropriate Assessment report has been uploaded to the An Bord Pleanala for this solar farm. Cumulative impacts are anticipated as a result of this application.

1.178. The approved planning references as noted above lie within the 'Low Sensitivity' Landscape Classification Area with a small section in the 'High Sensitivity' LCA area. There will be **Medium** Magnitude of change and an overall a **Moderate** cumulative landscape effect on the Low Sensitivity LCA during the construction and operational phases. During the decommissioning phase there will be a notable return of the lands from Solar Infrastructure to the former agricultural lands with enhanced field and hedgerow boundaries, resulting in a **Moderate-Slight** effect to the characteristics of the Low Sensitivity LCA. The additional Solar Farms 2198 and 22378 (Appeal Ref:**318041)are** located just beside the Proposed 110kV substation and Cumulative effects are expected.

1.179. Visibility of the Proposed 110kV substation is already greatly limited due to the screening provided by vegetation, intervening landform, and the prevalence of only glimpsed views. As a result, visibility of other similar developments in the area is also restricted. Consequently, the potential for significant cumulative visual effects is considered to be very limited.

1.180. Should all developments be constructed around the same period, there will be some localised indirect temporary effects due to disturbance from the site traffic and site noise.

1.181. Overall, the magnitude of change to the landscape would be **Medium** as they are in close proximity to each other.

Cumulative Visual

1.182. The potential for cumulative views of the Proposed 110kV substation with Planning Reference **2198, 218, 22378 (Appeal Ref:318041) 23315 and 18167** if they are granted planning permission and constructed) was found to be somewhat evident, as many potential views are shared due to close proximity. There may be localised variations in the topography and screening by natural and built elements across the local landscape.

1.183. Combined distant views of each of the solar farms with the Proposed 110kV substation are anticipated due to the close proximity and distance between each solar farm, intervening built landform and surrounding residential areas. Successive views of the Proposed 110kV substation and approved solar farms will therefore not occur.

1.184. Overall, the addition of the Proposed Development will increase views of the renewable energy infrastructure within the locality of the area, with most affected receptors occurring on the northern side of '**Low Sensitivity'** Landscape Classification Area**.** Sequential views are limited to those travelling along the regional road and local roads due to the network of roads between each development.

1.185. Here, the addition of the Proposed Development will result in Medium magnitude of change and an overall of **Moderate-Slight** to **Slight cumulative views**.

MITIGATION MEASURES

1.186. Mitigation is a term used to describe the measures or actions that may be taken to minimise environmental effects. The purpose of mitigation is to avoid, reduce and where possible remedy or offset, any significant adverse direct and indirect effects on the environment arising from the Proposed Development. The following main landscape and visual mitigation categories have been defined and are outlined below:

Mitigation Planting

1.187. A Landscape and Ecology Management Plan has been prepared and is included within **Figure 1.8: Appendix 1A**. The Proposed Development has been designed to sit within the existing field network, making best use of established hedgerows and vegetation for screening and landscape integration.

1.188. The layout has sought to minimise vegetation loss, retaining the mature hedgerow framework that defines the site and provides a strong degree of visual enclosure.

1.189. Given the scale and location of the Proposed Development, the main landscape and visual mitigation measures are inherent in the siting and design, which utilise existing screening features. These measures will take immediate effect following construction.

1.190. Considering the largely localised nature of available views, the retention of existing vegetation ensures that landscape and visual effects remain limited. There may be a slight seasonal variation in visibility during winter months due to reduced foliage cover; however, such differences are considered not material.

CONCLUSION

Construction Effects

1.191. Landscape and visual effects during construction will vary depending on the location and intensity of active works. Activities will include the development of the substation, associated infrastructure, and the grid connection route with a potential HDD, and a HDD interconnection crossing beneath the dry canal. The Proposed 110kV substation comprises irregular-shaped agricultural land currently under pastoral use, defined by hedgerows, mature trees, and post-and-wire fencing. The Grand Canal lies approximately 1.74km to the south.

1.192. The underground grid connection will largely follow existing road corridors, with only a short section crossing private lands. Construction effects will therefore be confined to localised vegetation clearance, trenching, and reinstatement along roadside verges. These activities will be short-term, linear, and reversible, with no long-term alteration to the physical landscape fabric. Mitigation measures will include the re-use of excavated materials where possible, replanting of lost roadside vegetation where feasible, and prompt reseeding of exposed soils. The grid connection is therefore assessed as having slight, short-term, and temporary effects on the landscape.

1.193. Most groundworks will be screened by existing vegetation and buildings, or only partially visible from local roads to the northeast. Construction activities such as vehicle movements, temporary site infrastructure, and tall equipment may cause short-term disruption, but these will be temporary and confined to the construction period. The greatest potential for visibility arises in the immediate vicinity of the Substation Site, particularly to the east and south where views are more open. Beyond 500m, views are unlikely due to screening by vegetation and built form. Any glimpses would be limited and only a minor component of the wider panoramic landscape.

1.194. Overall, construction effects are assessed as temporary and adverse but of **Very Low** magnitude. The resulting significance of landscape and visual effects during construction is **Not Significant**.

Landscape Effects (Operational Phase)

1.195. The Proposed Development lies within two Landscape Character Areas, classified as Low Sensitivity and High Sensitivity (**Figure 1.1**). The substation will replace a field previously used for pastoral agriculture, introducing an industrial character within the confines of the site boundary. While this alters the land use from agricultural to infrastructure-based, the change is contained within existing field boundaries and partly enclosed by mature hedgerows and forestry.

1.196. Direct effects on landscape character are therefore localised, with the magnitude of change assessed as **Very Low/Negligible**, resulting in **Not Significant** effects. Indirect effects outside

the site boundary are also limited, as views of the substation are heavily screened by vegetation and landform. Any change in perception is confined to the immediate surroundings. Beyond 500m to 2km, effects diminish further and are **Not Significant**.

Visual Effects (Operational Phase)

1.197. The main visual receptors include local residents, road users, pedestrians, and amenity users of the Grand Canal and Grand Canal Greenway. Residents and pedestrians are considered more sensitive than vehicle travellers, whose views will be fleeting and transitory.

1.198. The ZTV (**Figure 1.2**) indicates that visibility is most likely within 250m, with the upper elements of the masts and tower being the most evident. However, intervening vegetation and landform heavily limit direct views, and lower elements such as the control building and transformers will generally be screened or only partially perceptible. Existing forestry and tree cover to the southwest provide additional screening

1.199. The greatest potential for visual effects arises within 250m, but even here, views are filtered and the magnitude of change is **Very Low to Negligible**, with resulting effects **Not Significant**. For more distant receptors, visibility is further reduced by screening, weather, and the presence of existing infrastructure such as 110kV overhead lines, which provide a contextual backdrop.

1.200. Overall, operational visual effects are assessed as **Very Low** to **Negligible** magnitude and **Not Significant.**

APPENDICES

Appendix 1A: Figures

- Figure 1.1 – Landscape Character Areas;
- Figure 1.2 – Colehill 110kV Substation Zone of Theoretical Visibility;
- Figure 1.3 - Landscape Designations with ZTV;
- Figure 1.4 – Viewpoints Locations with ZTV
- Figure 1.5 – Viewpoints 1 & 2
- Figure 1.6 – Viewpoints 3 & 4
- Figure 1.7 – Viewpoints 5 & 6
- Figure 1.8 – Landscape and Ecology Management Plan (LEMP) (Sheet 01)
- Figure 1.9 – Viewpoint 4 – Photomontage
- Figure 1.10 – Viewpoint 5 – Photomontage

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