

The Great Grid Upgrade

Eastern Green Link 5 (EGL 5)

Preliminary Environmental Information Report

Volume 2

Part 2

Appendix 8.A Landscape and Visual Methodology

Document Reference: EGL5-NGET-CONS-XX-RP-YL-033

May 2026

nationalgrid

Contents

8.A. Appendix: Landscape and Visual Assessment Methodology	1
8.A.2. Guidance	1
8.A.3. Approach	2
8.A.4. Study Area	3
8.A.5. Information and Data Sources	4
8.A.6. Iterative Assessment and Design	5
8.A.7. Overview	5
8.A.8. Landscape Assessment	5
8.A.9. Assessing Landscape Effects	5
8.A.10. Landscape Character	6
8.A.11. Landscape Effects	6
8.A.12. Landscape Receptors Identification	7
8.A.13. Landscape Sensitivity	7
8.A.14. Landscape value	8
8.A.15. Landscape susceptibility	9
8.A.16. Magnitude of change	12
8.A.17. Size/Scale of Change	12
8.A.18. Geographical Extent	13
8.A.19. Duration and Reversibility	14
8.A.20. Magnitude of change	15
8.A.21. Visual Assessment	15
8.A.22. Zone of Theoretical Visibility (ZTV)	16
8.A.23. Viewpoint Analysis	16
8.A.24. Visual Receptor Identification	17
8.A.25. Visual Receptor Grouping	17
8.A.26. Visual Sensitivity	19
8.A.27. Magnitude of change	22
8.A.28. Significance of Landscape and Visual Effects	25
8.A.29. Assessment of Cumulative Effects	26
8.A.30. Visualisations and Zones of Theoretical Visibility (ZTVs)	26
8.A.31. Methodology for Production of ZTVs	27
8.A.32. Methodology for Baseline Photography	27
8.A.33. Methodology for Production of Visualisations	28
8.A.34. Baseline Photograph Production	28
8.A.35. Limitations of Visualisations	29
8.A.36. Bibliography	30

Table 8.A-1 Landscape value factors	8
Table 8.A-2 Landscape value levels	9
Table 8.A-3 Landscape susceptibility criteria	10
Table 8.A-4 Landscape susceptibility levels	10
Table 8.A-5 Landscape sensitivity levels	12
Table 8.A-6 Size/Scale	13
Table 8.A-7 Geographical extent	14
Table 8.A-8 Duration of change	14
Table 8.A-9 Magnitude of change	15
Table 8.A-10 Visual value criteria	19
Table 8.A-12 Visual sensitivity levels	21
Table 8.A-13 Size/scale of visual change	23
Table 8.A-14 Geographical extent of change	24
Table 8.A-15 Duration of change	24
Table 8.A-16 Magnitude of change	25
Table 8.A-17 Significance matrix	26

Plate 8.A-1 Flow diagram (GLVIA3)	3
Plate 8.A-2 Level of landscape sensitivity	11
Plate 8.A-3 Level of visual sensitivity	21

8.A. Appendix: Landscape and Visual Assessment Methodology

- 8.A.1.1. This appendix outlines the detailed methodology used for the preliminary Landscape and Visual Impact Assessment (LVIA) set out within **Volume 1, Part 2, Chapter 8: Landscape and Visual**, relating to the English Onshore Scheme.
- 8.A.1.2. The preliminary LVIA accords with best practice, complies with national guidance and has been undertaken by chartered landscape architects at WSP who are experienced in work on national infrastructure schemes, including electricity transmission and distribution schemes.
- 8.A.1.3. The preliminary LVIA considers two distinct but closely related areas – landscape and visual effects:
- Assessment of landscape effects: assessing effects on the landscape as a resource in its own right and encompassing effects on landscape elements, characteristics, landscape character, and designated landscapes; and
 - Assessment of visual effects: assessing effects on the views and visual amenity experienced by people.

8.A.2. Guidance

- 8.A.2.1. In addition to the guidance set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, the primary source of guidance for the preliminary LVIA is the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Ref 8.1) published by the Landscape Institute with the Institute of Environmental Management and Assessment (2013). The following main sources (ordered by date) have also been referred to in the preparation of the methodology for the preliminary LVIA and production of visual representations:
- Natural England (2014). An Approach to Landscape Character Assessment (Ref 8.2);
 - Natural England (2019). An approach to landscape sensitivity assessment – to inform spatial planning and land management (Consultation Draft) (Ref 8.3);
 - Landscape Institute (2021). Assessing Landscape Value Outside National Designations Technical Guidance Note 02/21 (Ref 8.4);
 - Landscape Institute (2019). Visual Representation of Development Proposals: Landscape Institute Technical Guidance Note 06/19; (Ref 8.5);
 - National Grid (2012). Options Appraisal - Options Appraisal - Toolkit for Project Teams Landscape & visual amenity methodologies (Ref 8.6); and
 - Landscape Institute (2024). Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) LITGN-2024-01 (Ref 8.7).

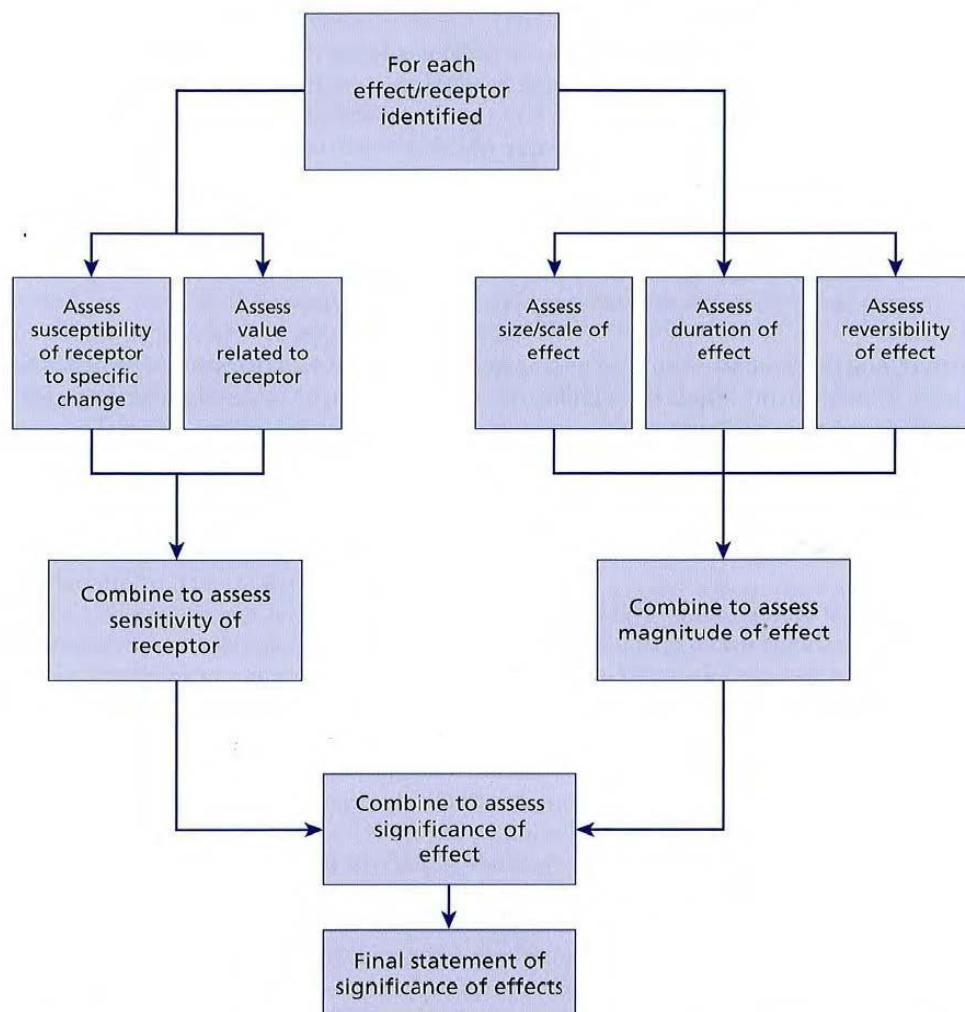
8.A.3. Approach

- 8.A.3.1. The preliminary LVIA assesses the likely effects of the English Onshore Scheme on the landscape and visual resource, encompassing effects on landscape elements, characteristics and landscape character, designated landscapes, visual receptors and cumulative effects.
- 8.A.3.2. The landscape and visual effects (and whether they are significant or not) are determined by an assessment of the 'sensitivity' of each receptor or group of receptors and the 'magnitude of change' that would result from the English Onshore Scheme. The evaluation of sensitivity takes into account the value and susceptibility of the receptor to the English Onshore Scheme. The magnitude of change is determined by factors such as the size and scale of the proposed change, its duration, and its geographical extent. By combining assessments of sensitivity and magnitude of change, a level of landscape or visual effect can be evaluated and the significance of the effect determined.
- 8.A.3.3. The resulting level of effect is described in terms of whether it is significant or not significant, and the type or nature of effect is defined as either direct or indirect; temporary or permanent (reversible); and beneficial, neutral or adverse. The assessment, which will be presented in the Environmental Statement, will consider cumulative effects resulting from the English Onshore Scheme in combination with other existing and/or approved development.
- 8.A.3.4. The assessment period encompasses phases of the English Onshore Scheme related to construction and operation, specifically year 0 (winter) without any mitigation planting and year 15 with mitigation planting proposed to contrast the potentially worst-case scenario of screening with maximum screening provided by summer foliage.
- 8.A.3.5. GLVIA3 (Ref 8.1) places a strong emphasis on the importance of professional judgment in identifying and defining the significance of landscape and visual effects. Professional judgment based on clear and transparent methods has been used in combination with structured methods and criteria to determine the sensitivity and magnitude of change for selected landscape and visual receptors to determine the significance of effects.
- 8.A.3.6. In summary, the assessment involves the key stages listed below and illustrated in **Plate 8.A-1**:
- Understand the scope and study area;
 - Establish of baseline conditions, including the landscape character and visual context of the receiving environment, and the value of landscape and visual receptors;
 - Contribute to the iterative design process, assessment and mitigation based on understanding of the relevant components of the English Onshore Scheme in relation to the key landscape and visual sensitivities;
 - Participate in planned consultation activities;
 - Evaluate the susceptibility and value of the landscape and visual receptors to determine sensitivity;
 - Assess the magnitude of change likely to affect the landscape and visual receptors as a result of the English Onshore Scheme, during both construction and operation;

- Provide an assessment of the significance of landscape and visual effects, considering the sensitivity of resources and the magnitude of change alongside embedded mitigation measures;
- Following identification of additional mitigation measures provide an assessment of the significance of landscape and visual effects (residual), considering the sensitivity of resources and the magnitude of change; and
- Provide assessment of the cumulative significance of landscape and visual effects, considering the sensitivity of resources and the magnitude of change.

Plate 8.A-1 Flow diagram (GLVIA3)

3 Principles and overview of processes



8.A.4. Study Area

- 8.A.4.1. The extent of the study area as shown in **Volume 3, Part 2, Figure 8-1: Landscape and Visual Study Area** has been informed by a review of the English Onshore Scheme information, desktop studies, and field surveys, as well as examples of the study area extent selected for similar schemes in similar landscape environments, including:

- EGL 3 and EGL 4 – An area of 3 km beyond the English Onshore Scheme draft Order Limits for the proposed cable alignment, indicative zones for converter stations, and landfall area.
 - Sea Link – the study area for the Kent Onshore Scheme comprises an area of 3 km from the draft Order Limits, including the Minster Converter Station, Minster Substation, HVAC overhead line (OHL) and from the proposed landfall (denoted as the high-water mark).
- 8.A.4.2. The extent of the study area for the English Onshore Scheme is 3 km from the draft Order Limits, for the cable corridor, converter station, and landfall area. The 3 km buffer has been proposed within the Scoping Report. Further information in the form of ZTV's illustrated in **Volume 3, Part 2, Figures 8-7 to 8-10** has been produced for the PEIR, including **Volume 3, Part 2, Figure 8-9: Screened ZTV - Construction Swathe** and **Figure 9-10: Screened ZTV – Construction Compounds**. The ZTV's have been run at an extensive area of 10 km from draft Order Limits, to examine the potential visibility within a wider landscape, including the Lincolnshire Wolds National Landscape. The ZTV's for construction compounds illustrated in **Volume 3, Part 2, Figure 8-10** have been run to the extent of 5 km.
- 8.A.4.3. In addition, field surveys have been undertaken to inform the extent of potential visibility, including the converter station. The consultation is ongoing, although to date no further requests have been made for the more extensive study area.
- 8.A.4.4. During the design evolution, the study area will be reviewed via field studies, Zone of Theoretical Visibility (ZTV) viewpoint analysis, to confirm the key sensitive receptors that are likely to sustain significant effects. In this respect, it is important to note that the boundary of the study area is not the limit of potential visibility but focuses on the area where likely significant effects are expected.

8.A.5. Information and Data Sources

- 8.A.5.1. Baseline studies were undertaken through desktop and field surveys within the study area. The desktop study identifies information such as landscape related planning designations, landscape character typology, land use, landscape patterns, man-made features, and initial visibility identification from key locations such as routes and settlements.
- 8.A.5.2. The desktop studies are based on a review of information included within Geographic Information Systems (GIS) and Google Earth Pro and are used to explore the potential visibility of the English Onshore Scheme. Desktop studies also included published Landscape Character Assessments and Local Plan Documents. The selection of visual receptors has been informed by analyses of ZTVs, Google Earth Pro, field surveys, and stakeholder requests. The technical methodology for producing ZTVs and visualisations is provided below.

8.A.6. Iterative Assessment and Design

8.A.7. Overview

- 8.A.7.1. Mitigation measures fall into one of three categories: design embedded mitigation measures, good practice measures, and additional mitigation measures.

Design embedded measures

- 8.A.7.2. The preliminary LVIA is part of an iterative Environmental Impact Assessment (EIA) process, which aims to ‘design out’ significant effects via a range of embedded environmental measures, including avoidance and design that aim to reduce or eliminate significant effects. Multi-disciplinary design is an integrated part of the preliminary LVIA process, and embedded environmental measures related to landscape design and management can be an important tool to mitigate significant effects. Due to the nature of the English Onshore Scheme, comprising largely of cable corridor and converter station, an extensive avoidance of adverse landscape and visual effects has been undertaken at the routeing stages, where a collaborative approach between environmental and engineering disciplines led to the selection of the proposed route alignment. The embedded mitigation measures are continuously developed throughout the design evolution to avoid impacts and, where not feasible, to reduce the impacts, mitigate or, where possible, to provide enhancement.

Good practice measures

- 8.A.7.3. A range of standard good practice mitigation measures for the Scheme would be adopted. The topic-specific measures relevant to the control and management of impacts that could affect the landscape and visual receptors include, but are not limited to, retaining vegetation and restoring land use following construction. These measures are outlined in **Volume 2, Part 2, Appendix 5.B: Outline Code of Construction Practice (CoCP)**.

Additional mitigation measures

- 8.A.7.4. Additional mitigation comprises measures beyond any embedded design and good-practice measures. These measures may include consideration of potential advanced planting, localised introduction of landscape earthworks, consideration of potential “offsite mitigation” and measures associated with operational use and maintenance.

8.A.8. Landscape Assessment

8.A.9. Assessing Landscape Effects

- 8.A.9.1. Landscape effects are defined by the Landscape Institute within GLVIA3 (Ref 8.1) in paragraphs 5.1 and 5.2 as follows, respectively:

‘An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.’

‘The area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it, which the development may influence in a significant manner.’

8.A.10. Landscape Character

8.A.10.1. GLVIA3 (Ref 8.1), paragraph 5.4, advises that Landscape Character Assessment should be regarded as the main source for baseline studies and identifies the following factors which combine to create areas of distinct landscape character:

- *‘the elements that make up the landscape in the study area include:*
 - *physical influences – geology, soils, landform, drainage and water bodies;*
 - *landcover, including different types of vegetation and patterns and types of tree cover;*
 - *the influence of human activity, including land use and management, the character of settlements and buildings, and pattern and type of fields and enclosure;*
- *the aesthetic and perceptual aspects of the landscape – such as, for example, its scale, complexity, openness, tranquillity or wildness;*
- *the overall character of the landscape in the study area, including any distinctive Landscape Character Types or areas that can be identified, and the particular combinations of elements and aesthetic and perceptual aspects that make each distinctive, usually by identification as key characteristics of the landscape.’*

8.A.11. Landscape Effects

8.A.11.1. The potential landscape effects occurring during the construction and operation periods of the English Onshore Scheme may, therefore, include, but are not restricted to the following:

- Changes to landscape elements: The addition of new elements (construction activity, converter station) or the removal of existing elements such as trees, vegetation, buildings and other characteristic elements or valued features of the landscape character.
- Changes to landscape qualities: Degradation or erosion of landscape elements and patterns and perceptual characteristics, particularly those that form key characteristic elements of the landscape character or contribute to the landscape value.
- Changes to landscape character: Landscape character may be affected through the incremental effect on characteristic elements, landscape patterns and qualities (including perceptual characteristics) and the addition of new features. The magnitude of these changes may be sufficient to alter the overall landscape character within a particular area.
- Changes to designated landscapes: Including nationally and locally designated landscapes that would affect the special landscape qualities underpinning these areas and their integrity.

- Cumulative landscape effects: Where more than one scheme of a similar type may lead to a cumulative effect.

8.A.11.2. The English Onshore Scheme may have a direct effect on the landscape as well as an indirect effect which would be perceived from the wider landscape, outside the immediate site area and its associated landscape character/designation. Landscape effects also have to be recognised in terms of natural and man-made processes, which can change or alter the landscape over time.

8.A.12. Landscape Receptors Identification

8.A.12.1. Landscape receptors comprise landscape components that may be affected by the proposed change. These typically include the landscape elements, which are the component parts of the landscape, the key landscape characteristics, including specific aesthetic and perceptual aspects and the overall landscape character, as well as designated or protected landscapes, e.g., National Parks, National Landscapes.

8.A.12.2. The landscape effects have been assessed with reference to landscape character units identified at the following levels:

- National level – National Character Area Profiles published by Natural England (Ref 8.8); and
- Local level – District Level Landscape Character Assessments.

8.A.12.3. The landscape effects have been assessed with reference to the potential effects on individual components of the landscape, such as loss of trees and vegetation and the addition of new elements such as a converter station, including the potential effectiveness of mitigation planting, although these details are not known at this stage. The change associated with removing and adding components leads to an overall change in landscape character assessed with the reference to the national and local level landscape character assessments outlined above. A detailed assessment has been carried out with ref to the landscape character units (Landscape Types, Landscape Character Areas) that will be affected directly, where the change associated with removal and addition will occur, as opposed to landscape character units not affected directly, where the change will be primarily associated with views and other perceptual qualities as the effects on indirectly affected LCU's are likely to be not significant. The preliminary LVIA deals with the assessment of landscape effects on landscape designations such as the Lincolnshire Wolds National Landscape. The effects on heritage designations such as Registered Parks and Gardens are assessed in **Volume 1, Part 2, Chapter 7: Cultural Heritage**.

8.A.13. Landscape Sensitivity

8.A.13.1. The sensitivity of landscape receptors is determined by combining judgments about the value attached to the landscape (established and reported as part of the baseline) with judgments about the landscape susceptibility to change arising from the English Onshore Scheme.

8.A.13.2. Judgements on the value attached to the landscape baseline are unrelated to the nature of the English Onshore Scheme proposed, whilst judgements on susceptibility may vary in response to the type of scheme proposed and the attributes of the area in which it is to be located.

8.A.14. Landscape value

8.A.14.1. Landscape value is frequently addressed by reference to international, national, regional and local designations determined by statutory bodies and planning authorities. However, the absence of such a designation does not necessarily imply a lack of quality or value. Various other factors are considered in determining landscape value, which can render areas of nationally unremarkable quality valuable as a local landscape resource. A range of landscape value factors has been included in **Table 8.A-1** below.

Table 8.A-1 Landscape value factors

Factors	Sub - criteria
Landscape designations, national, regional and local	The presence of designations such as National Parks, National Landscapes, Heritage Coast, and local landscape designations, including consideration of special qualities, distance, relationships, and extent of setting.
Nature conservation and heritage designations/interest	The presence of ecological designations and interests that contribute to a sense of place and landscape character, e.g., SSSI, Ramsar Sites, SAC, and SPA, alongside habitats and other areas of ecological interest. The presence of historic designations such as WHS sites, Scheduled Monuments, Listed Buildings, Historic Parks and Gardens, Conservation Areas and their setting.
Recreational value	The presence of open access land, common land, and public rights of way (particularly National Trails, LDP's, and Coastal Paths) where recreation is connected to the appreciation of the landscape. Areas with good accessibility that provide opportunities for other outdoor recreational activities.
Landscape condition	Physical state of individual elements and overall landscape character.
Perceptual (scenic value, strength of character)	Published information, that promotes the availability of protected views and areas visited for particular scenic qualities or views. Unique combinations of landscape features, e.g., dramatic or striking landforms or harmonious combinations of land cover.
Perceptual (Wildness and tranquillity)	Perception of wildness and tranquillity linked to nature, dark skies, presence of wildlife, or relative peace and quiet.
Other special qualities	The presence of distinctive features, such as dunes within the coastal landscape, fens, estate parkland, and other features, adds to the special qualities and strength of character.

8.A.14.2. The evaluation of landscape value has been undertaken with reference to a four-point scale, ranging from very high to negligible, as outlined in **Table 8.A-2** below.

Table 8.A-2 Landscape value levels

Landscape value	Typical description
High	<p>The landscape is likely to be valued for several of its attributes at the international, national, and regional levels. It is frequently protected by a statutory landscape designation, such as a World Heritage Site, National Park, or National Landscape, or is designated at the local level, such as Areas of Great Landscape Value.</p> <p>The landscape is largely intact and may contain elements/features that are rare or distinct, but they are perceived as valued landscapes at the regional and local levels. The landscape typically has a strong sense of place.</p>
Medium	<p>Typically, it is an undesignated landscape. It contains a few landscape features worthy of conservation, with little evidence of degradation. The landscape is ordinary, with commonplace elements of limited variety and distinctiveness.</p> <p>The landscape may contain elements/features representative of a community or local level attributes and cultural associations. The landscape may provide some scenic and landscape quality, and some recreational opportunities.</p>
Low	<p>Typically, it is an undesignated landscape. This landscape is likely to be valued to a limited extent locally. It may contain common features and, therefore, does not specifically contribute to the wider landscape or cultural associations.</p> <p>Landscapes with evidence of degradation where detracting features are common. This landscape is of limited scenic quality, with few recreational opportunities.</p>
Negligible	<p>It is typically an undesignated landscape, typically degraded, with many detracting features and few features worth retaining.</p> <p>This landscape has been subject to strong man-made influences. It contains commonplace features of low ecological value that contribute little to the cultural associations and have no recreational value.</p>

8.A.15. Landscape susceptibility

8.A.15.1. Susceptibility is defined by GLVIA3 (Ref 8.1). as:

“the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies” (GLVIA3 paragraph 5.40).

8.A.15.2. The landscape susceptibility criteria of the receiving landscape are reflected below and will be used to assess its susceptibility to the English Onshore Scheme.

Table 8.A-3 Landscape susceptibility criteria

Criteria	Higher susceptibility	Lower susceptibility
Landform	Simple, low-laying or flat landform.	Complex and varied landforms.
Land use	Land use of higher susceptibility typically consists of a range of valuable features.	Land use of lower susceptibility is likely to comprise commonplace degraded features.
Woodlands, hedgerows and other vegetation	Frequent presence of woodlands and dense network of hedgerows.	Limited woodland and hedgerow cover.
Scale	Smaller scale landscapes, with distinct and frequent field boundaries and varied topography, are generally more susceptible.	Larger scale landscapes, with fewer field boundaries and flat topography, are generally less susceptible.
Openness and enclosure	Landscapes with a high degree of enclosure.	Landscapes with a low degree of enclosure.
Distinctive features	Landscapes with frequent presence of distinct landscape features.	Landscapes with few distinct features.
Perceptual aspects Scenic qualities	Frequent skyline views across attractive landscapes. Landscapes, including a range of views, promoted in the tourist information.	Rare skyline views across more commonly present landscapes, lacking attractive and prominent views.
Perceptual aspects (Wildness, tranquillity, cultural characteristic)	Landscapes of high tranquillity and a strong sense of wildness, with a strong presence of natural and cultural attributes.	Landscapes of low tranquillity and wildness, lacking valued cultural characteristics, with substantial man-made intervention.
Direct/Indirect exposure	Landscapes affected directly.	Landscapes indirectly affected.

8.A.15.3. After consideration of a range of factors listed above, the overall judgment is made on a scale from high to negligible, as set out in **Table 8.A-4** Landscape susceptibility levels.

Table 8.A-4 Landscape susceptibility levels

Landscape susceptibility	
High	Low ability to accommodate the specific proposed change without undue consequences for maintaining the baseline situation (receptor value) and/or meeting relevant planning policies/strategies objectives.
Medium	Moderate ability to accommodate the specific proposed change; some undue consequences for the maintenance of the baseline situation (receptor value) and/or meeting of relevant planning policies/strategies objectives.

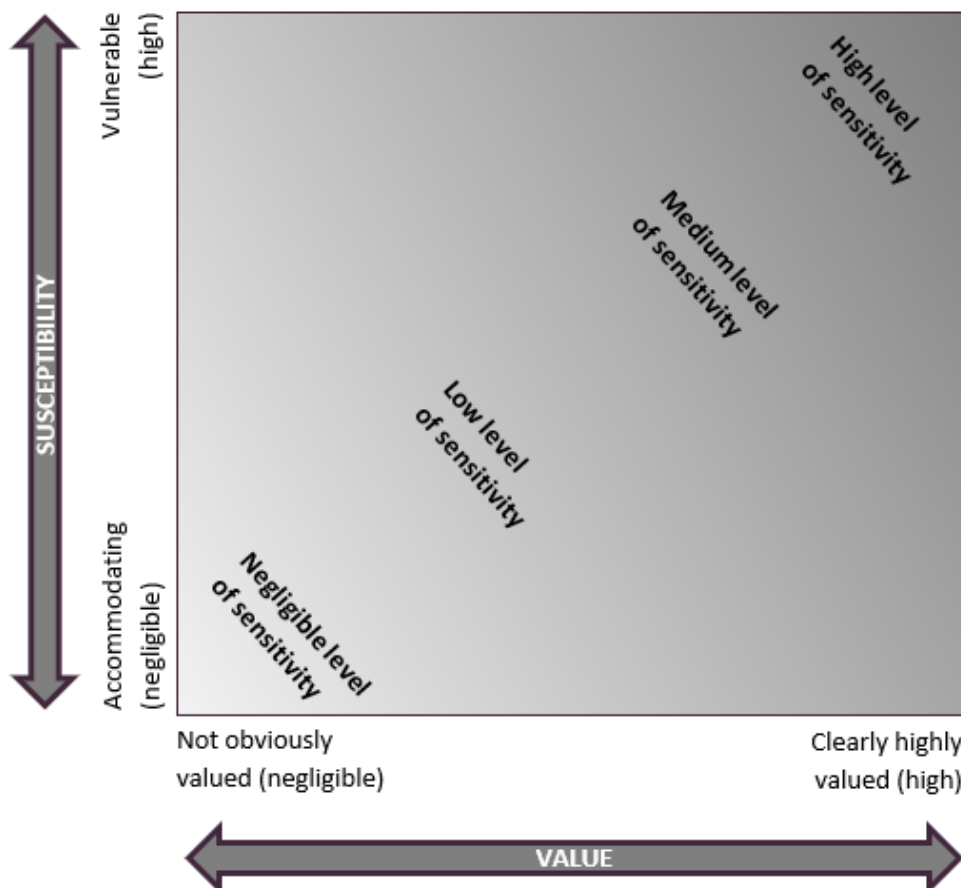
Landscape susceptibility

Low	High ability to accommodate the specific proposed change with little or no undue consequences for maintaining the baseline situation (receptor value) and/or meeting relevant planning policies/strategies objectives.
Negligible	Very high ability to accommodate the specific proposed change; no undue consequences for maintaining the baseline situation (receptor value) and/or meeting relevant planning policies/strategies objectives.

Landscape sensitivity levels

- 8.A.15.4. Susceptibility and value can be combined in different ways. However, it is generally accepted that a combination of high susceptibility and high value will likely result in the highest sensitivity. In contrast, a combination of low susceptibility and low value is likely to result in the lowest level of sensitivity. As noted in GLVIA3 (Ref 8.1), there can be complex relationships between the value attributed to a landscape and its susceptibility to change. This can be particularly important when considering changes to designated landscapes or those under consideration for designation.
- 8.A.15.5. The diagram presented in **Plate 8.A-2** illustrates how value and susceptibility can be combined to assess sensitivity. The basis for the assessment is made clear through evidence and professional judgment in evaluating sensitivity for each receptor, with narrative assessment text providing rationale for the judgment. When assessing overall landscape sensitivity, note that these levels are indicative and span a range from high to negligible.

Plate 8.A-2 Level of landscape sensitivity



8.A.15.6. Landscape sensitivity assessment combines judgments regarding landscape value and susceptibility. The overall judgments are made on a scale from high to negligible as set out in **Plate 8.A-2**. These descriptions represent typical sensitivity descriptions linked to identified levels of sensitivity.

Table 8.A-5 Landscape sensitivity levels

Level	Typical Description
High	Landscapes of high sensitivity are likely to be of high landscape value and susceptibility. They are likely to include designated landscapes or other landscapes of high value, due to their high recreational value, condition, perceptual qualities or other attributes. Landscapes of high sensitivity may include those of medium value that are highly susceptible to the English Onshore Scheme.
Medium	Landscapes of medium sensitivity are typically undesignated landscapes that may include some feature of higher or lower value but largely comprise commonplace elements of limited distinctiveness. Landscapes of medium sensitivity would typically include those with medium susceptibility to the English Onshore Scheme.
Low	Landscapes of low sensitivity are typically undesignated. These are landscapes that contain very few high value landscape features, comprise common landscape elements, and include notable features of a degraded landscape. It is a landscape with a high ability to accommodate the English Onshore Scheme.
Negligible	Landscapes of negligible sensitivity are typically undesignated, with many detracting features and few features worth retention and high ability to accommodate the English Onshore Scheme.

8.A.16. Magnitude of change

8.A.16.1. The magnitude of landscape impact refers to the extent to which the English Onshore Scheme would alter the existing characteristics of the landscape. It is an expression of the size or scale of change to the landscape, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The size, scale and nature of change in relation to the context;
- The geographical extent of the area influenced; and
- Its duration and reversibility.

8.A.17. Size/Scale of Change

8.A.17.1. The size/scale of change to the landscape receptors that would arise because of the scheme will take into account the following changes:

- *“the extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;*

- *the degree to which aesthetic or perceptual aspects of the landscape are altered either by the removal of existing components of the landscape or by the addition of new components and;*
- *whether the changes will alter key characteristics of the landscape, which are critical to its distinctive character.”*

8.A.17.2. **Table 8.A-6** below lists the four levels of size and scale alongside typical characteristics:

Table 8.A-6 Size/Scale

Size/Scale	Typical characteristic
Large	Large-scale loss of vegetation and other valuable landscape elements that contribute to the distinctive landscape character. The change will result in prominent alterations to the perceptual and aesthetic qualities of the landscape through the removal of valuable elements and the addition of uncharacteristic elements. The change is of such a scale and size that it will likely alter key characteristics of the local landscape or landscape character units at the local or regional scale.
Medium	Medium scale loss of vegetation and other valuable landscape elements contributing to some extent into the distinctive landscape character. The change will result in notable alteration to the perceptual and aesthetic qualities of the landscape through the removal of some valuable elements and the introduction of elements not fully consistent with the receiving landscape. The change is of such a scale and size that it will not alter the key characteristics of the local landscape or landscape character units at the local or regional scale.
Low	Vegetation and other valuable landscape elements will be lost to a limited extent, and the loss will affect predominantly commonplace elements, which contribute to the distinctiveness of the landscape character to a limited extent. The change through the removal of some valuable elements and the introduction of elements not entirely consistent with the receiving landscape, resulting in restricted change to the perceptual and aesthetic qualities.
Very small	The loss of valuable elements will be very small, with commonplace landscape elements lost to a limited extent. There will be a slight change to the perceptual and aesthetic qualities of the landscape through the removal and addition of landscape elements. The change will have very little impact on the key characteristics of the local landscape or landscape character units at the local or regional scale.

8.A.18. Geographical Extent

8.A.18.1. The geographical extent is the area over which changes in the landscape occur. It is not the same as size/scale, as a small-scale change may cover a larger area or vice versa. The extent of geographical change may vary from high to low, with typical descriptions provided in **Table 8.A-7** below.

Table 8.A-7 Geographical extent

Geographical extent	Typical characteristic
Large	The change would have a widespread physical extent and influence on the perception of the landscape. It would affect a large area, a large proportion of landscape character units, or several landscape character units.
Medium	The change would affect a medium extent of the area or landscape character unit and will have a notable impact on physical attributes, alongside perceptual and cultural qualities of the landscape.
Low	The change would be perceived locally, with limited effect on wider landscape character.
Very small	The change will be confined within the local area with very limited effect on the wider landscape character.

8.A.19. Duration and Reversibility

- 8.A.19.1. Duration and reversibility are particularly important when considering the different stages of the English Onshore Scheme. As stated in GLVIA3 (paragraph 5.51) “*duration can usually be simply judged on a scale such as short term, medium term or long term*” and is defined in GLVIA (Ref 8.1).
- 8.A.19.2. Reversibility (paragraph 5.52 of GLVIA 3) “is a judgement about the prospects and the practicality of a particular effect being reversed in, for example, a generation.” Underground cables can be considered reversible in landscape and visual terms because most of the infrastructure is below ground and, therefore, not perceived within the landscape once construction is completed, and their effects are largely reversed following construction.
- 8.A.19.3. Some elements of the English Onshore Scheme will be long-term, such as buried cables, which may be left buried at the decommissioning stage. A converter station can be removed during decommissioning, but this is extremely rare. The criteria for assessing duration and identified levels are included in **Table 8.A-8** below.
- 8.A.19.4. The duration and reversibility apply to particular scheme phases and, although not specifically identified in each phase, have therefore formed part of the consideration of the magnitude of change alongside size/scale and geographical extent.

Table 8.A-8 Duration of change

Duration of change	Criteria
Long term	Ten years +
Medium term	2 to 10 years
Short term	1-2 years
Brief	<1 year

8.A.20. Magnitude of change

8.A.20.1. Like with sensitivity, combining the scale, geographical extent, and duration/reversibility of the change together requires careful consideration and professional judgement. As such, the LVIA will consider each aspect separately to form the overall magnitude of change judgement. **Table 8.A-9** below, Magnitude of change, illustrates four levels of magnitude assessment identified through a combination of size/scale, geographical extent, duration and reversibility.

Table 8.A-9 Magnitude of change

Geographical extent	Typical characteristic
High	A large-scale change that may include the loss of key landscape elements/characteristics or the addition of uncharacteristic new features or elements that would alter the perceptual characteristics of the landscape. The size or scale of landscape change could create new landscape characteristics and may change the overall distinctive landscape quality and character, typically, but not always, affecting a larger geographical extent.
Medium	<p>A medium-scale change that may include the loss of some key landscape characteristics or elements, or the addition of some uncharacteristic new features or elements that could alter the perceptual characteristics of the landscape.</p> <p>The size or scale of landscape change can create new landscape characteristics and may lead to partial changes in landscape character, typically but not always affecting a more localised geographical extent.</p>
Low	A small-scale change that may include the loss of some landscape characteristics or elements of limited characterising influence, or the addition of some new features or elements of limited characterising influence. There will be a small and partial change in landscape character, typically, but not always affecting a localised geographical extent.
Negligible	A very small-scale change that may include the loss or addition of some landscape elements of limited characterising influence. The landscape characteristics and character would be unaffected.

8.A.21. Visual Assessment

8.A.21.1. Visual effects are concerned wholly with the effect of the English Onshore Scheme on views experienced by people, and the general visual amenity and are defined by the Landscape Institute in GLVIA3 (Ref 8.1), paragraph 6.1 as follows:

'An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity. The concern ... is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views...'

- 8.A.21.2. Visual effects are identified for different receptors (people) who would experience the view at their place of residence, within their community, during recreational activities, at work, or when travelling through the area. The visual effects may include the following:
- Visual effect: a change to an existing static view, sequential views, or wider visual amenity as a result of the English Onshore Scheme or the loss of particular landscape elements or features already present in the view, and
 - Cumulative visual effects: the cumulative or incremental visibility of other existing and/or approved development that may combine to have a cumulative visual effect.
- 8.A.21.3. The level of visual effect (and whether this is significant) is determined through consideration of the sensitivity of each visual receptor (or range of sensitivities for receptor groups) and the magnitude of change that would be brought about by the construction and operation of the English Onshore Scheme.

8.A.22. Zone of Theoretical Visibility (ZTV)

- 8.A.22.1. Plans mapping the ZTV are used to analyse the extent of theoretical visibility of the English Onshore Scheme or part of the English Onshore Scheme across the preliminary LVIA study area and to assist with viewpoint selection. The ZTV map, shown in **Volume 3, Part 2, Figures 8-6 to 8-8**, indicates the geographical area over which the converter station alongside views of construction within the cable corridor could potentially give rise to visual effects, up to a maximum distance of 10 km from the draft Order Limits. The ZTV for construction compounds has been run to a distance of 5 km, due to features of considerably lower height present, excluding the temporary presence of taller machinery such as concrete batching plants. The screened ZTV accounts for screening key elements such as buildings, landform, and vegetation; however, localised landform and some vegetation may be captured only to a limited extent within the ZTV analysis. As a result, there may be roads, tracks and footpaths within the study area which, although shown as falling within the ZTV, are screened or filtered by built form and vegetation, reducing visibility.
- 8.A.22.2. The ZTVs provide a starting point in the assessment process and accordingly tend towards giving a 'worst case' or greatest calculation of the theoretical visibility. They are presented in **Volume 3, Part 2, Figures 8-6 to 8-10**.

8.A.23. Viewpoint Analysis

- 8.A.23.1. A range of viewpoints has been selected to represent visual receptors within the study area to illustrate the range of views available, focusing on the visual representation of residential and recreational receptors. In the case of individual residential receptors, the photographs were taken from nearby proxy locations, including PRow and adjacent roads. The viewpoints were selected to represent sensitive receptors, including the National Landscape, recreational routes such as the King Charles III England Coast Path National Trail. A large number of viewpoints have been selected to represent different views available to residents within the study area and recreational users along the PRow and other recreational routes. These viewpoints are illustrated as Type 1 Visualisations in accordance with the Visual Representation of Development Proposals Technical Guidance Note (TGN 06/19) (Ref 8.5).

- 8.A.23.2. Viewpoint analysis is used to assist the assessment of effects from settlements and identified recreational receptors and is conducted from selected viewpoints within the preliminary LVIA study area. Its purpose is to assess both the level of visual effect for receptors and to help guide the iterative design process. A range of viewpoints is examined in detail and analysed to determine whether a significant visual effect would occur. By considering the viewpoints in order of distance, it is possible to define a threshold or outer geographical limit, beyond which it would be reasonable to assume that significant effects would be unlikely.
- 8.A.23.3. The assessment involved identifying significant and not significant effects by combining the magnitude of change and visual sensitivity. The effects on views from identified viewpoint locations have been assessed in the same way as for the other visual receptors, such as settlements and recreational receptors, but no justification is provided at this stage. The effects identified for viewpoints may differ from those identified, for example, for settlements, as the viewpoint assessment relates to a particular view, whereas the views from the settlement are slightly different, e.g., benefits from screening provided by tree belts or garden vegetation.

8.A.24. Visual Receptor Identification

- 8.A.24.1. Baseline studies identified people who are likely to be affected by the changes in views and visual amenity, referred to as 'visual receptors'. These include people living in the area, typically referred to as residential and recreational receptors; people engaged in recreation; and people visiting promoted landscapes and attractions. Other visual receptor groups were scoped out of the assessment at the scoping stage.
- 8.A.24.2. Baseline studies of the key visual receptors within the study area that have the potential to be affected by the English Onshore Scheme concluded that key receptors that are likely to be affected significantly comprise residential and recreational receptors. Users of sports facilities, including pitches and playgrounds, have also been scoped out from the assessment due to their low sensitivity. However, the recreational users whose activity depends on the appreciation of the views, such as users of caravan sites, located in the immediate vicinity of the cable corridor or converter station, will be assessed at the ES.

8.A.25. Visual Receptor Grouping

- 8.A.25.1. The extent of the study area for the English Onshore Scheme has been identified at 3 km from the draft Order Limits at Scoping Stage and is kept under review as design development and consultation progress.
- 8.A.25.2. The reporting on the visual effects has been carried out with reference to key settlements, PRow grouped into buffers from the draft Order Limits and other key recreational receptors such as recreational routes e.g., King Charles III England Coast Path. This method has been adopted to identify the potential significance of effects from key settlements within the study area. However, it has limitations, such as not allowing reporting on the specific details of views from individual properties, which is possible with viewpoints-based assessment. Therefore, the assessment of visual effects presented in **Volume 2, Part 2, Appendix 8.C: Visual Baseline and Assessment** focuses on the part of the settlement where views are available and where from significant effects are predicted. As effects on recreational receptors along PRow are not assessed individually, but as groupings defined in buffers (0-1 km, 1-2 km and 2-3 km) from draft Order Limits. The identified effects reflect the predicted most

common level of effect, whilst recognising that some of the recreational receptors within particular buffers may sustain higher or lower levels of effects than those identified.

- 8.A.25.3. The assessment focuses on key settlements that are likely to experience significant effects. The settlement boundaries have been identified with reference to the curtilage of residential properties, informed by the desktop study, including Ordnance Survey mapping and aerial mapping. The settlement boundaries may also include nearby residential receptors outside of the settlements that are likely to experience a similar change in views.
- 8.A.25.4. Although the potential change in the views may vary between individual properties within settlements, the assessment will articulate potential effects through the identification of receptors that will be affected significantly within a particular settlement or built-up area. In settlements where part of the settlement has been identified as potentially significantly affected, the assessment relates to this part of the settlement but also notes that views from other properties would be considerably less affected or screened completely.
- 8.A.25.5. Another group of receptors that have been scoped in for the assessment are recreational receptors. These typically comprise users of the PRow network, users of promoted routes such as Long Distance Paths (LDPs) and National Trails, and visitor attractions including Hardwick Hall, Bolsover Castle and other places of recreational and cultural interest. Some recreational activities involve sports activities such as cycling; others include sports activities undertaken at playing pitches or golf courses. In order to maintain a proportionate approach to the assessment, key receptors have been selected for individual evaluation, e.g., recreational users along the King Charles III National Trail, whilst PRow have been grouped into three receptor categories based on the potential level of experienced effects. Their selection has been informed by the production of ZTV, desktop studies, field surveys and subsequent viewpoint analysis. Identified recreational receptor groups are listed below:
- **PRow users (0–1 km buffer)** – This group includes PRow where users are likely to experience a substantial change in the views as this group consists of PRow users that will experience close views of construction, being in proximity to the working areas or experiencing a change in the view, where the converter station would dominate in the views during operation.
 - **PRow users (1–2 km)** – This group includes PRow users who would also be likely to sustain substantial change in the views, as the change would affect PRow users, where the change in the views caused by the construction or permanent presence of the converter station would affect the middle distance views. Although the change would be seen in the middle distance and views may be partial, the change would likely be of scale and geographical extent, which would substantially affect views of recreational receptors.
 - **PRow users (2–3 km)** – This group includes PRow users who would have long-distance views. Some of them may still experience substantial change in the views, but the effects during operation are likely to reduce considerably, due to the distance from the converter station and screening of intervening landform and vegetation.

8.A.26. Visual Sensitivity

8.A.26.1. In accordance with paragraphs 6.31 to 6.37 of GLVIA3 (Ref 8.1). The sensitivity of visual receptors is determined by a combination of the value of the view and the susceptibility of the visual receptors to the change likely to result from the English Onshore Scheme on the views and visual amenity.

Visual value

8.A.26.2. Visual value refers to the value attached to the views that considers the following:

- Recognition of the value attached to particular views, for example, in relation to heritage assets or through planning designations; and
- Indicators of the value attached to the views by visitors, for example through appearance in guidebooks or on tourist maps, provision of facilities for their enjoyment (such as parking places, sign boards, and interpretative material) and references to them in literature or art (for example works by local artists and poets).

8.A.26.3. The visual value criteria are listed in **Table 8.A-10**.

Table 8.A-10 Visual value criteria

Level	Recognition	Indicators of Value
High	Recognised views from nationally or internationally important landscape or heritage resources may be identified in planning policies or statutory documents, such as in connection to the Lincolnshire Wolds National Landscape.	High value/celebrated view; referred to in national or international guidebooks, tourist guides, etc.; literary and art references; presence of interpretive facilities (e.g., visitor centre). This category also includes views recognised informally, such as views from residential and recreational receptors that are of high scenic value, likely valued by residents and recreational and people enjoying recreational activity.
Medium	Recognised views from local or regionally important landscape or heritage resources may be identified in local planning policies or supplementary planning documents.	Moderately valued view; referred to in local or regional guidebooks, tourist maps, etc.; literary and art references; presence of some interpretive facilities (e.g., parking places or sign boards). This category also includes views formally recognised, such as residential and recreational receptors with scenic quality, likely valued by local residents or recreational users.
Low	Locally recognised views, usually informal.	Valued view but no formal references, may include informal or formal footpaths that indicate well-used routes by locals and residential receptors with views of low scenic value. It is likely to be common, where views are typical of the location, with little distinctiveness, and some detractors.
Very low	Little to no recognition.	Views are not recognised by local users and lack evidence of people actively seeking use, frequently including detracting elements within views.

Visual susceptibility

8.A.26.4. The susceptibility of a visual receptor to the English Onshore Scheme is defined as the ability of the receptor to accommodate the English Onshore Scheme without undue negative consequences. Visual susceptibility criteria are outlined in **Table 8.A-11**.

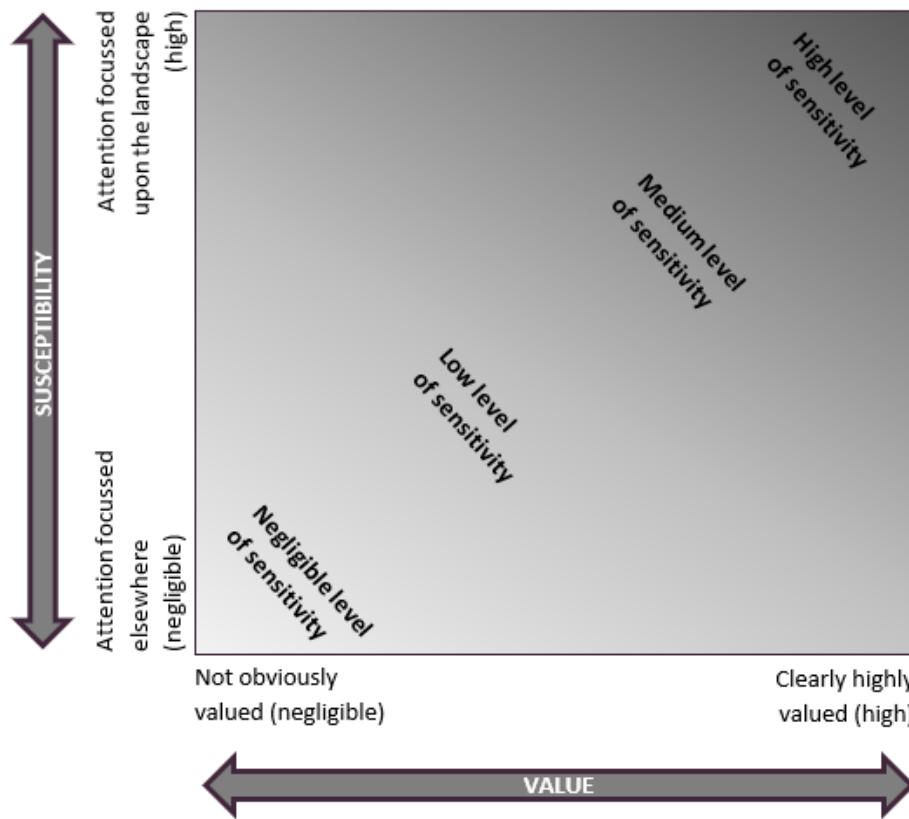
Table 8.A-11 Visual susceptibility criteria

Level	Typical Receptors
High	<ul style="list-style-type: none">• Residents at home;• Walkers on LDPs, National Trails and other recreational routes;• Users of footpaths where the attractive nature of the countryside is an important factor in the enjoyment of the walk;• Cyclists on national and local cycle routes designed to provide an attractive visual experience;• Road users on recognised tourist routes; and• Visitors to landscape and heritage assets and other attractions where views of the surroundings are an important contributor to appreciation, experience, and/or enjoyment.
Medium	<ul style="list-style-type: none">• Users of public open spaces and footpaths where the nature of the surroundings is not a significant factor in the enjoyment of the landscape; and• Visitors to landscape and heritage assets and other attractions where views of the surroundings are a minor contributor to appreciation, experience and/or enjoyment of the landscape.
Low	<ul style="list-style-type: none">• People at their place of work or shopping;• Road users and train passengers;• People engaged in recreational activities where the view of the surroundings is secondary to the enjoyment of the activity (such as playing or spectating at outdoor sports facilities); and• Users of public open spaces and footpaths where the nature of the surroundings is irrelevant to the enjoyment of the activity.
Negligible	<ul style="list-style-type: none">• Users of indoor facilities where the view is irrelevant to their activity.

Visual sensitivity levels

8.A.26.5. Visual susceptibility and value can be combined in different ways to form a judgment about the visual sensitivity of a given receptor. It is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity. In contrast, a low susceptibility and low value are likely to result in the lowest level of sensitivity. **Plate 8.A-3** illustrates potential outcomes when combining visual value and susceptibility. These typical descriptions are used as a guide; however, the assessment is ultimately justified by a narrative within the assessment, underpinned by professional judgment.

Plate 8.A-3 Level of visual sensitivity



8.A.26.6. The visual sensitivity assessment combines judgments regarding value of the views and their susceptibility to the English Onshore Scheme. The overall judgments are made on a scale from high to negligible as set out in **Table 8.A-12**. These descriptions represent typical sensitivity descriptions linked to identified levels.

Table 8.A-12 Visual sensitivity levels

Level	Typical Description
High	High sensitivity views are likely to be available from nationally or designated landscapes, may be identified in planning documents, or may be identified as important for heritage designations. These views are likely to include views referenced in international guidebooks or may be recognised informally by receptors who are typically of higher susceptibility to the English Onshore Scheme, such as residential or recreational receptors, that have views of high scenic value.
Medium	Typically, recognised views from regionally or locally designated landscapes or heritage assets, with particular views identified as necessary for the maintenance of key qualities. The views may be identified in local plan policies and supplementary planning documents and are likely to be accessible to road users, users of sports facilities, or attractions where the landscape contributes to the enjoyment of recreational activities. This may include views of residential and recreational receptors of some scenic value.

Level	Typical Description
Low	Views of low value are typically recognised locally, and may be valued by residents or recreational users, but lack formal recognition and do not attract visitors. These views may be available to transport users travelling at high speed along local roads and users of PRoW, where views provide a limited contribution to the recreational activity.
Negligible	Susceptibility to change of view and value attached to views is negligible. Views where the addition or subtraction of existing elements would have a negligible impact on visual amenity. These views include frequently degraded landscapes or views that man-made interventions, such as industrial estates, have heavily transformed. The views are typically not important to the people experiencing the views.

8.A.27. Magnitude of change

8.A.27.1. The magnitude of change depends upon a combination of factors, including the size, scale and nature of change in relation to the context, the geographical extent of the area influenced, and its duration and reversibility. GLVIA3 (Ref 8.1) advises that it is helpful to consider (but not be restricted to) the following:

- Nature of the view (full, partial or glimpsed);
- Proportion of the scheme visible (full, most, part or none);
- Distance of the viewpoint from the scheme and whether it would be the focus of the view or only a small element;
- Whether the view is stationary, transient or sequential;
- The nature of the changes to the view; and
- The seasonal effects of vegetation, which varies the degree of screening and filtering of views available.

8.A.27.2. In line with the GLVIA3 (Ref 8.1) the magnitude of change has been assessed in the context of the following factors:

- The size, scale and nature of change in relation to the context;
- The geographical extent of the area influenced; and
- Its duration and reversibility.

8.A.27.3. The specific criteria relevant to each of these factors have been described in more detail below.

Size/scale of change

8.A.27.4. The size/scale of change to the landscape and to visual receptors that would arise because of the English Onshore Scheme will take account of the following factors as set out below:

- The scale of change in the view (addition or loss of features) and changes to its composition and depth of view;

- The degree of contrast or integration of new features or characteristics into the landscape, considering form, scale, mass, height, colour and texture; and
- The nature of the view of the English Onshore Scheme, the time over which it will be experienced and changes in the experience from for instance full, partial, glimpsed to screened.

8.A.27.5. The typical descriptions of size/scale are listed in **Table 8.A-13**.

Table 8.A-13 Size/scale of visual change

Level	Typical Description
Large	<ul style="list-style-type: none"> • Occupies a wide proportion of the view or would obstruct a significant portion of the view; • The English Onshore Scheme would become the dominant feature; and • Considerable change to the majority/many existing landscape elements and/or landscape character; fundamental changes to the surroundings and baseline to a large extent; very noticeable.
Medium	<ul style="list-style-type: none"> • Occupies much of the view but would not fundamentally change its characteristics; • Changes would be immediately visible but not a key feature of the view; and • Some change to existing landscape elements and/or landscape character; discernible changes to the surroundings of a receptor, such that its baseline is partly altered; prominent.
Low	<ul style="list-style-type: none"> • Occupies a small portion of the view and would only slightly alter the view's composition; and • Small change to existing landscape elements and/or landscape character; slight, but detectable impacts that do not alter the baseline of the receptor materially.
Very small	<ul style="list-style-type: none"> • Occupies little or no portion of the view and would not result in a change to the view's composition; and • Little or limited/no change in existing landscape elements and/or landscape character, barely distinguishable change from baseline conditions; not noticeable – could be missed by the casual observer.

8.A.27.6. For visual receptors experiencing a change in the views, one of the factors influencing the magnitude of change is the extent of change caused by the construction of the English Onshore Scheme in a particular view. The typical descriptions of identified levels of geographical extent are included below in **Table 8.A-14**.

Table 8.A-14 Geographical extent of change

Level	Typical Description
Large	The change in the view would affect an extensive portion of the view and would have a strong influence on the perception of the landscape or view.
Medium	The change in the view would affect a moderate portion of the view and would have a moderate influence on the perception of the landscape or view.
Low	The change in the view would affect a small proportion of the views. The change would have a minor effect on the quality of views available.
Very small	The change in view would affect a very small proportion of the views. The change would be perceived only locally, with a limited effect on wider landscape character or views.

Duration and reversibility

- 8.A.27.7. Duration and reversibility are particularly important when considering the different stages of the English Onshore Scheme. As stated in GLVIA3 (Ref 8.1) (paragraph 5.51) '*Duration can usually be simply judged on a scale such as short term, medium term or long term*' and is defined in **Table 8.A-15**.
- 8.A.27.8. Reversibility is described in paragraph 5.52 of GLVIA3 (Ref 8.1) as '*a judgement about the prospects and the practicality of a particular effect being reversed in, for example, a generation.*' Whilst underground cables or converter stations can be theoretically removed and decommissioned, this is extremely rare and, therefore, the English Onshore Scheme is considered to be permanent and not reversible. As this criterion is applied throughout the visual assessment to all receptors, it is not specifically mentioned in the assessment, but forms part of the consideration.

Table 8.A-15 Duration of change

Duration of Change	Criteria
Permanent	Above 20 years
Long term	10 to 20 years
Medium term	2 to 10 years
Short term	Up to 2 years

Magnitude levels

- 8.A.27.9. The magnitude of visual effects is assessed based on the evaluation of size/scale, geographical extent, duration and reversibility. **Table 8.A-16** sets out the different levels of magnitude alongside typical descriptions to illustrate the difference between different levels of magnitude. These are not prescriptive but illustrative of different levels of magnitude.

Table 8.A-16 Magnitude of change

Level	Typical Description
High	A large and dominant change to the view, appearing in the fore to the middle ground and involving the loss/addition of several features, is likely to have a substantial degree of contrast and benefits from little or no screening. Close to medium distance view of the converter station or associated construction activity. The view is likely to be experienced at static or low speed and is more likely to be continuously/sequentially visible from a route.
Medium	A moderate and prominent/noticeable change to the view appears in the middle ground, involving the loss/addition of features and a degree of contrast with the existing view. There are open views towards the converter station in the middle distance. The view is likely to be experienced at static or low to medium speed and is more likely to be intermittently or partially visible from a route.
Low	A noticeable or small change affecting a limited part of the view that may be obliquely viewed or partly screened and/or appearing in the background of the view. The electricity infrastructure is visible partially and at a distance. This category may include rapidly changing views experienced from fast-moving road vehicles or trains.
Negligible	A very small or negligible change to the view that may be obliquely viewed and mostly screened and/or appearing in the distant background or viewed at high speed over short periods and capable of being missed by the casual observer. Typically includes views of electricity infrastructure at a long distance, where there is a small alteration to the views, including the skyline.

8.A.28. Significance of Landscape and Visual Effects

- 8.A.28.1. Final conclusions about the significance require separate combined judgments about the sensitivity of the landscape/visual receptors and the magnitude of visual/landscape change to allow a final judgment about whether the effects are significant or not.
- 8.A.28.2. The visual assessment has taken into account the likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure, or focus of the existing view.
- 8.A.28.3. Landscape assessment considers how the proposal will affect the elements that make up the landscape, its aesthetic and perceptual aspects, its distinctive character and the key characteristics that contribute to this.
- 8.A.28.4. As set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, using professional judgement and with reference to The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Ref 8.8), the assessment considers major adverse effects as always significant and moderate adverse effects as significant or not significant, as shown in **Table 8.A-17**. Those less than moderate are always not significant. Effects can be either beneficial or adverse and, in some cases, neutral (neither beneficial nor adverse).

8.A.28.5. **Table 8.A-17** provides guidance on the interrelationship between the magnitude of change and receptor sensitivity. However, this matrix is used as a framework and guide for consistency, not as a prescriptive formula: the level of effect and thus significance will vary depending on the circumstances, the type and scale of the scheme proposed, the baseline context, and other factors as set out in the previous sections. The moderate effects are ‘potentially significant’, either significant or not significant. Where moderate adverse effects have been identified, the qualifying justification has been provided to explain whether the effects are significant or not significant.

Table 8.A-17 Significance matrix

		Magnitude			
		High	Medium	Low	Negligible
Sensitivity	High	Major (Significant)	Major (Significant)	Moderate (Significant/ Not significant)	Minor (Not significant)
	Medium	Major (Significant)	Moderate (Significant/ Not significant)	Minor (Not significant)	Minor (Not significant)
	Low	Moderate (Significant/ Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)
	Negligible	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)

8.A.29. Assessment of Cumulative Effects

8.A.29.1. The approach to cumulative assessment is defined in **Volume 1, Part 4, Chapter 27: Cumulative Effects**.

8.A.30. Visualisations and Zones of Theoretical Visibility (ZTVs)

8.A.30.1. Zones of Theoretical Visibility (ZTVs) and visualisations (annotated viewpoint photography) are graphical images produced to assist and illustrate the preliminary Landscape and Visual Impact Assessment (LVIA). The methodology used for the ZTV’s and visualisations accords, where relevant, with the following technical guidance documents:

- Technical Guidance Note 06/19: Visual Representation of Development Proposals (Ref 8.5); and
- The Guidelines on Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (Ref 8.1).

8.A.31. Methodology for Production of ZTVs

8.A.31.1. ZTVs are used to display the area over which elements of the scheme could theoretically be seen. ZTVs indicate areas from where the scheme would be theoretically visible, but cannot show what it would look like, nor can they indicate the nature or magnitude of the landscape and visual change. The ZTVs are generated using ESRI ArcGIS Pro© software. This software is used to export a raster output showing areas of theoretical visibility of the scheme using digital terrain data as follows:

- LIDAR Composite Digital Surface Model on a 1 m grid. This is considered suitable data for detailed ZTV production on the English Onshore Scheme, as during analysis, it is likely to detect smaller features which may affect visual screening, such as buildings and vegetation.
- The ZTV was created using a viewer height of 1.6 m. The English Onshore Scheme was modelled using the emerging design that is being presented at Stage 2 (statutory) consultation, and ZTVs run for the following parameters:
 - Maximum height of DC Halls at 30 m, by assuming the worst-case scenario of extending across the entire footprint of indicative zones for the converter station (see **Volume 3, Part 2, Figure 8-6**).
 - In addition, a ZTV has been produced for were produced to illustrate the potential visibility of construction activity within the Construction Swathe (see **Volume 3, Part 2, Figure 8-9**) based on the assumption that most construction vehicles moving within the cable corridor and between compounds would not exceed a height of 7 m;
 - Further, ZTV has been produced for the nearest construction compound located in the vicinity of Converter Station, based on the maximum height of 10 m, excluding the concrete batching plant and cranes (see **Volume 3, Part 2, Figure 8-10**).

8.A.31.2. The resulting ZTV exports were overlaid on an Ordnance Survey map base at an appropriate scale and are presented as figures using ESRI ArcGIS Pro©.

8.A.32. Methodology for Baseline Photography

8.A.32.1. Once a suitable representative viewpoint had been selected, the location was visited and micro-sited to avoid foreground clutter as far as practicable and then photographed during fair weather and light conditions. A photographic record was taken to record the view. The details of the viewpoint location and associated data were recorded to support the production of visualisations and validate their accuracy.

8.A.32.2. The following photographic information was recorded:

- Date and time;

- Global Positioning System (GPS) recorded 12 figure grid reference accurate to approximately 2-5 m;
 - GPS recorded as Above Ground Level (AGL), accurate to approximately 2-4 m, recorded in metres as two-digit reference;
 - Use of 50 mm fixed focal length of lens and full frame sensor (FFS) digital single-lens reflex (DSLR) camera;
 - Use of tripod; and
 - Appropriate horizontal field of view (in degrees) photographed.
- 8.A.32.3. All photographs included in this assessment were recorded with a DSLR camera set to produce photographs equivalent to those of a manual 35 mm single-lens reflex (SLR) camera with a fixed 50 mm focal length lens as required.
- 8.A.32.4. Whilst no two-dimensional image can fully represent the real viewing experience, the visualisations aim to provide a realistic representation of the English Onshore Scheme, based on current information and photomontage methodology.
- 8.A.32.5. In preparing the preliminary LVIA, photographs were taken in favourable weather conditions that are representative of the weather conditions generally and, where possible, were taken during periods of 'good', 'very good' or 'excellent' visibility conditions.

8.A.33. Methodology for Production of Visualisations

- 8.A.33.1. Each view has been illustrated with baseline photography, with some specific views also showing a photomontage indicating the English Onshore Scheme. These terms are defined as follows:
- Baseline photograph: A photograph of the existing view recorded in fair weather conditions and usually presented as a panorama as required by the relevant guidance. These are presented as Type 1 visualisations in accordance with Technical Guidance Note 06/19 (Ref 8.5).
 - Photomontage: A visualisation which superimposes an image of the scheme upon the baseline photograph, which is then rendered by computer software to produce an image of how the Scheme would appear from that viewpoint. Photomontage is a widespread and popular visualisation technique, which allows changes in views and visual amenity to be illustrated and assessed. These are presented as Type 4 visualisations in accordance with Technical Guidance Note 06/19 (Ref 8.5).

8.A.34. Baseline Photograph Production

- 8.A.34.1. Photographs were taken using a full-frame sensor digital camera, with a 50 mm fixed focal length lens in combination with a panoramic head-equipped tripod. Detailed information was then recorded on-site to enable the accurate alignment of the photographs with the wireline model. Tripod locations were photographed from multiple angles to aid in viewpoint alignment.

8.A.34.2. To create the baseline panorama, the photographs from the viewpoint were then digitally joined using PTGui software to form a cylindrical panorama. Site visit photography should be undertaken in good, very good or excellent visibility and at particular times of day or from a location that avoids foreground clutter or other vertical features such as telegraph poles.

8.A.35. Limitations of Visualisations

8.A.35.1. The visualisations used in the preliminary LVIA are for illustrative purposes only and, whilst useful tools in the assessment, are not considered to be completely representative of what will be apparent to the human eye. The assessments were conducted based on field observations and, therefore, may include elements not visible in the photographs.

8.A.35.2. The photomontage visualisations have a number of limitations when using them to form a judgement on visual effect:

- A static image cannot convey movement, such as the movement of water or the reflection from the sun;
- The viewpoints illustrated are representative of views in the area but cannot represent visibility at all locations;
- To form the best impression of the effects, these images are best viewed at the viewpoint location shown;
- The visualisations must be printed and viewed at the correct size as indicated on the figures;
- Images should be held flat at a comfortable arm's length. If viewing these images on a wall or board at an exhibition, stand at arm's length from the image presented to gain the best impression; and
- It is preferable to view printed images rather than view images on screen. Images on screen should be viewed on a standard PC monitor, with the image enlarged to fill the screen to create a realistic impression.

Printing of maps and visualisations

8.A.35.3. All electronic visualisations and maps should be printed out and viewed at the correct scale as noted on the document.

8.A.36. Bibliography

Ref 8.1. Landscape Institute and Institute for Environmental Management and Assessment (IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment – 3rd Edition (GLVIA3).

Ref 8.2. Natural England (2014). An Approach to Landscape Character Assessment. [online] Available at: <https://www.gov.uk/government/publications/landscape-character-assessments-identify-and-describe-landscape-types> [Accessed 22 January 2026]

Ref 8.3. Natural England (2019). An approach to landscape sensitivity assessment – to inform spatial planning and land management. [online] Available at: <https://www.gov.uk/government/publications/landscape-character-assessments-identify-and-describe-landscape-types> [Accessed 22 January 2026]

Ref 8.4. Landscape Institute (2024). Technical Guidance Note (TGN) 02/21 Assessing landscape value outside national designations [online] Available at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2021/05/tgn-02-21-assessing-landscape-value-outside-national-designations.pdf> [Accessed 22 January 2026]

Ref 8.5. Landscape Institute (2019). Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals. [online] Available at: https://www.landscapeinstitute.org/wp-content/uploads/2019/09/LI_TGN-06-19_Visual_Representation-1.pdf [Accessed 22 January 2026]

Ref 8.6. National Grid (2012). Options Appraisal - Options Appraisal - Toolkit for Project Teams Landscape & visual amenity methodologies. [online] Available at: <https://www.nationalgrid.com/document/346736/download> [Accessed 22 January 2026]

Ref 8.7. Landscape Institute (2024). Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) LITGN-2024-01. [online] Available at: <https://www.landscapeinstitute.org/technical-resource/notes-and-clarifications-on-aspects-of-the-3rd-edition-guidelines-on-landscape-and-visual-impact-assessment-glvia3-litgn-2024-01/> [Accessed 22 January 2026]

Ref 8.8. Natural England. (2025). Natural England – National Character Area Profiles [online] Natural England. Available at <https://nationalcharacterareas.co.uk/> [Accessed 22 January 2026]

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United

Registered in England and Wales
No. 4031152
nationalgrid.com