# RWE Renewables UK Dogger Bank South (West) Limited

# RWE Renewables UK Dogger Bank South (East) Limited

# Dogger Bank South Offshore Wind Farms

**Environmental Statement**

**Volume 7**

**Chapter 23 – Landscape and Visual Impact Assessment**

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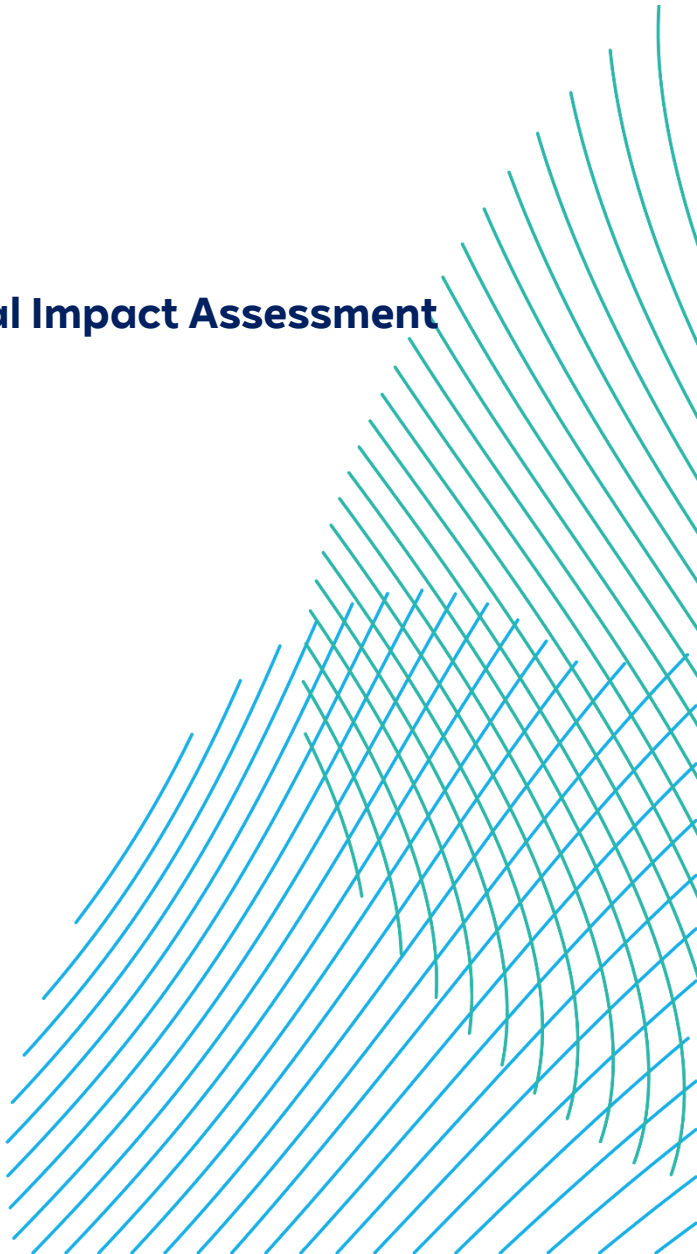

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# Glossary

| Term | Definition |
|---|---|
| Baseline | The existing conditions as represented by the latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of the Projects. |
| Commitments Register | An Excel spreadsheet which identifies all of the Projects commitments and mitigation relating to each technical topic under consideration in the EIA process and where each commitment is secured in the DCO. |
| Concurrent Scenario | A potential construction scenario for the Projects where DBS East and DBS West are both constructed at the same time. |
| Cumulative effects | The combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource. |
| Cumulative Effects Assessment (CEA) | The assessment of the combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor/resource. |
| Cumulative impact | The combined impact of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource. |
| Decommissioning Plan | A document which would define the extent of works, in relation to the onshore infrastructure, which are required to be undertaken at the end of the operational lifetime of the Projects. The plan would be subject to agreement with relevant stakeholders at the time. |
| Development Area | An area comprising the Offshore Development Area, Onshore Transmissions Works and Mitigation Areas. The Development Area includes all permanent and temporary works areas, including offshore platforms, cables and turbine locations. |
| Development Consent Order (DCO) | An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP). |

| Term | Definition |
|---|---|
| Development Scenario | Description of how the DBS East and / or DBS West Projects would be constructed either in isolation, sequentially or concurrently. |
| Dogger Bank South (DBS) Offshore Wind Farms | The collective name for the two Projects, DBS East and DBS West. |
| EIA Directive | The EU directive on the assessment of the effects of certain public and private projects on the environment (2011/92/EU as amended by 2014/52/EU)" |
| EIA Regulations | The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. |
| Environmental Impact Assessment (EIA) | A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Statement (ES). |
| Environmental Statement (ES) | A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations. |
| Expert Topic Group (ETG) | A forum for targeted engagement with regulators and interested stakeholders through the EPP. |
| Haul Road | The track along the Onshore Export Cable Corridor used by traffic to access different sections of the onshore export cable route for construction. |
| High Voltage Alternating Current (HVAC) | High voltage alternating current is the bulk transmission of electricity by alternating current (AC), whereby the flow of electric charge periodically reverses direction. |
| High Voltage Direct Current (HVDC) | High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction. |

| Term | Definition |
|---|---|
| High water | Maximum level reached by the rising tide. |
| Horizontal Directional Drilling (HDD) | HDD is a trenchless technique to bring the offshore cables ashore at the landfall and can be used for crossing other obstacles such as roads, railways and watercourses onshore. |
| In Isolation Scenario | A potential construction scenario for one Project which includes either the DBS East or DBS West array, associated offshore and onshore cabling and only the eastern Onshore Converter Station within the Onshore Substation Zone and only the northern route of the onward cable route to the proposed Birkhill Wood National Grid Substation. |
| Landfall | The point on the coastline at which the Offshore Export Cables are brought onshore, connecting to the onshore cables at the Transition Joint Bay (TJB) above mean high water. |
| Landfall Zone | The generic term applied to the entire landfall zone between Mean Low Water Spring (MLWS) and the Transition Joint Bays (TJBs) inclusive of all construction works, including the landfall compounds, Onshore Export Cable Corridor and intertidal working area including the Offshore Export Cables. |
| Landscape Character | A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. |
| Link Boxes | An underground metal box placed within a concrete pit where the metal sheaths between adjacent export cable sections are connected and earthed, installed with a ground level manhole to allow access to the link box for regular maintenance or fault-finding purposes. |

| Term | Definition |
|---|---|
| Local Authority | The Local Authority is a body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and the Broads Authority, as set out in Section 43 of the Planning Act 2008. East Riding of Yorkshire Council (ERYC) is the Local Authority for the entirety of the onshore project footprint. |
| Low water | The minimum height reached by the falling tide. |
| Main Rivers | Main Rivers are usually large rivers or streams that are designated under the Water Resources Act (1991) and are shown on the statutory Main River Map. They are managed by the Environment Agency, who carry out construction, maintenance and improvement works to manage flood risk. |
| Mean High Water Springs (MHWS) | MHWS is the average of the heights of two successive high waters during a 24 hour period. |
| Mean Low Water Springs (MLWS) | MLWS is the average of the heights of two successive low waters during a 24 hour period. |
| National Policy Statement (NPS) | A document setting out national policy against which proposals for NSIPs will be assessed and decided upon. |
| Offshore Development Area | The Offshore Development Area for ES encompasses both the DBS East and West Array Areas, the Inter-Platform Cable Corridor, the Offshore Export Cable Corridor, plus the associated Construction Buffer Zones. |
| Offshore Export Cable Corridor | This is the area which will contain the offshore export cables (and potentially the ESP) between the Offshore Converter Platforms and Transition Joint Bays at the landfall. |
| Offshore Export Cables | The cables which would bring electricity from the offshore platforms to the Transition Joint Bays (TJBs). |

| Term | Definition |
|---|---|
| Onshore Converter Stations | A compound containing electrical equipment required to transform HVDC and stabilise electricity generated by the Projects so that it can be connected to the electricity transmission network as HVAC. There would be one Onshore Converter Station for each Project. |
| Onshore Development Area | The Onshore Development Area for ES is the boundary within which all onshore infrastructure required for the Projects would be located including Landfall Zone, Onshore Export Cable Corridor, accesses, Temporary Construction Compounds and Onshore Converter Stations. |
| Onshore Export Cable Corridor | This is the area which includes cable trenches, haul roads, spoil storage areas, and limits of deviation for micro-siting. For assessment purposes, the cable corridor does not include the Onshore Converter Stations, Transition Joint Bays or temporary access routes; but includes Temporary Construction Compounds (purely for the cable route). |
| Onshore Export Cables | Onshore Export Cables take the electric from the Transition Joint Bay to the Onshore Converter Stations. |
| Onshore Substation Zone | Parcel of land within the Onshore Development Area where the Onshore Converter Station infrastructure (including the haul roads, Temporary Construction Compounds and associated cable routeing) would be located. |
| Onward Cable Connection | The cable corridor between the Onshore Substation Zone and the Proposed Birkhill Wood National Grid Substation. |
| Other trenchless techniques | Other techniques (aside from HDD) for installation of ducts or cables where trenching may not be suitable such as micro tunnelling or auger boring. |
| Planning Inspectorate (PINS) | The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs). |

| Term | Definition |
|---|---|
| Preliminary Environmental Information Report | Defined in the EIA regulations as information referred to in part 1, Schedule 4 information for inclusion in environmental statements which has been compiled by the applicant and is reasonably required to assess the environmental effects of the development. |
| Receptor | A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of Receptors include species (or groups) of animals, plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc. |
| Scoping opinion | The report adopted by the Planning Inspectorate on behalf of the Secretary of State. |
| Scoping report | The report that was produced in order to request a Scoping Opinion from the Secretary of State. |
| Sequential Scenario | A potential construction scenario for the Projects where the DBS East and DBS West are constructed with a lag between the commencement of construction activities. Either Project could be built first. |
| Temporary Construction Compound | An area set aside to facilitate construction of the Projects. These will be located adjacent to the Onshore Export Cable Corridor and within the Onshore Substation Zone, with access to the highway. |
| The Applicants | The Applicants for the Projects are RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited. The Applicants are themselves jointly owned by the RWE Group of companies (51% stake) and Masdar (49% stake). |
| The Projects | DBS East and DBS West (collectively referred to as the Dogger Bank South Offshore Wind Farms). |
| Transition Joint Bay (TJB) | The Transition Joint Bay (TJB) is an underground structure at the landfall that houses the joints between the Offshore Export Cables and the Onshore Export Cables. |

| Term | Definition |
|---|---|
| Trenching | Open cut method for cable or duct installation. |

## Acronyms

| Term | Definition |
|---|---|
| AONB | Area of Outstanding Natural Beauty |
| CEA | Cumulative Effects Assessment |
| DCO | Development Consent Order |
| ES | Environmental Statement |
| ETG | Expert Topic Group |
| GLVIA3 | Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) |
| HDD | Horizontal Directional Drilling |
| ILA | Important Landscape Area |
| LCA | Landscape Character Area |
| LCT | Landscape Character Type |
| LVIA | Landscape and Visual Impact Assessment |
| NCA | National Character Area |
| NPS | National Policy Statement |
| OCoCP | Outline Code of Construction Practice |
| OLMP | Outline Landscape Management Plan |
| PEIR | Preliminary Environmental Information Report |
| PRoW | Public Right of Way |
| SLVIA | Seascape, Landscape and Visual Impact Assessment |
| TCC | Temporary Construction Compound |

| Term | Definition |
|---|---|
| TJB | Transition Joint Bay |
| ZTV | Zone of Theoretical Visibility |

# 23 Landscape and Visual Impact Assessment

## 23.1 Introduction

1. This chapter of the Environmental Statement (ES) considers the likely significant effects of the Projects on Landscape Character and visual amenity. The chapter provides an overview of the existing environment for the proposed Onshore Development Area landward of Mean High Water Springs (MHWS), followed by an assessment of likely significant effects for the construction, operation, and decommissioning phases of the Projects.

2. The assessment should be read in conjunction with the following linked chapters:

   - **Volume 7, Chapter 18 Terrestrial Ecology and Ornithology (application ref: 7.18)**; and
   - **Volume 7, Chapter 22 Onshore Archaeology and Cultural Heritage (application ref: 7.22)**.

## 23.2 Consultation

3. Consultation with regard to Landscape and Visual Impact Assessment (LVIA) has been undertaken in line with the general process described in **Volume 7, Chapter 7 Consultation (application ref: 7.7)** and the **Consultation Report (Volume 5, application ref: 5.1)**. The key elements to date have included scoping, the ongoing Evidence Plan Process (EPP) via the Landscape and Visual Expert Topic Group (ETG), and the Preliminary Environmental Information Report (PEIR).

4. The feedback received throughout this process has been considered in preparing the ES. This chapter has been updated following consultation in order to produce the final assessment submitted within the Development Consent Order (DCO) application. **Volume 7, Appendix 23-1 Consultation Table (application ref: 7.23.23.1)** provides a summary of the consultation responses received to date relevant to this topic, and details how the comments have been addressed within this chapter.

## 23.3 Scope

### 23.3.1 Effects Scoped In and Scoped Out

5. The Scope of the LVIA is based on the **Scoping Opinion (Volume 8, application ref: 8.7)** issued by the Planning Inspectorate, the key points of which are summarised in **Volume 7, Appendix 23-1 Consultation Table (application ref: 7.23.23.1)**.

6. Due to the distance offshore and the curvature of the earth, there would be no visibility of the turbines from sea level at the coast, over 100km from the array areas. The Planning Inspectorate agreed that the operational effects of the Offshore Export Cable Corridor and arrays could be scoped out of a Seascape and Landscape Visual Impact Assessment (SLVIA), due to their considerable distance offshore. The Planning Inspectorate did not agree that offshore platforms could be similarly scoped out, as these could be closer to shore. The Projects may include up to two offshore platforms (up to 100m high) outside the Array Area. These would be a minimum of 52km from the landfall point, which equates to over 37km from the closest location on land (Flamborough Head). The '*Ready reckoner of visual effects related to turbine siconsulation reze*' (White et al., 2019), published by Natural Resources Wales (NRW), indicates that structures would need to be over 250m to have a 'low' magnitude of effect at distances of approximately 37km. At this distance, therefore, the platform(s) would not have likely significant effects on views from land. Therefore, effects of offshore infrastructure have not been considered further in this assessment.

7. Effects arising from the construction and decommissioning of the landfall and Onshore Export Cables were scoped into the assessment at Preliminary Environmental Information Report (PEIR) stage. The assessment in the PEIR identified no significant effects with relation to these elements. Section 42 consultation did not raise any disagreement with these findings. Since the PEIR, there have been no substantive changes to the Onshore Export Cable Corridor except that it has reduced in width, and further mitigation has been identified as part of the **OCoCP (Volume 8, application ref: 8.9)**. On the basis that significant effects are not anticipated. Section 23.6 includes a summary assessment of landscape and visual effects arising as a result of construction of the Onshore Export Cable. Effects of decommissioning the Onshore Export Cable are anticipated to be the same or less as those of construction and are not therefore assessed separately.

8. During operation, above ground infrastructure along the Onshore Export Cable Corridor would be limited to 205 manhole covers along the route measuring 2.5 x 4m each. Where possible, all other areas would be reinstated within two years. Section 23.3.4 presents embedded mitigation, including the approach to restoration of landscape and principles for reinstatement of any features affected by the construction works. Application of these principles will be secured through the **Outline Landscape Management Plan (OLMP) (Volume 8, application ref: 8.11)** and will ensure that long term operational effects resulting from the landfall and onshore export cables will not be significant, and therefore are not considered further.

9. The approach to assessment of the Onshore Export Cable was discussed and agreed with East Riding of Yorkshire Council (ERYC) at the LVIA ETG meetings held on 26th January 2024 and 15th March 2024 detailed in **Volume 7, Appendix 23-1 Consultation Table (application ref: 7.23.23.1).**

10. Effects on the candidate Yorkshire Wolds Area of Outstanding Natural Beauty (AONB) have not been considered within the assessment. The candidate Yorkshire Wolds AONB is over 11km to the north-west of the landscape and visual study area (and 12.5km and 15.5km from the Onshore Export Cable Corridor and Onshore Substation Zone, respectively). This lies outside the landscape and visual study area and has not been considered in detail in the onshore LVIA, as agreed with stakeholders.

11. In relation to the landfall, further detail has been developed since PEIR on the potential extent of works at the beach. It was therefore considered that the ES should re-assess the effects of the landfall works during construction. Further assessment of landfall works during construction are presented in section 23.6.

12. This Chapter of the ES therefore considers the potential significant effects on landscape and visual receptors arising from the following:

    - Construction of the landfall;
    - Construction of the Onshore Export Cable;
    - Construction of the Onshore Converter Stations; and
    - Operation and maintenance of the Onshore Converter Stations.

### 23.3.2 Study Area

13. The landscape and visual study area has been defined on the basis of the likely influence of the project elements on Landscape Character and visual amenity. Due to the different characteristics of the different project elements, sections of the landscape and visual study area have been defined for:

- Landfall and Onshore Export Cable Corridor; and
- Onshore Converter Stations.

14. The extent of the landscape and visual study area was informed by field survey, baseline analysis, and examination of Zone of Theoretical Visibility (ZTV) maps, to determine the maximum extent of likely significant effects.

#### 23.3.2.1 Landfall and Onshore Export Cable Corridor

15. Temporary construction works would take place at the Landfall Zone and along the length of the Onshore Export Cable Corridor. Due to the largely flat nature of the landscape, and the prevalence of trees and hedges, these works are unlikely to be widely visible. In the longer term, no above ground infrastructure would be installed that would be widely visible. It is therefore appropriate to limit the landscape and visual study area for these elements to a 1km buffer around the Landfall Zone and the Onshore Export Cable Corridor. This is shown on **Volume 7, Figure 23-1 (application ref: 7.23.1)**.

#### 23.3.2.2 Onshore Converter Stations

16. Development of the Onshore Converter Stations would involve the construction and operation of large permanent buildings. ZTVs have been generated to illustrate potential visibility of these buildings, using the maximum parameters defined in section 23.3.3. Based on analysis of these ZTVs (shown on **Volume 7, Figure 23-2 (application ref: 7.23.1)**), field work, and informed by the findings of the LVIAs for the Dogger Bank Creyke Beck and Hornsea Project Four offshore wind farms Onshore Converter Stations (Forewind, 2013; Ørsted, 2021), it is considered that likely significant effects would not occur at distances greater than 5km from the Onshore Converter Stations. The landscape and visual study area for the Onshore Converter Stations is therefore defined as a 5km radius around the Onshore Substation Zone, which would host both Onshore Converter Stations. This is shown on **Volume 7, Figure 23-1 (application ref: 7.23.1)**.

#### 23.3.2.3 Subareas of the Landscape and Visual Study Area

17. For the purposes of the LVIA, the landscape and visual study area has been divided into five subareas, shown on **Volume 7, Figure 23-1 (application ref: 7.23.1)**, based primarily on underlying Landscape Character Types (LCT), as follows:

- Subarea 1: Landfall Zone – focusing on the landscape between the coastal edge and 2km inland. The boundary for this subarea is defined by the boundary for LCT 20C (**Volume 7, Figure 23-3 (application ref: 7.23.1)**), just west of Skipsea (see section 23.5.1 for details of LCTs);
- Subarea 2: Skipsea to West Road - the flat open farmland plain in north Holderness which stretches between the coastal landscape and central Holderness;
- Subarea 3: West Road to the River Hull – across the flat open farmland of central Holderness to the River Hull;
- Subarea 4: River Hull to the Onshore Substation Zone - across the slightly more undulating farmland that rises up towards the Yorkshire Wolds in the west before reaching the Onshore Substation Zone to the south of Beverley; and
- Subarea 5: Onshore Converter Stations – focusing on the Onshore Substation Zone to the south-west of Beverley, as well as the 5km buffer around the Onshore Converter Stations, which makes up part of the landscape and visual study area.

18. Subareas 1 to 4 comprise the 1km buffer around the Landfall Zone and Onshore Export Cable Corridor, while subarea 5 is the 5km radius around the Onshore Substation Zone. For this reason, Subareas 4 and 5 overlap. The subareas are indicated on **Volume 7, Figure 23-1 (application ref: 7.23.1)** and are further described in section 23.5.2.3.

### 23.3.3 Realistic Worst Case Scenario

#### 23.3.3.1 General Approach

19. The realistic worst case design parameters for likely significant effects scoped into the EIA for the LVIA are summarised in **Table 23-1**. These are based on the project parameters described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**, which provides further details regarding specific activities and their durations.

20. In addition to the design parameters set out in **Table 23-1**, consideration is also given to the different Development Scenarios still under consideration as set out in sections 23.3.3.2 to 23.3.3.4.

*Table 23-1 Realistic Worst Case Design Parameters*

| | **Maximum Parameters** | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| **Construction** | | | | |
| Intertidal | • A trenchless solution is to be used to install ducts that will house the cables under the beach. The ducts will run from the Transition Joint Bay (TJB), located landward of landfall, to an exit location which may be at an intertidal location ("short trenchless landfall") or further offshore ("long trenchless landfall").<br>• Duct extensions may be required to enable the landfall ducts to be extended further offshore to facilitate cable installation from an installation vessel situated offshore.<br>• Exit pits would be located at each trenchless landfall exit location, approximately 20m x 10m per trenchless landfall exit. | | | The intertidal works are included in the assessment of effects arising from landfall works during the construction phase of the Projects. |
| | • For a short trenchless landfall there would be up to 3 exit pits in the intertidal zone<br>• Number of support vessels: 2<br>• Number of pontoons: 1<br>• Pontoon working area (m): 12x50<br>• Dimensions of exit pits (m): 20x10 per trenchless crossing exit<br>• Number of trenchless crossing exits: 3<br>• Exit pits would be temporary<br>• Vehicle access on the beach but not accessed from the landward side<br>• There would be no permanent infrastructure above ground level in the intertidal zone<br>• Duration of works in the intertidal zone (months): 18 (not continuous) | • For a short trenchless landfall there would be up to 6 exit pits in the intertidal zone<br>• Number of support vessels: 2<br>• Number of pontoons: 1<br>• Pontoon working area (m): 12x50<br>• Dimensions of exit pits (m): 20x10 per trenchless crossing exit<br>• Number of trenchless crossing exits: 6<br>• Exit pits would be temporary<br>• Vehicle access on the beach but not accessed from the landward side<br>• There would be no permanent infrastructure above ground level in the intertidal zone<br>• Duration of works in the intertidal zone (months): 18 (not continuous) | • For a short trenchless landfall there would be up to 6 exit pits in the intertidal zone<br>• Number of support vessels: 2<br>• Number of pontoons: 1<br>• Pontoon working area (m): 12x50<br>• Dimensions of exit pits (m): 20x10 per trenchless crossing exit<br>• Number of trenchless crossing exits: 6<br>• Exit pits would be temporary<br>• Vehicle access on the beach but not accessed from the landward side<br>• There would be no permanent infrastructure above ground level in the intertidal zone<br>• Duration of works in the intertidal zone (months): 48 (not continuous) | |
| Landfall Zone | • Total landfall zone area: 420,000m$^2$<br>• Number of completed trenchless crossing ducts: 3 (2 for power cables, 1 for fibre optic cables)<br>• Indicative trenchless crossing depth (m): 20<br>• No. of TJBs: 2 | • Total landfall zone area: 420,000m$^2$<br>• Number of completed trenchless crossing ducts: 6 (4 for power cables, 2 for fibre optic cables)<br>• Indicative trenchless crossing depth (m): 20<br>• No. of TJBs: 4 | • Total landfall zone area: 420,000m$^2$<br>• Number of completed trenchless crossing ducts: 6 (4 for power cables, 2 for fibre optic cables)<br>• Indicative trenchless crossing depth (m): 20<br>• No. of TJBs: 4 | The Concurrent and Sequential Scenarios would involve a greater extent of construction works. The Sequential Scenario would result in the longest duration. Therefore, the Projects' Sequential Scenario is considered |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| | • TJB dimensions (m): 5 x 20<br>• Permanent land take for TJBs ($m^2$): 200 – including below ground infrastructure<br>• Number of Link Boxes (2.5 x 4m): 2 – the only above ground infrastructure<br>• Permanent land take for total number of Link Boxes ($m^2$): 20<br>• Landfall TJB compound works area (m): 110 x 75<br>• Landfall satellite compound (m): 75x 75<br>• Temporary access: Route from the existing road system<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Duration of works: up to 18 months overall (not continuous) | • TJB dimensions (m): 5 x 20<br>• Permanent land take for TJBs ($m^2$): 400 – including below ground infrastructure<br>• Number of Link Boxes (2.5 x 4m): 4 – the only above ground infrastructure<br>• Permanent land take for total number of Link Boxes ($m^2$): 40<br>• Landfall TJB compound works area (m): 190 x 75<br>• Landfall satellite compound (m): 75x 75<br>• Temporary access: Route from the existing road system<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Duration of works: up to 18 months overall (not continuous) | • TJB dimensions (m): 5 x 20<br>• Permanent land take for TJBs ($m^2$): 400 – including below ground infrastructure<br>• Number of Link Boxes (2.5 x 4m): 4 – the only above ground infrastructure<br>• Permanent land take for total number of Link Boxes ($m^2$): 40<br>• Landfall TJB compound works area (m): 190 x 75<br>• Landfall satellite compound (m): 75x 75<br>• Temporary access: Route from the existing road system<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Duration of works: up to 48 months overall (not continuous) | worst case and assessed in this Chapter. |
| Onshore export cable route from Landfall Zone to the Substation Zone | • Indicative corridor length between Landfall Zone and the Onshore Substation Zone: 32km<br>• Number of export circuits: 1 (HVDC)<br>• Number of power cables per circuit: 2 (HVDC)<br>• Number of fibre optic (communication) cables per circuit: 1<br>• Number of earth cables per circuit: 1<br>• Number of trenches: Up to 2<br>• Number of temporary construction compounds: 17 (2 main compounds, 15 satellite compounds including the Landfall Zone satellite compound)<br>• Size of main construction compound ($m^2$): 10,000 (roughly 100x100m) | • Indicative corridor length between Landfall Zone and the Onshore Substation Zone: 32km<br>• Number of export circuits: 2 (HVDC)<br>• Number of power cables per circuit: 2 (HVDC)<br>• Number of fibre optic (communication) cables per circuit: 1<br>• Number of earth cables per circuit: 1<br>• Number of trenches: Up to 4<br>• Number of temporary construction compounds: 17 (2 main compounds, 15 satellite compounds including the Landfall Zone satellite compound)<br>• Size of main construction compound ($m^2$): 10,000 (roughly 100x100m) | • Indicative corridor length between Landfall Zone and the Onshore Substation Zone: 32km<br>• Number of export circuits: 2 (HVDC)<br>• Number of power cables per circuit: 2 (HVDC)<br>• Number of fibre optic (communication) cables per circuit: 1<br>• Number of earth cables per circuit: 1<br>• Number of trenches: Up to 4<br>• Number of temporary construction compounds: 17 (2 main compounds, 15 satellite compounds including the Landfall Zone satellite compound)<br>• Size of main construction compound ($m^2$): 10,000 (roughly 100x100m) | The Concurrent and Sequential Scenarios would involve a greater extent of construction works. The Sequential Scenario would result in the longest duration. Therefore, the Projects Sequential Scenario is considered worst case and assessed in this Chapter. |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| | • Size of satellite construction compounds ($m^2$): 5625 (roughly 75x75m)<br>• Cable corridor width (m): 41<br>• Cable corridor width at trenchless crossings (m): 45<br>• Jointing bays (km): every 0.75 – 1.5<br>• Indicative number of Jointing Bays: 103<br>• Jointing bay construction dimensions (per bay) (m): 10 x 25<br>• Number of Earth / Link boxes and associated manhole covers: 103<br>• Link box dimensions / manhole cover permanent infrastructure above ground (m): 2.5x4<br>• Link box construction dimensions (m): 6.5x8<br>• Access routes: Various from public highway to single tracks as shown on **Volume 7, Figure 5-3 (application ref: 7.5.1)**<br>• Haul road: 5m (increasing to 8m at passing places)<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Approximate permanent easement along the cable corridor (m): 15<br>• Trenchless crossing compound dimensions: 60 x 40m assumed for the Project's compounds on each side of the obstacle (entry and exit compounds). | • Size of satellite construction compounds ($m^2$): 5625 (roughly 75x75m)<br>• Cable corridor width (m): 75<br>• Cable corridor width at trenchless crossings (m): 90<br>• Jointing bays (km): every 0.75 – 1.5<br>• Indicative number of Jointing Bays: 205<br>• Jointing bay construction dimensions (per bay): 10 x 25m<br>• Number of Earth / Link boxes and associated manhole covers: 205<br>• Link box dimensions / manhole cover permanent infrastructure above ground (m): 2.5x4<br>• Link box construction dimensions (m): 6.5x8<br>• Access routes: Various from public highway to single tracks as shown on **Volume 7, Figure 5-3 (application ref: 7.5.1)**<br>• Haul road: 5m (increasing to 8m at passing places)<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Approximate permanent easement along the cable corridor (m): 24<br>• Trenchless crossing compound dimensions: 60 x 40m assumed for the Project's compounds on each side of the obstacle (entry and exit compounds). | • Size of satellite construction compounds ($m^2$): 5625 (roughly 75x75m)<br>• Cable corridor width (m): 75<br>• Cable corridor width at trenchless crossings (m): 90<br>• Jointing bays (km): every 0.75 – 1.5<br>• Indicative number of Jointing Bays: 205<br>• Jointing bay construction dimensions (per bay): 10 x 25m<br>• Number of Earth / Link boxes and associated manhole covers: 205<br>• Link box dimensions / manhole cover permanent infrastructure above ground (m): 2.5x4<br>• Link box construction dimensions (m): 6.5x8<br>• Access routes: Various from public highway to single tracks as shown on **Volume 7, Figure 5-3 (application ref: 7.5.1)**<br>• Haul road: 5m (increasing to 8m at passing places)<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Approximate permanent easement along the cable corridor (m): 24<br>• Trenchless crossing compound dimensions: 60 x 40m assumed for the Project's compounds on each side of the obstacle (entry and exit compounds). | |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| | • No. of trenchless crossings compounds: Min 41 and up to maximum of 147 entry compounds<br>• Min 41 and up to maximum of 147 exit compounds<br>• All other crossings assumed to be open cut (see **Volume 7, Appendix 5-2 Obstacle Crossing Register (application ref: 7.5.5.2)**)<br>• Total onshore cable corridor works area (est.) ($m^2$): 4,252,209<br>• Duration: 33 months. | • No. of trenchless crossings compounds: Min 82 and up to maximum of 294 entry compounds<br>• Min 82 and up to maximum of 294 exit compounds<br>• All other crossings assumed to be open cut (see **Volume 7, Appendix 5-2 Obstacle Crossing Register (application ref: 7.5.5.2)**)<br>• Total onshore cable corridor works area (est.) ($m^2$): 4,503,397<br>• Duration: 33 months. | • No. of trenchless crossings compounds: Min 82 and up to maximum of 294 entry compounds<br>• Min 82 and up to maximum of 294 exit compounds<br>• All other crossings assumed to be open cut (see **Volume 7, Appendix 5-2 Obstacle Crossing Register (application ref: 7.5.5.2)**)<br>• Total onshore cable corridor works area (est.) ($m^2$): 4,503,397<br>• Duration of works: up to 57 months overall (note this would not be continuous working within that timeframe) | |
| Onshore Substation Zone | • Operational compounds for Onshore Converter Station (m): 244 x 264 (HVDC Converter)<br>• Permanent area ($m^2$): 64,000$m^2$ (based on one HVDC converter station)<br>• Total construction area ($m^2$): 94,000 (based on one HVDC converter station + temporary construction compound area)<br>• Area of Onshore Converter Station ($m^2$): 64,000<br>• No. of Onshore Converter Station compounds: 1 main temporary compound (3 location options identified)<br>• Onshore Converter Station compound ($m^2$): 30,000<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting.<br>• Duration: 4 years | • Operational compounds for Onshore Converter Station (m): 244 x 264 (HVDC Converter) plus 244 x 264 (HVDC Converter)<br>• Permanent area ($m^2$): 129,000(based on two HVDC converter stations)<br>• Total construction area ($m^2$): 189,000 (based on two HVDC converter station + temporary construction compound areas)<br>• Area of Onshore Converter Station ($m^2$): 129,000<br>• No. of Onshore Converter Station compounds: 2 (1 main temporary construction compound and 1 satellite temporary construction compound)<br>• Onshore Converter Station compound ($m^2$): 60,000<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting. | • Operational compounds for Onshore Converter Station (m): 244 x 264 (HVDC Converter) plus 244 x 264 (HVDC Converter)<br>• Permanent area ($m^2$): 129,000(based on two HVDC converter stations)<br>• Total construction area ($m^2$): 189,000 (based on two HVDC converter station + temporary construction compound areas)<br>• Area of Onshore Converter Station ($m^2$): 129,000<br>• No. of Onshore Converter Station compounds: 2 (1 main temporary construction compound and 1 satellite temporary construction compound)<br>• Onshore Converter Station compound ($m^2$): 60,000<br>• Temporary lighting during working hours. Temporary out-of-hours security lighting. | The Concurrent and Sequential Scenarios would involve a greater extent of construction works. The Sequential Scenario would result in the longest duration. Therefore, the Projects Sequential Scenario is considered worst case and assessed in this Chapter. |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| | | • Duration: 4 years | • Duration: 6 years | |
| Onward Cable Connection to Proposed Birkhill Wood National Grid Substation | • Onward corridor length from Onshore Converter Station to proposed Birkhill Wood National Grid Substation (km): 2.5<br>• Cabling from project substation to National Grid Substation: Buried<br>• General cable corridor approximate permanent easement swathe (m): 20<br>• Cable corridor construction swathe (m): 53.5<br>• Cable construction satellite construction compound dimensions (m): 75x75<br>• Number of earth / link boxes: 35 | • Onward corridor length from Onshore Converter Station to proposed Birkhill Wood National Grid Substation (km): 2.5<br>• Cabling from project substation to National Grid Substation: Buried<br>• General cable corridor approximate permanent easement swathe (m): 34<br>• Cable corridor construction swathe (m): 100<br>• Cable construction satellite construction compound dimensions (m): 75x75<br>• Number of earth / link boxes: 70 | • Onward corridor length from Onshore Converter Station to proposed Birkhill Wood National Grid Substation (km): 2.5<br>• Cabling from project substation to National Grid Substation: Buried<br>• General cable corridor approximate permanent easement swathe (m): 34<br>• Cable corridor construction swathe (m): 100<br>• Cable construction satellite construction compound dimensions (m): 75x75<br>• Number of earth / link boxes: 70 | |
| **Operation and Maintenance** | | | | |
| Landfall Zone | • Permanent aboveground infrastructure: TJBs infrastructure<br>• Permanent land take for the total number of TJBs (m2): 200<br>• Number of manhole covers within Landfall Zone: 2<br>• Total area of permanent land take for manhole covers above ground (m2): 20<br>• All other construction disturbance restored to pre-existing condition | • Permanent aboveground infrastructure: TJBs infrastructure<br>• Permanent land take for the total number of TJBs (m2): 400<br>• Number of manhole covers within Landfall Zone: 4<br>• Total area of permanent land take for manhole covers above ground (m2): 40<br>• All other construction disturbance restored to pre-existing condition | • Permanent aboveground infrastructure: TJBs infrastructure<br>• Permanent land take for the total number of TJBs (m2): 400<br>• Number of manhole covers within Landfall Zone: 4<br>• Total area of permanent land take for manhole covers above ground (m2): 40<br>• All other construction disturbance restored to pre-existing condition | There is no substantive difference in the likely effects of the different scenarios. The Concurrent and partially Sequential Scenarios involve greater land take for permanent infrastructure. |
| Onshore Export Cable Corridor from the Landfall Zone to the Substation Zone | • Number of Earth/Link boxes (buried, manhole at the surface and the only above ground permanent infrastructure along the cable corridor): up to 103 (up to 2 link boxes per HVDC circuit)<br>• Link Box dimensions (permanent infrastructure/manhole covers) (m): 2.5x4 | • Number of Earth/Link boxes (buried, manhole at the surface and the only above ground permanent infrastructure along the cable corridor): up to 205 (up to 2 link boxes per HVDC circuit)<br>• Link Box dimensions (permanent infrastructure/manhole covers) (m): 2.5x4 | • Number of Earth/Link boxes (buried, manhole at the surface and the only above ground permanent infrastructure along the cable corridor): up to 205 (up to 2 link boxes per HVDC circuit)<br>• Link Box dimensions (permanent infrastructure/manhole covers) (m): 2.5x4 | There is no substantive difference in the likely effects of the different scenarios. The Concurrent and partially Sequential Scenarios involve greater land take for permanent infrastructure. |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| | • Total permanent land take for link boxes/manhole covers (m2): 1,030<br>• All construction disturbance restored to pre-existing condition<br>• Approximate permanent easement along the cable corridor (m): 15<br>• Hedgerow trees cannot be replanted over the cable easement | • Total permanent land take for link boxes/manhole covers (m2): 2,050<br>• All construction disturbance restored to pre-existing condition<br>• Approximate permanent easement along the cable corridor (m): 24<br>• Hedgerow trees cannot be replanted over the cable easement | • Total permanent land take for link boxes/manhole covers (m2): 2,050<br>• All construction disturbance restored to pre-existing condition<br>• Approximate permanent easement along the cable corridor (m): 24<br>• Hedgerow trees cannot be replanted over the cable easement | |
| Onshore Substation Zone | • Permanent Onshore Converter Station area: 64,416m$^2$ (244m x 264m) (based on one HVDC converter station)<br>• Onshore Converter Station buildings:<br>• Tallest structure (m): 27 (lightning masts)<br>• Building height (m): 24<br>• Largest building footprint: 60m x 45m<br>• Converter stations laid out with large buildings to the south.<br>• Substation built on eastern plot: Finished ground level 30.4m.<br>• Implementation of landscape screening in accordance with **Volume 7, Figure 23-6 (application ref: 7.23.1).** Worst case considers year 1, before planting matures.<br>• All other construction disturbance restored to pre-existing condition.<br>• Operational duration: 30 years<br>• Security / operational lighting within the compound during working hours. | • Permanent Onshore Converter Station area: 128,832m$^2$ (244m x 264m plus 244m x 264m) (based on two HVDC converter stations)<br>• Onshore Converter Station buildings:<br>• Tallest structure (m): 27 (lightning masts)<br>• Building height (m): 24<br>• Largest building footprint: 60m x 45m<br>• Converter stations laid out with large buildings to the south.<br>• Eastern plot finished ground level 30.4m.<br>Western plot finished ground level 33.45m.<br>• Implementation of landscape screening in accordance with **Volume 7, Figure 23-6 (application ref: 7.23.1).** Worst case considers year 1, before planting matures.<br>• All other construction disturbance restored to pre-existing condition.<br>• Operational duration: 30 years<br>• Security / operational lighting within the compound during working hours. | • Permanent Onshore Converter Station area: 128,832m$^2$ (244m x 264m plus 244m x 264m) (based on two HVDC converter stations)<br>• Onshore Converter Station buildings:<br>• Tallest structure (m): 27 (lightning masts)<br>• Building height (m): 24<br>• Largest building footprint: 60m x 45m<br>• Converter stations laid out with large buildings to the south.<br>• Eastern plot finished ground level 30.4m.<br>Western plot finished ground level 33.45m.<br>• Implementation of landscape screening in accordance with **Volume 7, Figure 23-6 (application ref: 7.23.1).** Worst case considers year 1, before planting matures.<br>• All other construction disturbance restored to pre-existing condition.<br>• Operational duration: 32 years<br>• Security / operational lighting within the compound during working hours. | The Concurrent and Sequential Scenarios would require two converter stations within the Onshore Substation Zone and therefore would have greater effects than DBS West or DBS East in isolation. The Sequential Scenario would result in a slightly longer operational duration, due to the assumed two-year lag in construction between the two Projects. Therefore, the Projects Sequential Scenario is considered worst case and assessed in this Chapter. |
| Onshore Onward Cable Route to the | • 35 manholes at the surface | • 70 manholes at the surface | • 70 manholes at the surface | |

| | Maximum Parameters | | | |
|---|---|---|---|---|
| | **DBS East or DBS West In Isolation** | **DBS East and DBS West Concurrently** | **DBS East and DBS West Partially Sequential** | **Notes and Rationale** |
| Proposed Birkhill Wood National Grid Substation | • Approximate total area of permanent land take for link boxes/manhole covers ($m^2$): 350<br>• General cable corridor approximate permanent easement swathe (m): 20<br>• Hedgerow trees cannot be replanted over the cable easement | • Approximate total area of permanent land take for link boxes/manhole covers ($m^2$): 700<br>• General cable corridor approximate permanent easement swathe (m): 34<br>• Hedgerow trees cannot be replanted over the cable easement | • Approximate total area of permanent land take for link boxes/manhole covers ($m^2$): 700<br>• General cable corridor approximate permanent easement swathe (m): 34<br>• Hedgerow trees cannot be replanted over the cable easement | |
| **Decommissioning** | | | | |
| No final decision regarding the final decommissioning policy for the onshore project infrastructure including landfall, Onshore Export Cable Corridor and Onshore Converter Stations has yet been made. It is also recognised that legislation and industry best practice change over time. However, it is likely that the onshore project equipment, including the cable, would be removed, reused or recycled wherever possible and the Jointing Bays and cable ducts being left in place. The detail and scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning and would be agreed with the regulator. It is anticipated that for the worst case scenario, the impacts would be no greater than those identified for the construction phase. A decommissioning plan for the onshore works would be submitted prior to any decommissioning commencing. | | | |

### 23.3.3.2 Development Scenarios

21. Following Statutory Consultation high voltage alternating current (HVAC) technology (previously assessed in PEIR) was removed from the Projects' design envelope (see **Volume 7, Chapter 4 Site Selection and Assessment of Alternatives (application ref: 7.4)** for further information). As a result, only high voltage direct current (HVDC) technology has been taken forward for assessment purposes. The ES considers the following Development Scenarios:

    - Either DBS East or DBS West is built In Isolation; or
    - The Projects are both built either Sequentially or Concurrently.

22. An In Isolation Scenario has been assessed within the ES on the basis that theoretically one Project could be taken forward without the other being built out. If an In Isolation Scenario is taken forward, either DBS East or DBS West may be constructed. As such the onshore assessment considers both the Projects in isolation.

23. If an In Isolation Scenario is taken forward, only the eastern Onshore Converter Station within the Onshore Substation Zone would be constructed. In either the Concurrent or Sequential Scenario, both Onshore Converter Station locations within the Onshore Substation Zone would be taken forward for the onshore assessment.

24. In order to ensure that a robust assessment has been undertaken, all Development Scenarios have been considered to ensure the realistic worst case scenario for each topic has been assessed. A summary is provided here, and further details are provided in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**.

25. The three Development Scenarios to be considered for assessment purposes are outlined in **Table 23-2**.

*Table 23-2 Development Scenarios and Construction Durations*

| Development Scenario | Description | Total Maximum Construction Duration (Years) | Maximum construction Duration Offshore (Years) | Maximum construction Duration Onshore (Years) |
|---|---|---|---|---|
| In Isolation | Either DBS East or DBS West is built in isolation | Five | Five | Four |
| Sequential | Either DBS East or DBS West are both built sequentially, either Project could commence construction first with staggered / overlapping construction. | Seven | A five year period of construction for each project with a lag of up to two years in the start of construction of the second project (excluding landfall duct installation) – reflecting the maximum duration of effects of seven years. | Construction works (i.e. onshore cable civil works, including duct installation) to be completed for both Projects simultaneously in the first four years, with additional works at the Landfall Zone, Onshore Substation Zone and cable joint bays in the following two years. Maximum duration of effects of six years. |
| Concurrent | Either DBS East or DBS West are both built concurrently reflecting the maximum peak effects. | Five | Five | Four |

26. Any differences between the Projects, or differences that could result from the manner in which the first and the second Projects are built (concurrent or sequential and the length of any gap) are identified and discussed where relevant in section 23.6. For each potential impact, the worst case Development Scenario for the In Isolation Scenario and the Sequential or Concurrent Scenario is presented. The worst case scenario presented for the concurrent or Sequential Scenario would depend on which of these is considered the worst case. The justification for what constitutes the worst case is provided in **Table 23-1** and, where necessary, in section 23.6.

27. For the purposes of the LVIA, the worst case Development Scenario is if each Project is built Sequentially, whereby construction works would be completed simultaneously in the first four years, with additional works in the Onshore Substation Zone and at cable joint bays in the following two years. This represents the longest period of time during which construction effects would be experienced.

#### 23.3.3.3 Operation Scenarios

28. Operation scenarios are described in detail in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**. The assessment considers the following scenarios:

- Only DBS East in operation;
- Only DBS West in operation; and
- the Projects operating concurrently, with or without a lag of up to two years between each Project commencing operation.

29. The worst case scenario in terms of the LVIA is the maximum level of development which would be constructed on the site (e.g., two Onshore Converter Stations). Therefore, the LVIA focuses on the effects of building two HVDC Onshore Converter Stations within the Onshore Substation Zone. The level of development across the Onshore Substation Zone, in any of the above scenarios (e.g., only one Onshore Converter Station in isolation), would not be greater than the maximum parameters (two Onshore Converter Stations) that have been assessed within this LVIA.

30. If the Projects are built using a phased approach, there would also be a phased approach to starting the operational phase. The worst case scenario for the operational phase for the Projects have been assessed based on both Projects operating concurrently, with or without a lag of up to two years between each Project commencing operation. See section 5.1.1 of **Volume 7, Chapter 5 Project Description (application ref: 7.5)** for further information on phasing scenarios for the Projects.

31. The operational lifetime of each Project is expected to be 30 to 32 years.

#### 23.3.3.4 Decommissioning Scenarios

32. Decommissioning Scenarios are described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**. Decommissioning arrangements would be agreed through the submission of a Decommissioning Plan to be submitted and approved following cessation of commercial operation prior to decommissioning commencing. For the purpose of this assessment it is assumed that decommissioning of the Projects could be conducted separately, or at the same time.

### 23.3.4 Embedded Mitigation

33. This section outlines the embedded mitigation relevant to the LVIA, which has been incorporated into the design of the Projects or constitutes standard mitigation measures for this topic (**Table 23-3**). Mitigation is also detailed within the **Commitments Register (Volume 8, application ref: 8.6)** and cross-referenced within **Table 23-3**. Where additional mitigation measures are proposed, these are detailed in the impact assessment (section 23.6).

34. This LVIA is accompanied by an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** as part of the DCO submission, which sets out the basis for landscape and ecological mitigation to be applied to the Projects. The final LMP would be approved by the local authority in accordance with requirements to be attached to the DCO.

*Table 23-3 Embedded Mitigation Measures*

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| Construction methodology and onshore cable routeing | As described in **Volume 7, Chapter 5 Project Description (application ref: 7.5),** the Onshore Export Cable would be completely buried underground for its entire length, with the exception of 205 manhole covers along the route measuring 2.5x4m each. Likewise, the installation of Offshore Export Cables at landfall would be undertaken by trenchless methods.<br><br>The route of the Onshore Export Cable Corridor has been determined as part of a detailed site selection process (see **Volume 7, Chapter 4 Site Selection and Assessment of Alternatives (application ref: 7.4)**. The onshore export cable corridor has been designed to avoid sensitive landscape elements, such as woodland, buildings and trees, where the loss of such features would be detrimental to the character of the area. | DCO Schedule 1 |
| Construction methodology, cable ducting and reinstatement | As described in **Volume 7, Chapter 5 Project Description (application ref: 7.5),** in a Concurrent or Sequential Development Scenario, the ducts for both Projects would be laid in the same phase of works i.e. the ducts for the second Project would be laid by the first. The areas of land between Jointing Bays would be reinstated within 2 years and returned to the landowner for agricultural use or the habitat restored. Cables would then be pulled through the ducts at Jointing Bay locations along the Onshore Export Cable Route, limiting physical disturbance to locations every 0.75 to 1.5km. Works to install the platform for the Onshore Converter Station(s) for the second Project within the Substation | DCO Schedule 1 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | Zone and the ducting at the Landfall Zone would also be undertaken in the same phase of works.<br><br>On completion of construction, the Landfall Zone and Onshore Export Cable Corridor, including temporary compounds, would be reinstated to its previous condition (e.g. agricultural use) as far as reasonably practical. The only above-ground infrastructure that would remain would be manholes for link boxes. Soil handling and management would be undertaken. | |
| Outline Code of Construction Practice (OCoCP) | The **OCoCP (Volume 8, application ref: 8.9)** outlines the control measures and standards that will be implemented to control the impacts on the environment.<br><br>This would include measures to mitigate effects on landscape and visual receptors (including residential properties, recreational users, and existing land users).<br><br>The OCoCP would include measures to ensure construction site lighting is positioned and directed to avoid unnecessary illumination to residential properties, biodiversity, footpath and minimise glare to road users. Construction lighting would be designed in accordance with available guidance and legislation and the details of the location, height, design and luminance of lighting to be used would be detailed within the final Code of Construction Practice. | DCO Requirement 19 |
| Outline Soil Management Plan (OSMP) | An **Outline Soil Management Plan (SMP)** is included in **Appendix A** of the **OCoCP (Volume 8, application ref: 8.9)**, and outlines the mitigation measures and | DCO Requirement 19 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | best practice techniques, which contractors would be obliged to comply with.<br><br>The SMP sets out procedures for the appropriate handling of soils during the works in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009), and a Soil Management Plan would be prepared. | |
| Outline Public Rights of Way Management Plan | An **Outline Public Rights of Way Management Plan** is included in **Appendix C** of the **OCoCP (Volume 8, application Ref: 8.9),** and outlines the temporary management measures to be employed during the construction phases of the Projects.<br><br>There would be no permanent closures of any recreational routes. However, there would be one minor permanent diversion where a PRoW crosses the permanent access for the Substation Zone, to allow for a change in level. Any disturbance would be temporary and reinstated as soon as reasonably practical. | DCO Requirement 19 |
| Cable crossings beneath Main Rivers | As referenced in the **OCoCP ( Volume 8, application ref: 8.9)** all Main Rivers will be crossed using trenchless techniques such as HDD to avoid direct interaction with these watercourses. The crossing methodology will be agreed with the Environment Agency prior to construction.<br><br>Trenchless crossing methodologies entry and exit points will be located at least 20m from Environment Agency surface water courses or the landward toe of the Environment Agency surface watercourse's flood defences and would | DCO Requirement 19 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | be installed at a depth to minimise potential interaction with current, or any planned, infrastructure (e.g., sheet piles), at least 2m below the channel bed. | |
| Hedgerow and tree reinstatement | The Onshore Export Cable Corridor has been designed to minimise loss of hedgerows by utilising existing gaps in hedgerows, where possible.<br><br>The Onshore Export Cable Corridor design included reducing the width of the cable route corridor at hedgerow crossings to the minimum amount required to enable construction of trenches and the haul road. The width of hedgerow crossings for the worst case scenario would be 24m for the Onshore Export Cable Corridor and 34m for the Onward Cable Connection to the Proposed Birkhill Wood National Grid Substation, as described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**. Likewise, the Onshore Export Cable Corridor has been designed to avoid trees and woodland as far as practicably possible and would use trenchless crossings to minimise effects on existing areas of woodland.<br><br>The Projects are committed to replacement of all trees or hedges that are lost. New trees cannot be planted directly over the cables, however, would be replaced in locations informed by future arboricultural surveys. Replacement would take place as soon as is practicable after installation of the cables. Trees and hedges which are removed would be replaced with more diverse and locally native species composition than those removed. Where appropriate, the replacement works would seek to deliver landscape and / or | DCO Requirement 10 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | biodiversity enhancements. Retained trees and other vegetation would be protected during the works in accordance with British Standard BS 5837:2012, as set out in the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. | |
| Site selection | The Onshore Substation Zone has been selected from a number of alternatives, with landscape and visual considerations being key factors in the selection process. See **Volume 7, Chapter 4 Site Selection and Assessment of Alternatives (application ref: 7.4)**.<br><br>A single site for both Onshore Converter Stations was selected which avoided some of the most sensitive landscape and visual receptors. The chosen site is located in a relatively flat landscape, with some existing landscape structure in place, and with few landscape features which could be lost to development. It is considered that the landscape of the chosen site is capable of accommodating large scale development. The site avoids the candidate Yorkshire Wolds Areas of Outstanding Natural Beauty (AONB) to the north, and large numbers of residential receptors located at Beverley in the north-east. In addition, the construction of the Projects on the site would not obstruct view of Beverley Minster, a key feature on the skyline, in views from the A1079.<br><br>Selection of a single site for both Onshore Converter Stations ensures that effects on landscape and visual receptors are localised to a single area, rather than being more widely spread across two separate locations. | DCO Schedule 1 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| Project dimensions | All parameters for the Projects described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**, such as Onshore Converter Station dimensions and working widths, are the smallest that can reasonably be defined at the time of commencing the ES impact assessment.<br><br>The Projects comprise two HVDC Onshore Converter Stations. Although HVDC technology requires taller buildings compared to the alternative HVAC, they require less space than HVAC technology. In committing to HVDC technology, the overall area which would be occupied by the Projects would be reduced compared to if a HVAC option was taken forward. As such, direct effects on the landscape and landscape features would be reduced with the HVDC option due to the smaller footprint of the Onshore Converter Stations. | DCO Schedule 1 |
| Outline Landscape Management Plan | The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** would form the basis of a Landscape Management Plan, to be developed post-consent. This sets out committed mitigation that has been identified as a result of the assessment at the Onshore Converter Stations, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It also sets out how planting would be established and maintained.<br><br>As detailed in Requirement 8 of the **Draft DCO (Volume 3, application ref: 3.1).** LMP's may be developed for different phases of the onshore works and would be approved by the ERYC as the relevant planning authority. | DCO Requirement 10 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | The Landscape Mitigation Plan (see **Volume 7, Figure 23-6 (application ref: 7.23.1)**) has been developed in line with the Outline Landscape Management Plan for the Onshore Substation Zone. This plan illustrates committed mitigation that responds to the form and scale of the proposals, and the assessed landscape and visual effects. The intention is to help to integrate the Onshore Converter Stations into the existing landscape of arable fields, woodlands, boundary trees and hedgerows. The mitigation scheme also seeks to deliver landscape and biodiversity enhancements as outlined within the **Outline Ecological Management Plan (Volume 8, application ref: 8.10)**. It also seeks to enable continued farming activity in line with the existing landscape character of the area. The following landscape mitigation principles were established:<br>• Seek to provide screening along the northern and southern boundaries, where the closest visual receptors are located;<br>• Integrate new landscape structure planting with existing woodland plantations at Johnson's Pit, Eleven Acre Plantation and Bentley Moor Wood, to utilise existing screening;<br>• Consider wider views of the Onshore Converter Stations and the potential appearance of mitigation planting on the skyline in these views;<br>• Seek to provide biodiversity connections or green corridors between these existing woodlands and remnant hedgerows within the Onshore Substation Zone; and | |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | • Identify useable land parcels that can be retained as, or returned to, agricultural use on completion of the works, to maintain the prevailing character of the area.<br><br>The Landscape Mitigation Plan (see **Volume 7, Figure 23-6 (application ref:7.23.1)**) is considered to be embedded mitigation. However, it is recognised that mitigation planting will not be fully effective until plants begin to grow and mature. The LVIA therefore reports on effects at year 1 following completion, when the effectiveness of planting will be least. This represents a worst case assessment. The LVIA also reports on effects at year 10, assuming that planting is maturing and beginning to be more effective in mitigating the effects. This assessment is the residual effect.<br><br>The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** would form the basis of a Landscape Management Plan, to be developed post-consent. It is anticipated that this would set out details of mitigation planting, including number, location, species, and details of management and maintenance of planting. Species selected would be appropriate to the local environment and of local provenance. Species would be planted in an organic layout which seeks to mimic the canopy layers found in the wider countryside.<br><br>Where practical, advance landscape mitigation planting would be established as early as reasonably practicable in the construction phase.<br><br>As detailed in Requirement 10 of the **Draft DCO (Volume 3, application ref:** | |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | **3.1).** LMP's may be developed for different phases of the onshore works and would be approved by the ERYC as the relevant planning authority. | |
| Design and Access Statement (DAS) | The **Design and Access Statement (Volume 8, application ref: 8.8)** sets out the design principles that would be applied to the detail design of the Projects. This would ensure that a sense of place is considered and integrated throughout the design process and adverse environmental effects are mitigated where possible whilst respecting Landscape Character.<br><br>The indicative landscape mitigation plan (see **Figure 23-6**) illustrates the implementation of these design principles. In addition, the Projects would have a Design Champion who would engage with the Design Panel when developing the design going forward. High level design principles relate to:<br>• Site Function and Layout<br>• Built form, materials and colour<br>• Flood risk, SuDS and Drainage<br>• Hard and Soft Landscape<br>• Biodiversity<br>• Boundary treatments, fencing and hedgerows<br>• Earthworks<br>• Access<br>• Lighting | DCO Requirement 9 |
| Operational Lighting | Operational lighting at the Onshore Converter Stations would be designed in accordance with latest guidance and legislation. The details of the location, height, design and luminance of lighting | DCO Requirement 22 |

| Parameter | Embedded Mitigation Measures | Where commitment is secured |
|---|---|---|
| | to be used would be provided as part of detailed design for the Onshore Converter Stations. No permanent night-time lighting would be required. Security lighting will be installed as agreed in the written scheme for the management and mitigation of artificial light emissions during the operation, which would be developed at the detailed design as set out in Requirement 22 of the **Draft DCO (Volume 3, application ref: 3.1)**. | |

## 23.4 Assessment Methodology

### 23.4.1 Policy, Legislation and Guidance

#### 23.4.1.1 National Policy Statements

35. The assessment of potential impacts upon Landscape Character and visual amenity has been made with specific reference to the relevant National Policy Statements (NPS) including the Overarching NPS for Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for Electricity Networks Infrastructure (EN-5). These were published in November 2023 and were designated in January 2024. The specific assessment requirements for LVIA, as detailed in the NPS, are summarised in **Table 23-4** together with an indication of the section of this chapter where each is addressed.

36. The UK planning and policy context for the Projects is set out in **Volume 7, Chapter 3, Policy and Legislative Context (application ref: 7.3)**.

*Table 23-4 NPS Assessment Requirements*

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| **EN-1 NPS for Energy (November 2023)** | | |
| Section 4.7 sets out criteria for good design for energy infrastructure. It notes that the visual appearance of energy infrastructure and how | Paragraph 4.7.1 of NPS EN-1 | Landscape and visual amenity has been considered in the preliminary design of the Projects. Further information is available in **Volume 7, Chapter 4 Site** |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| it relates to the landscape is often considered to be the most importance factor in good design. | | **Selection and Assessment of Alternatives (application ref:7.4)**.<br>Section 23.3.4 of this Chapter sets out the relevant embedded design mitigation for the Projects.<br>A landscape mitigation plan is discussed in section 23.3.4 of this Chapter. This is developed further in the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**.<br>The **Design and Access Statement (Volume 8, application ref: 8.8)** sets out how good design would be applied to all elements of the Projects, and what the outcomes of this design process may look like. |
| The landscape and visual assessment should include reference to any Landscape Character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England | Paragraph 5.10.17 of NPS EN-1 | Landscape Character impacts are considered in section 23.6.<br>Local development plan policies relating to landscape designation are discussed in section 23.4.1. |
| The assessment should include the effects on landscape components and character during construction and operation. | Paragraph 5.10.20 of NPS EN-1 | Potential effects that are considered in this LVIA are set out in section 23.3.3.<br>Effects on landscape components and Landscape Character, during construction and operation, are assessed in section 23.6. |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on dark skies, local amenity, and nature conservation. | Paragraph 5.10.21of NPS EN-1 | Effects on visual amenity and views during construction and operation are assessed in section 23.6.<br>This includes consideration of the effects of light pollution on visual amenity. Effects of lighting on nature conservation interests are considered in **Volume 7, Chapter 18 Terrestrial Ecology and Ornithology (application ref: 7.18)**. |
| Paragraphs 5.10.32 and 5.10.33 of NPS EN-1 provide advice in relation to applications affecting nationally designated landscapes (National Parks and Areas of Outstanding Natural Beauty). | Paragraphs 5.10.32 and 5.10.33 of NPS EN-1 | There are no nationally designated landscapes within the landscape and visual study area, as set out in section 23.5.1. |
| Outside nationally designated areas, there are local landscapes that may be highly valued locally. Where a local development document in England has policies based on landscape or waterscape character assessment, these should be paid particular attention. However, locally valued landscapes should not be used in themselves to refuse consent, as this may unduly restrict acceptable development. | Paragraph 5.10.12 of NPS EN-1 | Local landscape designations are introduced at section 23.5.1, and are considered in the assessment of effects in section 23.6. |
| The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it | Paragraph 5.10.35 of NPS EN-1 | The predicted adverse effects of the Projects are clearly set out in section 23.6 to inform the decision-making process. |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| is not offset by the benefits (including need) of the project. | | |
| The Secretary of State should consider whether any adverse impact is temporary, such as during construction, and / or whether any adverse impact on the landscape would be capable of being reversed in a timescale that the Secretary of State considers reasonable. | Paragraph 5.10.36 of NPS EN-1 | The duration and reversibility of all effects is considered as part of the impact assessment in section 23.6, as prescribed by the methodology set out in section 23.4.3. |
| The Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation. | Paragraph 5.10.37 of NPS EN-1 | Proposed mitigation for the Projects is set out in relation to embedded measures (section 23.3.4), and further mitigation has been identified in section 23.3.4.<br>The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** provides the outline approach to embedded design mitigation at the Onshore Converter Stations, which would be used to inform the detailed design of the landscape mitigation.<br>**The Design and Access Statement (Volume 8, application ref: 8.8)** sets out how good design would be applied to all elements of the Projects, and what the outcomes of this design process may look like. |
| The Secretary of State would have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project. | Paragraph 5.10.14 of NPS EN-1 | The predicted adverse effects of the Projects are clearly set out in section 23.6 to inform the decision-making process. |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| The Secretary of State should consider the benefits of the landscape and visual mitigation against the functionality of the project. | Paragraph 5.10.26 of NPS EN-1 | Proposed mitigation for the Projects is set out in relation to commitments made (see **Table 23-3**), and further mitigation has been identified where appropriate in the assessment in section 23.6. Key elements of embedded mitigation for the Onshore Converter Stations are set out in section 23.3.4. |
| Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within its development site and wider setting. The careful consideration of colours and materials would support the delivery of a well-designed scheme, as would sympathetic landscaping and management of its immediate surroundings. | Paragraph 5.10.27 of NPS EN-1 | Proposed mitigation for the Projects is set out in relation to commitments made (see **Table 23-3**), and further mitigation has been identified where appropriate in the assessment in section 23.6.<br>The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** provides the outline approach to embedded design mitigation at the Onshore Converter Stations, which would be used to inform the detailed design of the landscape mitigation.<br>The **Design and Access Statement (Volume 8, application ref: 8.8)** sets out how good design would be applied to all elements of the Projects, and what the outcomes of this design process may look like. |
| Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site. | Paragraph 5.10.28 of NPS EN-1 | Consideration has been given to off-site mitigation. It was concluded that the Onshore Substation Zone offered sufficient potential to provide adequate mitigation without the use of off-site locations. |
| For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape | Paragraph 5.10.18 of NPS EN-1 | Effects on seascape character arising from the Offshore Development Area were scoped out of the assessment. |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| Character Assessments, and any successors to them. | | The operational effects of the arrays were scoped out, in agreement with the Planning Inspectorate, due to the low susceptibility of offshore receptors, including seascape. The same low susceptibility applies during construction. It is not considered likely that any significant effects would arise from construction activities taking place within the Offshore Development Area, and these were scoped out. |
| The assessment should also address the landscape and visual effects of noise and light pollution, and other emissions, from construction and operational activities on residential amenity and on sensitive locations, receptors and views, how these would be minimised. | Paragraph 5.10.22 of NPS EN-1 | Effects on visual amenity and views as a result of lighting during the construction and operational phases are assessed in section 23.6. |
| Applicants should consider how landscapes can be enhanced using landscape management plans, as this would help to enhance environmental assets where they contribute to landscape and townscape quality. | Paragraph 5.10.22 of NPS EN-1 | Opportunities for mitigation and enhancement have been identified where appropriate in the assessment in section 23.6, and are summarised in section 23.3.4. |
| The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects. | Paragraph 5.10.16 of NPS EN-1 | Cumulative effects arising from the Projects have been included in the assessment in section 23.7. |
| The Applicants should consider landscape and visual matters in the early stages of siting and design, where site | Paragraph 5.10.19 of NPS EN-1 | Landscape and visual matters have been considered throughout the design of the Projects and been used to inform mitigation requirements (see section |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| choices and design principles are being established.<br>This would allow the Applicants to demonstrate in the ES how negative effects have been minimised and opportunities for creating positive benefits or enhancement have been recognised and incorporated into the design, delivery and operation of the scheme. | | 23.3.4) to minimise adverse effects and provide landscape enhancements. |
| **EN-3 NPS for Renewable Energy Infrastructure (November 2023)** | | |
| Where the applicant does not know the precise location of the offshore transmission cables and any associated infrastructure, a corridor should be identified within which the specific infrastructure is proposed to be located.<br>The ES for the proposed project should assess the effects of including this infrastructure within that corridor. | Paragraph 2.8.69-2.6.70 of NPS EN-3 | The landscape and visual effects of the onshore export cable corridor during construction were assessed in the PEIR but not considered further in the ES. See section 23.3.3. |
| **EN-5 NPS for Electricity Networks Infrastructure (November 2023)** | | |
| New substations, sealing end compounds (including terminal towers), and other above-ground installations that serve as connection, switching, and voltage transformation points on the electricity network may also | Paragraph 2.9.9 of NPS EN-5 | The landscape and visual effects of the Onshore Converter Stations are assessed in section 23.6. |

| NPS Requirement | NPS Reference | ES Section Reference |
|---|---|---|
| give rise to adverse landscape and visual impacts. | | |
| Cumulative adverse landscape, seascape and visual impacts may arise where new overhead lines are required along with other related developments such as substations, wind farms, and / or other new sources of generation. | Paragraph 2.9.10 of NPS EN-5 | Cumulative landscape and visual effects of the Onshore Converter Stations are assessed in section 23.7. |

#### 23.4.1.2 Other Planning Policy

37. In addition to the NPS, there a number of pieces of policy and guidance applicable to the assessment of landscape and visual effects.

38. Relevant national and local development planning policy includes:

- The National Planning Policy Framework (NPPF, Ministry of Housing, Communities and Local Government, 2023) states, in paragraph 174, that "*Planning policies and decisions should contribute to and enhance the natural and local environment*" by, amongst other things, "*protecting and enhancing valued landscapes [...] (in a manner commensurate with their statutory status or identified quality in the development plan)*". Landscape value is discussed in section 23.4.3. The provisions of the development plan in relation to landscape are discussed below.
- The East Riding of Yorkshire Local Plan 2012-2029: Strategy Document (East Riding of Yorkshire Council, 2016) sets out the overall strategic direction for the Local Plan and provides strategic policies to guide decisions on planning applications. The policy relevant to this chapter is Policy ENV2: Promoting a high-quality landscape, which is summarised in **Table 23-5**.
- The draft East Riding Local Plan Update 2020-2039 (East Riding of Yorkshire Council, 2021) updates the existing Local Plan to reflect changes in the NPPF. To ensure consistency with the NPPF, Policy ENV2: Promoting a high quality landscape has been amended to ensure that proposals are compatible with the Landscape Character of an area.

39. Further detail is provided in **Volume 7, Chapter 3 Policy and Legislative Context (application ref: 7.3)**.

*Table 23-5 Summary of East Riding of Yorkshire Local Plan Strategy Document relevant to LVIA*

| Summary of Policy ENV2 provisions | ES Section Reference |
|---|---|
| "*Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features. To achieve this, development should [inter alia]:*<br>• protect and enhance views across valued landscape features including flood meadows, chalk grassland, lowland heath, mudflats and salt marsh, sand dunes and chalk cliffs.<br>• protect and enhance the undeveloped coast.<br>*Proposals should protect and enhance existing landscape character in the East Riding Landscape Character Assessment, in particular, within the following Important Landscape Areas:*<br>*I. The Yorkshire Wolds.*<br>*II. The Heritage Coast designations at Flamborough and Spurn Head.*<br>*III. The Lower Derwent Valley.*<br>*IV. The Thorne, Crowle and Goole Moors*." | The existing character of the local landscape is discussed in section 23.5.1. The value and capacity of the local landscape to accommodate change is considered in section 23.6. Effects on Landscape Character are assessed in section 23.6 with reference to the susceptibility of the landscape to the change proposed, and the value placed on the landscape, in accordance with good practice guidance (Landscape Institute and Institute of Environmental Management and Assessment, 2013).<br>Protection of landscape features across the site would be sought wherever possible, as set out in section 23.3.4.<br>The Onshore Converter Stations would be located within the Yorkshire Wolds Important Landscape Area (ILA). The presence of the ILA designation is taken into account in the assessments presented in section 23.6, and in the mitigation measures discussed in section 23.3.4. |

#### 23.4.1.3 Guidance

40. Relevant guidance on landscape and visual impact assessment includes:

- Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment ('GLVIA3');

- Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals; and
- Landscape Institute Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations.

### 23.4.2 Data and Information Sources

#### 23.4.2.1 Site Specific Surveys

41. In order to provide site specific and up to date information on which to base the impact assessment, site-specific surveys were undertaken by the LVIA specialists between 2021 and 2023, at different times of the year. This included visits to the area to inform site selection, prior to undertaking the LVIA. Photography for use in visualisations was captured during site visits in January and May 2022 and January and September 2023. The photography taken includes a mix of vegetation with and without leaves, in summer and winter, respectively, to illustrate the range of seasonal conditions that are experienced locally.

#### 23.4.2.2 Other Available Sources

42. A desk study was undertaken to obtain information on landscape and visual interest. Data were acquired within the Projects landscape and visual study area through a detailed desktop review of existing studies and datasets, as set out in **Table 23-6**.

*Table 23-6 Available Data and Information Sources*

| Data Set | Spatial Coverage | Year | Notes |
|---|---|---|---|
| Heritage Coast | England | 2010 | Identifies extent of Heritage Coast designation at Flamborough Head |
| National Character Areas | England | 2014 | National classification of Landscape Character to inform baseline assessment |
| East Riding of Yorkshire Landscape Character Assessment | East Riding of Yorkshire | 2018 | Local level classification of Landscape Character |
| Important Landscape Areas | East Riding of Yorkshire | 2016 | Identifies extent of ILA within the landscape and visual study areas |

| Data Set | Spatial Coverage | Year | Notes |
|---|---|---|---|
| Ordnance Survey Mapping, aerial photography | Landscape and visual study areas | 2023 | Provides general information about the landscape of the landscape and visual study areas, and the locations of visual receptors |
| Ordnance Survey Digital Terrain Mapping | Landscape and visual study areas | 2023 | Used for generation of ZTVs and visualisations |
| Dogger Bank Creyke Beck Environmental Statement (Forewind, 2013) | Parts of the landscape and visual study areas | 2013 | Cross-check of landscape and visual receptors which have previously been examined as part of a consented project in a similar area. |
| Hornsea Project Four Environmental Statement (Ørsted, 2021) | Parts of the landscape and visual study areas | 2021 | Cross-check of landscape and visual receptors which have previously been examined as part of a consented project in a similar area. |

### 23.4.3 Recording and Evaluating the Existing Environment

43. This section describes the stages that were followed during the preparation of the baseline, in line with the methodology set out within the Scoping Report.

44. In this chapter, the landscape assessment has been distinguished from the visual assessment. Landscape resources and character are considered to be of importance in their own right and are valued for their intrinsic qualities regardless of whether they are seen by people. Effects on views and visual amenity as perceived by people are clearly distinguished from, although closely linked to and are a consequence of, effects on landscape. The landscape and visual assessments are therefore separate, but linked, processes.

45. The baseline description is set out using the following structure.

#### 23.4.3.1 Landscape

46. The Guidelines for Landscape and Visual Impact Assessment ('GLVIA3'; Landscape Institute and Institute of Environmental Management and Assessment, 2013) advise that in order to reach an understanding of the effects of development, it is necessary to consider different aspects of the landscape i.e. the individual elements or features that make up the landscape, as well as its wider character, and the characteristics which contribute to this. This assessment therefore considers effects upon:

- Designated landscapes – areas designated for their landscape quality or value at the national, regional or local level, e.g., National Parks, AONBs, Heritage Coasts and areas of local landscape value (which may have varying names); and
- Landscape Character – the distinct and recognisable pattern of elements (for example associations of field patterns) that occur consistently in a particular type of landscape and create a particular sense of place.

#### 23.4.3.2 Visual

47. The visual baseline is described in terms of views from representative viewpoints as well as views available to other sensitive visual receptors within the Projects' landscape and visual study area. A viewpoint would typically represent an area over which a broadly similar perspective of the development site is obtained. The sensitivity of the viewers at a particular viewpoint depends upon the activity of the viewers and the extent to which they are affected by changes in their view.

48. In line with GLVIA3, representative viewpoints form the basis of the assessment of effects on views. Viewpoints within the Projects' landscape and visual study area were selected through desk study, field work and agreed in consultation with stakeholders (see **Table 23-1-1, Volume 7, Appendix 23-1 Consultation Table (application ref:7.23.23.1)**). The viewpoints were selected because they:

- Are publicly accessible;
- Represent views likely to be experienced by the highest-sensitivity receptors and / or those with the clearest views towards the site;
- Provide a representative range of viewing distances, from local views within 1km of the Onshore Converter Stations, out to longer distance views from the wider landscape and visual study area;

- Represent a range of viewing experience (i.e. static views, from residential properties and points from sequential views, for example from roads and footpaths); and
- Have a reasonably high potential number of viewers or are in an area of particular importance to the viewers affected.

### 23.4.4 Impact Assessment Methodology

49. **Volume 7, Chapter 6 EIA Methodology (application ref:7.6)** provides a summary of the general impact assessment methodology applied. The following sections describe the topic-specific methodology used to assess the likely significant effects on landscape and visual receptors.

50. The assessment methodology for the LVIA is based on the principles set out in GLVIA3. The approach to determining the significance of effects is a two-stage process that involves defining the sensitivity of the receptor and the magnitude of the impact. This section describes the criteria applied in this chapter to assign values to the sensitivity of receptors and the magnitude of potential impacts. The assessments of sensitivity and magnitude rely on a number of subsidiary judgements, in line with the approach set out in GLVIA3. GLVIA3 also recommends that these are judged differently for landscape and visual receptors. The following sections set out all criteria used for judging the sensitivity of landscape and visual receptors, and the magnitude of landscape and visual impacts.

#### 23.4.4.1 Sensitivity of Landscape Receptors

51. GLVIA3 states that the sensitivity of landscape receptors should be assessed in terms of the susceptibility of the receptor to the type of change proposed, and the value attached to the landscape resource.

52. The susceptibility of a landscape receptor is a measure of its ability to accommodate the proposed development "*without undue consequences for the maintenance of the baseline situation*" (paragraph 5.40, GLVIA3). As recommended in GLVIA3, judgements on the susceptibility of landscape receptors are recorded as high, medium or low according to **Table 23-7**.

*Table 23-7 Susceptibility of Landscape Receptors*

| Susceptibility | Definition |
|---|---|
| High | The landscape receptor is less able to accommodate the type of development proposed without undue negative consequences to the baseline situation. Attributes that make up the character of the landscape offer limited opportunities for accommodating the change without key characteristics being fundamentally altered, leading to a different Landscape Character. |
| Medium | The landscape receptor is partly able to accommodate the proposed development without undue negative consequences to the baseline situation. Attributes that make up the character of the landscape offer some opportunities for accommodating the change without key characteristics being fundamentally altered. |
| Low | The landscape receptor is more able to accommodate the proposed development without undue negative consequences to the baseline situation. Attributes that make up the character of the landscape are resilient to being changed by the type of development proposed. |

53. Value of the landscape receptor is determined in line with **Table 23-8**, with reference to:

- A review of designations and the level of policy importance that they signify (such as landscapes designated at international, national, or local level); and
- Application of criteria that indicate value (such as landscape quality, scenic quality, rarity, representativeness, conservation interests, recreation value, perceptual aspects, associations e.g., with artists or writers).

*Table 23-8 Value of Landscape Receptor*

| Value | Definition |
|---|---|
| High | Areas or features designated at a national level e.g., National Parks or AONBs, or key features of these with national policy level protection<br>And / or<br>Landscapes with high scenic quality, and / or conservation interest, and / or recreational value, and / or cultural associations, which are valued at a national level (based on a review of nationally designated sites and features). |
| Medium | Areas or features designated at a county or local level e.g., local authority designated landscapes or key features of designated landscapes.<br>And / or<br>Landscapes with some scenic quality, and / or some recreational value, or important cultural associations which are valued at a district level. |
| Low | Areas or features that are not formally designated but may be valued at a community level.<br>And / or<br>Landscape of lower aesthetic qualities than the landscapes described above e.g., character that is widespread. |

54. The sensitivity of a landscape receptor to change is defined as high, medium or low and is based on weighing up professional judgements regarding susceptibility and value, as set out in **Table 23-9**.

*Table 23-9 Sensitivity of Landscape Receptors*

| Sensitivity | Definition |
|---|---|
| High | Landscapes which by nature of their character would be less able to accommodate development without change in character, due to their relatively higher susceptibility to the type of change proposed, and / or the higher value placed upon them by society. |
| Medium | Landscapes which by nature of their character would be able to accommodate development, subject to careful siting and design, due to their more moderate susceptibility to the type of change proposed, and / or relatively moderate value placed upon them by society. |
| Low | Landscapes which by nature of their character would be more able to accommodate development without substantive change in character, due to their relatively lower susceptibility to the type of change proposed, and / or lower value placed upon them by society. |

#### 23.4.4.2 Sensitivity of Visual Receptors

55. GLVIA3 states that the nature of visual receptors should be assessed in terms of the susceptibility of the receptor to change in views / visual amenity and the value attached to particular views.

56. The susceptibility of visual receptors to changes in views / visual amenity is a function of the occupation or activity of people experiencing the view, and the extent to which their attention is focussed on views (GLVIA3, paragraph 6.32). This is recorded as high, medium or low according to **Table 23-10**.

*Table 23-10 Susceptibility of Visual Receptors*

| Susceptibility | Definition |
|---|---|
| High | Communities where views contribute to the landscape setting enjoyed by residents; people engaged in outdoor recreation (including users of public rights of way whose interest is likely to be focussed on the landscape); visitors to heritage assets or other attractions where views of surroundings are an important contributor to experience. |
| Medium | Travellers on road, rail or other transport routes. |
| Low | People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape; people at their place of work whose attention is not on their surroundings. |

57. Recognition of the value of a view is determined in accordance with **Table 23-11**, with reference to:

- Planning designations specific to views;
- Whether a view is recorded as important in relation to the special qualities of a designated landscape;
- Whether it is recorded as important in relation to heritage assets (such as designed views recorded in citations of Registered Parks and Gardens, or views recorded as of importance in Conservation Area Appraisals); and / or
- The value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature and art.

*Table 23-11 Value of Visual Receptors*

| Value | Definition |
|---|---|
| High | Views recorded in World Heritage Site Management Plans or associated with nationally designated landscapes (i.e. identified in management plans), designed views recorded in citations for historic parks and gardens / scheduled monuments or a view regularly used in guidebooks for that part of the country. |
| Medium | Views associated with local authority designated landscapes or recorded as of importance in Conservation Area Appraisals or experienced by a visitor to an area as well as the local community. |
| Low | Views valued at a community level and likely to be experienced mostly by the local community. |

58. The sensitivity of a visual receptor to change is defined as high, medium or low and is based on weighing up professional judgements regarding susceptibility and value, as set out in **Table 23-12**.

*Table 23-12 Sensitivity of Visual Receptors*

| Sensitivity | Definition |
|---|---|
| High | Larger numbers of viewers and / or those with proprietary interest and prolonged viewing opportunities such as residents and users of attractive and well-used recreational facilities. The value attached to the existing view is considered to be high. |
| Medium | Small numbers of residents or moderate numbers of recreational viewers, with an interest in their environment. Larger numbers of recreational road users. The value attached to the existing view is considered to be medium. |
| Low | Small numbers of recreational viewers with interest in their surroundings. Viewers with a passing interest not specifically focussed on the landscape e.g., workers, commuters. The value attached to the existing view is considered to be low. |

#### 23.4.4.3 Magnitude of Landscape Impact

59. The magnitude of the impact on each landscape receptor is reported in terms of its scale, geographical extent, duration and reversibility.

60. For landscape receptors, the scale of change depends on the degree to which the character of the landscape is changed through removal of existing landscape components or addition of new ones. Of particular concern is how the changes affect the key characteristics of the landscape. In this assessment scale is described as being imperceptible, small, medium or large, with reference to the definitions set out in **Table 23-13**.

*Table 23-13 Scale of Landscape Change*

| Scale | Definition |
|---|---|
| Large | Extensive loss or modification of landscape elements or addition of new elements and features which alter the key characteristics and perceptual character of the landscape to a large extent. |
| Medium | Loss of landscape elements and features or addition of new ones which result in discernible and distinct changes to landscape characteristics and character. |
| Small | A perceptible but small change to landscape characteristics and character as a result of the loss of landscape elements and features or addition of new ones. |
| Barely Perceptible | A barely perceptible / imperceptible change to Landscape Character and characteristics. |

61. The geographical extent over which the landscape effect would be felt is described on a continuum between 'localised', i.e. restricted to the site and immediate surroundings, and 'widespread', across a whole landscape. This is set in the context of the landscape and visual study areas, so that a 'widespread' effect would be one affecting all or most of the relevant study area. The geographical extent is generally described by defining an area over which the effect would occur, with reference to identifiable landscape features.

62. GLVIA3 states that "*duration can usually be simply judged on a scale such as short-term, medium-term or long-term.*" For the purposes of this assessment, duration has been determined in relation to the phases of the development, as follows:

- 'Short-term' effects are those that occur during construction, and may extend into the early part of the operational phase, e.g., construction activities;
- 'Medium-term' effects are those that occur during part of the operational phase, e.g., relating to mitigation planting, where effects may cease or reduce on maturation of planting; and
- 'Long-term' effects are those which occur throughout the operational phase, e.g., presence of the Onshore Converter Stations, or are permanent effects which continue after the operational phase.

63. Reversibility is reported as reversible, partially reversible or not reversible (permanent), and is related to whether the change could be reversed. For example, effects arising from presence of construction traffic would cease at the end of construction and are therefore reversible. Effects arising from presence of new built development are not readily reversible so would be considered permanent. In some cases, effects could be considered partially reversible if mitigation (e.g., landscape planting) helps reverse some of the effects. The duration across which any effect could be reversed, or partially reversed, would be considered as noted in the preceding paragraph.

64. The magnitude of impact is derived by combining professional judgements on scale, geographical extent, duration and reversibility as set out in **Table 23-14**.

*Table 23-14 Magnitude of Landscape Impact*

| Magnitude | Definition |
|---|---|
| High | A clearly evident and frequent / continuous change in landscape features and characteristic affecting an extensive area (relative to the landscape and visual study area), or the characteristics, and / or notable widespread alteration to the special or key qualities of designated areas. |
| Medium | A moderate change in landscape features and character, frequent or continuous, and over a wide area, or a clearly evident change either over a restricted area, and / or with some alteration to the special or key qualities of designated areas. |
| Low | A small change in landscape features and character over a wide area or a moderate change over a more restricted area, and / or barely altering the special of key qualities of designated areas. |
| Negligible | An imperceptible, barely or rarely perceptible change in landscape features and character, and / or not altering the special or key qualities of designated areas. |

#### 23.4.4.4 Magnitude of Visual Impact

65. The magnitude of the impact on visual receptors is reported in terms of its scale, geographical extent, duration and reversibility.

66. For visual receptors, the scale of change depends on:

- The scale of the change in 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 proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture; and / or
- The nature of the view of the proposed development, in terms of whether views would be full, partial or glimpses.

67. The assessment assumes winter conditions with minimal screening by deciduous vegetation and trees. In this assessment, scale is described as being imperceptible, small, medium or large, with reference to the definitions set out in **Table 23-15**.

*Table 23-15 Scale of Visual Change*

| Scale | Definition |
|---|---|
| Large | Large change in view, perhaps where the development is in close proximity in a direct line of vision, or affecting a substantial part of the view, or providing contrast with the existing view. |
| Medium | Clearly perceptible change in view, perhaps where the development is relatively close but at an oblique angle or further away in the direct line of vision, creating a distinct new element in the view. |
| Small | Small change in view, perhaps where the development is at a distance or oblique angle, or where the scale of the landscape absorbs the development well. |
| Negligible | Change in view which is barely perceptible. |

68. The geographical extent records the area over which the changes would be visible e.g., whether there is only one point from where the development could be glimpsed, or whether similar views could be gained from large areas. It could also relate to the number of people affected with a larger geographical extent applying where larger numbers of people would be affected. The geographical extent is generally described in terms of a defined area.

69. For the purposes of this assessment, duration has been determined in relation to the phases of the development, as outlined in paragraph 62.

70. Reversibility is reported as reversible, partially reversible or not reversible (permanent), and is related to whether the change could be reversed. For example, effects arising from presence of construction traffic would cease at the end of construction and are therefore reversible. Effects arising from presence of new built development are not readily reversible so would be considered permanent. In some cases, effects could be considered partially reversible if mitigation (e.g., landscape planting) helps reverse some of the effects. The duration across which any effect could be reversed, or partially reversed, would be considered as noted in the preceding paragraph.

71. The magnitude of impact is derived by combining professional judgements on scale; geographical extent; duration and reversibility as set out in **Table 23-16**.

*Table 23-16 Magnitude of Visual Impact*

| Magnitude | Definition |
|---|---|
| High | Major changes in view at close distances, affecting a substantial part of the view, continuously visible over the long-term, or obstructing a substantial part or important elements of the view. |
| Medium | Clearly perceptible changes in views at intermediate distances, resulting in either a distinct new element in a significant part of the view, or a more wide-ranging, less concentrated change across a wider area. |
| Low | Minor changes in views, at long distances, or visible over the short-term, perhaps at an oblique angle, or which blends to an extent with the existing view. |
| Negligible | A change which is barely visible, perhaps at very long distances or at an oblique angle, and / or visible over the short-term, and which generally blends with the existing view. |

#### 23.4.4.5 Significance of Effect

72. The assessment of significance of an effect is informed by the sensitivity of the receptor and the magnitude of the impact as described above. The determination of significance requires the application of professional judgement and experience to take on board the many different variables which need to be considered, and which are given different weight according to site-specific and location-specific considerations in each instance. Judgements are made on a case by case basis, guided by the considerations set out in **Plate 23-1**. Definitions of each level of significance are provided in **Table 23-17**. For the purposes of this assessment, any effect that is of major or moderate significance is considered to be significant in EIA terms, whether this be adverse or beneficial. Any effect that has a significance of **minor** or **negligible** is not significant.

73. The direction of effect (positive / beneficial, negative / adverse, or neutral) is determined in relation to the degree to which the proposal fits with Landscape Character and the contribution to the landscape that the development makes. In this assessment, taking a precautionary stance, all effects are considered to be adverse unless specifically stated otherwise in the assessment.

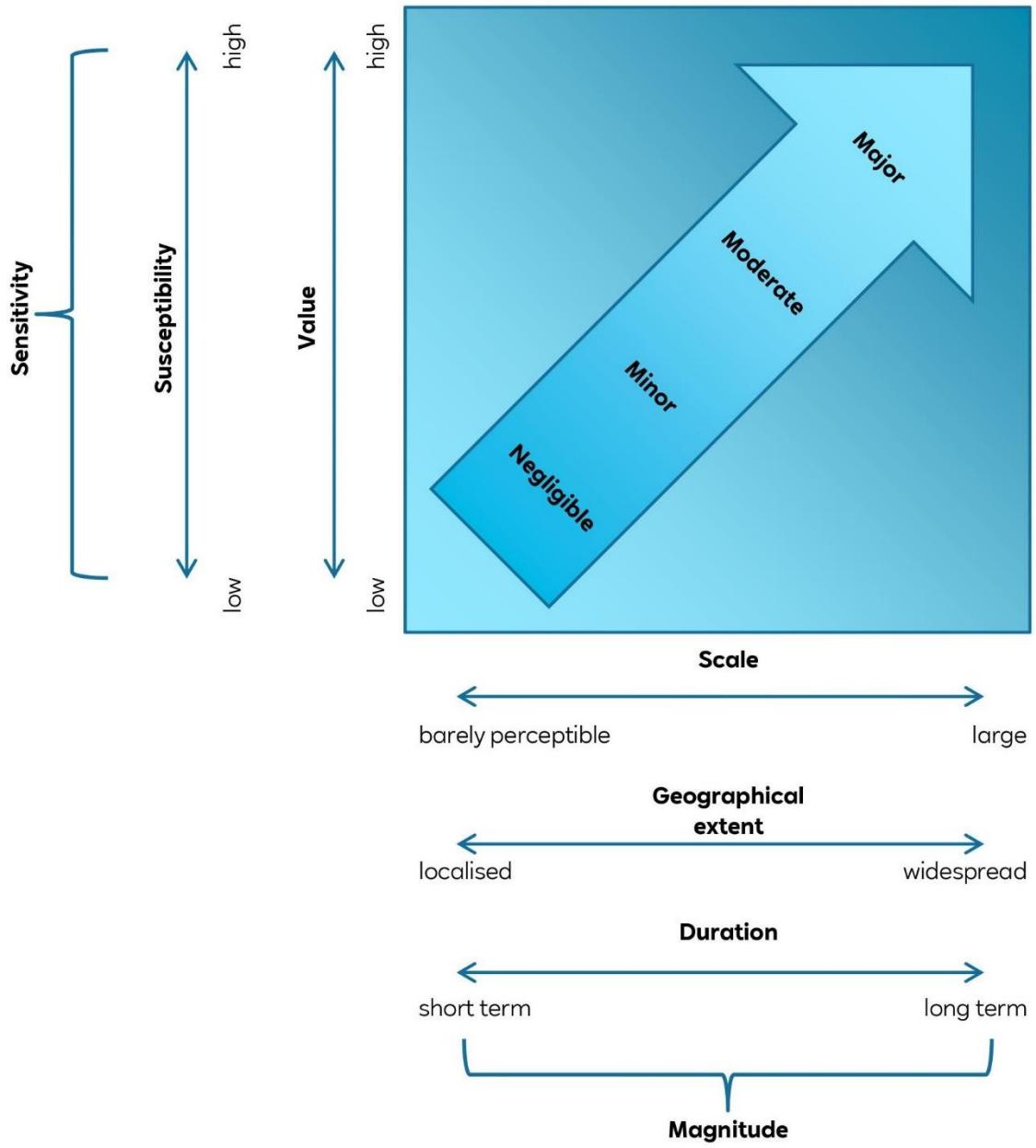


*Plate 23-1 Matrix Guiding the Assessment of Significance for Landscape and Visual Effects*

*Table 23-17 Definition of Effect Significance*

| Significance | Definition |
|---|---|
| Major | Very large or large change in the landscape or the view, which is likely to be an important consideration at a regional or district level. |
| Moderate | Intermediate change in the landscape or the view, which is likely to be an important consideration at a local level. |
| Minor | Small change in the landscape or the view, which may be raised as a local issue but is unlikely to be important in the decision making process. |
| Negligible | Very limited discernible change in the landscape or the view, unlikely to be a concern even at the local level. |
| No change | No impact, therefore no change in the landscape or the view. |

#### 23.4.4.6 Simple and Detailed Assessment

74. Two approaches have been followed for the reporting of impacts: simple and detailed. The same approach set out above is applied in each case, but the difference is in the level of detail given in the reporting of effects.

75. A simple assessment approach is used for temporary works, or elements which would be beneath the ground surface:

- Receptors are grouped by their location, context and / or proximity to the works, and are considered together where professional judgement indicates that effects are likely to be similar;
- Assessments consider the groups as opposed to the individual receptors; and
- No ZTVs or photomontages are provided, as the works being considered are transient or unlikely to be widely visible.

76. A detailed assessment approach is used for permanent above-ground elements of the Projects:

- Receptors are considered individually, or as small groups where professional judgement indicates that receptors are likely to experience identical effects;
- ZTVs are provided; and
- Representative viewpoints were identified and agreed with the relevant stakeholders (see **Volume 7, Appendix 23-1 Consultation Table (application ref:7.23.23.1)**) – these are introduced in section 23.5.4 and listed in **Table 23-20**. Photography and visualisations have been prepared, as set out in section 23.4.4.7.

### 23.4.4.7 Approach to Visualisations

77. This section sets out the approach to the production of the visualisations which accompany the Projects LVIA contained within this chapter. Figures are included in **Volume 7 (application ref: 7.23.1)**.

78. The methodology for the production of visualisations was based on current good practice guidance from NatureScot (formerly SNH)[1] and the Landscape Institute[2]. Further information about the approach is provided below.

#### *23.4.4.7.1 Data Sources*

79. Data used for generating maps and visualisations:

- Ordnance Survey OS Terrain 5 digital terrain model (DTM) data (onshore ZTV);
- Ordnance Survey 1:25,000 and 1:50,000 raster data; and,
- Environment Agency 1m National LiDAR programme DTM (2020) (visualisation control points and Topography).

#### *23.4.4.7.2 Zone of Theoretical Visibility Mapping*

80. Evaluation of the theoretical extent to which the Projects would be visible was informed by establishing a ZTV, using specific computer software designed to calculate the theoretical visibility of the Projects within the surroundings.

[1] Scottish Natural Heritage (2017) Visual Representation of Wind Farms, Version 2.2
[2] Landscape Institute (2019) Advice Note 01/11 Photography and photomontage in landscape and visual impact assessment

81. The ZTV is calculated based on the proposed converter stations model, with components up to 24m high (maximum building height of 24m, although some lightning masts would extend to 27m in height), from a viewing height of 1.5m above ground level. The terrain model includes surface features and is derived from Ordnance Survey OS Terrain 5 digital terrain model (DTM) data (5m grid, obtained from Ordnance Survey in November 2022). The ZTV incorporated existing buildings (based on OSVML building data) with an assumed height of 8m and existing woodland (based on the woodland category of the Forestry Commission National Forest Inventory 2022 dataset) with an assumed height of 15m for each type of woodland, irrespective of age, apart from shrub for which an assumed height of 3m and young trees / low density for which an assumed height of 5m was used. Hedgerows are not modelled. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcPro 3.0.3 software.

#### *23.4.4.7.3 Viewpoint Photography*

82. Baseline photography was taken for representative viewpoints listed in **Table 23-20**. Baseline photography illustrates the existing view and the landscape context in which the permanent elements of the Projects would be seen.

83. The methodology for photography is in accordance with guidance from NatureScot[3] and the Landscape Institute[4]. The focal lengths used are in accordance with recommendations contained in guidance and are stated on the figures. Photography was undertaken by LUC between May 2022 and September 2023. A Nikon D750 full frame sensor digital single lens reflex (SLR) camera, with a fixed 50mm focal length lens, was used to undertake photography from all viewpoint locations.

84. A tripod with vertical and horizontal spirit levels was used to provide stability and to ensure a level set of adjoining images. A panoramic head was used to ensure the camera rotated about the no-parallax point of the lens in order to eliminate parallax errors[5] between the successive images and enable accurate stitching of the images. The camera was rotated through a full 360˚ at each viewpoint.

[3] Scottish Natural Heritage (2017) Visual Representation of Wind Farms, Version 2.2
[4] Landscape Institute (2019) Advice Note 01/11 Photography and photomontage in landscape and visual impact assessment
[5] Parallax is the difference in the position of objects when viewed along two different lines of sight. In the case of a camera this would occur if the rotation point of the lens was not constant and would result in stitching errors in the panorama.

85. The location of each viewpoint and information about the conditions was recorded in the field in accordance with NatureScot (SNH, 2017) and LI guidance (LI, 2019).

86. Weather conditions and visibility were considered an important aspect of the field visits for the photography. Where possible, visits were planned around clear days with very good visibility. Viewpoint locations were visited at times of day to ensure, as far as possible, that the sun lit the scene from behind, or to one side of the photographer. South facing viewpoints can present problems particularly in winter when the sun is low in the sky. Photography opportunities facing into the sun were avoided.

#### *23.4.4.7.4 Photo Stitching*

87. Photographic stitching software PTGui© was used to stitch together the adjoining frames to create panoramic baseline photography. A selection of identical control points has been created within each of the adjoining frames to increase the level of accuracy when stitching the 360° panoramic photography.

#### *23.4.4.7.5 Onshore Visualisations*

88. For each of the representative viewpoints listed in **Table 23-20**, a photomontage has been prepared which presents an impression of the likely appearance of the Onshore Converter Stations within the landscape. This presents a more realistic illustration when compared to the block visualisations provided at PEIR stage. Wireline views showing the Onshore Converter Stations positioned within the topographic landscape context have been prepared for each viewpoint. 1m National LiDAR Digital Terrain Model (DTM) data has been used in the creation of the topography.

89. Photomontages have been prepared to show two HVDC Onshore Converter Stations co-located on the Onshore Substation Zone, illustrating the worst case scenario outlined in **Table 23-1**. These visualisations represent the worst case in terms of visual obstruction and serve as a primary reference for the LVIA. The worst case illustrates a maximum Development Scenario of both HVDC Onshore Converter Stations being built. The model shown in these visualisations may differ from the final design of the Onshore Converter Stations.

90. No photography or photomontages are provided for the landfall and Onshore Export Cable Corridor, given the works within these areas would be temporary and all permanent infrastructure would be below ground.

91. The 3D illustrative model shows the two HVDC Onshore Converter Stations, which the Projects have committed to using. The final design of the Onshore Converter Stations may differ from the model shown in these visualisations but would not be substantially larger.

92. Two iterations of these photomontages have been prepared, showing the illustrative model immediately following construction (Year 1) with no mitigation planting, and at Year 10 following completion, to show the effect of maturing mitigation planting. The depiction of landscape mitigation is illustrative and assumes growth of around 8-10m after ten years.

93. Photomontages have been produced to illustrate the scale and massing of the Onshore Converter Stations but do not show details of finishes or colours as these are yet to be determined. These elements are considered further in the **Design and Access Statement (Volume 8, application ref: 8.8)**. Landscape planting proposals have also been shown indicatively at this time and have been based on the Indicative Landscape Mitigation Plan shown on **Volume 7, Figure 23-6 (application ref: 7.23.1)**. Further detail is provided in the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**.

94. Autodesk 3DSMax© software was used to create the 3D environment and the Onshore Converter Station models were imported into this file. The viewpoint locations were added to the 3DSMax environment using the on-site photography coordinate positions, cross-referenced and micro-sited with high-resolution aerial photography with camera views created, which replicated the camera parameters and perspective geometry of the baseline photography. Control points, identified within the baseline photography and informed by high-resolution aerial photography and LiDAR topography data, were added to the 3D model. The control points allowed accurate horizontal and vertical alignment of the Onshore Converter Stations within the model camera views.

95. A daylight system was created in the 3D model view for each camera view directly informed by the f/stop, ISO and exposure settings within the EXIF photography data. The lighting strength and direction applied closely replicates the conditions present at the date and time when each range of viewpoint photography was taken.

96. The 3D model views were rendered and then composited and aligned with the baseline photography using Adobe Photoshop© software. Where the converter stations were located behind foreground elements in the photography, those parts of the render were 'masked' or removed.

97. The render layer and baseline photograph were then merged to form the photomontages.

98. Photomontages have been generated in accordance with the Landscape Institute's Technical Guidance Note 06/19 (Landscape Institute 2019) on use of photography and photomontage in LVIA.

99. All baseline photographs and photomontages are included in **Volume 7 (application ref: 7.23.1)**.

#### *23.4.4.7.6 Figure Layout*

100. The printed figures for the viewpoints produced in accordance with NatureScot requirements are presented in **Volume 7 (application ref: 7.23.1)**.

101. Adobe InDesign© software was used to present the figures. The dimensions for each image (printed height and field of view) are in accordance with NatureScot requirements. Photography information and viewing instructions are provided on each page where relevant.

102. The onshore visualisations are presented with a map book page; a 90˚ baseline view; and a 90˚ proposed view (3D) with mitigation planting shown at Year 1 and Year 10, all on elongated A3/A1 width format pages.

### 23.4.5 Cumulative Effect Assessment Methodology

103. The cumulative effect assessment (CEA) considers other schemes, plans, projects and activities that may result in **significant effects** in cumulation with the Projects. **Volume 7, Chapter 6 EIA Methodology (application ref: 7.6)** (and accompanying **Volume 7, Appendix 6-1 Onshore Cumulative Assessment (application ref: 7.6.6.1)**) provides further details of the general framework and approach to the CEA.

### 23.4.6 Assumptions and Limitations

104. A number of design assumptions form the basis of the worst case scenario, and as such the basis for assessment may over-estimate the level of development at the Onshore Substation Zone.

105. Generally, the baseline landscape and visual state of the landscape and visual study area is well understood from the site visits completed to date and the available publications and data. No substantive limitations have been identified.

106. Initial site visits were undertaken at a time when trees and other vegetation were in partial leaf, which is not the optimum time for assessment (which would be during winter when trees provide minimal screening). However, additional site visits were undertaken in winter and autumn (January and September 2023), allowing a full assessment of effects to be carried out. Baseline photography similarly illustrates a range of seasonal conditions. This is not considered to represent a limitation to the LVIA and would not influence the significance of effect identified.

107. No further overarching assumptions or limitations have been identified that apply to the LVIA. Where routine assumptions have been made in the course of undertaking the assessment, these are noted throughout.

## 23.5 Existing Environment

108. The existing baseline environment of the landscape and visual study area is described in terms of:

- Landscape designations;
- Landscape Character; and
- Visual receptors.

### 23.5.1 Landscape Designations

109. Nationally valued landscapes are recognised by designation, which may have a formal statutory basis that varies in different parts of the UK. In England, National Parks and AONBs (the latter recently renamed as National Landscapes) have the highest status of protection for landscape and scenic beauty. There are no statutory landscape designations (National Parks or AONBs) within the landscape and visual study area. The candidate Yorkshire Wolds AONB is over 11km to the north-west of the landscape and visual study area (and 12.5km and 15.5km from the Onshore Export Cable Corridor and Onshore Substation Zone, respectively). This lies outside the landscape and visual study area and has not been considered in detail in the onshore LVIA, as agreed with stakeholders.

110. Local authorities also identify locally valued landscapes and recognise them through local designations of various types. As with national designations, the criteria that underpin them vary and so it is important to consider the relevant reasons for the designation.

111. The western extents of the landscape and visual study area (subareas 4 and 5) includes a part of the Yorkshire Wolds ILA (see **Volume 7, Figure 23-4 (application ref: 7.23.1)**) as defined by Policy ENV2 of the East Riding Local Plan 2012-2029 (East Riding of Yorkshire Council, 2016). Policy ENV2 of the Local Plan states that development within an ILA should "*protect and enhance existing landscape character as described in the East Riding Landscape Character Assessment*". Specifically within the Yorkshire Wolds ILA, development should be "of an appropriately high quality" and should not "*adversely affect the historic and special character, appearance or natural conservation value*" of the landscape (East Riding of Yorkshire Council, 2016).

112. The Local Plan notes that within the Yorkshire Wolds ILA the landscape illustrates "*varying degrees of quality*" (paragraph 8.34), with the areas of the highest quality being "*on the western scarp slope and around Sledmere*" (paragraph 8.33) (over 24km from the landscape and visual study area of the Onshore Converter Station). The Local Plan states that development "*should seek to retain the varied landform including but not limited to:*

- *The contrasting and varying levels of enclosure and exposure, isolation, and tranquillity;*
- *Diversity of the landscape;*
- *Distinctive features and views;*
- *Field patterns;*
- *Villages and their distinctive character and setting;*
- *The historic importance of the Great Wolds Valley; and*
- *Signs of past human activity.*" (East Riding of Yorkshire Council, 2016. Paragraph 8.34).

113. Landscape designations are illustrated on **Volume 7, Figure 23-4 (application ref: 7.23.1)**.

### 23.5.2 Landscape Character

114. This section provides a description of the Landscape Character across the landscape and visual study area, drawing on published studies at the national and local level. National and local landscape classifications are presented on **Volume 7, Figure 23-3 (application ref: 7.23.1)**.

#### 23.5.2.1 National Character

115. At a national level, the landscapes of England are divided into National Character Areas (NCAs), identified by Natural England. Each NCA is a distinct natural area, defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity.

116. The majority of the landscape and visual study area lies within NCA 40: Holderness. According to the published NCA Profile (Natural England, 2013), this area comprises a broad, low-lying plain with little relief, bounded by the curving chalk escarpment of the Yorkshire Wolds and Flamborough Head to the west and north respectively. The ridge of the Wolds provides some elevation in contrast to the flat boulder clay plain. To the east, the North Sea erodes the soft boulder clay cliffs at a significant rate. The River Hull flows southwards through Holderness, along a wide, shallow valley, reaching the sea via the Humber Estuary.

117. The NCA Profile also states that the fertile floodplain of the River Hull is important for agriculture, exhibiting large scale field patterns and linear drainage channels. Both arable and livestock farming occur as dominant industries, with farmland interspersed by occasional tree cover in the form of shelter belts and hedgerows. Settlements are generally dispersed, traditional style villages linked by a mesh of minor roads. An overriding feature of this landscape is the panoramic views offered as a result of the gentle topography, with visible landmarks often being man-made features such as church spires (Natural England, 2013).

118. Part of subareas 4 and 5 of the landscape and visual study area, to the west of Beverley, lies within NCA27: Yorkshire Wolds (Natural England, 2012a). This character area results from a change in geology, moving from clay to more resistant chalk. Gently rolling hills are cut with steep, wooded dales and there are very few surface watercourses. Agriculture still dominates despite thin calcareous soils and exposed slopes. The area is very rural with evidence of historic settlement (Natural England, 2012a).

#### 23.5.2.2 Local Character

119. The East Riding of Yorkshire Landscape Character Assessment (Aecom, 2018) has been consulted as the principal source of information at the local level. The landscape and visual study area includes 14 Landscape Character Areas (LCAs) within six Landscape Character Types (LCTs), as listed in **Table 23-18** and illustrated on **Volume 7, Figure 23-3 (application ref:7.23.1)**.

*Table 23-18 Landscape Character Types and Areas within the Landscape and Visual Study Area*

| Landscape Character Type | Landscape Character Area |
|---|---|
| 13 Open High Rolling Farmland | 13B Bishop Burton Estate Farmland<br>13C South Wolds Rolling Farmland |
| 16 Sloping Farmland (Edge of Wolds) | 16C Beverley Westwood<br>16E Lund Sloping Farmland<br>16F Beverley Parks Farmland |
| 17 Farmed Urban Fringe | 17B North Cottingham Farmland<br>17C South Cottingham Farmland |
| 18 Low Lying Drained Farmland | 18A River Hull Corridor<br>18B Quarry Farmland<br>18C Catfoss Dyke18F Figham and Swine Moor Common |
| 19 Open Farmland | 19C North Holderness Open Farmland<br>19D Central Holderness Open Farmland |
| 20 Coastal Farmland | 20C Bridlington to Hornsea Coast |

120. The key characteristics of the LCTs within the landscape and visual study area are presented in **Table 23-19.** These are summarised from the East Riding of Yorkshire Landscape Character Assessment (Aecom, 2018).

*Table 23-19 Summary of Landscape Character Types*

| Landscape Character Type | Key Characteristics |
|---|---|
| 13 Open High Rolling Farmland | Elevated rolling landform of the Yorkshire Wolds dip slope falling east.<br>Large scale open landscape with long distance views and dominated by the sky.<br>Sparsely populated area with scattered villages and farmsteads.<br>Large and very large rectilinear regular arable fields. |

| Landscape Character Type | Key Characteristics |
|---|---|
| | Fragmented hedgerows that are severely clipped.<br>Very few trees resulting in an open landscape.<br>Shelterbelts around farmsteads on the hill tops are a prominent feature.<br>Pockets of parkland and estate land to the east on the lower slopes provide diversity.<br>Enclosure roads that conform to the enclosure field pattern alongside older routes are well spaced.<br>Numerous Public Right of Ways (PRoWs).<br>South Dalton Church spire is a prominent landmark in the relatively featureless landscape. |
| 16 Sloping Farmland | Gently rolling landform sloping gradually down to the east.<br>Intermittent scattered woodland blocks throughout.<br>Intensively farmed rectilinear arable fields of large to medium size, interspersed with less regular early enclosure fields particularly around villages.<br>Free draining land with dispersed streams arising in the Wolds and flowing east to the River Hull.<br>Horticultural development between Beverley and Hull.<br>Views across the open landscape and views of Beverley Minster.<br>Hedgerow trees in places.<br>Scattered villages and farmsteads.<br>Parkland characteristics at Beverley Westwood, Risby Park and Kilnwick Percy.<br>A number of turbine developments within the landscape with others visible beyond. |
| 17 Farmed Urban Fringe | Gently undulating to flat landform generally below 20m AOD.<br>Strong urban influences encroaching into rural areas.<br>Community land use e.g., sports pitches, allotments, cemeteries.<br>Hedgerow boundaries around medium to large sized fields. |

| Landscape Character Type | Key Characteristics |
|---|---|
| | Mixed land use combining agriculture, horticulture and recreation.<br>Lighting along major roads and in settlements.<br>Neglected appearance of some fields and hedgerows.<br>Presence of recreation activities both formal and informal.<br>Enclosed character with many areas surrounded by urban development on three sides. |
| 18 Low Lying Drained Farmland | Flat, low lying flood plain generally below 10m AOD.<br>Sparse settlement in the floodplain. Farmsteads and villages concentrated on the edge of the flood plain.<br>Few crossing points on the River Hull contributing to low density of development between North Frodingham and Tickton.<br>Pockets of fens and reed swamps indicating a former landscape.<br>Sparse tree and woodland cover.<br>Rectilinear field systems with hedgerow and drainage ditch boundaries.<br>A history of sand and gravel extraction.<br>River Hull and Beverley Barmston Drain are major watercourses with embankments.<br>Numerous water bodies particularly associated with gravel extraction.<br>Recreation associated with water bodies and the River Hull.<br>Several medieval scheduled monuments. |
| 19 Open Farmland | Gently undulating topography, hummocky in places.<br>Very open landscape with few trees overall.<br>Irregular field pattern of pre-parliamentary enclosure.<br>Dispersed villages linked by winding roads.<br>Red brick buildings with pantile roofs sometimes painted white.<br>Churches are often prominent features on the skyline. |

| Landscape Character Type | Key Characteristics |
|---|---|
| | Irregular drainage pattern overall.<br>Hedgerow field boundaries with few trees.<br>Intensive farmed arable landscape.<br>Large number of wide developments visible across the landscape both within LCT 19 and adjoining LCTs. |
| 20 Coastal Farmland | Flat to gently undulating topography sloping gently eastwards.<br>Boulder clay cliffs eroding into the sea.<br>Seaside resorts of Bridlington, Hornsea and Withernsea.<br>Coastal static caravan parks are prominent.<br>Limited tree cover due to exposed windswept coastal landscape.<br>Smaller villages and farmsteads and minor roads threatened by erosion.<br>Fragments of historic field pattern around villages and hamlets.<br>Tourism development along the coast.<br>Large scale turbine development visible within the landscape, both within this LCT and within adjoining LCTs. |

#### 23.5.2.3 Site-specific Character

121. This section sets out the specific character of the landscape and visual study area, in terms of the subareas described at section 23.3.2.3 and shown on **Volume 7, Figure 23-3 (application ref:7.23.1)**. The key landscape elements or features within each subarea that contribute to local distinctiveness are identified.

##### *23.5.2.3.1 Subarea 1: Landfall Zone*

122. The landfall subarea lies within the 20C Bridlington to Hornsea Coast LCA (Coastal Farmland LCT) (see **Volume 7, Figure 23-1 (application ref: 7.23.1)** and **Volume 7, Figure 23-3 (application ref: 7.23.1)**).

The beaches of Skipsea Sands and nearby Ulrome Sands and Atwick Sands comprise narrow sandy and shingle beaches backed by boulder clay cliffs that have a height between 7.5m and 13m. These beaches are used for recreation with access and parking provided by the holiday parks at Ulrome, Skipsea, Skirlington and Atwick. Each of these holiday parks are visible features along this coast. The church steeples in Skipsea and Ulrome form prominent landmarks on the skyline. The beaches are locally distinctive, although they do not form an integral part of the local Landscape Character, being largely obscured from the immediate coastal edge. Inland, this subarea encompasses agricultural land comprising open, exposed farmland with large fields, bounded by fragmented hedgerows with occasional small trees.

#### *23.5.2.3.2 Subarea 2: Skipsea to West Road*

123. This subarea around the Onshore Export Cable Corridor crosses three LCAs: 18B Quarry Farmland and 18C Catfoss Dyke (Low Lying Drained Farmland LCT); and 19C North Holderness Open Farmland (Open Farmland LCT) (see **Volume 7, Figure 23-3 (application ref: 7.23.1)**). The Onshore Export Cable Corridor crosses a number of arable fields and Dunnington Sewer in a westerly direction before it heads south towards Sigglesthorne.

124. The majority of the landscape within this subarea is characterised by open and largely flat arable farmland, with little tree cover. Farmland is large scale, with rectilinear fields, bounded by hedgerows with occasional hedgerow trees in some places. Hedgerows are often irregular with intermittent gaps along the boundaries. Built development is largely comprised of farmsteads and small hamlets and villages. Due to the flat and open nature of this landscape, these buildings often form prominent features in the landscape. Likewise, occasional woodland copses and plantations appear prominent, introducing vertical elements into an otherwise flat landscape. This subarea contains several watercourses and drains, notably Dunnington Sewer and Catfoss Drain.

#### *23.5.2.3.3 Subarea 3: West Road to the River Hull*

125. This subarea around the Onshore Export Cable Corridor extends across three LCAs: 18A River Hull Corridor and 18C Catfoss Dyke (Low Lying Drained Farmland LCT); and 19D Central Holderness Open Farmland (Open Farmland LCT) (see **Volume 7, Figure 23-3 (application ref: 7.23.1)**).

126. From the A1035 west of Sigglesthorne the Onshore Export Cable Corridor runs south-west, to the south of Catwick, Leven and Routh across a number of arable fields, drains and dikes. At Routh the corridor crosses the A1035 and runs in a westerly direction to the north of Tickton before reaching the River Hull.

127. As with Subarea 2, the majority of the landscape within this subarea consists of large scale gently undulating or flat arable farmland under expansive skies. Large, rectilinear fields are the dominant landcover, bordered by hedgerows and tracks. Woodland is present in the form of occasional semi-natural blocks and boundary trees, forming visually prominent features in this open landscape. Settlement in the subarea consists of numerous scattered farmsteads and small hamlets and villages, including Sigglesthorne, Long Riston, Routh and Tickton. Small scale wind turbines are relatively common throughout the subarea, primarily associated with farmsteads. The subarea contains several watercourses and drains, most notably Monk Dike and Holderness Drain.

#### *23.5.2.3.4 Subarea 4: River Hull to Onshore Substation Zone*

128. This subarea around the Onshore Export Cable Corridor extends across seven LCAs: 18A River Hull Corridor, 16C Beverley Westwood, 16E Lund Sloping Farmland and 16F Beverley Parks Farmland (Sloping Farmland LCT); 13B Bishop Burton Estate Farmland and 13C South Wolds Rolling Farmland (Open High Rolling Farmland LCT); and 17B North Cottingham Farmland (Farmed Urban Fringe LCT) (see **Volume 7, Figure 23-3 (application ref: 7.23.1)**).

129. From the River Hull the Onshore Export Cable Corridor runs west, routeing to the north of Beverley. Before reaching the A1035 it turns, before continuing southwards to the Onshore Substation Zone, offset from but parallel to the western edge of Beverley. The Onshore Substation Zone is located to the west of the A164/A1079 intersection, between Beverley and Cottingham. From the Onshore Substation Zone the Onshore Export Cable Corridor continues towards the onshore grid connection points.

130. From the River Hull the landform slowly transitions from primarily flat, open land, to more undulating hills, towards the elevated Yorkshire Wolds in the west. The Onshore Export Cable Corridor crosses arable farmland consisting of rectilinear medium scale fields which are typically defined by hedgerows with occasional hedgerow trees. Once the cable export corridor turns south near the A1035, it broadly runs parallel to the A1079. Drains are present across this landscape, with a particular concentration to the north of Beverley. Vegetation cover continues to be limited with only a few woodland blocks present, including a small area of woodland at Burton Bushes Site of Special Scientific Interest (SSSI).

131. A few scattered farmsteads exist within this subarea, typically enclosed by mature trees. There are some larger settlements, including the small village of Hull Bridge and the northern and south-western urban extents of Beverley. Recreation is of high value as not only is the Westwood popular with visitors but there are also a number of routes that form part of the Yorkshire Wolds Way National Trail. Pylons in the south form prominent features on the skyline in an overall flat and horizontal landscape where long distance views are afforded.

#### *23.5.2.3.5 Subarea 5: Onshore Substation Zone*

132. The Onshore Substation Zone is located within LCA 16F Beverley Parks Farmland (Sloping Farmland LCT) (see **Volume 7, Figure 23-3 (application ref: 7.23.1)**). Other LCAs within this subarea, which corresponds to the 5km radius around the Onshore Substation Zone, are:

- 13B Bishop Burton Estate Farmland and 13C South Wolds Rolling Farmland (Open High Rolling Farmland LCT);
- 16C Beverley Westwood and 16E Lund Sloping Farmland (Sloping Farmland LCT);
- 17B North Cottingham Farmland and 17C South Cottingham Farmland (Farmed Urban Fringe LCT); and
- 18A River Hull Corridor and 18F Figham and Swine Moor Common (Low Lying Drained Farmland LCT) (see **Volume 7, Figure 23-3 (application ref: 7.23.1)**).

133. The Onshore Substation Zone is framed by transport corridors: the A1079 runs to the north of the Onshore Substation Zone, and the A164 runs to the east. The area comprises a number of medium to large scale agricultural fields that have been intensively managed and are bounded by woodlands, as well as hedgerows in various states of repair, drainage ditches and post and wire fencing, with some hedgerow trees. There are several blocks of woodland around the Onshore Substation Zone.

134. To the south-east is the existing Creyke Beck substation and the Dogger Bank A & B offshore wind farm converter stations (under construction). The tall lattice structures and numerous large-scale overhead power lines mounted on pylons that converge here together form a large and prominent feature, which strongly influences the character of the open landscape at a local scale. The movement of vehicles on the main roads adds to a perception of a modified landscape that is busy and complex in nature. To the west, the landscape becomes less developed and more rural in nature, although still settled.

135. The wider subarea is well settled, taking in parts of Hull and Beverley, and the settlements of Bentley, Cottingham, Skidby, Little Weighton, Bishop Burton and Walkington. The subarea also features many scattered farmsteads. The presence of transport and infrastructure is reduced in the west of the landscape and visual study area, which is on the fringe of the Wolds and is more rural in character. The tower of Beverley Minster is a key landmark in the wider area and is highly visible across the flat landscape.

### 23.5.3 Key Visual Receptors

136. This section sets out the people (visual receptors) that have the potential to be affected by the landfall, onshore export cable and Onshore Converter Stations. These are set out by the subareas defined in section 23.5.3. The locations of recreational routes noted are shown on **Volume 7, Figure 23-5 (application ref: 7.23.1)**.

137. Given the nature of the landscape it is assumed that all receptors within the landscape and visual study area would have potential visibility of the onshore export cable and Landfall Zone construction works.

#### 23.5.3.1 Subarea 1: Landfall Zone

138. Residential and community receptors include:

- The villages of Ulrome to the north, Atwick to the south and Skipsea to the west; and
- Farms and houses along the B1242 road.

139. Recreational receptors include:

- Users of PRoWs close to the possible Landfall Zones;
- People using the beach and inshore waters;
- People travelling along the proposed King Charles III England Coast Path;
- Visitors to Ulrome Sands, Skipsea Sands, Skirlington Sands, and Atwick Sands; and

- Visitors to Seaside Caravan Park to the north, Skipsea Sands Holiday Park, Strawberry Fields Holiday Park, and Far Grange Holiday Park and Cliff Top Caravan Park to the south.

140. Transport receptors include those using:

- The B1242 and B1249 to the west; and
- The wider local road network beyond these routes.

#### 23.5.3.2 Subarea 2: Skipsea to West Road

141. Residential and community receptors include:

- The village of Dunnington in the north; and
- Farms and houses along the A165 Beverley Road, Billings Lane, Catfoss Road, Harsell Lane and Catwick Heads.

142. Recreational receptors include:

- Those using PRoWs close to the Onshore Export Cable Corridor and connecting nearby settlements; and
- Recreational users of the Holderness Cycle Route.

143. Transport receptors include those using:

- The A165 to the west;
- The A1035 to the south; and
- The wider local road network beyond these routes.

#### 23.5.3.3 Subarea 3: West Road to the River Hull

144. Residential and community receptors include:

- The villages of Sigglesthorne and Catwick to the west;
- The northern extents of the village of Long Rishton, to the south;
- The villages of Tickton and Routh to the west;
- Farms and houses along West Road, Whitecross Road, and the A1035; and
- Other scattered residential properties.

145. Recreational receptors include:

- Those using PRoWs close to the Onshore Export Cable Corridor and connecting nearby settlements;
- Recreational users of the Beverley Cycle Route; and
- Recreational users of the River Hull.

146. Transport receptors include those using:

- The A1035 running through the subarea and to the north near Sigglesthorne;
- The A165 / Whitecross Road cutting across the subarea near Long Rishton; and
- The wider local road network beyond these routes.

#### 23.5.3.4 Subarea 4: River Hull to the Onshore Converter Stations

147. Residential and community receptors include:

- The village of Hull Bridge in the north-east and hamlet of Bentley in the south;
- The northern and south-western edges of Beverley;
- The eastern edges of Walkington in the west; and
- Other scattered residential properties and farmsteads along the A165, A1035, A1174 and B1230.

148. Recreational receptors include:

- Those using local PRoWs close to the Onshore Export Cable Corridor;
- Users of the Minster Way, Hudson/Wilberforce Way and Beverley 20 long distance walking routes[6];
- Users of the NCN 1 and NCN 164;
- Visitors to Storkhill Community Wood;
- Visitors to Butt Farm Caravan and Campsite;
- Visitors to Beverley Westwood park;
- Visitors to Beverley Racecourse; and
- Visitors to Beverley and East Riding Golf Club;

149. Transport receptors include those using:

- The A1079;
- The A164;
- The A1035;
- The A1174;
- The B1230; and,

[6] The route of the Beverley 20 (Humber Bridge to Beverley) also forms part of the longer East Riding Heritage Way (Humber Bridge to Filey).

- The Hull to Scarborough railway line.

#### 23.5.3.5 Subarea 5: Onshore Converter Stations

150. Refer to **Volume 7, Figure 23-2 (application ref: 7.23.1)** for the ZTV of the Onshore Converter Stations. Residential and community receptors within the ZTV include:

- Farms and houses close to the Onshore Substation Zone, including Butt Farm, Spring Mount, the village of Bentley, and Bentley Park;
- Houses along the southern and south-western edge of Beverley, including Jock's Lodge; and
- Houses in the east part of the village of Walkington to the west, including houses along the B1230.

151. Recreational receptors within the ZTV include:

- Those using PRoWs close to the Onshore Substation Zone, including the Beverley 20 long distance walking route, the High Hunsley Circuit, and the National Cycle Network (NCN) Route 1;
- Visitors to the Butt Farm Caravan and Campsite;
- Visitors the Anti-Aircraft Battery at Butt Farm[7];
- Visitors to Beverley Parks Local Nature Reserve;
- Visitors to Skidby Windmill to the south-west; and
- Visitors to Beverley Minster to the north.

152. Transport receptors include those using:

- The A1079 to the north of the Onshore Substation Zone;
- The A164 to the east of the Onshore Substation Zone;
- The B1230 to the north-west;
- The A1174 to the east;
- The Hull to Scarborough railway line to the east; and
- The network of local and minor roads.

[7] This location is not publicly accessible but is accessible by visitors to Butt Farm Campsite. Further information and assessment of effects on the Anti-Aircraft Battery at Butt Farm is provided within **Volume 7, Chapter 22 Onshore Archaeology and Cultural Heritage (application ref:7.22)**

### 23.5.4 Representative Viewpoints

153. Representative viewpoints have been identified to inform the detailed assessment of the Onshore Converter Stations only. This section sets out the viewpoints selected to represent views from publicly accessible areas, for the receptors within subarea 5 as identified above. A total of eight viewpoints were selected and agreed with stakeholders (including East Riding of Yorkshire Council and Hull City Council) as set out in **Table 23-1-1** in **Volume 7, Appendix 23-1 (application ref: 7.23.23.1)**. Details of the viewpoints are provided in **Table 23-20** and their locations are shown on **Volume 7, Figure 23-2 (application ref: 7.23.1)**.

154. In addition, photography for three cultural heritage viewpoints was taken. **Figure 23-15** in **Volume 7 (application ref: 7.23.1)** includes baseline photography from Cultural Heritage Viewpoint 2: Anti-Aircraft Battery at Butt Farm, Cultural Heritage Viewpoint 3: SM's and LB at Black Mill, and Cultural Heritage Viewpoint 4: Risby Hall RPG. il addition, a photomontage of the Projects has been provided for Cultural Heritage Viewpoint 2: Anti-Aircraft Battery at Butt Farm. No photomontage is provided for the other cultural heritage viewpoints as there would be no visibility of the Projects. The accompanying assessments for these heritage viewpoints are provided within **Volume 7, Chapter 22 Onshore Archaeology and Cultural Heritage (application ref: 7.22)**.

*Table 23-20 Representative Viewpoints and Baseline Description of Views*

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| VP1: Butt Farm | 502102, 437056 | This viewpoint is located along the access track to Butt Farm, west of the A1079. South-westerly views towards the Onshore Substation Zone overlook undulating farmland which is bounded by hedgerows and hedgerow trees. Views towards the site are framed by Butt Farm. The boundary vegetation and undulating landform screen longer ranging views across the landscape, however taller structures such as pylons and overhead lines can be seen against the skyline in the distance to the south and south-west.<br><br>Views to the south-east, east and west are largely confined due to dense vegetation. Immediately adjacent to the viewpoint is a pylon with an overhead line which crosses over the access track towards the north-west. Further pylons are visible to the north-west, cutting across the undulating farmland which comprise fields defined by hedgerows and hedgerow trees. Although not visible, there is evidence of the A1079 to the north due to the presence of traffic cameras. | **Figure 23-7** in **Volume 7 (application ref: 7.23.1)** |
| VP2: Coppleflat Lane, Bentley | 502310, 436070 | This viewpoint is located along Coppleflat Lane, Bentley, on the south-eastern boundary of the Onshore Substation Zone. The viewpoint is situated just off the road, at the entrance to a field.<br><br>Views towards the Onshore Substation Zone in the north-west extend across farmland which comprises a large scale undulating rectilinear field which is well defined by hedgerows and occasional hedgerow trees in the distance. Larger blocks of woodland in the distance prevent long-ranging views in some directions to the north-west and north of the viewpoint. | **Figure 23-8** in **Volume 7 (application ref: 7.23.1)** |

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| | | Houses within the Walkington Broadgate development are visible in the distance, partially filtered by intervening vegetation. Several steel lattice pylons form prominent features in views across the horizon to the north-west and north, where they appear to sit against the horizon.<br><br>Views to the north-east, south-east and south-west are largely limited due to intervening roadside vegetation along Coppleflat Lane to the west / south-west and the A164 to the south-east. The presence of the A164 introduces continuous noise and movement, however most road users travelling along this road would only experience passing views at an oblique angle to the direction of travel as the pass the Coppleflat Lane junction. | |
| VP3: Beverley 20 near Broadgate | 501311, 437243 | This viewpoint is located along the Beverley 20 long distance path, south of Broadgate. This viewpoint offers expansive, long ranging views across undulating farmland towards the Onshore Substation Zone in the south-east. The fields are large scale, and well defined by continuous hedgerows with occasional hedgerow trees. Shelter belts to the south screen longer ranging views, as does the undulating nature of the landform.<br><br>Overhead lines are a notable feature in views, with large pylons visible heading towards Butt Farm in the south-east. A smaller, wood pole, overhead line runs broadly parallel to the larger one, passing Butt Farm to the south. This wood pole overhead line is visible in the foreground of views towards the Onshore Substation Zone, forming prominent features on the skyline. In the far distance another | **Figure 23-9** in **Volume 7 (application ref: 7.23.1)** |

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| | | overhead line is visible across the horizon, running to the Creyke Beck substation.<br><br>Houses on the southern boundary of the Walkington Broadgate development can be seen in views to the north-east. Westerly views are largely confined by a hedgerow running immediately adjacent to the footpath. | |
| VP4: Oriel Close, off Broadgate | 501649, 437677 | This viewpoint is located at the most southernly extents of Oriel Close off Broadgate, near the settlement of Walkington. This viewpoint offers relatively opens views to the south from the housing estate. Some vegetation is present along the southern extents of the housing estate which, when in leaf, provides some limited filtering of views to the south.<br><br>Views extend across relatively flat agricultural land towards the Onshore Substation Zone in the south. However, the presence of woodland along the A1079 provides some screening of views in the middle distance. More distant blocks of woodland are visible in the distance, forming the skyline.<br><br>The existing view features wood pole and steel lattice overhead lines in the middle distance, which form a prominent feature in the view. Several other steel lattice overhead lines are visible further in the distance.<br><br>Views to the east, west and north are focussed on the surrounding housing estate, with the houses limiting longer ranging visibility in these directions. | **Figure 23-10** in **Volume 7 (application ref: 7.23.1)** |
| VP5: Walkington | 500375, 436926 | This viewpoint is located on the Beverley 20 long distance path at the south-eastern corner of the settlement of Walkington. This viewpoint offers views | **Figure 23-11** in **Volume 7** |

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| | | across slightly undulating agricultural land towards the Onshore Substation Zone in the south-east. Due to elevated nature of the viewpoint, longer ranging views are experienced across the landscape. However, the presence of several trees forming a small shelterbelt partially filter views in this direction. More distant hedgerow trees and blocks of woodland provide further screening in views to the further south. Where more open views are experienced, an overhead line can be seen cutting across the landscape, with the pylon forming a prominent feature along the horizon. Other overhead lines are also visible in the distance.<br><br>Views north are experienced over a medium distance, with the undulating and vegetated landscape providing screening of longer views. Occasional houses located along the B1230 are visible in views north, partially screened by intervening vegetation. Several steel pylons and their associated overhead lines are visible in northerly view, set against the skyline.<br><br>Views to the south and west are limited due to screening by nearby vegetation, including the mature hedgerow running south from the viewpoint, and trees around the settlement of Walkington. These trees, and the village itself are located behind galvanised steel palisade fencing adjacent to the viewpoint. | **(application ref:7.23.1)** |
| VP6: Footpath, Risby | 501317, 434726 | This viewpoint is located on a footpath near Risby. It offers open views of the surrounding agricultural landscape in all directions. Views north-east, towards the Onshore Substation Zone, extend across a medium scale, relatively flat field which is bounded by mature hedgerows and several hedgerow trees, which largely | **Figure 23-12** in **Volume 7 (application ref: 7.23.1)** |

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| | | screen longer distance views. Due to the elevated nature of the viewpoint, the distant landscape is visible above the intervening hedgerow and between the hedgerow trees. Beverley Minster is present in distant views, as are wind turbine and several pylons cutting across the horizon. These features are partially screened by intervening vegetation, and partially backclothed by distant landform.<br><br>Views east are largely limited by a woodland block in the middle distance; however several overhead lines are visible to the south-east, forming prominent features on the skyline. The overhead lines are visible running to the south-west of the viewpoint, however, vegetation screens lower level views across the landscape.<br><br>Open and distant views are afforded to the west, with a house at Risby visible in the middle distance in views north-west across a medium scale field. Mature vegetation (the woodland near fishing ponds) is present along the northern boundary of the field, which prevents longer ranging views. | |
| VP7: Woodmansey | 505736, 437665 | This viewpoint is located at a site entrance along Hull Road in the village of Woodmansey. Views west towards the Onshore Substation Zone extend across an area of land which is undergoing groundworks and is evidently modified. The site is largely devoid of vegetation, except for areas of scrub. The land has been disturbed by vehicle activity, with the main surface comprising mud and gravel chippings. Mounds of earth are present in the foreground, and ponds of water have formed near the site entrance. Beyond this site area, relatively flat agricultural land is present, largely defined by hedgerows and | **Figure 23-13** in **Volume 7 (application ref: 7.23.1)** |

| Viewpoint Location | Grid Reference | Description of view | Figure Reference |
|---|---|---|---|
| | | shelterbelts in the distance. Some built development is visible between trees and hedges, and a wooden pole overhead line cuts across the horizon, although is partially backclothed in areas by distance vegetation.<br>Views to the north, south and west are largely limited by built development and roadside vegetation. | |
| VP8: Beverley Minster Tower | 503714, 439232 | Wide, extensive, panoramic views across a flat plain extend southwards across the Humber to a backdrop of the gently rising hills of the Lincolnshire Wolds. Low density settlement in the foreground gives way to smaller scale, irregular, flat, arable fields with scattered farms in the mid-ground. Further into the distance, large, regular fields with sparse hedgerows are crosscut by the noticeable A164. The transition from settlement to rural farmland is evident from this elevated, exposed viewpoint. Vast 360° views are available. | **Figure 23-14** in **Volume 7 (application ref: 7.23.1)** |

### 23.5.5 Future Trends

155. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require that "*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*" is included within the ES (EIA Regulations, Schedule 4, Paragraph 3).

156. The current baseline description above provides an accurate reflection of the current state of the existing environment. The earliest possible date for the start of construction for the onshore elements of the Projects is 2026, with an expected operational life of 30 years for each Project, and therefore there exists the potential for the baseline to evolve between the time of assessment and point of impact. Outside of short-term or seasonal fluctuations, changes to the baseline in relation to LVIA usually occur over an extended period of time. Based on current information regarding reasonably foreseeable events over the next 30 years, the baseline environment is not anticipated to have fundamentally changed from its current state at the point in time when the impacts occur.

157. This section provides a qualitative description of the evolution of the baseline environment, on the assumption that the Projects are not constructed, using available information and specialist technical knowledge of LVIA.

158. In the event that the Projects are not developed, the landscape and visual study area is likely to continue to be used primarily for farming, and the appearance of the farmed landscape is likely to be relatively constant. Existing trees would mature, while others may die or be felled. Some may succumb to plant diseases that may become more prevalent, affecting particular species. Based on the current condition of defunct hedges, it is unlikely that these would be replanted and therefore over time would appear to have an increasing area of gaps. Alternately they may become absent altogether. In the longer term, climate change may lead to longer growing seasons, affecting the types of crop that are grown, and the management regimes that they are grown under. Relatively rapid coastal erosion is a feature of the Holderness coast, and over the longer term this process may accelerate if predicted sea-level changes occur by mid-century.

159. Built development is likely to continue. Pressure for residential and commercial development is likely to continue in the areas closer to Beverley and Hull. Further infrastructure is likely to be built in the area around the existing National Grid substation at Creyke Beck, including the Jock's Lodge highway upgrade, the consented Hornsea Four onshore substation near Burn Park Farm, and the consented Creyke Beck Solar Farm east of the A164. Additional electrical infrastructure is required to accommodate planned and future energy generation schemes, including the proposed Birkhill Wood National Grid Substation and North Humber to High Marnham overhead power line. Away from the major settlements, more limited changes in the built environment are to be expected in the smaller villages and hamlets. Further changes to electricity infrastructure and transport corridors (road and rail) may also influence the character of the landscape.

## 23.6 Assessment of Significance

### 23.6.1 Potential Effects During Construction

160. The assessment considers the worst case scenario whereby both Onshore Converter Stations are built sequentially. In this scenario, construction works would be completed for both Projects simultaneously in the first four years, with additional works in the Onshore Substation Zone and at Cable Jointing Bays in the following two years. This therefore, reflects a maximum duration of up to 6 years for which construction effects would be experienced. The effects of building either Onshore Converter Station in isolation would not be greater than that of the worst case scenario.

#### 23.6.1.1 Potential Effects on Landscape Character During Construction

##### *23.6.1.1.1 Impact 1: Landscape Effects of Landfall – Subarea 1 (Landfall)*

###### 23.6.1.1.1.1 Magnitude of Impact

161. Construction of the landfall would lead to disturbance and activity across the area within the landfall zone (onshore), including excavation, compounds, Transition Joint Bays (TJBs), fencing, storage bunds and temporary access. In addition, six exit pits would be required in the beach and intertidal area (between the Mean Low Water Spring (MLWS) and Mean High Water Spring (MHWS)) to allow the ducts to be installed under the beach that would house the cables connecting offshore with onshore (see **Table 23-1**). An emergency access track would also be required in the intertidal area between the landfall zone and Ulrome. Cables would be laid from the exit pits to MLWS via open Trenching, where they could be laid with an offshore installation techniques, as described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**. The exit pits would be in situ for approximately 18 months per Project. There would be an increase in

activity, noise and vehicle movements in the Landfall Zone, leading to a reduction in tranquillity. There would be a large change in character from open farmland to a construction site where the TJBs and associated compounds are sited. Construction works may also result in loss of hedgerows within the Landfall Zone. In the intertidal area, up to six exit pits would be present for up to 18 months, and works and support vessels would be visible within the intertidal zone and inshore area when viewed from land. Works may extend into hours of darkness in the winter months, when construction lighting may be visible and uncharacteristic. During construction, there would be no vehicular access to the beach required by the Projects, with the excavators in the intertidal zone transported from the sea via barges.

162. Generally, vegetation clearance would be limited as the Landfall Zone has been designed to avoid trees and woodland. However, sections of hedgerows and occasional field trees may need to be removed to allow installation of cables.

163. The changes would affect the local landscape in the Landfall Zone. Given the flat landscape and the low height of the works, the geographical extent would be quite narrow, up to a maximum of 1km from the Onshore Development Area, but often much less where containment is provided by hedges, trees and built development. The overall duration of the construction works at landfall would be 48 months. This includes construction of TJBs and trenchless crossing technology for 18 months, followed by additional works at cable joint bays within the landfall for a short period of time in the following 30 months to allow for cable pulling for the second Project. Periods of active construction works are likely to be much less than this. Therefore, the duration is considered to be short-term. On completion of the landfall, the area would be fully restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)**. No above-ground infrastructure would remain, other than manholes for link boxes. Although trees would not be replanted directly over any buried cables, hedgerows would be restored. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of the Landscape Management Plan(s), which would be developed post-consent for each stage of the Projects.

164. The impact of the construction works in subarea 1 is predicted to be of large scale, of local geographical extent, and short-term and reversible. The magnitude is therefore considered to be medium.

#### 23.6.1.1.1.2 Sensitivity of Receptor

165. The landscape of subarea 1 is described in section 23.5.2.3.1.

166. The landscape of subarea 1 contains few features that are vulnerable to the proposed temporary works, although hedges and trees, and the beach are more susceptible. Boulder clay cliffs are a distinctive feature of this coast and are more susceptible to change than the farmland inland, though they would not be directly affected. The character of the landscape, being flat and with some screening, means that changes would be localised. The receptor is deemed to be of medium susceptibility to the proposed changes.

167. The Holderness Coast is a recreational resource, with access to the beach and holiday parks nearby, but is not designated for its landscape value. The receptor is deemed to be of medium value.

168. The sensitivity of the receptor is therefore considered to be medium.

#### 23.6.1.1.1.3 Significance of Effect

169. Overall, it is assessed that the sensitivity of the receptor in subarea 1 is medium and the magnitude is medium. Prior to the maturation of hedgerows and reinstatement of vegetation, the effect is of **moderate** adverse significance, which is significant in EIA terms. Beyond the immediate geographical extent of the Landfall Zone (1km), the impact on the landscape would not be significant.

#### 23.6.1.1.1.4 Mitigation and Residual Significance of Effect

170. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** and the **OCoCP (Volume 8, application ref: 8.9)**. As reinstated landscape features (e.g., hedgerows) via a landscape scheme mature over time, the magnitude of impact would reduce from medium to negligible. Therefore, the residual effect is **negligible** adverse, which is deemed to be not significant.

### *23.6.1.1.2 Impact 2: Landscape Effects of the Onshore Export Cable Corridor – Subareas 2-4*

#### 23.6.1.1.2.1 Magnitude of Impact

171. Construction of the Onshore Export Cable between the landfall and the Onshore Converter Stations will lead to disturbance and activity across the Onshore Development Area, including trench excavation, Temporary Construction Compounds (TCC), lighting, fencing, topsoil and subsoil

storage bunds, temporary Haul Roads and access tracks and temporary water crossing works, including trenchless crossing compounds and temporary bridges/culvert to allow haul road crossings of smaller ditches and drains. There will be an increase in activity, noise and vehicle movements, leading to a reduction in tranquillity. Works may extend into hours of darkness in the winter months, when construction lighting may be visible. Overall, there will be a large change in character from open farmland to a construction site along the 75m working width and TCC's. Trenchless techniques will be used for crossing a number of features, which would increase the width of the construction swathe to 90m locally.

172. Generally, vegetation clearance will be limited as the Onshore Export Cable Corridor has been designed to avoid trees and woodland as far as possible. Trenchless crossings will be used to minimise effects on existing areas of woodland. However, sections of hedgerows and occasional field trees may need to be removed to allow installation of cables. The Onshore Export Cable Corridor has been designed to minimise loss of hedgerows by utilising existing gaps where possible. In total 126 hedgerows would be crossed. Of these, 48 are expected to be trenchless crossings and 78 will be open trenched crossings. The details of each crossing and type are provided in **Volume 7, Appendix 5-2 Obstacle Crossing Register (application ref: 7.5.5.2)**. For open trenched crossings, the width of the cable route corridor would be reduced to the minimum amount required to enable construction of trenches. The width of hedgerow crossings for the worst case scenario would be 24m for the Onshore Export Cable and 34m for the Onward Cable Connection to the Proposed Birkhill Wood National Grid Substation, as described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**. Some hedgerows crossed by a trenchless technique would still require a Haul Road crossing, to allow access for construction. At these locations the width of hedgerow removed would be limited to 5m. The Projects are committed to replacement of all trees or hedges that are lost, and hedges which are removed would be replaced with a more diverse and locally native species composition than those removed, as set out in the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. As the hedgerows would be removed and reinstated, it is not expected that significant long-term effects on landscape or visual receptors would arise.

173. The changes will affect the local landscape along the Onshore Export Cable Corridor. Given the flat landscape and the low height of the works, the geographical extent of the impact will be quite narrow, extending across the immediately adjacent fields, and often contained further by hedges, trees and built development. Construction works are likely to be active in specific areas at any one time, rather than across the whole corridor at once.

174. The overall duration of the Onshore Export Cable Corridor works will be up to 57 months, though the total duration of active construction works in any one location is likely to be much less than this. Therefore, the duration is considered to be short term. On completion of construction, the Onshore Export Cable Corridor will be fully reinstated to its previous condition, areas between Jointing Bays will be reinstated within 2 years, in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and the **Soil Management Plan**, **Appendix A** of the **OCoCP (Volume 8, application ref: 8.9)**. Effects of construction are reversible.

175. The impact of the construction works in subareas 2 – 4 is predicted to be of large scale, of local geographical extent, and short term and reversible. The magnitude is therefore considered to be low.

#### 23.6.1.1.2.2 Sensitivity of Receptor

176. The landscapes of subareas 2 – 4 are described in sections 23.5.2.3.2 to 23.5.2.3.4

177. The landscape of subareas 2 – 4 contains few features that are vulnerable to the proposed temporary works, although hedges, trees and watercourses are more susceptible. The character of the landscape, being largely flat (although more undulating in subarea 4) and with some screening, means that changes will be localised. The receptor is deemed to be of medium susceptibility to the proposed changes.

178. The landscapes of subareas 2 and 3 are not subject to any designation, and do not exhibit characteristics that are likely to be widely valued. The receptor is deemed to be of low value in these areas. The landscape of subarea 4 is partially within the locally designated Yorkshire Wolds ILA, and a number of long-distance walking routes including the Yorkshire Wolds Way cross through it. Locally, the receptor in subarea 4 is deemed to be of medium value.

179. Overall, the sensitivity of the receptors in subareas 2 – 4 is therefore considered to be medium, noting a slightly higher sensitivity in the designated parts of subarea 4.

#### 23.6.1.1.2.3 Significance of Effect

180. Overall, it is assessed that the sensitivity of the receptors in subareas 2 - 4 is medium, and the magnitude is low. The effect of cable construction works on the landscape of subareas 2 – 4 is of **minor** adverse significance, which is not significant in EIA terms.

#### 23.6.1.1.2.4 Mitigation and Residual Significance of Effect

181. On completion of construction, the Onshore Export Cable Corridor will be fully reinstated to its previous condition, in accordance with the **OCoCP (Volume 8, application ref: 8.9)**. No above-ground infrastructure will remain, other than manholes for up to 205 link boxes along the cable route.

182. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. As reinstated landscape features (e.g., hedgerows forming part of a landscape scheme) mature over time, the magnitude of impact would reduce from low to negligible. Therefore, the residual effect is **negligible** adverse, which is deemed to be not significant.

### *23.6.1.1.3 Impact 3: Landscape Effects of Onshore Converter Stations During Construction – Subarea 5*

183. This section considers the impacts of construction works on subarea 5 of the landscape and visual study area as shown on **Volume 7, Figure 23-1 (application ref: 7.23.1).** However, the focus is on the Onshore Substation Zone and associated temporary work and access areas, as these would be the main areas of disturbance.

#### 23.6.1.1.3.1 Magnitude of Impact

184. Development and associated construction activities of both Onshore Converter Stations in the Onshore Substation Zone represents the worst case scenario, leading to effects of greater intensity or duration across a localised area.

185. Construction of the Onshore Converter Stations would lead to disturbance and activity across the area within the Onshore Substation Zone, including temporary access tracks across fields and two temporary construction compounds (TCCs) with associated fencing, storage bunds, equipment, lighting, signage and other temporary features. The total construction area would amount to approximately 189,000m$^2$, for both Onshore Converter Stations within the Onshore Substation Zone under the assessed worst case (see **Table 23-1**). Works may extend into hours of darkness in the winter months, when construction lighting may be visible.

186. Generally, vegetation clearance would be limited as the Onshore Substation Zone which has been selected to avoid trees and woodland as much as is practicable. However, some local features would be affected within the Onshore Substation Zone, including a watercourse or field drain which would need diverting, and the associated hedge would be removed. Other sections of hedgerows and occasional field trees may need to be removed to allow for construction works and access. Overall, there would be a large change from rural or semi-rural farmland to extensive construction sites.

187. The changes would affect the local landscape within the Onshore Substation Zone. Given the slightly undulating nature of the landscape and the height of the works, the geographical extent would be most evident within 2km of the Onshore Substation Zone, but often much less where containment is provided by hedges, trees and built development.

188. Construction in the Onshore Substation Zone would be subject to local screening by the nearby woodland blocks of Bentley Moor Wood, Johnson's Pit and Eleven Acre Plantation. Views of construction from the A164 and A1079 which pass to the north-east and south-east of the Onshore Substation Zone would generally be glimpsed due to consistent roadside vegetation.

189. Construction works for the Onshore Converter Stations are expected to last up to 6 years due to the staggering of construction of the Onshore Converter Stations in the Onshore Substation Zone, though different elements would be carried out at different times within this, and the intensity of works would vary over time. As such, effects would not be evenly spread over the above area for the whole period but would change with construction phasing. Construction effects are partly reversible, in that areas affected by TCCs and access tracks would be restored to their pre-existing condition as agricultural land. However, the main Onshore Converter Stations works are non-reversible as the Onshore Converter Stations would become permanent features.

190. On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the OCoCP, and landscape screening of the Onshore Converter Stations structures would be implemented. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of the Landscape Management Plan(s), which would be developed post-consent.

191. The impact of the construction works in subarea 5 is predicted to be of large scale and of a medium geographical extent. It would be medium-term and partly reversible. The magnitude is therefore considered to be medium.

#### 23.6.1.1.3.2 Sensitivity of Receptor

192. The landscape subarea 5 is described in section 23.5.3.5.

193. The landscape of subarea 5 contains some features that are vulnerable to the proposed temporary works, such as hedges, trees and small watercourses / field drains. The character of the landscape, being slightly undulating with some screening, means that changes would be relatively localised.

194. The landscape comprising the Onshore Substation Zone is undulating and the Onshore Substation Zone is more elevated, though woodlands provide some landscape structure. The undulating terrain of the Onshore Substation Zone and the presence of adjacent woodland, creates a degree of tranquillity and enclosure.

195. The receptor across the Onshore Substation Zone is deemed to be of medium susceptibility to the proposed changes.

196. The Onshore Substation Zone is located within the Yorkshire Wolds ILA, which is designated for its landscape value and high scenic quality. Whilst the landscape in the eastern half of subarea 5 is located outside of the Yorkshire Wolds ILA and is of limited scenic quality, it does possess recreational value represented by a range of PRoWs, the Beverley 20 long distance walking route, and the NCN Route 1. Overall, the receptor is deemed to be of medium value.

197. The sensitivity of the receptor across the Onshore Substation Zone is therefore considered to be medium.

#### 23.6.1.1.3.3 Significance of Effect

198. Overall, it is assessed that the sensitivity of the receptor in subarea 5 is medium, and the magnitude is medium. The effect is of **moderate** adverse significance, which is significant in EIA terms. Beyond the immediate geographical extent of the Onshore Substation Zone (2km), the impact on the landscape would not be significant.

#### 23.6.1.1.3.4 Mitigation and Residual Significance of Effect

199. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** and the **OCoCP (Volume 8, application ref: 8.9)**. The reinstatement of the landscape (e.g., TCCs etc.) via a landscape scheme would help reduce the magnitude of impact from medium to low, as these landscape features mature over time. Therefore, the residual effect is **minor** adverse, which is deemed to be not significant. On completion of all construction works, construction effects on the landscape would be superseded by the operational effects, which are assessed in section 267.

### 23.6.1.2 Potential Effects on Visual Amenity During Construction

#### *23.6.1.2.1 Impact 4: Visual Effects of Landfall – Subarea 1 (Landfall)*

#### 23.6.1.2.1.1 Magnitude of Impact

200. Construction of the landfall would lead to disturbance and activity as seen by visual receptors. Features including fencing, compounds, equipment, soil storage, bailey bridges and vehicle movements, which are not characteristic of the area, would be prominent within the open landscape from close range views experienced by users of the PRoWs to the north and west of the Landfall Zone, from the proposed King Charles III England Coast Path, from the beach at Skipsea Sands and from inshore waters. Likewise, visibility of six exit pits and open Trenching works in the beach and intertidal area would be experienced in views from coastal and marine areas.

201. As per the **Outline PRoW Management Plan** in **Appendix C** of the **OCoCP (Volume 8, application ref: 8.9)**, PRoWs in the landfall subarea would require short duration temporary closures (less than 3 months) with short diversions for pedestrians and cyclists. These receptors may therefore have close range views of the works, however would be temporary in nature. The proposed King Charles III England Coast Path is expected to require no management as Temporary Construction Compounds would be fenced off and set back from the coastlines. Closer range views may also be available from properties at the eastern edge of Skipsea, scattered properties such as Hill Farm and The Grange, as well as the various holiday parks adjacent to the Landfall Zone. The degree of visibility would be variable due to boundary trees and vegetation. From more distant receptors, such as people at Ulrome and Atwick, the scale of the effect would be reduced. The geographical extent of the effect is therefore relatively localised due to the combination of flat or gently undulating landform and boundary trees / vegetation and the general absence of vantage points. In views from the beach, the low boulder clay cliffs would likely screen views of the landfall compounds and construction, though works at the inshore and intertidal

area, including open Trenching which would be visible for 18 months per Project. The increased presence and movement of marine vessels used for construction would also be visible from the beach area, the inshore waters, and elsewhere in the Landfall Zone. There would be an increased presence of construction traffic using the local road network.

202. The overall duration of the landfall works would be up to 48 months, though work at any one location is likely to be less than this. The 48 months of work includes construction of TJBs and trenchless installation of ducts for 18 months per Project, followed by additional works at TJBs within the landfall for a short period of time in the following 30 months to allow for cable pulling for the second Project. As the main construction works at the landfall would be over an 18 month period, the duration is of short-term. On completion of the landfall, the area would be fully restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)**. No above-ground infrastructure would remain, other than manholes for link boxes associated with the cables. Although trees would not be replanted directly over any buried cables, hedgerows would be restored. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented as part of the DCO submission**.** This sets out landscape mitigation proposals that have been identified as a result of the assessment, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11**) forms the basis of a Landscape Management Plan, which would be developed post-consent.

203. The impact of the landfall on views in subarea 1 is predicted to be of large scale and local geographical extent and would be short-term and reversible. The magnitude is therefore considered to be medium.

#### 23.6.1.2.1.2 Sensitivity of Receptor

204. Visual receptors in subarea 1 are described in section 23.5.3.1.

205. Receptors in this area who are considered to be of high susceptibility include local residents in Ulrome, Skipsea, Atwick and nearby farms; recreational users of the beach and inshore waters, and users of the PRoWs north and west of the landfall. Other high susceptibility visual receptors include visitors to the caravan and holiday parks. Lower susceptibility visual receptors include road users on the B1242 and B1249 and agricultural workers. As a visitor destination with a number of holiday parks and tourist facilities, coastal views from the area are likely to be valued.

206. Recreational and residential visual receptors in subarea 1 are deemed to be of high susceptibility and their views are of medium value. The sensitivity of these receptors is therefore considered to be medium.

#### 23.6.1.2.1.3 Significance of Effect

207. Overall, it is assessed that the sensitivity of the receptor is medium, and the magnitude is medium. The effect is of **moderate** adverse significance, which is significant in EIA terms.

#### 23.6.1.2.1.4 Mitigation and Residual Significance of Effect

208. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** and the **OCoCP (Volume 8, application ref: 8.9)**. As reinstated landscape features (e.g., hedgerows) via a landscape scheme mature over time, the magnitude of impact would reduce from medium to low. Therefore, the residual effect is **minor** adverse, which is deemed to be not significant.

### *23.6.1.2.2 Impact 5: Visual Effects of the Onshore Export Cable Corridor – Subareas 2-4*

#### 23.6.1.2.2.1 Magnitude of Impact

209. Construction of the Onshore Export Cable Corridor will lead to disturbance and activity as seen by visual receptors. Features including fencing, TCC's, equipment, lighting, topsoil and subsoil storage, temporary water course crossings and vehicle movements will be prominent within the open landscape from close range views such as the PRoWs and properties within 1 km of the Onshore Development Area. Several of the PRoWs including the Long-Distance Walking Routes will be temporarily stopped up or diverted around the Onshore Export Cable Corridor. Measures set out in the PRoW Management Plan, Appendix C of the **OCoCP (Volume 8, application ref: 8.9)** ensure that no PRoW is closed for longer than three months while temporary measures are installed to ensure the site can be crossed safely by all users. There will also be an increased presence of construction traffic using the local road network.

210. The Onshore Export Cable Corridor has been designed to minimise loss of hedgerows by utilising existing gaps in hedgerows, where possible. Trenchless crossings will be used to minimise effects on areas of woodland. The Onshore Export Cable Corridor will be reduced at hedgerow crossings to the minimum amount required to enable construction of trenches and the haul road. The width of hedgerow crossings for the worst case scenario would be 24m for the Onshore Export Cable Corridor and 34m for the Onward Cable Connection to the Proposed Birkhill Wood National Grid Substation, as described in **Volume 7, Chapter 5 Project Description (application ref: 7.5)**.

211. Residential receptors in nearby housing and farmsteads may have visibility of construction works. From slightly more distant receptors, the scale of the effect will be reduced, as the works become part of the wider landscape rather than the focus of views.

212. The overall duration of the Onshore Export Cable Corridor works will be up to 57 months, though work at any one location is likely to be less than this. Therefore, the duration is of short term.

213. On completion of construction, the Onshore Export Cable Corridor will be fully reinstated to its previous condition, areas between Jointing Bays will be reinstated within 2 years, in accordance with the **Outline Soil Management Plan, Appendix A** of the **OCoCP (Volume 8, application ref: 8.9).** No above-ground infrastructure will be visible, other than manholes for up to 205 link boxes along the cable route, measuring 2.5x4m each. Therefore, construction effects are reversible.

214. The impact of the Onshore Export Cable Corridor works on views in subareas 2 - 4 is predicted to be of medium scale and local geographical extent and will be short term and reversible. The magnitude is therefore considered to be low.

#### 23.6.1.2.2.2 Sensitivity of Receptor

215. Visual receptors in subareas 2 – 4 are described in section 23.5.3.2 to 23.5.3.4.

216. Receptors in these subareas are considered to be of high susceptibility, including residents of settlements and in scattered properties/ farmsteads. Recreational receptors, including those on PRoWs, cycle routes, and those engaged in water-based activities on rivers are also of high susceptibility. Other visual receptors include road users and agricultural workers, whose susceptibility is judged to be lower.

217. There is little evidence that value is placed on views, although views across open farmland from the remote villages are likely to be valued by local residents. More locally, in subarea 4, views across the gently undulating farmland within the ILA, from properties and PRoWs are likely to be valued for their openness.

218. Overall, recreational and residential visual receptors in subareas 2 – 4 are deemed to be of high susceptibility and their views are of low value. The sensitivity of these receptors is therefore considered to be medium.

#### 23.6.1.2.2.3 Significance of Effect

219. Overall, it is assessed that the sensitivity of the receptors is medium, and the magnitude is low. The effect of cable construction works on views across subareas 2 – 4 is of **minor** adverse significance, which is deemed to be not significant.

#### 23.6.1.2.2.4 Mitigation and Residual Significance of Effect

220. On completion of construction, the Onshore Export Cable Corridor will be fully reinstated to its previous condition, in accordance with the **OCoCP (Volume 8, application ref: 8.9)**. No above-ground infrastructure will be visible, other than manholes for up to 205 link boxes along the cable route.

221. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. As reinstated landscape features (e.g., hedgerows forming part of a landscape scheme) mature over time, the magnitude of impact would reduce from low to negligible. Therefore, the residual effect is **negligible** adverse, which is deemed to be not significant.

### *23.6.1.2.3 Impact 6: Visual Effects of Onshore Converter Stations – Subarea 5 (Onshore Substation Zone)*

222. Effects on views arising from the construction of the Onshore Converter Stations has been assessed from the closest viewpoints within 1km of the Onshore Converter Stations. No photomontage visualisations have been produced to illustrate construction effects, however, the locations of these viewpoints are illustrated on **Figures 23-7 to 23-10** in **Volume 7 (application ref: 7.23.1)**.

#### 23.6.1.2.3.1 Viewpoint 1: Butt Farm

##### *23.6.1.2.3.1.1 Magnitude of Impact*

223. The construction of the Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.3km in views to the south-west. Construction activity, including the presence of cranes, earthworks, vehicle movements, fencing and lighting at night would be visible from this viewpoint behind the intervening hedgerows and trees in the middle distance. This vegetation, along with the undulating landform would likely screen some of the lower level construction activity, particularly in the west of the Onshore Substation Zone. However, direct views of ground level construction activity would be visible in the north-eastern extents of the Onshore Substation Zone.

224. The works for the Onshore Converter Stations are expected to last up to six years due to the staggering of construction of both converter stations in the Onshore Substation Zone, though different elements would be carried out at different times within this. As such, the effects experienced would change with construction phasing. Construction effects are partly reversible, in that areas affected by TCCs and access tracks would be restored to their pre-existing condition as agricultural land.

225. On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the OCoCP and landscape screening of the Onshore Converter Stations would be implemented as part of the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** which is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent.

226. The impact of the Onshore Converter Station works on views from Butt Farm is predicted to be of large scale and of a small geographical extent. It would be medium-term and reversible. The magnitude is therefore considered to be medium.

##### *23.6.1.2.3.1.2 Sensitivity of Receptor*

227. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the PRoW / access track to Butt Farm, and visitors to Butt Farm Caravan and Camping Site. The viewpoint also represents views experienced by residential receptors at Butt Farm.

228. Recreational and residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

229. The viewpoint is located at the eastern edge of the Yorkshire Wolds ILA. The viewpoint possesses some rural qualities due to surrounding arable fields, woodland and the farmhouse of Butt Farm. However, the viewpoint is also influenced by surrounding development including a nearby wood pole overhead line, a more distant transmission overhead line on the skyline to the south-west, and traffic noise from the adjacent A1079. The value of the view is considered to be medium.

230. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

*23.6.1.2.3.1.3 Significance of Effect*

231. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is medium. The effect is of **moderate** adverse significance, which is significant in EIA terms.

*23.6.1.2.3.1.4 Mitigation and Residual Significance of Effect*

232. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. The reinstatement of the landscape (e.g., TCCs etc.) via a landscape scheme would help reduce the magnitude of impact from medium to low as reinstated landscape features mature over time. Therefore, the residual effect of construction is **minor** adverse, which is deemed to be not significant.

233. On completion of all construction works, construction effects on the landscape would be superseded by the operational effects, which are assessed in section 23.6.2.

#### 23.6.1.2.3.2 Viewpoint 2: Coppleflat Lane, Bentley

##### *23.6.1.2.3.2.1 Magnitude of Impact*

234. The construction of the Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.4km in views to the north-west. Given the open nature of the landscape and views, most of the construction activity associated with the Onshore Converter Stations would be clearly visible from this viewpoint. This includes works such as ground clearance, earthworks, presence of cranes, vehicle movements, fencing and lighting at night. Some lower elements of the construction works associated with the Onshore Converter Stations and onward connection would be screened by intervening field trees, hedgerows and Bentley Moor Wood.

235. The works for the Onshore Converter Stations are expected to last up to 6 years due to the staggering of construction of both converter stations in the Onshore Substation Zone, though different elements would be carried out at different times within this. As such, the effects experienced would change with construction phasing. Construction effects are partly reversible, in that areas affected by TCCs and access tracks would be restored to their pre-existing condition as agricultural land.

236. On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and landscape screening of the Onshore Converter Stations would be implemented as part of the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** which is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent.

    The impact of the Onshore Converter Station works on views from this viewpoint is predicted to be of large scale and of a small geographical extent. It would be medium-term and reversible. The magnitude is therefore considered to be high.

##### *23.6.1.2.3.2.2 Sensitivity of Receptor*

237. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by residential receptors at the northern edge of Bentley, a short distance to the west. The viewpoint also represents views experienced by road users on Coppleflat Lane and the adjacent A164.

238. Residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view. Road users are considered to be of lower susceptibility to changes in the view.

239. The viewpoint is located at the eastern edge of the Yorkshire Wolds ILA. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is heavily influenced by surrounding development including a transmission overhead line on the skyline to the north-west, and most notably, the transport infrastructure of the adjacent A164. The value of the view is considered to be medium.

240. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors (local residents) at this viewpoint is judged to be high.

*23.6.1.2.3.2.3 Significance of Effect*

241. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is high. The effect is of **major** adverse significance, which is significant in EIA terms.

*23.6.1.2.3.2.4 Mitigation and Residual Significance of Effect*

242. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. The reinstatement of the landscape (e.g., TCCs etc.) via a landscape scheme would help reduce the magnitude of impact from medium to low as reinstated landscape features mature over time. Therefore, the residual effect of construction is **minor** adverse, which is deemed to be not significant.

243. On completion of all construction works, construction effects on the landscape would be superseded by the operational effects, which are assessed in section 23.6.2.

23.6.1.2.3.3 Viewpoint 3: Beverley 20 near Broadgate

*23.6.1.2.3.3.1 Magnitude of Impact*

244. The construction of the Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.5km in views to the south-east. A TCC would be located immediately adjacent to the viewpoint throughout the construction works, and an access track would be visible in the middle distance, passing under the wood pole overhead line.

245. In the distance, construction of the Onshore Converter Stations may be visible if not screened by the TCC immediately adjacent. If visible, construction activity would include works such as ground clearance, earthworks, presence of cranes, vehicle movements (within the site and along the access track), fencing and lighting at night.

246. The works for the Onshore Converter Stations are expected to last up to 6 years due to the staggering of construction of both converter stations in the Onshore Substation Zone, though different elements would be carried out at different times within this. As such, the effects experienced would change with construction phasing. Construction effects are partly reversible, in that areas affected by TCC and access tracks would be restored to their pre-existing condition as agricultural land.

247. On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and landscape screening of the Onshore Converter Stations would be implemented as part of the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** which is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent.

248. Due to the close proximity of the TCC and access track, the overall impact of the Onshore Converter Station works on this viewpoint is predicted to be of large scale and of a medium geographical extent. The impact would be medium-term and reversible. The magnitude is therefore considered to be high.

*23.6.1.2.3.3.2 Sensitivity of Receptor*

249. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the Beverley 20 walking route near Broadgate.

250. Recreational receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

251. The viewpoint is located near the eastern edge of the Yorkshire Wolds ILA and on the Beverley 20 walking route. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is also influenced by surrounding development including a transmission overhead line on the skyline to the east, and a wood pole overhead line in the foreground. Built development is also apparent adjacent to the A1079, including the Dogger Bank A & B offshore wind farm converter station (under construction) in the distance. The value of the view is considered to be medium.

252. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

*23.6.1.2.3.3.3 Significance of Effect*

253. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is high. The effect is of **major** adverse significance, which is significant in EIA terms.

*23.6.1.2.3.3.4 Mitigation and Residual Significance of Effect*

254. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. The reinstatement of the landscape (e.g., TCCs etc.) via a landscape scheme would help reduce the magnitude of impact from high to low as reinstated landscape features mature over time. Therefore, the residual effect of construction is **minor** adverse, which is deemed to be not significant.

255. On completion of all construction works, construction effects on the landscape would be superseded by the operational effects, which are assessed in section 23.6.2.

#### 23.6.1.2.3.4 Viewpoint 4: Oriel Close, off Broadgate

##### *23.6.1.2.3.4.1 Magnitude of Impact*

256. The construction of the Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.8km in views to the south-east. Construction activity would be partially screened by intervening vegetation which is planted alongside the A1079. Taller construction elements such as cranes would be visible above the vegetation in the middle distance. These features would be more visible than lower level construction activity such as earthworks, ground clearance and vehicle movements. Lower level activity in the most north-easterly extents of the Onshore Substation Zone may be more visible due to less intervening vegetation.

257. The works for the Onshore Converter Stations are expected to last up to 6 years due to the staggering of construction of both converter stations in the Onshore Substation Zone, though different elements would be carried out at different times within this. As such, the effects experienced would change with construction phasing. Construction effects are partly reversible, in that areas affected by TCCs and access tracks would be restored to their pre-existing condition as agricultural land.

258. On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and landscape screening of the Onshore Converter Stations would be implemented as part of the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** which is presented as part of the DCO submission. This sets out landscape mitigation proposals, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent.

259. The impact of the Onshore Converter Station works on views from this viewpoint is predicted to be of small scale and of a small geographical extent. It would be medium-term and reversible. The magnitude is therefore considered to be low.

##### *23.6.1.2.3.4.2 Sensitivity of Receptor*

260. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by residential receptors at Oriel Close and in the surrounding houses off Broadgate.

261. Residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

262. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is also influenced by surrounding development including several transmissions overhead lines on the skyline to the south, and a wood pole overhead line in the foreground. The value of the view is considered to be medium.

263. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### *23.6.1.2.3.4.3 Significance of Effect*

264. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is small. The effect is of **minor** adverse significance, which is not significant in EIA terms.

#### *23.6.1.2.3.4.4 Mitigation and Residual Significance of Effect*

265. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** On completion of the Onshore Converter Stations, any construction disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)** and **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**. The reinstatement of the landscape (e.g., TCCs etc.) via a landscape scheme would help reduce the magnitude of impact from low to negligible as reinstated landscape features mature over time. Therefore, the residual effect of construction is **negligible** adverse, which is deemed to be not significant.

266. On completion of all construction works, construction effects on the landscape would be superseded by the operational effects, which are assessed in section 23.6.2.

### 23.6.2 Potential Effects During Operation

267. Effects during the operation and maintenance phase are assessed for the permanent above-ground infrastructure associated with the two co-located Onshore Converter Stations within the Onshore Substation Zone. Development of both Onshore Converter Stations within the Onshore Substation Zone represents the worst case scenario, however there is potential that only one Onshore Converter Station may be built in an isolation scenario. The assessment considers the worst case scenario which reflects the maximum visibility of two Onshore Converter Stations, as the effects of building either Onshore Converter Stations in isolation would not be greater than that of the worst case scenario (see **Table 23-1**). Proposed landscape mitigation planting has been designed for the worst case scenario of two converter stations within the Onshore Substation Zone, however would be appropriate in the event one Onshore Converter Station is built.

#### 23.6.2.1 Impact 1: Potential Effects on Landscape Character During Operation

268. This section considers the direct effects of the co-located Onshore Converter Stations on the local Landscape Character. Effects on the landscape are considered at Year 1 following completion of the Onshore Converter Stations. Where significant Year 1 effects are identified, additional mitigation is detailed, and a further assessment is made at Year 10, when mitigation planting would be maturing and starting to take full effect. As such, Year 10 effects represent the residual effects following the implementation of secondary mitigation. **Volume 7, Figure 23-6 (application ref: 7.23.1)** provides an indicative illustration of the mitigation planting.

##### *23.6.2.1.1 Magnitude of Impact*

269. The operational phase would result in the permanent loss of some limited landscape features such as hedgerows and arable farmland within the Onshore Substation Zone, which are noted within the key characteristics of the Sloping Farmland LCT. However, the primary impacts would relate to the ongoing visual presence of the Onshore Converter Stations within the landscape, which would affect key characteristics such as open views across the landscape, including views of Beverley Minster.

270. The character of the landscape, being flat or slightly undulating with woodland blocks, hedgerows, and frequent buildings means that views of the Onshore Converter Stations would be relatively localised within subarea 5. As indicated by the ZTV, within 1km of the Onshore Substation Zone theoretical visibility is relatively extensive, though nearby woodland at Bentley Moor Wood, Johnson's Pit, Eleven Acre Plantation, Jillywood and Birkhill Wood would provide some local screening. Beyond 1km, woodland (including at Risby Park) and buildings would result in a more irregular pattern of visibility in all directions. As such, effects on Landscape Character would be relatively localised to the Onshore Substation Zone.

271. Generally, the Onshore Converter Stations would be seen in the context of existing electricity infrastructure, development and transport corridors within a settled, modified landscape that is busy and complex in nature. This is reflected in the evaluation of the 'host' 16F Beverley Parks Farmland LCA (Sloping Farmland LCT), which states that "*Landscape character in this area is affected by the urban edge of Hull to the south and Beverley to the north…Based on the number of detractors the landscape character of the area between Beverley and Hull is assessed to be ordinary to poor*."

272. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out landscape mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that embedded landscape screening would not reduce the magnitude of impact at year one.

273. The impact of the Onshore Converter Stations in the Onshore Substation Zone on Landscape Character is predicted to be of large scale locally, and of a small geographical extent. It would be long-term and partly reversible as the Onshore Converter Stations would be decommissioned after 30 years. The magnitude is therefore considered to be high within approximately 0.5km of the footprints of the Onshore Converter Stations, reducing to medium then low with greater distance.

#### *23.6.2.1.2 Sensitivity of Receptor*

274. The landscape of subarea 5, within which the Onshore Substation Zone is located, is described in section 23.5.3.5.

275. The landscape of subarea 5 contains few features that are vulnerable to the proposed temporary works, although hedges and trees are more susceptible. The character of the landscape, being slightly undulating and with some screening, means that changes would be relatively localised. The receptor is deemed to be of medium susceptibility to the proposed changes.

276. The Onshore Substation Zone is located at the eastern edge of the Yorkshire Wolds ILA, which is designated for its landscape value and high scenic quality. The Onshore Substation Zone possesses a degree of tranquillity and enclosure, due to its slightly higher elevation, undulating terrain, surrounding woodland and increased distance from the A1079 and adjacent development (including Dogger Bank A & B offshore wind farm converter station (under construction)). Overall, the landscape resource is deemed to be of medium value.

277. The sensitivity of the receptor is therefore considered to be medium.

#### *23.6.2.1.3 Significance of Effect*

278. Overall, it is assessed that the sensitivity of the receptor is medium, and the magnitude is locally high. The effect is of **major** adverse significance within the immediate area of the footprints of the Onshore Converter Stations, which is significant in EIA terms. The effect would reduce with distance, falling below the threshold of significance at no more than 1km from the footprints of the Onshore Converter Stations. The area where significant effects on Landscape Character may be expected is approximately defined by the northern boundary of the hamlet Bentley to the south, Jock's Lodge junction to the east, the rising ground north of the A1079 to the north, and the rising ground around Bentley Parks to the west.

#### *23.6.2.1.4 Mitigation and Residual Significance of Effect*

279. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent. It is judged that the magnitude at Year 10 would have reduced to medium. The residual effect would be of **moderate** adverse significance, which is significant in EIA terms.

### 23.6.2.2 Impact 2: Potential Effects on the Yorkshire Wolds ILA

#### *23.6.2.2.1 Magnitude of Impact*

280. The landscape of the Yorkshire Wolds ILA comprises gently rolling agricultural land which rises in the form of a prominent chalk escarpment in the west and drops away to the plain of Holderness in the east. The key attributes of relevant Landscape Character areas within the Yorkshire Wolds ILA include its *"elevated rolling landform"*, *"large scale open landscape with long distance views"*, *"open landscape with large and very large rectilinear regular arable fields and fragmented hedgerows"* and *"pockets of parkland and estate land"* (Golder Associates, 2014).

281. The operational phase would result in direct impacts of a local nature on the Yorkshire Wolds ILA. These impacts would be focussed within the Onshore Substation Zone near the eastern boundary of the ILA and would include the permanent loss of landscape features such as hedgerows and arable farmland, which are identified as key attributes for the Yorkshire Wolds ILA.

282. However, the primary impacts would relate to the ongoing visual presence of the Onshore Converter Stations within this part of the ILA, which would affect key characteristics such as *"long distance views dominated by the sky"*. Given the undulating character of the landscape, and presence of plantations and hedgerows, close views of the Onshore Converter Stations would be somewhat contained and kept relatively localised. The ZTV indicates that wider visibility may be experienced from more distant, elevated locations within the Yorkshire Wolds ILA to the west. From these locations, the Onshore Converter Stations would be seen in the context of existing electricity infrastructure and development, and in the context of larger settlements such as Beverley.

283. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out landscape mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that embedded landscape screening would not reduce the magnitude of impact at year one.

284. The impact of the Onshore Converter Stations in the Onshore Substation Zone on the Yorkshire Wolds ILA is predicted to be of large scale locally, and of a small geographical extent. It would be long-term and partly reversible. The magnitude is therefore considered to be high within approximately 1km of the footprints of the Onshore Converter Stations, reducing to medium then low with greater distance.

#### *23.6.2.2.2 Sensitivity of Receptor*

285. The landscape of the Yorkshire Wolds ILA comprises gently rolling agricultural land which rises in the form of a prominent chalk escarpment in the west and drops aways to the plain of Holderness in the east.

286. The landscape in the east of the Yorkshire Wolds ILA, where the Onshore Substation Zone is located, is lower lying, and comprises mainly open agricultural land. The area of the Onshore Substation Zone has few landscape features that are vulnerable to the proposed works. The surrounding landscape, being slightly undulating with some plantations nearby which provide screening, would help contain visibility of the Projects. In this part of the Yorkshire Wolds ILA, the receptor is deemed to be of medium susceptibility to the proposed changes.

287. The Onshore Substation Zone is within the easternmost extents of the Yorkshire Wolds ILA, and possesses a degree of tranquillity and enclosure due to surrounding woodland and undulating terrain. This is a local landscape designation which has been designated for its landscape value and high scenic quality. Policy ENV2 in the East Riding of Yorkshire Local Plan (2016) and its draft update (2021) identify the western extents of the ILA as the 'Areas of Highest Quality'. Overall, the landscape resource in the east of the Yorkshire Wolds ILA is deemed to be of medium value.

288. The sensitivity of the receptor is therefore considered to be medium.

#### *23.6.2.2.3 Significance of Effect*

289. Overall, it is assessed that the sensitivity of the receptor is medium, and the magnitude is locally high. The effect is of **major** adverse significance within the immediate area of the footprints of the Onshore Converter Stations, which is significant in EIA terms. The effect would reduce with distance, falling below the threshold of significance at no more than 1km from the footprints of the Onshore Converter Stations.

#### *23.6.2.2.4 Mitigation and Residual Significance of Effect*

290. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to integrate the Onshore Converter Stations into the existing landscape of the Yorkshire Wolds ILA, including arable fields and boundary trees / hedgerows. The **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** forms the basis of a Landscape Management Plan, which would be developed post-consent. It is judged that the magnitude at Year 10 would have reduced to medium. The effect would be of **moderate** adverse significance locally, which is significant in EIA terms. This would reduce with distance from the Onshore Substation Zone.

### 23.6.2.3 Impact 3: Potential Effects on Visual Amenity During Operation

291. Effects during the operation and maintenance phase are assessed for the permanent above-ground infrastructure at the Onshore Substation Zone. The assessment focuses on the representative viewpoints identified in **Table 23-20**.

292. Illustrative photomontage visualisations are presented for Viewpoints 1-8, showing the worst case scenario of co-located Onshore Converter Stations on the Onshore Substation Zone as defined in **Table 23-1**. These visualisations show indicative mitigation planting at Year 1 and Year 10 following completion.

#### *23.6.2.3.1 Viewpoint 1: Butt Farm*

##### 23.6.2.3.1.1 Magnitude of Impact

293. The Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.3km in views to the south-west. The Onshore Converter Stations would be seen above the skyline and would occupy a large horizontal extent of the view. Some lower elements of the Onshore Converter Stations would be screened by intervening boundary trees and hedgerows though it is likely some direct views of ground level structures and operations would be visible, particularly in the most north-eastern extents of the Onshore Substation Zone. The Onshore Converter Stations would be seen behind a wood pole overhead line in the foreground and in the context of more proximate development, including an adjacent transmission overhead line and the A1079.

294. The ZTV indicates that similar views would be available from the PRoW as users travel west to join the Beverley 20 long distance path and from the A1079. However, actual visibility would be highly variable due to roadside vegetation, boundary trees / hedgerows and viewing distance. Buildings in Beverley would limit longer distance views to the north.

295. For visitors to the Butt Farm camp site, views will be closer, and will occupy most of the southern outlook. The existing hedgerow and boundary trees will provide some screening. Some direct views of the Converter Station structures will be available as people move about the site, and as they potentially access the anti-aircraft battery to the west (Scheduled Monument, refer to **Volume 7, Chapter 22 Onshore Archaeology and Cultural Heritage (application ref: 7.22)** for detailed assessment of effects on heritage).

296. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

297. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of large scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be high.

#### 23.6.2.3.1.2 Sensitivity of Receptor

298. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the PRoW / access track to Butt Farm, and visitors to Butt Farm Caravan and Camping Site. The viewpoint also represents views experienced by residential receptors at Butt Farm.

299. Recreational and residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

300. The viewpoint is located at the eastern edge of the Yorkshire Wolds ILA. The viewpoint possesses some rural qualities due to surrounding arable fields, woodland and the farmhouse of Butt Farm. However, the viewpoint is also influenced by surrounding development including a nearby wood pole overhead line, a more distant transmission overhead line on the skyline to the south-west, and traffic noise from the adjacent A1079. The value of the view is considered to be medium.

301. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.1.3 Significance of Effect

302. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is high. The effect is of **major** adverse significance, which is significant in EIA terms.

#### 23.6.2.3.1.4 Mitigation and Residual Significance of Effect

303. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

304. The photomontage in **Volume 7, Figure 23-7 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. By year 10, the mitigation planting to the north of the Onshore Converter Stations is expected to be effective in partly screening and filtering views of the Onshore Converter Stations, with vegetation expected to be around 8-10 m in height (modelled in the photomontage). The vegetation would largely screen the lower elements of the Onshore Converter Stations, however, the upper parts of the Onshore Converter Stations such as the roofs of the buildings would still be visible on the skyline. The amount of screening provided by the planting would continue to increase as the trees mature with age. It is judged that the magnitude at Year 10 would have reduced to medium. The effect would be of **moderate** adverse significance, which is significant in EIA terms.

#### *23.6.2.3.2 Viewpoint 2: Coppleflat Lane, Bentley*

##### 23.6.2.3.2.1 Magnitude of Impact

305. The Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 0.4km in views to the north-west. The Onshore Converter Stations would be seen above the skyline and would occupy a large horizontal extent of the view between Bentley Moor Wood and Johnson's Pit. The Onshore Converter Stations would form a prominent feature in views north-west from this viewpoint. Some lower elements of the Onshore Converter Stations would be screened by intervening field trees, hedgerows and Bentley Moor Wood, however extensive direct views of ground level structures and operations would be available. The Onshore Converter Stations would be seen in front of a transmission overhead line in the distance and in the context of surrounding development, including the busy A164.

306. The ZTV indicates that similar views would be available from along Coppleflat Lane to the west, the PRoW (bridleway number 13) to the east, and across the farmland of Platwoods Fields to the south. Theoretical visibility is also indicated along the A164, north of Wood Hall Farm. However, actual visibility would be highly variable due to roadside vegetation, boundary trees / hedgerows and viewing distance. Elevated landform and woodland would contain longer distance views to the south from Skidby and Cottingham.

307. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

308. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of large scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be high.

#### 23.6.2.3.2.2 Sensitivity of Receptor

309. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by residential receptors at the northern edge of Bentley, a short distance to the west. The viewpoint also represents views experienced by road users on Coppleflat Lane and the adjacent A164.

310. Residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view. Road users are considered to be of lower susceptibility to changes in the view.

311. The viewpoint is located at the eastern edge of the Yorkshire Wolds ILA, The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is heavily influenced by surrounding development including a transmission overhead line on the skyline to the north-west, and most notably, the transport infrastructure of the adjacent A164. The value of the view is considered to be medium.

312. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors (local residents) at this viewpoint is judged to be high.

#### 23.6.2.3.2.3 Significance of Effect

313. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is high. The effect is of **major** adverse significance, which is significant in EIA terms.

#### 23.6.2.3.2.4 Mitigation and Residual Significance of Effect

314. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

315. The photomontage on **Volume 7, Figure 23-8 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. By year 10, the mitigation planting to the south of the Onshore Converter Stations is expected to be effective in partly screening and filtering views of the Onshore Converter Stations, with vegetation expected to be around 8-10 m in height (modelled in the photomontage). The vegetation would largely screen the lower elements of the Onshore Converter Stations, however, the upper parts of the Onshore Converter Station buildings would still be prominent features in the view and set against the skyline. The amount of screening provided by the planting would continue to increase as the trees mature with age. It is judged that the magnitude at Year 10 would have reduced to medium. The effect would be of **moderate** adverse significance, which is significant in EIA terms.

#### *23.6.2.3.3 Viewpoint 3: Beverley 20 near Broadgate*

##### 23.6.2.3.3.1 Magnitude of Impact

316. The Onshore Converter Stations would be seen from a distance of 0.5km in views to the south-east. The Onshore Converter Stations would be seen above the skyline and would occupy a large horizontal extent of the view between Bentley Moor Wood and Johnson's Pit. Some lower elements of the Onshore Converter Stations would be screened by intervening field trees, hedgerows and woodland at Johnson's Pit though glimpsed views of ground level structures and operations would likely be available. The Onshore Converter Stations would be seen behind a wood pole overhead line in the foreground and in the context of surrounding development, including a transmission overhead line to the east and the busy transport corridor of the A1079. The access track, and its associated earthworks, would be visible cutting across the field in the middle distance from this viewpoint.

317. The ZTV indicates that similar views would be available from along the Beverley 20 between Johnson's Pit and Broadgate Farm and across the arable fields in the surrounding area. However, actual visibility would be highly variable due to boundary trees / hedgerows and viewing distance. Residents at the southern edge of Broadgate and the eastern edge of Walkington may experience more distant, glimpsed views of the Onshore Converter Stations. Views from the A1079 would be oblique and glimpsed due to roadside vegetation.

318. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

319. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of medium scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be medium.

#### 23.6.2.3.3.2 Sensitivity of Receptor

320. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the Beverley 20 walking route near Broadgate.

321. Recreational receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

322. The viewpoint is located near the eastern edge of the Yorkshire Wolds ILA and on the Beverley 20 walking route. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is also influenced by surrounding development including a transmission overhead line on the skyline to the east, and a wood pole overhead line in the foreground. Built development is also apparent adjacent to the A1079 transport corridor, including the Dogger Bank A & B offshore wind farm converter station (under construction) in the distance. The value of the view is considered to be medium.

323. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.3.3 Significance of Effect

324. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is medium. The effect is of **moderate** adverse significance, which is significant in EIA terms.

#### 23.6.2.3.3.4 Mitigation and Residual Significance of Effect

325. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations and the access track into the existing landscape of arable fields and boundary trees / hedgerows.

326. The photomontage on **Volume 7, Figure 23-9 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. By year 10, the mitigation planting to the north of the Onshore Converter Stations is expected to partly screen and filter views of the Onshore Converter Stations from this viewpoint, with vegetation expected to be around 8-10 m in height (modelled in the photomontage). Given the intervening distance, the mitigation planting would only screen the lower elements of the Onshore Converter Stations, with much of the building still visible from the viewpoint. The buildings would continue to appear as a notable feature above the mitigation planting and set against the skyline. The amount of screening provided by the planting would continue to increase as the trees mature with age, providing a similar level of screening as the existing block of woodland to the west of the Onshore Converter Stations (right of view from the viewpoint). It is judged that the magnitude at Year 10 would remain medium. The effect would be of **moderate** adverse significance, which is significant in EIA terms.

### *23.6.2.3.4 Viewpoint 4: Oriel Close, off Broadgate*

#### 23.6.2.3.4.1 Magnitude of Impact

327. The Onshore Converter Stations would be seen from a distance of 0.8km in views to the south-east. The Onshore Converter Stations would be seen above the skyline and would be a notable feature in views, occupying a small horizontal extent of the view. The most western extents of the Onshore Converter Stations would be largely screened by intervening woodland present along the A1079, although the eastern extents would be more visible in views. Some of the lower elements of the Onshore Converter Stations would be screened by intervening field trees, hedgerows and woodland along the A1079.

328. The Onshore Converter Stations would be seen behind wood pole and steel lattice overhead lines in the foreground and in the context of surrounding development, including more distant transmission overhead lines and the A1079. The ZTV indicates that similar views would be available from other locations in the housing estate, particularly along its southern boundary. However, actual visibility from within the housing estate would be limited as the housing would screen views of the development.

329. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

330. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of medium scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be medium.

#### 23.6.2.3.4.2 Sensitivity of Receptor

331. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by residential receptors at Oriel Close and in the surrounding houses off Broadgate.

332. Residential receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

333. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is also influenced by surrounding development including several transmissions overhead lines on the skyline to the south, and a wood pole overhead line in the foreground. The value of the view is considered to be medium.

334. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.4.3 Significance of Effect

335. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is medium. The effect is of **moderate** adverse significance, which is significant in EIA terms.

#### 23.6.2.3.4.4 Mitigation and residual effect

336. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

337. The photomontage on **Volume 7, Figure 23-10 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. By year 10, the mitigation planting to the north of the Onshore Converter Stations is expected to be effective in partly screening and filtering views of the Onshore Converter Stations, with vegetation expected to be around 8-10 m in height (modelled in the photomontage). Given the intervening distance, the mitigation planting would only screen the lower elements of the Onshore Converter Stations, with much of the building still visible from the viewpoint. The amount of screening provided by the planting would continue to increase as the trees mature with age, however it is not expected that the Onshore Converter Stations would be screened entirely. It is judged that the magnitude at Year 10 would be low. The effect would be of **minor** adverse significance, which is not significant in EIA terms.

#### *23.6.2.3.5 Viewpoint 5: Walkington*

##### 23.6.2.3.5.1 Magnitude of Impact

338. The Onshore Converter Stations are located at a distance of 1.3km to the south-east of this viewpoint. The Onshore Converter Stations in the Onshore Substation Zone, including any ground level structures and operations, would be entirely screened by intervening hedgerows and trees.

339. The ZTV indicates that similar views would be available from along the Beverley 20 between Walkington and Moor Lane, and across the arable fields in the surrounding area. However, actual visibility would be highly variable due to screening provided by boundary trees / hedgerows. Residents at the eastern edge of Walkington may experience more distant, glimpsed views of both Onshore Converter Stations.

340. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

341. There would be no change in views from this viewpoint as a result of the Onshore Converter Stations. The impact is therefore predicted to be of negligible scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude of change is therefore considered to be negligible.

#### 23.6.2.3.5.2 Sensitivity of Receptor

342. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the Beverley 20 walking route at the edge of Walkington.

343. Recreational receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

344. The viewpoint is located within the Yorkshire Wolds ILA and on the Beverley 20 walking route. The viewpoint possesses some rural qualities due to surrounding arable fields and woodland. However, the viewpoint is also influenced by existing development including a transmission overhead line on the skyline to the north-east, and palisade fencing along the eastern and southern settlement edge of Walkington. Built development is also apparent adjacent to the B1230. The value of the view is considered to be medium.

345. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.5.3 Significance of Effect

346. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is negligible. The effect is **negligible**, which is not significant in EIA terms.

#### 23.6.2.3.5.4 Mitigation and residual significance of effect

347. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

348. The photomontage on **Volume 7, Figure 23-11 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. The effects of mitigation planting around the Onshore Converter Stations would result in no perceptible change to the view from this viewpoint as the Onshore Converter Stations themselves are not visible. Therefore, it is judged that the magnitude at Year 10 would remain negligible. The effect would be of **negligible** adverse significance, which is not significant in EIA terms.

#### *23.6.2.3.6 Viewpoint 6: Footpath, Risby*

##### 23.6.2.3.6.1 Magnitude of Impact

349. The Onshore Converter Stations in the Onshore Substation Zone are located at a distance of 1.8km to the north-east of this viewpoint. Both Onshore Converter Stations, including any ground level structures and operations, would be entirely screened by intervening hedgerows and trees.

350. The ZTV indicates that similar views would be available from along the footpath between Skidby and Risby, from the nearby Beverley 20 long distance path in the west, and across the arable fields in the surrounding area. However, actual visibility would be highly variable due to boundary trees / hedgerows.

351. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects' design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

352. The change in view from this viewpoint as a result of the Onshore Converter Stations would be barely perceptible. The impact of the Onshore Converter Stations is therefore predicted to be of negligible scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be negligible.

##### 23.6.2.3.6.2 Sensitivity of Receptor

353. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors on the PRoW near Risby.

354. Recreational receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view.

355. The viewpoint is located within the Yorkshire Wolds ILA and on a PRoW. The viewpoint possesses strong rural qualities due to the surrounding arable fields and woodland, and general lack of built development. The viewpoint is influenced by overhead lines on the skyline to the south-east of the viewpoint, but offers a panoramic outlook from higher ground, across the landscape to the east. The value of the view is considered to be medium.

356. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.6.3 Significance of Effect

357. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is negligible. The effect is **negligible** adverse significance, which is not significant in EIA terms.

#### 23.6.2.3.6.4 Mitigation and residual significance of effect

358. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

359. The photomontage on **Volume 7, Figure 23-12 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. The effects of mitigation planting around the Onshore Converter Stations would result in no perceptible change to the view from this viewpoint as the Onshore Converter Stations themselves are not visible due to intervening vegetation. Therefore, it is judged that the magnitude at Year 10 would remain negligible. The effect would be of **negligible** adverse significance, which is not significant in EIA terms.

### *23.6.2.3.7 Viewpoint 7: Woodmansey*

#### 23.6.2.3.7.1 Magnitude of Impact

360. The Onshore Converter Stations in the Onshore Substation Zone would be seen at a distance of 3.7km to the west of this viewpoint, where they would appear to sit just above the skyline. The Onshore Converter Stations would be largely screened by intervening hedgerows and trees, and backclothed by more distant vegetation. The Onshore Converter Stations would be seen in the context of steel lattice pylons and overhead line in the distance. Ground level structures and operations would not be visible.

361. The ZTV indicates that similar views would be available from along Hull Road, between the viewpoint and Dunswell. However, actual visibility would be highly variable due to intervening built development and vegetation.

362. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects' design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

363. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of negligible scale and of a small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be negligible.

#### 23.6.2.3.7.2 Sensitivity of Receptor

364. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by residential receptors at Woodmansey and road users travelling along Hull Road.

365. Residential receptors and recreational receptors, whose attention is focused on their surroundings, are considered to be of high susceptibility to changes in the view. Road users are considered to be of lower susceptibility.

366. The viewpoint possesses limited rural qualities due to the presence of a construction site in the foreground of the view, and other built development within Woodmansey. The viewpoint is also influenced by several transmission overhead lines on the skyline to the west and south-west of the viewpoint. The value of the view is considered to be low.

367. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be medium.

#### 23.6.2.3.7.3 Significance of Effect

368. Overall, it is assessed that the sensitivity of the receptor is medium, and the magnitude is negligible. The effect is of **negligible** adverse significance, which is not significant in EIA terms.

#### 23.6.2.3.7.4 Mitigation and Residual Significance of Effect

369. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this landscaping would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

370. The photomontage on **Volume 7, Figure 23-13 (application ref:7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. Given the intervening distance, and the presence of existing intervening vegetation only the uppermost elements of the Onshore Converter Stations (e.g., upper walls and roofs) are visible. It is not expected that mitigation planting at year 10 (modelled at 8-10 m in height) would provide any notable screening or filtering, in views from this location. However, the amount of screening provided by the planting would continue to increase as the trees mature with age and some of these upper elements may become more screened in the future. It is judged that the magnitude at Year 10 would have remain as negligible. The effect would be of a **negligible** adverse significance, which is not significant in EIA terms.

#### *23.6.2.3.8 Viewpoint 8: Beverley Minster Tower*

##### 23.6.2.3.8.1 Magnitude of Impact

371. The Onshore Converter Stations in the Onshore Substation Zone would be seen from a distance of 3km in views to the south-west. Due to the elevated location of the viewpoint, both Onshore Converter Stations in the Onshore Substation Zone would be visible in the lower lying agricultural landscape to the south-west. They would appear to sit below the skyline, and the lower levels of the Onshore Converter Stations would be afforded some screening by intervening vegetation. The Onshore Converter Stations would be seen in the context of existing development, including housing in the foreground and steel lattice pylons and overhead lines in the distance.

372. The ZTV indicates that there would be no theoretical visibility from locations around Beverley Minster or within the settlement of Beverley. Intervening built development would screen views of the Onshore Converter Stations from within Beverley. The elevated nature of Beverley Minster Tower offers very localised visibility of the Onshore Converter Stations.

373. An **Outline Landscape Management Plan (Volume 8, application ref: 8.11)** is presented in as part of the DCO submission, which seeks to secure the restoration and, where possible, enhancement of the landscape post-construction (see section 23.3.4). This sets out mitigation that has been embedded into the Projects' design, in the form of woodland and hedge planting to help screen or filter views and integrate the proposal into the landscape. It is expected that landscape screening would not reduce the residual effect at year one.

374. The impact of the Onshore Converter Stations on this viewpoint is predicted to be of small scale and of a very small geographical extent. The impact would be long-term and considered reversible as the Onshore Converter Stations would be decommissioned after 32 years. The magnitude is therefore considered to be low.

#### 23.6.2.3.8.2 Sensitivity of Receptor

375. The viewpoint is described in **Table 23-20**. The viewpoint represents views experienced by recreational receptors visiting Beverley Minster. The view described is specific to this point, and similar effects would not be felt from ground level or nearby lower buildings (i.e. by residential receptors).

376. Recreational receptors visiting the Beverley Minster Tower would have their attention focused on their surroundings and are considered to be of high susceptibility to changes in the view.

377. Grade I Listed Beverley Minster is an important historic asset to the area, drawing many visitors. The extensive and impressive view from the tower forms part of the overall experience of a guided tour of the Minster. The value of the view is considered to be high.

378. On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be high.

#### 23.6.2.3.8.3 Significance of Effect

379. Overall, it is assessed that the sensitivity of the receptor is high, and the magnitude is low. The effect is of **minor** adverse significance, which is not significant in EIA terms.

#### 23.6.2.3.8.4 Mitigation and Residual Significance of Effect

380. Mitigation has been embedded into the design of the Projects through an **Outline Landscape Management Plan (Volume 8, application ref: 8.11).** Once matured, this planting would help to further integrate the Onshore Converter Stations into the existing landscape of arable fields and boundary trees / hedgerows.

381. The photomontage on **Volume 7, Figure 23-14 (application ref: 7.23.1)** illustrates views of the Onshore Converter Stations with mitigation planting at year 10. Given the intervening distance, and the elevated nature of the viewpoint, it is not expected that mitigation planting at year 10 (modelled at 8-10 m in height) would provide any substantial screening in views from this location. However, the amount of screening provided by the planting would continue to increase as the trees mature with age and some of the lower elements of the Onshore Converter Stations may become more screened in the future. It is judged that the magnitude at Year 10 would remain as low. The effect would be of a **minor** adverse significance, which is not significant in EIA terms.

### 23.6.3 Potential Effects During Decommissioning

382. No decision has been made regarding the final decommissioning policy for the Onshore Export Cables, as it is recognised that industry best practice, rules and legislation change over time. It is likely that the cables would be pulled through the ducts and removed, with the ducts themselves left in situ.

383. In relation to the Onshore Converter Stations, the programme for decommissioning is expected to be similar in duration to the construction phase. The detailed activities and methodology would be determined later within the project lifetime. Any such methodology and associated mitigation would be agreed with the relevant authorities and statutory consultees through a decommissioning plan in accordance with the requirements of the **Draft DCO (Volume 3, application ref: 3.1)**. The detailed activities and methodology are expected to include:

- Dismantling and removal of outside electrical equipment from site located outside of the Onshore Converter Stations' buildings;
- Removal of cabling from site;
- Dismantling and removal of electrical equipment from within the Onshore Converter Stations' buildings;
- Removal of main Onshore Converter Stations' buildings and minor services equipment;
- Demolition of support buildings and removal of fencing;
- Landscaping and reinstatement of the site (including land drainage); and
- Removal of areas of hard standing.

384. The decommissioning works could be subject to a separate licencing and consenting approach.

385. Whilst details regarding the decommissioning of the Onshore Converter Stations are currently unknown, considering a worst case scenario, which would be the removal and reinstatement of the current land use, it is anticipated that the impacts would be similar or less than those during construction.

## 23.7 Potential Monitoring Requirements

386. Monitoring would be required to ensure the success of landscape restoration and mitigation planting proposals. The details of proposed monitoring are set out in the **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**.

## 23.8 Cumulative Effects Assessment

387. Cumulative effects can be defined as incremental effects on that same receptor from other proposed and reasonably foreseeable schemes and developments in combination with the Projects. This includes all schemes that result in a comparative effect that is not intrinsically considered as part of the existing environment and is not limited to offshore wind projects.

388. The overarching method followed in identifying and assessing potential cumulative effects is set out in **Volume 7, Chapter 6 EIA Methodology (application ref: 7.6)** and **Volume 7, Appendix 6-1 Onshore Cumulative Assessment (application ref: 7.6.6.1)**. The approach is based upon the Planning Inspectorate Advice Note Seventeen: Cumulative Effects Assessment (PINS 2017). The approach to the CEA is intended to be specific to DBS Projects and takes account of the available knowledge or the environment and other activities around the Onshore Development Area.

389. The CEA has followed a four-stage approach developed from the Planning Inspectorate Advice Note Seventeen. These stages are set out in **Table 6-1-2** of **Volume 7, Appendix 6-1 Onshore Cumulative Assessment (application ref: 7.6.6.1)**. Stage four of this process, the CEA assessment is undertaken in two stages. The first step in the CEA is the identification of which residual impacts assessed for the Projects on their own have the potential for a cumulative impact with other plans, projects and activities. This information is set out in **Table 23-21** which sets out the potential impacts assessed in this chapter and identifies the potential for cumulative effects to arise, providing a rationale for such determinations. Only potential impacts assessed as negligible or above are included in the CEA. Those assessed as 'no impact' are not taken forward as there is no potential for them to contribute to a cumulative impact.

*Table 23-21 Potential Cumulative Effects*

| Impact | Potential for Cumulative Effects | Rationale |
|---|---|---|
| **Construction** | | |
| Landscape and Visual Effects of Landfall | No | Given the low lying level of activity at landfall, and the intervening distance to similar developments (e.g., Eastern Green Link 2 – 8km away) it is unlikely that cumulative landscape and/or visual effects will arise. There is also a greater level of uncertainty surrounding cumulative schemes. |
| Landscape and Visual Effects of Onshore Export Cable Route | No | Given the low lying level of activity at along the Onshore Export Cable Route, it is unlikely that cumulative landscape and/or visual effects will arise. |
| Landscape Effects of Onshore Converter Stations | Yes | Cumulative landscape effects could occur if other developments are constructed concurrently with the construction phase of the Onshore Converter Stations. |
| Visual effects of Onshore Converter Stations | Yes | Cumulative visual effects could occur if other developments are constructed concurrently with the construction phase of the Onshore Converter Stations. |

| Impact | Potential for Cumulative Effects | Rationale |
|---|---|---|
| **Operation & Maintenance** | | |
| Landscape and Visual Effects of Landfall | No | Given the low lying level of activity at landfall, and that the landfall will be restored to its original land use during operation, it is not expected that cumulative landscape and/or visual effects will arise. |
| Landscape and Visual Effects of Onshore Export Cable Route | No | Given the Onshore Cable Corridor Route will be restored to its original land use during operation, it is not expected that cumulative landscape and/or visual effects will arise. |
| Landscape Effects of Onshore Converter Stations | Yes | Any other schemes that alter the Landscape Character within the landscape and visual study area for the Onshore Converter Stations may have cumulative landscape effects at operation. |
| Visual Effects of Onshore Converter Stations | Yes | Any other projects that are visible within the landscape and visual study area for the Onshore Converter Stations may have cumulative visual effects at operation. |

| Impact | Potential for Cumulative Effects | Rationale |
|---|---|---|
| **Decommissioning** | | |
| Landscape and Visual Effects of Landfall | No | Given the low lying level of activity at landfall, and the intervening distance to similar developments (e.g., Eastern Green Link 2 – 8km away) it is unlikely that cumulative landscape and/or visual effects will arise. There is also a greater level of uncertainty surrounding cumulative schemes. |
| Landscape and Visual Effects of Onshore Export Cable Route | No | Given the low lying level of activity at along the Onshore Export Cable Route, it is unlikely that cumulative landscape and/or visual effects will arise. |
| Landscape Effects of Onshore Converter Stations | Yes | Cumulative landscape effects could occur if other developments are decommissioned concurrently with the decommissioning phase of the Onshore Converter Stations. |
| Visual Effects of Onshore Converter Stations | Yes | Cumulative visual effects could occur if other developments are decommissioned concurrently with the decommissioning phase of the Onshore Converter Stations. |

390. The second stage of the CEA is a project specific assessment of the potential for any significant cumulative effects to arise due to the construction and / or operation and maintenance of the Projects. To do this, a short list of schemes for CEA has been produced relevant to landscape and visual following the approach outlined in **Volume 7, Appendix 6-1 (application ref: 7.6.6.1)**. The second stage of this assessment is only undertaken if the first stage identifies that cumulative effects are possible.

391. The CEA has been based on information available on each potential scheme e.g. as set out on the East Riding of Yorkshire Council and Hull City Council planning portals and the Planning Inspectorate website) as of January 2024. It is noted that the other scheme details available may change in the period up to construction or may not be available in detail at all. The assessment presented here is therefore considered to be conservative, with the level of impacts expected to be reduced compared to those presented here.

392. A total of eight schemes have been identified for inclusion on the short list of projects to be assessed cumulatively for landscape and visual impacts. Schemes that have not been considered as resulting in likely cumulative significant effects for landscape and visual impacts are as a result of being beyond the 5km cumulative zone of influence for landscape and visual, and / or are of a smaller scale and as such are considered unlikely to result in a cumulative significant effect (for the LVIA).

393. Summary information on the short list schemes progressing through this exercise (i.e. the short list of other schemes) for assessment on landscape and visual is provided below in **Table 23-22.**

394. This presents the scenarios whereby the Projects and the other schemes / developments that have been identified on the short list of schemes screened for landscape and visual, as listed in **Table 23-22** could potentially result in cumulative effects for onshore landscape and visual.

*Table 23-22 Short List of Schemes Considered Within the Landscape and Visual Cumulative Effects Assessment*

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| Dogger Bank A & B | 1 | The Dogger Bank A & B Converter Stations are under construction around 1.8km to the south-east of the Onshore Converter Stations. As such, there is potential for cumulative effects of a direct nature on the Landscape Character of Sloping Farmland (LCT 16) and on views experienced by people using the local road and PRoW network.<br>Construction<br>The Dogger Bank A & B Converter Stations are currently under construction and are due to be completed before the construction period for the Onshore Converter Stations begins. Therefore, it is not expected that any cumulative effects would arise as a result of construction related activities of both the Projects and the Dogger Bank A&B scheme.<br>Operation<br>The Dogger Bank A & B Converter Stations are located adjacent to the A1079. They are a noticeable feature in the landscape covering an area of approx. 11 hectares and including buildings up to 20m in height. They are sited in the context of existing woodland, and further woodland screening would be provided. The presence of this large-scale scheme and the Onshore Converter Stations within 1.8km of one another, would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative effect on local Landscape Character.<br>Locations where both the Dogger Bank Converter Stations and the Onshore Converter Stations would be seen simultaneously are quite limited. However, people might experience views of both in a sequential nature whilst travelling along roads and the local PRoW network. For example, people travelling along bridleways number 6, 13 and 30.<br>Landscape mitigation planting is proposed at the Dogger Bank A & B Converter Stations and would be provided around the Onshore Converter Stations. As this planting matures, it would help reduce the visual impact of both the Projects and the Dogger Bank A & B scheme.<br>The presence of both would have additional effects on the views experienced from localised areas of the surroundings and may result in sequential effects on users of PRoWs and roads. It is expected that the presence of both the Projects and the Dogger Bank A&B scheme would result in a small magnitude of change and minor adverse (not significant) cumulative visual effect in static views but result in a medium magnitude of change and moderate adverse (significant) cumulative visual effects on sequential views experienced by people on the PRoW network. | No potential for significant cumulative effects on landscape and views during construction.<br>Potential for significant cumulative effects on Landscape Character during operation, due to the scale and proximity of the Dogger Bank Converter Stations to the Onshore Converter Stations.<br>No significant cumulative effects are identified for static views however, cumulative effects may arise for sequential views experienced by users of some roads and PRoWs. Proposed landscape planting around the Dogger Bank Converter Stations and the Onshore Converter Stations would help reduce these impacts over time. |
| A164 and Jocks Lodge Improvement Scheme | 1 | The location of the A164 and Jock's Lodge Junction Improvement Scheme is immediately adjacent to the Onshore Substation Zone and approximately 0.3km from the footprint of the Onshore Converter Stations. The close proximity to the Onshore Converter Stations means that there is the potential for cumulative effects of a direct nature on the Landscape Character of Sloping Farmland (LCT 16) and on views experienced by people using the Beverley Twenty Long Distance Walking Route as well as local PRoW (footpath 4 and 17) to the north of the Onshore Converter Stations, and the PRoW (bridleway 13) to the south-east of the Onshore Converter Stations. | Potential for significant cumulative effects on landscape and views during construction, during the times that construction phases overlap.<br>During operation, the presence of the new road scheme would not substantially alter the baseline situation, and significant effects are not anticipated. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | Construction<br><br>The latter end of the construction stage of the A164 and Jock's Lodge Junction Improvement Scheme is currently planned to overlap with the early phases of construction of the Onshore Converter Stations, although this may change. The A164 and Jock's Lodge Junction Improvement Scheme would be largely focussed on the existing roads. Landscape effects are likely to be localised, although the extent of disturbance and construction activity across both the Projects and the Junction Improvement scheme would be greater than for the Onshore Converter Stations alone. This would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative landscape effect at construction if the construction phases overlap.<br><br>The A164 and A1079 roads both feature roadside vegetation. The junction of these two roads also has vegetation along much its length. This vegetation would provide some provide some screening, however it is likely that both the Onshore Converter Stations and Junction Improvement Scheme would be visible at the same time from the immediate surroundings, including the local road and PRoW networks.<br><br>People travelling along the local PRoW network would perceive an increased level of construction activity across the area and would see construction activity in several different directions from the PRoWs. This would likely result in a medium magnitude of cumulative change and a moderate adverse (significant) cumulative visual effect at construction, if the construction phases overlap.<br><br>It is also noted that the Jock's Lodge Junction Improvement Scheme would permanently remove Rowley Bridge where it crosses the junction improvement scheme, which would impact people travelling along the local PRoW network. Where the construction access for the Projects runs parallel to the Rowley Bridleway No.13, measures would be put in place to allow the continued use of the bridleway.<br><br>Operation<br><br>The A164 and Jock's Lodge Junction Improvement Scheme would include new and replacement planting (as provided in the undecided application 23/30277/CONDET) which would help to integrate the scheme into the landscape. Following construction, the Junction Improvement Scheme it is not expected to change the baseline environment in which the Onshore Converter Stations would be experienced. The presence of both the Projects and the scheme would likely result in a small magnitude of change and a minor adverse (not significant) cumulative effect on local Landscape Character. Existing major roads such as the A164 and A1079 are already visible in views towards the Onshore Converter Stations, and as such, the magnitude of change arising from the Junction Improvement Scheme would be small. This would likely result in a minor (not significant) cumulative visual effect. | |
| Creyke Beck Solar Farm | 1 | The Creyke Beck Solar Farm would be located to the south of the Onshore Converter Stations, on the southern side of the A164 in the Platwoods Fields area. The solar farm would extend across a large area to the south, bounded by the A164 and A1079. Given the nature of development, existing woodland and field boundaries would be retained, however several agricultural fields would be replaced by solar panel and other ancillary development. There is potential for cumulative | Potential for significant cumulative effects on landscape and views during construction, during the times that construction phases overlap. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | effects of a direct nature on the Landscape Character of Sloping Farmland (LCT 16). There is also potential for cumulative effects on views experienced by people using the local PRoW network (particularly Rowley Footpath 12 (Jillywood Lane) and Bridleway 13), the A164 and the A1079.<br>Construction<br>The construction phase of the solar farm is expected to overlap with the construction of the Onshore Converter Stations. Given the proximity and the large scale of the scheme and the Projects, construction works would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative landscape effect at construction, if the construction phases overlap.<br>Construction activities for both may be visible simultaneously from some locations on the local PRoW network and from the A164. People travelling along the local PRoW network, particularly along the Jillywood Lane and Rowley Bridleway 13, may experience an increased level of construction activity as they move through the area. They may also be diverted as a result of construction of the solar farm. As such recreational receptors on these routes may experience close range views of construction activities and may see taller construction elements (e.g., cranes at the Onshore Converter Stations) from more distant areas as they travel along the PRoW network. The effects would be short-term and localised but would likely result in a medium magnitude of cumulative change and a moderate adverse (significant) cumulative effects at construction for sequential views.<br>Operation<br>The solar farm would be extensive covering an area of approximately 89ha, but the existing landscape structure of woodlands and field boundaries would largely be retained. The introduction of solar panels across this area and the presence of the Onshore Converter Stations would result in a change to the baseline character across this area. The presence of both the Onshore Converter Stations and the solar farm across this area would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative effect on local Landscape Character.<br>The solar farm would sit at a lower elevation and would be less visible in more distant views, being afforded screening by intervening vegetation in the landscape. Users of local PRoWs, particularly Jillywood Lane (Rowley Footpath 12) and Rowley Bridleway 13 may experience views of the solar farm and the Onshore Converter Stations in successive and sequential views along the route. The magnitude of cumulative change for recreational receptors on these routes and people travelling along the A164 would be medium and would likely result in a moderate adverse (significant) cumulative effect.<br>For receptors beyond the A164 and PRoW network there would be a negligible (not significant) cumulative visual effect. Proposed landscape planting around the Onshore Converter Stations would help reduce visual impacts over time. | Potential for significant cumulative effects on Landscape Character during operation, due to the scale and proximity of the solar farm to the Onshore Converter Stations.<br>Significant cumulative visual effects may arise for users of the A164 and PRoWs, but proposed landscape planting around the Onshore Converter Stations would help reduce these impacts over time. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| Hornsea 4 Offshore Wind Farm | 1 | The Hornsea 4 Substation would be located approximately 1.9km to the south-east of the Onshore Converter Stations. The Hornsea 4 substation would cover an area of 16.4ha and the equipment within the compound would have a maximum building height of 25m.<br><br>Given both the Projects and the Hornsea scheme are located within the Sloping Farmland (LCT 16), there is potential for cumulative landscape effects of a direct nature on the Landscape Character of LCT16. There is also potential for sequential cumulative effects on views experienced by people using the local PRoW network between the Projects and the scheme.<br><br>Construction<br><br>The construction phase of the Hornsea 4 Substation is expected to overlap with the construction of the Onshore Converter Stations. Given the intervening distance and the large-scale nature of both the Projects and the Hornsea scheme, construction works would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative landscape effect at construction, if the construction phases overlap.<br><br>Taller construction elements (e.g., cranes) for both may be visible simultaneously from a limited number of locations, and the lower-level construction works are unlikely to be visible. People travelling along the local PRoW network, particularly in the Jillywood Farm area between the two projects, may perceive an increased level of construction activity as they move through the area. The Hornsea 4 scheme would also be permanently diverting Rowley Bridleway No. 13 along the edge of their permanent access road, and the Projects may have to provide a temporary crossing of this diverted bridleway if it is completed prior to construction of the Projects starting. As such, recreational receptors on these routes may experience close range views of construction activities and may see taller construction elements (e.g., cranes) from more distant areas as they travel along the PRoW network. The effects would be short-term and localised but would likely result in a medium magnitude of cumulative change and a moderate adverse (significant) cumulative effects at construction for sequential views.<br><br>Operation<br><br>Once operational, the Hornsea 4 Substation would be located to the north-west of the Creyke Beck Substation. Given the scale of the substation compound (16.4ha and maximum 25m high) it would be a notable feature in the landscape. Some landscape screening would be provided around the substation. The presence of the Hornsea 4 Substation and the Projects within 1.9km of one another, would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative effect on local Landscape Character.<br><br>Locations where both the Hornsea 4 Substation and the Projects would be seen simultaneously are expected to be quite limited. However, people might experience views of both in a sequential nature whilst travelling along the local PRoW network. For example, people travelling along Woodmansey bridleway 30 and footpath 7, and Rowley bridleway 13 and footpath 12.<br><br>Landscape mitigation planting would be provided at both the proposed Hornsea 4 Substation and the Projects. As this planting matures, it would help reduce the visual impact of the Projects. | Potential for significant cumulative effects on landscape and visual during construction, during the times that construction phases overlap.<br><br>Potential for significant cumulative effects on Landscape Character during operation, due to the scale and proximity of the Hornsea Four Substation to the Onshore Converter Stations.<br><br>Significant cumulative effects may arise for sequential views experienced by users of PRoWs which pass in close proximity to both projects. Cumulative effects from static viewpoints in the surroundings are not expected to be significant. The proposed landscape planting around both projects would help reduce any impacts over time. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | The presence of both the Projects and the Hornsea 4 scheme would have additional effects on the views experienced from localised areas of the surroundings and may result in sequential effects on users of PRoWs and roads. It is expected that cumulative effects on static viewpoints would not be significant, however the presence of both would result in a medium magnitude of change and minor adverse (significant) cumulative visual effect for sequential views. This effect may reduce once any mitigation planting has matured. | |
| Creyke Beck Substation Extension | 2 | The Creyke Beck Substation Extension would be located immediate south-west of the existing Creyke Beck Substation and would effectively double its size. The Creyke Beck Substation Extension would be located approximately 2.5km from the Onshore Converter Stations.<br><br>Given both the Projects and scheme are located or partially located within the Sloping Farmland (LCT 16), there is potential for cumulative landscape effects of a direct nature on the Landscape Character of LCT16. There is also potential for sequential cumulative effects on views experienced by people using the local PRoW network between the two.<br><br>Construction<br><br>There is potential that the construction phase of the Creyke Beck Substation Extension may overlap with the construction of the Onshore Converter Stations. Given the intervening distance between the Projects and the Creyke Beck scheme, construction works would likely result in a small magnitude of change and a minor adverse (not significant) cumulative landscape effect at construction, if the construction phases overlap.<br><br>Whilst taller construction elements (e.g., cranes) for both the Projects and Creyke Beck scheme may be visible simultaneously from some locations, the lower-level construction works are unlikely to be visible. People travelling along the local PRoW network, particularly in the Jillywood Farm area between the Projects and the Creyke Beck scheme, may perceive an increased level of construction activity across the local area as they move through the area. They may see taller construction elements (e.g., cranes) in several areas as they travel along the PRoW network, however visibility of the lower elements would be less frequent. These effects would be short-term and localised and would likely result in a small magnitude of cumulative change and a minor adverse (not significant) cumulative visual effect at construction, if the construction phases overlap.<br><br>Operation<br><br>The Creyke Beck Substation Extension and the Projects would both form prominent features in the landscape. The Creyke Beck Substation Extension would be seen in the context of, and would be similar in character to, the existing Creyke Beck Substation and the gas peaking plant. There would be a localised change to the baseline character of the landscape, arising from an intensification of energy installations. The Onshore Converter Stations would extend this presence further north, whilst the Creyke Beck Substation Extension would intensify energy development in this area. The presence of both would likely result in a small cumulative magnitude of change and a minor adverse (not significant) cumulative effect on Landscape Character. | No potential for significant cumulative effects on landscape and views during construction.<br><br>No potential for significant cumulative effects on Landscape Character and views during operation, due to the intervening distance between the Projects, and the proximity of the Creyke Beck Substation Extension to the existing substation. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | Users of local PRoWs network, particularly those walking around the Jillywood and Platwoods Fields area may see both the Creyke Beck Substation Extension and the Onshore Converter Stations. Where visible, the views of the Creyke Beck Substation Extension would be seen in the context of the existing substation. The magnitude of cumulative change for recreational receptors on these routes would be small and would likely result in a minor adverse (not significant) cumulative effect. Similarly, limited visibility is expected of both projects from much of the road network (e.g., A1079) and the magnitude of cumulative change experienced would be small, and likely to result in a minor adverse (not significant) cumulative visual effect. | |
| North Humber to High Marnham Grid Upgrade | 2 | The North Humber to High Marnham Grid Upgrade scheme proposes to construct a new high voltage overhead electricity transmission line (OHL) between the proposed Birkhill Wood National Grid Substation and High Marnham in Nottinghamshire. At its closest, the Onshore Converter Stations would be located approximately 550m north of the consultation corridor for the 400kV OHL. The height of the pylons for the OHL have not been determined yet but are expected to be at least 50m in height.<br><br>Given both the Projects and the Grid Upgrade scheme are located or partially located within the Sloping Farmland (LCT 16), there is potential for cumulative landscape effects of a direct nature on the Landscape Character of LCT16. There is also potential for cumulative effects on views experienced by people in the local area, including residents at Bentley, users of the road network and recreational receptors travelling along the PRoW network.<br><br>Construction<br><br>It is likely that the construction phase of the Grid Upgrade scheme would overlap with the construction of the Projects. Given the potential close proximity of the Onshore Converter Stations to the OHL, construction works would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative landscape effect at construction, if the construction phases overlap.<br><br>Construction for both the Projects and grid upgrade scheme would involve tall elements (e.g., cranes or partially built pylons etc.) and it is likely that these features would be visible simultaneously from several locations in the immediately surrounding landscape. However, the lower-level construction works are unlikely to be visible across a wide area. The local residents of Bentley may experience views of OHL construction and Onshore Converter Stations construction in succession, and receptors travelling along the road network and PRoW network are also likely to experience views both simultaneously in locations and sequentially.<br><br>Therefore, people travelling within the area may perceive an increased level of construction activity across the local area. They may see taller construction elements (e.g., cranes) in several areas as they travel along the PRoW and road network, however visibility of the lower elements would be less frequent. These effects would be short-term and would likely result in a medium magnitude of cumulative change and a moderate adverse (significant) cumulative visual effect at construction, in the event that construction phases overlap. | Potential for significant cumulative effects on landscape and visual during construction, during the times that construction phases overlap.<br><br>Cumulative effects on landscape and visual during operation are unlikely to be significant. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | Operation<br>The OHL and the Onshore Converter Stations would both form notable features in the landscape. Given the tall nature of pylons and OHLs, the pylons of the Grid Upgrade scheme are likely to be visible from various locations throughout the surrounding area. The landscape of the wider area already features several OHLs and the addition of another would not substantively change the baseline of landscape. However, they may result in the intensification of energy installations.<br>The presence of both the OHL and the Projects would likely result in a small cumulative magnitude of change and a minor adverse (not significant) cumulative effect on Landscape Character.<br>Users of local PRoW network, particularly those walking around the Jillywood and Platwoods Fields (in the event that the OHL routes north within the consultation corridor) area may see both the OHL and the Projects simultaneously or sequentially. Where visible, the views of the OHL would likely be seen in the context of existing OHLs. The magnitude of cumulative change for recreational receptors on these routes would be small and would likely result in a minor adverse (not significant) cumulative effect. Similarly, limited visibility is expected of both the Projects and the Grid Upgrade scheme from much of the road network (e.g., A1079), however users of the A164 may experience views of both. Overall, it is expected that the magnitude of change would be small, and likely to result in a minor adverse (not significant) cumulative visual effect. | |
| Proposed Birkhill Wood National Grid Substation | 2 | The Proposed Birkhill Wood National Grid Substation would be located approximately 1.8km to the south-east of the Onshore Converter Stations. The substation compound would cover an area of 3.04ha and the equipment within the compound would have a maximum height of 13m.<br>Given both the Projects and Birkhill scheme are located within the Sloping Farmland (LCT 16), there is potential for cumulative landscape effects of a direct nature on the Landscape Character of LCT16. There is also potential for sequential cumulative effects on views experienced by people using the local PRoW network between the Projects and scheme.<br>Construction<br>There is potential that the construction phase of the Birkhill Wood National Grid Substation may overlap with the construction of the Projects. Given the intervening distance between the Projects and the Birkhill scheme, construction works would likely result in a small magnitude of change and a minor adverse (not significant) cumulative landscape effect at construction, if the construction phases overlap.<br>Taller construction elements (e.g., cranes) for both the Projects and Birkhill scheme may be visible simultaneously from a limited number of locations, and the lower-level construction works are unlikely to be visible. People travelling along the local PRoW network, particularly in the Jillywood Farm area between the two projects, may perceive an increased level of construction activity as they move through the area. They may experience close range views of construction activities and may see taller construction elements (e.g., cranes) from more distant areas as they travel along the ProW network. These effects would be short-term and localised and would likely result in a small | No potential for significant cumulative effects on landscape and visual during construction. Potential for cumulative effects on sequential views during construction, for recreational users travelling along the PRoW network near Jillywood, however these are not expected to be significant in nature.<br>Potential for significant cumulative effects on Landscape Character during operation, due to the scale and proximity of the proposed Birkhill Wood National Grid Substation to the Projects.<br>Sequential cumulative effects may arise for users of PRoWs which pass in close proximity to both the Projects and Birkhill scheme, but these are not expected to be significant. The proposed landscape planting around both projects would help reduce any impacts over time. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | magnitude of cumulative change and a minor adverse (not significant) cumulative visual effect at construction, if the construction phases overlap.<br>Operation<br>The proposed Birkhill Wood National Grid Substation once operational would be located to the south-west of the A1079, near Birkhill Wood. Given the scale of the substation compound (3ha and maximum 13m high) it would be a notable feature in the landscape. It would be afforded some screening by the nearby block of woodland to the north-west. Further woodland screening would be provided. The presence of the Birkhill Wood National Grid Substation compound and the Onshore Converter Stations within 1.8km of one another, would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative effect on local Landscape Character.<br>Locations where both the Birkhill Wood National Grid Substation and the Projects would be seen simultaneously are expected to be quite limited, and it is noted that Birkhill Wood National Grid Substation is not as tall as the Onshore Converter Stations for Dogger Bank South. However, people might experience views of both in a sequential nature whilst travelling along roads and the local PRoW network. For example, people travelling along Woodmansey bridleway 30 and footpath 7, and Rowley bridleway 13 and footpath 12.<br>Landscape mitigation planting would be provided at both the proposed Birkhill Wood National Grid Substation and the Onshore Converter Stations. As this planting matures, it would help reduce the visual impact of the projects.<br>The presence of both the Projects and Birkhill scheme would have additional effects on the views experienced from localised areas of the surroundings and may result in sequential effects on users of PRoWs and roads. It is expected that the presence of both the Projects and the Birkhill scheme would result in a small magnitude of change and minor adverse (not significant) cumulative visual effect. | |
| White Hall | 3 | The White Hall solar farm would be located approximately 1.5km to the east of the Onshore Converter Stations, on the north-eastern side of the A1079 near White Hall Farm.<br>The solar farm would extend across a large area around White Hall Farm, covering an area of 34.5ha. Given the nature of development, existing woodland would be retained, however several agricultural fields would be replaced by solar panel and other ancillary development. There is potential for cumulative effects of a direct nature on the Landscape Character of Sloping Farmland (LCT 16). There is also potential for cumulative effects on views experienced by people travelling through the area including on the A164, the A1079 and the local PRoW network (e.g., Rowley Bridleway 13, and Woodmansey Bridleway 6 and 30).<br>Construction<br>It is unknown when the construction phase of the solar farm would be if it was consented (currently at pre-application stage). However, there is potential that construction of the solar farm could overlap with the construction of the Projects. Given the relatively close proximity of the two developments, construction works would likely result in a medium magnitude of change and a | Potential for significant cumulative effects on landscape during construction, during the times that construction phases overlap.<br>Potential for significant cumulative effects on Landscape Character during operation, due to the scale and proximity of the solar farm to the Onshore Converter Stations. |

| Scheme Name | Tier | Discussion | Likelihood and Significance of Cumulative Effects |
|---|---|---|---|
| | | moderate adverse (significant) cumulative landscape effect at construction, in the event that the construction phases for both projects overlap.<br><br>Given the presence of intervening vegetation along the A1079, construction activities for both the Projects and solar scheme are unlikely to be seen in many places simultaneously, however, may be viewed sequentially from the road and PRoW network. People travelling along the local PRoW network may experience an increased level of construction activity as they move through the area. As such recreational receptors on these routes may experience close range views of construction activities and may see taller construction elements (e.g., cranes at the Onshore Converter Stations) from more distant areas as they travel along the PRoW network. The effects would be short-term and localised but would likely result in a small magnitude of cumulative change and a minor adverse (not significant) cumulative effects at construction.<br><br>Operation<br><br>The solar farm would be of a considerable size, covering an area of approximately 34.5ha, but the existing landscape structure of woodlands and trees would largely be retained. The introduction of solar panels across this area and the presence of the Onshore Converter Stations would result in a change to the baseline character across this area. The presence of both the Projects and the solar farm across this area would likely result in a medium magnitude of change and a moderate adverse (significant) cumulative effect on local Landscape Character.<br><br>The solar farm would sit at a lower elevation and would be less visible in more distant views, being afforded screening by intervening vegetation in the landscape. Users of local PRoWs, particularly Woodmansey Bridleway 6 may experience views of the solar farm and the Projects in sequential views along the route. The magnitude of cumulative change for recreational receptors on these PRoWs and people travelling along the A164 would be small and would likely result in a minor adverse (not significant) cumulative effect.<br><br>Effects on receptors elsewhere are likely to be of a negligible magnitude of change and result in a negligible (not significant) cumulative effect. | |

395. The CEA has identified seven schemes which may, when considered as part of the assessment baseline, give rise to cumulative effects that may be significant:

- The presence of the Dogger Bank A & B Converter Stations may lead to significant cumulative effects on Landscape Character and sequential views during the operational phase;
- The A164 and Jock's Lodge Junction Improvement Scheme may lead to significant cumulative effects on Landscape Character and views during the construction phase due to the close proximity of the scheme to the Projects and the expected overlap of construction;
- Creyke Beck Solar Farm to the south of the Projects may lead to significant cumulative effects on landscape and views during both the construction and operational phases of the developments;
- The Hornsea 4 substation may lead to significant cumulative effects on landscape and visual during both construction and operation. Significant cumulative effects on views would be limited to sequential views experienced by receptors travelling along the PRoWs between the Projects and the Hornsea scheme;
- The North Humber to High Marnham Grid Upgrade scheme may lead to significant cumulative effects on landscape and visual during construction;
- The Proposed Birkhill Wood National Grid Substation may lead to significant cumulative effects on Landscape Character during operation; and
- White Hall solar farm has the potential for significant cumulative effects on landscape during both construction and operation.

396. Greater certainty is attached to the Dogger Bank A & B Converter Stations and the Jock's Lodge Junction Improvement Scheme, as these have commenced construction or are expected to start construction shortly. The construction phase of the Projects and Dogger Bank A & B Converter Stations are unlikely to overlap, although the operational phase would. It is expected that there would be some construction overlap between the Projects and the Jock's Lodge Junction Improvement scheme.

397. When considering a potential future baseline that includes all Tier 1 projects (Dogger Bank A & B Converter Stations, A164 / Jock's Lodge Junction Improvement Scheme, Creyke Beck Solar Farm and Hornsea 4 substation), the additional effect of the Projects must be considered. In this scenario, the future baseline landscape and visual environment would have changed substantively from the current baseline, with the addition of several substations / converter stations, and a large scale (89ha) solar farm. The expansion of roadways associated with the Jock's Lodge Junction Improvement Scheme would be less noticeable in the landscape. There would be landscape and visual interactions between the five cumulative schemes and the Projects, and the additional magnitude of cumulative change due to the Projects would be medium. The additional cumulative effect would be moderate and significant within the area between the Projects, Hornsea 4 substation and the Dogger Bank A & B Converter Stations.

398. When considering a less certain potential future baseline that includes the Tier 1 and Tier 2 and 3 schemes (Creyke Beck Substation Extension, proposed Birkhill Wood National Grid Substation, North Humber to High Marnham Grid Upgrade and the White Hall Solar Farm), the future baseline landscape and visual environment would have changed further with the addition of additional substation infrastructure, intensification of the Creyke Beck substation, an overhead electricity transmission line and a large c. 34.5ha solar farm. This is in addition to the Tier 1 schemes previously mentioned. There would be landscape and visual interactions between all of these schemes and the Projects. The additional magnitude of cumulative change would remain medium as the Projects would be of similar character to these schemes, rather than introducing a new element. However, whereas the Tier 1, 2 and 3 schemes are generally focussed within the area between the A164 and A1079, these Projects would extend the presence of energy development to the north-west of the A164. This area is largely unaffected by energy development, other than overhead lines, and as such the introduction of the Projects would change the character of this area and expand the presence of energy and grid infrastructure development across a wider area of the landscape.

399. The White Hall solar farm is an EIA screening application and as such this scheme is early in the planning process, so although some significant cumulative effects are predicted, less certainty is attached to these.

400. For the Creyke Beck Substation Extension, impacts are not considered to be of any greater significance than those identified in isolation and no cumulative effects of significance are forecast.

## 23.9 Transboundary Effects

401. There are no transboundary effects with regard to LVIA as the scoped in elements of the Onshore Development Area would not be sited in proximity to any international boundaries. Transboundary effects are therefore scoped out of this assessment and not considered further.

## 23.10 Interactions

402. The effects identified and assessed in this chapter have the potential to interact with each other. The areas of potential interaction between effects are presented in **Table 23-23**. This provides a screening tool for which effects have the potential to interact. **Table 23-24** provides an assessment for each receptor (or receptor group) as related to these impacts.

403. Within **Table 23-24** the effects are assessed relative to each development phase to see if multiple effects could increase the significance of the effect upon a receptor. Following this a lifetime assessment is undertaken which considers the potential for effect to affect receptors across all development phases.

*Table 23-23 Interactions Between Impacts - Screening*

| **Potential Interactions Between Impacts** | | | | | | |
|---|---|---|---|---|---|---|
| **Construction / Decommissioning** | | | | | | |
| | Impact 1: Landscape Effects of Landfall | Impact 2: Landscape Effects of the Onshore Export Cable Corridor | Impact 3: Landscape Effects of Onshore Converter Stations | Impact 4: Visual Effects of Landfall | Impact 5: Visual Effects of the Onshore Export Cable Corridor | Impact 6: Visual Effects of Onshore Converter Stations |
| Impact 1: Landscape Effects of Landfall | No | Yes | Yes | Yes | Yes | Yes |
| Impact 2: Landscape Effects of the Onshore Export Cable Corridor | Yes | No | Yes | Yes | Yes | Yes |
| Impact 3: Landscape Effects of Onshore Converter | Yes | Yes | No | Yes | Yes | Yes |

| Potential Interactions Between Impacts | | | | | | |
|---|---|---|---|---|---|---|
| Impact 4: Visual Effects of Landfall | Yes | Yes | Yes | No | Yes | Yes |
| Impact 5: Visual Effects of the Onshore Export Cable Corridor | Yes | Yes | Yes | Yes | No | Yes |
| Impact 6: Visual Effects of Onshore Converter Station | Yes | Yes | Yes | Yes | Yes | No |
| **Operation** | | | | | | |
| | Impact 1: Landscape Effects of Onshore Converter Stations | | Impact 2: Effects of Onshore Converter Station on Yorkshire Wolds ILA | | Impact 3: Visual Effects of Onshore Converter Station | |
| Impact 1: Landscape Effects of Onshore Converter Stations | No | | Yes | | Yes | |

| Potential Interactions Between Impacts | | | |
|---|---|---|---|
| Impact 2: Effects of Onshore Converter Station on Yorkshire Wolds ILA | Yes | No | Yes |
| Impact 3: Landscape Effects of Onshore Converter Station | Yes | Yes | No |

*Table 23-24 Interaction Between Impacts - Phase and Lifetime Assessment*

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | **Construction** | **Operation** | **Decommissioning** | **Phase Assessment** | **Lifetime Assessment** |
| Landfall | | | | | |
| Landscape Character | Moderate | No effect | Moderate | No greater than individually assessed impact.<br>The effects are judged at no more than moderate adverse during construction and decommissioning only. Given the moderate significance of the predicted effects, coupled with the land being reinstated during operation, there would either be no interactions between the phases, and these would not result in greater impacts than are assessed individually. | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>There will be no effect during operation, and moderate effects during construction and decommissioning. Therefore, effects on the landscape character would not combine over the lifetime of the Projects to increase the significance level of any effect. |

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | Construction | Operation | Decommissioning | Phase Assessment | Lifetime Assessment |
| Visual Receptors | Moderate | No effect | Moderate | No greater than individually assessed impact.<br>The effects are judged at no more than moderate adverse during construction and decommissioning only. Given the moderate significance of the predicted effects, coupled with the short term nature of construction and decommissioning and land being reinstated during operation, there would either be no interactions between the phases, and these would not result in greater impacts than are assessed individually. | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>There will be no effect during operation, and moderate effects for a short term period during construction and decommissioning. Therefore, effects on visual receptors would not combine over the lifetime of the Projects to increase the significance level of any effect. |

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | Construction | Operation | Decommissioning | Phase Assessment | Lifetime Assessment |
| Onshore Export Cable Corridor | | | | | |
| Landscape Character | Minor | No effect | Minor | No greater than individually assessed impact.<br>The effects are judged at no more than minor adverse during construction and decommissioning only. Given the minor significance of the predicted effects, coupled with the land being reinstated during operation, there would either be no interactions between the phases, or these would not result in greater impacts than are assessed individually. | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>There will be no effect during operation, and minor effects during construction and decommissioning. Therefore, effects on the landscape character would not combine over the lifetime of the Projects to increase the significance level of any effect. |

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | Construction | Operation | Decommissioning | Phase Assessment | Lifetime Assessment |
| Visual Receptors | Moderate | No effect | Moderate | No greater than individually assessed impact.<br>The effects are judged at no more than moderate adverse during construction and decommissioning only. Given the moderate significance of the predicted effects, coupled with the short term nature of construction and decommissioning and land being reinstated during operation, there would either be no interactions between the phases, or these would not result in greater impacts than are assessed individually. | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>There will be no effect during operation, and moderate effects for a short term period during construction and decommissioning. Therefore, effects on visual receptors would not combine over the lifetime of the Projects to increase the significance level of any effect. |

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | Construction | Operation | Decommissioning | Phase Assessment | Lifetime Assessment |
| Onshore Converter Stations | | | | | |
| Landscape Character | Moderate | Major (locally) | Moderate | No greater than individually assessed impact.<br>The effects are judged as moderate adverse during construction and decommissioning only, and major (locally) during operation. Given the moderate significance of the predicted effects during construction and decommissioning, coupled with the short term nature of these activities, there would be no interactions between the phases, and these would not result in greater impacts than are assessed individually during operation (major). | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>Moderate effects for construction and decommissioning will be short term in nature. Therefore, effects on landscape character (including during operation) would not combine over the lifetime of the Projects to increase the significance level of any effect. |

| Receptor | Highest Significance Level | | | | |
|---|---|---|---|---|---|
| | Construction | Operation | Decommissioning | Phase Assessment | Lifetime Assessment |
| Visual Receptors | Moderate | Major (locally) | Moderate | No greater than individually assessed impact.<br>The effects are judged as moderate adverse during construction and decommissioning only, and major (locally) during operation. Given the moderate significance of the predicted effects during construction and decommissioning, coupled with the short term nature of these activities, there would be no interactions between the phases, and these would not result in greater impacts than are assessed individually during operation (major). | No greater than individually assessed impact, which considers the worst case scenario (Sequential Scenario).<br>Moderate effects for construction and decommissioning will be short term in nature. Therefore, effects on visual receptors (including during operation) would not combine over the lifetime of the Projects to increase the significance level of any effect. |

## 23.11 Inter-relationships

404. For the LVIA potential inter-relationships between other topics assessed within the ES include Land Use and Agriculture, Onshore Ecology and Tourism and Recreation. A summary of the potential inter-relationships between these topics is provided in **Table 23-25**.

*Table 23-25 LVIA Inter-relationships*

| Topic and Description | Related Chapter | Where Addressed in this Chapter | Rationale |
|---|---|---|---|
| **Construction** | | | |
| Land Use | **Volume 7, Chapter 21 Land Use (application ref:7.21)** | Refer to landscape and visual receptors assessment in section 23.6. | Both chapters consider the effects of the loss of farmland (as a landscape element or an agricultural asset). |
| Terrestrial Ecology and Ornithology | **Volume 7, Chapter 18 Terrestrial Ecology and Ornithology (application ref: 7.18)** | Refer to landscape and visual receptors assessment in section 23.6 and designed in mitigation as set out in section 23.3.4. | Both chapters consider the effects of vegetation loss, including hedgerows and trees (as a landscape element or an ecological asset). Both chapters consider the mitigation of hedgerow and tree loss. |
| Tourism and Recreation | **Volume 7, Chapter 29 Tourism and Recreation (application ref: 7.29)** | Refer to visual receptors in section 23.5 and section 23.6 | Both chapters consider effects on recreational receptors. |

| Topic and Description | Related Chapter | Where Addressed in this Chapter | Rationale |
|---|---|---|---|
| **Operation** | | | |
| Tourism and Recreation | **Volume 7, Chapter 29 Tourism and Recreation (application ref: 7.29)** | Refer to visual receptors in section 23.6.2.3. | Both chapters consider effects on recreational receptors. |
| **Decommissioning** | | | |
| As per construction phase. | | | |

## 23.12 Summary

405. This chapter has provided a characterisation of the existing environment for the LVIA based on both existing and site specific survey data which has established that there would be some potential impacts on landscape and visual receptors.

### 23.12.1 Construction Phase

406. During the construction phase, there would be no significant effects on Landscape Character along the Onshore Export Cable Corridor. This is due to the very localised direct landscape effects of the onshore cable corridor as well as embedded mitigation measures to minimise disruption to the landscape during construction. The flat nature of the landscape and woodland and hedgerow cover limits the potential for wider effects on Landscape Character.

407. With relation to landfall, moderate (significant) adverse effects are expected during construction for landscape and visual receptors. This is a result of construction works along the beach, including installation of six exit pits, with the potential for some loss of hedgerows within the landfall zone. The overall duration of the construction works at landfall would be 48 months. This includes construction of TJBs and trenchless installation of ducts for 18 months per Project, followed by additional works at TJBs within the landfall for a short period of time in the following 30 months to allow for cable pulling for the second Project.

408. On completion of construction, the vast majority of the landfall and export cable corridor would be fully reinstated to its previous condition and therefore effects of construction are reversible. The only above-ground infrastructure that would remain would be manholes for link boxes.

409. Moderate (significant) landscape effects are predicted during the construction phase of the landfall and Onshore Converter Stations due to the loss of landscape features and the change in character from open arable fields to a construction site. However, beyond the immediate geographical extent of the landfall and Onshore Substation Zone (no more than 1km), the impact on the landscape would not be significant.

410. Following completion of construction, any construction related disturbance would be restored to pre-existing conditions in accordance with the **OCoCP (Volume 8, application ref: 8.9)**, and landscape screening of the Onshore Converter Stations structures would be implemented. The residual level of effect of the Onshore Converter Stations is minor adverse, which is deemed to be not significant.

411. Significant visual effects of the construction phase are limited to the Landfall Zone and Onshore Substation Zone. These effects would be moderate (significant) for the landfall and from Viewpoint 1: Butt Farm with relation to the Onshore Converter Stations. Major (significant) visual effects are expected from Viewpoint 2: Coppleflat Lane, Bentley and Viewpoint 3: Beverley 20, near Broadgate with relation to the Onshore Converter Stations, due to their close proximity to the Onshore Substation Zone, lack of intervening vegetation, and proximity to TCCs. Viewpoint 4: Oriel Close, off Broadgate is expected to have minor (not significant) effects with relation to construction of the Onshore Converter Stations due to intervening vegetation which would provide screening of the site.

412. The residual level of effect on the Landfall Zone would reduce to minor (not significant) following the restoration of the landscape and the minimal permanent above ground infrastructure present (manhole covers for six link boxes). The residual level of construction effect on the Onshore Substation Zone would reduce as a result of mitigation measures and planting undertaken during construction reducing to minor or negligible effects (not significant) from viewpoints 1-4. Following completion of construction, construction effects on landscape and visual receptors be superseded by the operational effects.

### 23.12.2 Operational Phase

413. Landscape and visual effects associated with the operational phase of the landfall and Onshore Export Cable Corridor were scoped out of the assessment on the grounds that following installation and restoration of ground, underground cables which are part of the onshore infrastructure would not significantly impact landscape or visual receptors.

414. Significant effects on Landscape Character (moderate and major) are predicted during the operational phase of the Onshore Converter Stations due to the loss of landscape features and the change in character from open arable fields to two Onshore Converter Stations. These effects would be localised, and would reduce with distance, falling below the threshold of significance at no more than 1km from the footprints of the onshore converter stations.

415. A landscape mitigation scheme would be implemented (see **Volume 7, Figure 23-6 (application ref: 7.23.1)** and **Outline Landscape Management Plan (Volume 8, application ref: 8.11)**) around the Onshore Converter Stations, as noted in section 23.3.4 . This would aim to reduce the level of effect further.

416. In terms of visual effects of the operational Onshore Converter Stations, significant visual effects are predicted for sensitive receptors at the following viewpoints, during the operational phase:

- VP1: Butt Farm (major);
- VP2: Coppleflat Lane, Bentley (major);
- VP3: Beverley 20 near Broadgate (moderate); and
- VP4: Oriel Close, off Broadgate (moderate).

417. A landscape mitigation scheme would be implemented around the Onshore Converter Stations, as noted in section 23.3.4. The effects identified above are assessed based on planting at year 1 providing little or no mitigation. Once more matured (year 10), the mitigation planting would help provide additional screening of the Projects and the residual effect would be moderate (significant) for viewpoints 1, 2 and 3. The residual effect for viewpoint 4 would reduce to minor (not significant).

418. All of these viewpoints represent higher sensitivity residential or recreational receptors and are contained within 1km of the proposed Onshore Converter Stations. It is concluded that significant effects on landscape and views, as a result of the Onshore Converter Stations, would be restricted to an area bounded approximately by the A1079 to the north, the A164 to the east, and Coppleflat Lane to the south and west. Beyond this zone residual effects are unlikely to be significant. Visual receptors within this area will include: residents of Butt Farm and visitors to the camp site; residents of Bentley village; and users of the local sections of PRoWs and the Beverley 20 walking route.

419. **Table 23-26** provides a summary of the LVIA findings, with significant effects highlighted in bold.

*Table 23-26 Summary of Potential Likely Significant Effects on Landscape and Visual Receptors*

| Potential Impact | Receptor | Sensitivity | Magnitude of Impact | Pre-mitigation Effect | Mitigation Measures Proposed | Residual Effect |
|---|---|---|---|---|---|---|
| **Construction** | | | | | | |
| Impact 1: Landscape Effects of Landfall | Subarea 1 (Landfall) | Medium | Medium | Moderate<br>(Significant) | See section 23.3.4 | **Negligible**<br>(Not significant) |
| Impact 2: Landscape Effects of Onshore Export Cable Corridor - Subareas 2 -4 | Onshore Export Cable Corridor - Subareas 2 -4 | Medium | Low | Minor<br>(Not Significant) | See section 23.3.4 | **Negligible**<br>(Not significant) |
| Impact 3: Landscape Effects of Onshore Converter Stations | Subarea 5 (Onshore Substation Zone) | Medium | Medium | Moderate, locally<br>(Significant)<br>Beyond the immediate geographical extent of the Onshore Substation Zone, the impact on the landscape would not be significant. | See section 23.3.4 | **Minor** (Not significant) but would be superseded by the operational effects. |
| Impact 4: Visual Effects of Landfall | Subarea 1 (Landfall) | Medium | Medium | Moderate<br>(Significant) | See section 23.3.4 | **Minor** (Not Significant) |
| Impact 5: Visual Effects of Onshore Export Cable Corridor - Subareas 2 -4 | Onshore Export Cable Corridor - Subareas 2 -4 | Medium | Low | Minor<br>(Not Significant) | See section 23.3.4 | **Negligible**<br>(Not significant) |
| Impact 6: Visual effects of Onshore converter stations | Viewpoint 1: Butt Farm | High | Medium | Moderate<br>(Significant) | See section 23.3.4 | **Minor** (Not significant) but would be superseded by the operational effects. |
| Impact 6: Visual effects of Onshore converter stations | Viewpoint 2: Coppleflat Lane, Bentley | High | High | Major<br>(Significant) | See section 23.3.4 | **Minor** (Not significant) but would be superseded by the operational effects. |

| Potential Impact | Receptor | Sensitivity | Magnitude of Impact | Pre-mitigation Effect | Mitigation Measures Proposed | Residual Effect |
|---|---|---|---|---|---|---|
| Impact 6: Visual effects of Onshore converter stations | Viewpoint 3: Beverley 20 near Broadgate | High | High | Major<br>(Significant) | See section 23.3.4 | **Minor** (Not significant) but would be superseded by the operational effects. |
| Impact 6: Visual effects of Onshore converter stations | Viewpoint 4: Oriel Close, off Broadgate | High | Low | Minor<br>(Not Significant) | See section 23.3.4 | **Negligible** (Not Significant) but would be superseded by the operational effects. |
| **Operation** | | | | | | |
| Impact 1: Landscape Effects of Onshore Converter Stations | Onshore Substation Zone | Medium | High (within 168approx. 0.5km of the Onshore Converter Stations footprint. Reducing to medium then low with greater distance) | Major<br>(Significant)<br>The effect would reduce with distance, falling below the threshold of significance at no more than 1km from the Onshore Converter Stations footprint. | See section 23.3.4 | **Moderate**<br>(Significant) |
| Impact 2: Landscape Effects of the Onshore Converter Stations on the Yorkshire Wolds ILA | Yorkshire Wolds ILA | Medium | High (within approx. 1km of the Onshore Converter Stations footprint. Reducing to medium then low with greater distance) | Major<br>(Significant)<br>The effect would reduce with distance, falling below the threshold of significance at no more than 1km from the Onshore Converter Stations footprint. | See section 23.3.4 | **Moderate**<br>(Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 1: Butt Farm | High | High | Major<br>(Significant) | See section 23.3.4 | **Moderate**<br>(Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 2: Coppleflat Lane, Bentley | High | High | Major | See section 23.3.4 | **Moderate** |

| Potential Impact | Receptor | Sensitivity | Magnitude of Impact | Pre-mitigation Effect | Mitigation Measures Proposed | Residual Effect |
|---|---|---|---|---|---|---|
| | | | | (Significant) | | (Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 3: Beverley 20 near Broadgate | High | Medium | Moderate (Significant) | See section 23.3.4 | **Moderate** (Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 4: Oriel Close, off Broadgate | High | Medium | Moderate (Significant) | See section 23.3.4 | **Minor** (Not significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 5: Walkington | High | Negligible | Negligible (Not Significant) | See section 23.3.4 | **Negligible** (Not Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 6: Footpath, Risby | High | Negligible | Negligible (Not Significant) | See section 23.3.4 | **Negligible** (Not Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 7: Woodmansey | Medium | Negligible | Negligible (Not Significant) | See section 23.3.4 | **Negligible** (Not Significant) |
| Impact 3: Visual Effects of Onshore Converter Stations | Viewpoint 8: Beverley Minster Tower | High | Low | Minor (Not Significant) | See section 23.3.4 | **Minor** (Not Significant) |
| **Decommissioning** | | | | | | |
| The detail and scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. A Decommissioning Plan would be provided prior to any decommissioning commencing onshore.<br>Impacts associated with the decommissioning phase would be no greater than those identified for the construction phase. | | | | | | |

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**RWE Renewables UK Dogger Bank South (West) Limited**

**RWE Renewables UK Dogger Bank South (East) Limited**

**Windmill Hill Business Park**
**Whitehill Way**
**Swindon**
**Wiltshire, SN5 6PB**