



# Preliminary Environmental Information Report Volume 1

## Chapter 29 Summary of Likely Significant Effects

LLK1-ARU-REP-ENV-000020

Version 0.0

January 2026



# Contents

<b>29</b>	<b>Summary of Likely Significant Effects</b>	<b>1</b>
29.1	Introduction	1
29.2	Likely Significant Effects	1
Table 29.1: Summary of Likely Significant Effects of the Proposed Scheme		2

# Glossary of Project Terminology

This Glossary has been provided to define terms used across a number of the LionLink Proposed Scheme documents.

Abbreviations contained herein are provided at the end of the document in the **Topic Glossary and Abbreviations**.

Term	Description
Amendment to Kiln Lane Substation Scenario	The scenario where the Proposed Scheme will comprise the amendments to Kiln Lane Substation that would be required if Kiln Lane Substation was built out pursuant to the EA1N/EA2 DCOs.
Applicant, the	National Grid Lion Link Limited (NGLLL)
Bellmouth	A flared vehicular access/egress point connecting permanent route to the public highway.
Converter Station	A converter station changes electricity between High Voltage Alternating Current (HVAC), which power our homes, and High Voltage Direct Current (HVDC) which is more efficient for transporting electricity over long distances and vice versa. The proposed Converter Station is located to the east of Saxmundham.
Converter Station Site	The Converter Station Site as a whole, allowing for the co-location of the Converter Station with the Converter Station being separately consented as part of the Sea Link project.
Co-ordination	The process of people or entities working together.
Co-location	Where different elements of a project, or various projects, are located in one place.
Construction Compound	Temporary compounds installed during the construction phase of the Proposed Scheme. Each compound is likely to contain storage areas such as laydown areas, soils storage, and areas for equipment and fuel, drainage, generators, car parking and offices and welfare areas (portacabins).
Development Consent Order (DCO)	An order made by the Secretary of State pursuant to the Planning Act 2008 (as amended) granting development consent for a Nationally Significant Infrastructure Project. It grants consent to develop the approved project and may include (among other things) powers to compulsorily acquire land and rights where required and deemed marine licences for any offshore works.
Draft Order Limits	The area of land identified as being subject to the DCO application. The Draft Order Limits are made up of the land required both temporarily and permanently to allow for the construction, operation and maintenance, and decommissioning of the Proposed Scheme. All onshore parts of the Proposed Onshore Scheme are located within England and offshore parts of the Proposed Offshore Scheme are located within English territorial waters to 12 Nautical

Term	Description
	Miles and then up to the United Kingdom (UK) Exclusive Economic Zone (EEZ) boundary at sea.
Dutch Offshore Components	Is the term used when referring to the offshore elements of the Project within Dutch waters.
Eastern Route Option	As part of the Underground HVDC cable corridor, the Eastern Route Option would facilitate a degree of co-location with the Sizewell Link Road (SLR) scheme.
Environmental Impact Assessment (EIA)	The EIA is a systematic regulatory process that assesses the potential likely significant effects of a proposed project or development on the environment.
EIA Scoping Report	An EIA scoping report defines the proposed scope and methodology of the EIA process for a particular project or development. The EIA Scoping Report for the Proposed Scheme was submitted to the Planning Inspectorate with a request for the Secretary of State to adopt a scoping opinion in relation to the Proposed Scheme on 6 March 2024.
Environmental Statement (ES)	The ES is a document that sets out the likely significant effects of the project on the environment. The ES is the main output from the EIA process. The ES is published as part of the DCO application.
Exclusive Economic Zone (EEZ)	The zone in which the coastal state exercises the rights under Part V of the United Nations Convention on the Law of the Sea. These rights relate principally to the water column and may extend to 200 nautical miles from baselines. This is distinct from territorial waters, which for the UK extend 12 nautical miles from the coast.
Full Build Out of Kiln Lane Substation Scenario	The scenario if the Proposed Scheme was brought forward first, then it would be responsible for developing Kiln Lane Substation for the Proposed Scheme, with sufficient additional capacity for other projects.
Joint Bay	Underground structures constructed at regular intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Kiln Lane Substation	The proposed connection point for the Project to the British National Electricity Transmission System, located to the north of Friston. Formerly known as Friston Substation. The new name has recently been adopted by NGET. The substation is of the same footprint and in the same location. Friston Substation will, hereafter, be referred to as Kiln Lane Substation.
Landfall	The proposed Landfall is where the proposed offshore HVDC Submarine Cables are brought ashore and meets with the onshore proposed Underground HVDC Cables. This includes the Transition Joint Bay (TJB). The proposed Landfall will be located at Walberswick, and there will be no permanent above ground infrastructure at the proposed Landfall.
Landfall Site	The area where the Landfall may be located.

Term	Description
Limit of Deviation	A maximum distance or measurement of variation within which the works must be constructed. These are lateral (i.e. on the ground) and vertical limits (in relation to height).
Link Box Chamber	Link boxes are used at joint bays to facilitate grounding connections to ensure safety and enable maintenance. Link boxes can either be installed below ground, in a link box chamber, or in an above ground link pillar
Multi-purpose interconnector (MPI)	A project where GB interconnection is combined with transmission of offshore generation within GB (and optionally within a connecting state).
National Grid Electricity Distribution (NGED)	The local distribution network operator for the Midlands, the southwest of England and south Wales.
National Grid Electricity Transmission (NGET)	Operators of the national electricity transmission network across Great Britain and own and maintain the network in England and Wales, providing electricity supplies from generating stations to local distribution companies. National Grid does not distribute electricity to individual premises, but its role in the wholesale market is vital to ensuring a reliable, secure and quality supply to all.
National Grid Lion Link Limited (NGLLL)	The Applicant, a joint venture between National Grid Ventures and TenneT. NGLLL is a business within the wider National Grid Ventures portfolio.
National Grid Strategic Infrastructure (NGSI)	Part of NGET and responsible for delivering major strategic UK electricity transmission projects, focussed on connecting more clean, low-carbon power to England and Wales.
National Grid Ventures (NGV)	Operates and invests in energy projects, technologies and partnerships to accelerate the development of a clean energy future. This includes interconnectors (such as the LionLink Project), allowing trade between energy markets and the efficient use of renewable energy resources.
Nationally Significant Infrastructure Projects (NSIP)	Major infrastructure developments in England and Wales for which development consent is required, as defined within Section 14 of the Planning Act 2008 (as amended). This includes any development which is subject to a direction by the relevant Secretary of State pursuant to Section 35 of the Planning Act 2008.
Non-standard interconnector (NSI)	A project where GB interconnection is combined with transmission of offshore generation outside of GB.
Northern Route Option	A northern cable corridor option that would allow Underground HVAC Cable delivery for Proposed Scheme only.
Offshore Hybrid Asset (OHA)	A project that combines cross-border interconnection with the transmission of offshore generation, this is an overarching term which covers both multi-purpose interconnectors (MPI) and non-standard interconnectors (NSI).
Order Limits	The maximum extent of land within which the Proposed Scheme may take place, as consented.



Term	Description
Outline Offshore Construction Environmental Management Plan (Outline Offshore CEMP)	Describes the control measures and standards proposed to be implemented to provide a consistent approach to the environmental management of the construction activities of the Proposed Offshore Scheme.
Outline Onshore Code of Construction Practice (Outline Onshore CoCP)	Describes the control measures and standards proposed to be implemented to provide a consistent approach to the environmental management of the construction activities of the Proposed Onshore Scheme.
Overhead Lines (OHL)	Conductors (wires) carrying electric current, strung from Tower to Tower.
Planning Act 2008	The Planning Act 2008 being the relevant primary legislation for national infrastructure planning.
Planning Inspectorate (PINS)	The Planning inspectorate review DCO applications and make a recommendation to the Secretary of State, who will then decide whether to approve the DCO.
Preliminary Environmental Information Report (PEIR)	<p>The PEIR is a document, compiled by the Applicant, which presents preliminary environmental information, as part of the statutory consultation process. This is defined by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 as containing information which “is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development)” (Section 12 2. (b)).</p> <p>This PEIR describes the Proposed Scheme, sets out preliminary findings of the EIA undertaken to date, and the mitigation measures proposed to reduce effects. The PEIR is published at Statutory Consultation stage for information and feedback.</p>
Project (the)	<p>The LionLink Project (hereafter referred to as the ‘Project’) is a proposal by National Grid Lion Link Limited (NGLLL) and TenneT. The Project is a proposed electricity link between Great Britain (GB) and the Netherlands with a capacity of up to 2.0 gigawatts (GW) of electricity and will connect to Dutch offshore wind via an offshore platform in Dutch waters.</p> <p>The Project is the collective term used to refer to the proposal for all aspects (onshore and offshore) of the proposed interconnector between GB and the Netherlands.</p>
Proposed Offshore Scheme	The term used when referring to the offshore elements of the Proposed Scheme, seaward of the mean high-water springs to the EEZ boundary at sea.
Proposed Onshore Scheme	The term used when referring to the onshore elements of the Proposed Scheme, landward of the mean low water springs. Proposed Onshore Scheme components include:

Term	Description
	<ul style="list-style-type: none"> <li>a) Kiln Lane Substation.</li> <li>b) Underground High Voltage Alternating Current (HVAC) Cables;</li> <li>c) Converter Station.</li> <li>d) Underground High Voltage Direct Current (HVDC) Cables; and</li> <li>e) Landfall.</li> </ul>
Proposed Scheme	Used when referring to the GB scheme components of the Project, not including Dutch components. This includes both the onshore and offshore scheme components which are within UK territorial waters and up to the UK EEZ boundary at sea.
Rochdale Envelope	The Rochdale Envelope or Design Envelope approach is employed where the nature of a proposed development means that some details of a project are not available in advance of, or at the time of submitting the DCO application. The Rochdale Envelope approach defines a design envelope and parameters within which the final design will sit and ensures a robust and reliable EIA can be undertaken.
Scoping Opinion	<p>A scoping opinion is requested from the Planning Inspectorate on behalf of the Secretary of State, to inform the requirements of EIA process and ultimately the ES which will be submitted as part of the application for development consent. Through the scoping process, the views of the statutory consultees and other relevant organisations on the proposed scope of the EIA are sought.</p> <p>A Scoping Opinion for the Proposed Scheme was issued by the Planning Inspectorate (on behalf of the Secretary of State) on 16 April 2024. The Applicant received a separate EIA Scoping Opinion from the Marine Management Organisation (MMO) (Reference DCO/2024/00005, dated 04 September 2024) as the MMO were unable to provide opinion to the Planning Inspectorate in time for the April 2024 deadline.</p>
Scottish Power Renewables (SPR) East Anglia One North (EA1N) and East Anglia 2 (EA2) Consents (SPR EA1N and EA2 Consents)	<p>The Orders made following the Scottish Power Renewables applications for development consent for the following projects:</p> <ul style="list-style-type: none"> <li>a) The East Anglia ONE North Offshore Wind Farm Order 2022; and</li> <li>b) East Anglia TWO Offshore Wind Farm Order 2022</li> </ul>
Southern Route Option	<p>A southern cable corridor option that would allow:</p> <ul style="list-style-type: none"> <li>a) Underground HVAC Cable delivery for Proposed Scheme only, or</li> <li>b) Underground HVAC Cable delivery for Proposed Scheme and ducting for Sea Links Underground HVAC and HVDC cables in that section.</li> </ul>
Statutory Consultation	Consultation undertaken with the community and stakeholders in advance of the application for development consent being submitted to the Planning Inspectorate, on behalf of the Secretary of state, in accordance with the PA 2008.

Term	Description
Substation	Substations are used to control the flow of power through the electricity system. They are also used to change (or transform) the voltage from a higher to lower voltage to allow it to be transmitted to local homes and businesses.
TenneT	Operator of the electricity transmission network across the Netherlands.
Tower	A structure used to carry overhead electrical conductors, insulators, and fittings. Often described as a pylon.
Transition Joint Bay (TJB)	An underground structure at the Landfall Site that house the joints between the offshore cables and the onshore cables.
Underground Cable Corridors	Collective term for the corridors within which HVAC and HVDC cables are planned.
Underground High Voltage Alternating Current (HVAC) Cable Corridor	A corridor in which the underground HVAC cables are planned to be installed.
Underground High Voltage Alternating Current (HVAC) Cables	Transmission cables which connect between the Converter Station and Substation. HVAC cables are designed to manage fluctuating flow of current.
Underground High Voltage Direct Current (HVDC) Cable Corridor	A corridor in which the underground HVDC cables are planned to be installed.
Underground High Voltage Direct Current (HVDC) Cables	Transmission cables which connect the Converter Station to the Landfall Site and then offshore. HVDC cables are designed to manage current flowing in one direction.
Visibility Splay	An area of land at a road junction that ensures drivers have an unobstructed view of oncoming traffic allowing them to safely join or cross the road.
Western Route Option	As part of the Underground HVDC cable corridor, the Western Route Option would deliver the Scheme within its own corridor with no co-location with the Sizewell Link Road (SLR) scheme.



# 29 Summary of Likely Significant Effects

## 29.1 Introduction

29.1.1 This chapter summarises the preliminary likely significant effects that are anticipated from the Proposed Scheme as identified within the Preliminary Environmental Information Report (PEIR), the proposed mitigation and the likely residual effects following the implementation of the additional mitigation.

## 29.2 Likely Significant Effects

29.2.1 **Table 29.1** summarises the potential for likely significant effects during construction, operation and maintenance, and decommissioning of the Proposed Scheme. Where residual effects are anticipated to be significant, these are highlighted in **bold** text.

29.2.2 No likely significant effects have been identified for:

- a. Chapter 7 Air Quality;
- b. Chapter 9 Geology and Contamination;
- c. Chapter 12 Hydrology, Hydrogeology, and Drainage;
- d. Chapter 14 Material Assets and Waste;
- e. Chapter 18 Marine Physical Environment;
- f. Chapter 19 Intertidal and Subtidal Benthic Ecology;
- g. Chapter 20 Fish and Shellfish;
- h. Chapter 22 Marine Mammals;
- i. Chapter 23 Shipping and Navigation;
- j. Chapter 24 Commercial Fisheries;
- k. Chapter 25 Other Marine Users;
- l. Chapter 26 Marine Archaeology;
- m. Chapter 27 Climate Change; and
- n. Chapter 28 Cumulative Effects.

29.2.3 Further work will continue to be undertaken to further the Environmental Impact Assessment which will be reported in the Environmental Statement (ES) to be submitted with the application for development consent.

Table 29.1: Summary of Likely Significant Effects of the Proposed Scheme

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Proposed Onshore Scheme				
Chapter 6 Agricultural land and soils				
Construction	Best Most Versatile (BMV) agricultural land	Moderate Adverse (significant)	Construction phasing and design. Securing mechanism will be determined at ES stage.	Moderate Adverse (significant)
Construction	Best Most Versatile (BMV) agricultural land	Moderate Adverse (significant)	Detailed design to minimise use of BMV land.	Moderate Adverse (significant)
Construction	Soil Resources	Moderate or Major Adverse (significant)	Outline Soil Resources Management Plan. Securing mechanism to be defined at ES.	Minor Adverse (not significant)
Operation and maintenance	N/A (operation and maintenance has been scoped out of the EIA for this discipline)			
Decommissioning	No significant effects identified.			
Chapter 7 Air quality				
No significant effects identified.				
Chapter 8 Ecology and biodiversity				

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	Habitats within and surrounding Harris's Belt and Pit	Habitat loss of ecologically valuable line of trees – adverse effect at Local scale (Minor effect – <b>significant</b> ) Applies to both delivery Scenarios for the proposed Underground HVAC Cable Corridor.	The effects cannot be readily mitigated. As such, compensation measures are being developed as part of the EIA to minimise effects as far as possible	Adverse effect at Local scale, <b>(Minor effect) which is significant.</b>
Construction	River Fromus and associated habitats	Habitat loss of HPI woodland - adverse effect at County scale (Moderate effect – <b>significant</b> ). Applies to both delivery Scenarios and unaffected by options.	The effects cannot be readily mitigated. As such, compensation measures are being developed as part of the EIA to minimise effects as far as possible	Adverse effect at County scale, <b>(Moderate effect) which is significant.</b>
Construction	Habitats between Moat Road and Pretty Road	Habitat loss of ecologically valuable line of trees – adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to both delivery Scenarios and unaffected by options.	The effects cannot be readily mitigated. As such, compensation measures are being developed as part of the EIA to minimise effects as far as possible	Adverse effect at Local scale, <b>(Minor effect) which is significant.</b>
Construction	Other ancient and veteran trees	Deterioration and potential indirect loss of veteran trees – adverse effect at National scale (Major effect – <b>significant</b> ).	Bespoke tree management and protection measures. Securing	Not significant

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
		Applies to both delivery Scenarios and unaffected by options.	mechanism will be determined at ES stage.	
Construction	Other hedgerows and tree lines	Habitat loss of ecologically valuable line of trees and mature trees within hedgerows - adverse effect at County scale (Moderate effect – <b>significant</b> ). Applies to both delivery Scenarios and unaffected by options.	The effects cannot be readily mitigated. As such, compensation measures are being developed as part of the EIA to minimise effects as far as possible	Adverse effect at County scale, ( <b>Moderate effect</b> ) <b>which is significant</b> .
Construction	Bats (Annex II species)	Loss of foraging and commuting habitat at Kiln Lane Substation - adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to Full Build Out of Kiln Lane Substation Scenario only.	Habitat creation around Kiln Lane Substation. Securing mechanism will be determined at ES stage.	Not significant
Construction	Bats (non-Annex II species categorised as widespread)	Loss of foraging and commuting habitat at Kiln Lane Substation - adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to Full Build Out of Kiln Lane Substation Scenario only.	Habitat creation around Kiln Lane Substation. Securing mechanism will be determined at ES stage.	Not significant
Construction	Bats (non-Annex II species categorised as widespread)	Loss of foraging and commuting habitat to east of the proposed Converter Station - adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to both	Habitat creation at the proposed Converter Station Site. Securing mechanism will be	Not significant

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
		delivery Scenarios but Northern Route option for the proposed Underground HVAC Cable Corridor only.	determined at ES stage.	
Construction	Breeding birds associated with farmland habitats	Loss of breeding habitat for skylark and yellow wagtail - adverse effect at Local scale (Minor effect <b>significant</b> ). Applies to both delivery scenarios and unaffected by options.	Habitat creation within and adjacent to the proposed Converter Station Site. Securing mechanism will be determined at ES stage.	Not significant
Construction	Water vole associated with the River Fromus	Loss/fragmentation of water vole habitat - adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to both delivery Scenarios and unaffected by options.	Habitat creation adjacent to River Fromus and provision of mammal ledge within culvert. Securing mechanism will be determined at ES stage.	Not significant
Operation and maintenance	Bats (Annex II species)	Disturbance of bats through illumination of foraging and commuting habitat at Kiln Lane Substation adverse effect at Local scale (Minor effect – <b>significant</b> ). Applies to both delivery scenarios.	Sensitive lighting strategy to maintain dark east to west corridor for bat foraging and commuting. Securing mechanism will be determined at ES stage.	Not significant

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Decommissioning	Effects associated with the decommissioning phase are not anticipated to be greater in magnitude than those identified at the construction phase.			
Chapter 9 Geology and contamination				
No significant effects identified.				
Chapter 10 Health and wellbeing				
Construction	Environmental amenity (proposed Landfall Site)	Moderate, adverse and temporary (significant)	None identified at this stage.	Moderate, adverse and temporary (significant)
Construction	Housing (proposed Landfall Site)	Moderate, adverse and temporary (significant)	None identified at this stage.	Moderate, adverse and temporary (significant)
Construction	Housing – vulnerable groups (proposed Landfall Site)	Major, adverse and temporary (significant)	None identified at this stage.	Major, adverse and temporary (significant)
Construction	Access to community facilities (proposed Landfall Site)	Moderate, adverse and temporary (significant)	None identified at this stage.	Moderate, adverse and temporary (significant)
Construction	Access to community facilities – vulnerable groups (proposed Landfall Site)	Moderate, adverse and temporary (significant)	None identified at this stage.	Moderate, adverse and temporary (significant)
Operation and Maintenance	N/A (this phase of the Proposed Scheme has been scoped out of the EIA for this discipline)			
Decommissioning	Effects identified during the construction phase are likely to mirror the decommissioning phase.			
Chapter 11 Historic environment				
Construction	Hurts Hall (National Heritage List for	Moderate adverse (significant)	Mitigation measures (including	Moderate adverse (significant)



Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
	England (NHLE 1268178)		landscaping proposals) are still under development at this stage and not included as part of the preliminary assessment.	
Construction	Church of St Mary (NHLE 1287864)	<b>Moderate adverse (significant)</b>	Mitigation measures (including landscaping proposals) are still under development at this stage and not included as part of the preliminary assessment.	<b>Moderate adverse (significant)</b>
Construction	Woodside Farmhouse (NHLE 1215744)	<b>Moderate adverse (significant)</b>	Mitigation measures (including landscaping proposals) are still under development at this stage and not included as part of the preliminary assessment.	<b>Moderate adverse (significant)</b>
Construction	High House Farm (NHLE 1216049)	<b>Moderate adverse (significant)</b>	Mitigation measures	<b>Moderate adverse (significant)</b>

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
			(including landscaping proposals) are still under development at this stage and not included as part of the preliminary assessment.	
Construction	Little Moor Farm (NHLE: 1215743)	Moderate adverse (significant)	Mitigation measures (including landscaping proposals) are still under development at this stage and not included as part of the preliminary assessment.	Moderate adverse (significant)
Construction	Archaeological remains within all parts of the Draft Order Limits.	Negligible adverse – major adverse (significant)	Implementation of agreed scheme of archaeological mitigation (excavation/monitoring)	Minor Adverse (not significant)
Operation	No significant effects identified.			
Decommissioning	No significant effects identified.			
Chapter 12 Hydrology, hydrogeology and drainage				
No significant effects identified				

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
<b>Chapter 13 Landscape and Visual<sup>1</sup></b>				
Construction	B3 Yox Valley	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	B4 Fromus Valley	<b>HVAC option 1 and 2: Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	D2 Westwood and Dingle Marshes	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	F2 Southwold Coast	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	K2 Dunwich and Westleton Sandlands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	K3 Aldringham and Friston Sandlands	Amendments to Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	K3 Aldringham and Friston Sandlands	Full Build Out of Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	L1 Heveningham and Knodishall Estate Claylands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

<sup>1</sup> Where 'N/A' is described under the 'additional mitigation' column for Landscape and Visual, all mitigation relating to the construction phase are considered to be control measures. Furthermore, as likely significant effects on landscape and visual receptors would occur during construction of the Proposed Scheme, monitoring of these effects would be undertaken. The implementation of the mitigation planting would be monitored by the Applicant during the works to ensure that best practice relating to ground preparation, plant handling and planting techniques are followed. This monitoring would be undertaken in accordance with the measures set out within the Outline Landscape Environment Management Plan (LEMP), which would be submitted with the application for development consent. For the operation and maintenance phase, mitigation is embedded into the design of the Proposed Scheme (e.g., the Outline LEMP). This approach is explained in **Appendix 13.1 LVIA Methodology**. On this basis, no additional mitigation is currently proposed.

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	LLCA 02 Friston sandlands	Amendments to Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	LLCA 02 Friston sandlands	Full Build Out of Kiln Lane Substation Scenario: <b>Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	LLCA 03 Friston	Amendments to Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	LLCA 03 Friston	Full Build Out of Kiln Lane Substation Scenario: <b>Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	LLCA 04 Knodishall claylands	Both Kiln Lane Substation Scenarios as described in <b>Chapter 2 Description of the Proposed Scheme: Moderate adverse (significant)</b>	N/A – see footnote one	Amendments to Kiln Lane Substation Scenario: Negligible adverse (not significant) Full Build of Kiln Lane Substation Scenario: Minor adverse (not significant)
Construction	LLCA 05 Saxmundham east claylands	<b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Construction	LLCA 06 River Fromus valley meadowlands	<b>Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	LLCA 08 Saxmundham	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	LLCA 09 Walberswick Sandlings	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	LLCA 10 Dunwich River open coastal fens	<b>Moderate adverse (significant)</b>	N/A – see footnote one	No effect (Not significant)
Construction	LLCA 11 Walberswick sandlands plateau	<b>Major adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	LLCA 14 River Blyth sandlands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	LLCA 15 Walberswick sandlands fringe	<b>Major adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	LLCA 16 Walberswick common	<b>Moderate adverse (significant)</b>	N/A – see footnote one	No effect (Not significant)
Construction	LLCA 17 Walberswick village	<b>Moderate adverse (significant)</b>	N/A – see footnote one	No effect (Not significant)
Construction	LLCA 19 River Blyth Harbour dunes and saltmarsh	<b>Moderate adverse (significant)</b>	N/A – see footnote one	No effect (Not significant)
Construction	LLCA 20 Walberswick coast	<b>Moderate adverse (significant)</b>	N/A – see footnote one	No effect (Not significant)
Construction	LLCA 21 Blythburgh sandlands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Residents of isolated properties between Saxmundham and Leiston VP 9,VP10	All options associated with the Proposed Underground Cable Corridor Amendment to Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant) VP 9 Negligible adverse (not significant) VP 10

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	Residents of isolated properties between Saxmundham and Leiston VP9, VP10, VP11	All options associated with the Proposed Underground Cable Corridor Proposed Full Build Out of Kiln Lane Substation Scenario: <b>Moderate to major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant) VP 9, VP 11 Negligible adverse (not significant) VP 10
Construction	Residents of isolated properties between Saxmundham and Leiston VP21, VP20, VP27	All options associated with the Proposed Underground Cable Corridor <b>Moderate to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse to <b>Moderate adverse (significant)</b> VP 21, VP 20 Negligible adverse (not significant) VP 27
Construction	Residents of Knodishall Green VP22, VP24	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse to Negligible adverse (not significant)
Construction	Residents of isolated properties, particularly Wardspring Farm VP18, VP19	All options associated with the Proposed Underground Cable Corridor <b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Construction	Residents of Blythburgh VP49, VP51	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Residents of Annesons Corner VP35	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Residents of isolated properties around Hawthorn Road and Wash Lane	Western Route option of the Proposed Underground HVDC Cable Corridor: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)



Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
	VP34			
Construction	Residents of Walberswick VP57, VP63, VP64, VP65	<b>Moderate adverse to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Residents of Lodge Road VP60, VP59	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Residents of properties between Middleton Moor and Middleton VP36	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Users of vessels VP77	<b>Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Residents of Saxmundham VP16	<b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Construction	Users of the Sandlings Walk promoted public right of way VP57	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Users of the Suffolk Coast Path promoted public right of way VP66, VP67	<b>Moderate adverse to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Users of the PRow network between	All options associated with the Proposed Underground Cable Corridor	N/A – see footnote one	<b>Minor to Moderate adverse (significant)</b>

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
	Friston and Saxmundham VP21, VP16, VP20	<b>Moderate adverse to Major adverse (significant)</b>		
Construction	Users of the PRow network between Friston and Saxmundham VP10, VP11	All options associated with the Proposed Underground Cable Corridor <b>Moderate to major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant) VP 11 Amendments to Kiln Lane Substation Scenario: Negligible adverse (not significant) VP 10 Full Build Out of Kiln Lane Substation Scenario: Minor adverse (not significant)
Construction	Users of the PRow network around The Layers VP14, VP15	<b>Moderate adverse to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant) VP 14 Negligible adverse (not significant) VP 15
Construction	Users of the PRow network on the northern edge of the Alde Valley VP18	All options associated with the Proposed Underground Cable Corridor <b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Construction	Users of the PRow network around Blythburgh VP49, VP51	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Users of the PRow network around Annesons Corner VP34	Western Route option of the Proposed Underground HVDC Cable Corridor: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	Users of the PRow network between East Green and Theberton VP31	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Users of the PRow network between Saxmundham and East Green VP26	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Users of the PRow network between Yoxford and Middleton VP38	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Users of the PRow network around Walberswick VP59, VP60, VP63, VP64, VP65, VP70, VP71	<b>Moderate adverse to Major adverse (significant)</b>	N/A – see footnote one	Negligible adverse to minor adverse (not significant)
Construction	Users of the PRow network between Walberswick and Dunwich VP69	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Users of the PRow network on the northern edge of the Westwood Marshes VP62	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Construction	Users of the PRow network near Dunwich Forest VP53	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	Users of the public right of way near Warspring farm VP19	All options associated with the Proposed Underground Cable Corridor <b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Construction	People travelling along Grove Road and School Road VP9	Amendment to Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	People travelling along Grove Road and School Road VP9	Proposed Full Build Out of Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	People travelling along Moat Road (Quiet Lane) VP31	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Construction	People travelling along the B1119 VP19, VP17	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant) VP19</b> Minor adverse (not significant) VP17
Construction	People travelling along the B1121 VP14	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	People travelling along the B1387 and the B1125	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
	VP52			
Construction	Visitors to beach huts and campsites VP70 and VP71	<b>Moderate adverse to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Visitors to Walberswick Beach VP67, VP69, VP70, VP73	<b>Moderate to Major adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Construction	Visitors to Walberswick Marshes VP66	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	K2 Dunwich and Westleton Sandlands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	L1 Heveningham and Knodishall Estate Claylands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	LLCA 02 Friston sandlands	Full Build Out of Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	LLCA 03 Friston	Full Build Out of Kiln Lane Substation Scenario: <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	LLCA 05 Saxmundham east claylands	<b>Major adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 1)	LLCA 06 River Fromus valley meadowlands	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Operation and maintenance (Year 1)	LLCA 08 Saxmundham	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	LLCA 11 Walberswick sandlands plateau	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Operation and maintenance (Year 1)	LLCA 15 Walberswick sandlands fringe	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Operation and maintenance (Year 1)	Residents of isolated properties between Saxmundham and Leiston VP9, VP10	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant) VP 9 Negligible adverse (not significant) VP 10
Operation and maintenance (Year 1)	Residents of isolated properties between Saxmundham and Leiston VP20, VP21	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Minor adverse to Moderate adverse (significant) VP 21, VP 20</b>
Operation and maintenance (Year 1)	Residents of Saxmundham VP16	<b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 1)	Residents of isolated properties, particularly Wardspring Farm VP18, VP19	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 1)	Residents of Walberswick VP63, VP64, VP65	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)



Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Operation and maintenance (Year 1)	Users of the PRow network between Friston and Saxmundham VP10	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Operation and maintenance (Year 1)	Users of the PRow network around The Layers VP14	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	Users of the PRow network between Friston and Saxmundham VP16, VP20, VP21	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Minor to Moderate adverse (significant)</b>
Operation and maintenance (Year 1)	Users of the public right of way near Wardspring farm VP19	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 1)	Users of the PRow network around Walberswick VP63, VP64, VP65, VP70	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)
Operation and maintenance (Year 1)	People travelling along Grove Road and School Road VP9	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Negligible adverse (not significant)
Operation and maintenance (Year 1)	People travelling along the B1121 VP14	<b>Moderate adverse (significant)</b>	N/A – see footnote one	Minor adverse (not significant)

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Operation and maintenance (Year 1)	People travelling along the B1119 VP19, VP17	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant) VP19</b> Minor adverse (not significant) VP17
Operation and maintenance (Year 15)	Residents of isolated properties between Saxmundham and Leiston VP21, VP20	All options associated with the Proposed Underground Cable Corridor <b>Minor adverse to Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 15)	Residents of isolated properties, particularly Wardspring Farm VP18, VP19	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 15)	Users of the PRow network between Friston and Saxmundham VP16	<b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 15)	Users of the PRow network between Friston and Saxmundham VP20, VP21	All options associated with the Proposed Underground Cable Corridor <b>Minor to Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Operation and maintenance (Year 15)	Users of the PRow network on the northern edge of the Alde Valley VP18	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
Operation and maintenance (Year 15)	People travelling along the B1119 VP19	All options associated with the Proposed Underground Cable Corridor <b>Moderate adverse (significant)</b>	N/A – see footnote one	<b>Moderate adverse (significant)</b>
Decommissioning	Landscape and visual effects are considered to be no greater than those identified during the construction phase (i.e., the activities relating to decommissioning would be similar to construction but carried out in the context of enhanced landscape mitigation, and therefore they have been assessed as construction effects as a reasonable ‘worst-case’ scenario).			
Chapter 14 Material assets and waste				
No significant effects identified				
Chapter 15 Noise and vibration				
Construction	Noise and vibration sensitive receptors	Construction noise night-time around Landfall site – <b>significant adverse</b>	Additional mitigation measures are being developed and will be set out within the subsequent Environmental Statement (ES).	<b>Significant</b>
Operation and maintenance	No significant effects identified.			
Decommissioning	No significant effects identified.			
Chapter 16 Socio-economics, recreation and tourism				
Construction	Other local businesses	Receptors identified are of medium or high sensitivity and, with embedded mitigation, the magnitude of impacts identified are negligible to minor adverse,	Further discussions will take place as the design and ES progresses and	<b>Moderate adverse (significant).</b>

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
		<p>primarily given the increased construction activities in the surrounding area. Where identified, further discussions will continue as the ES progresses and mitigation options considered further.</p> <p>One receptor, however, has a high sensitivity and is anticipated to experience a small magnitude of impact. In this instance, because the receptor's land holding is partially within the Proposed Onshore Draft Order Limits, where the proposed permanent access road is located and the potential impact this could have on event viability during the peak construction impact, it is considered that there would be a <b>moderate adverse effect, which is significant.</b></p> <p>There are no other significant effects identified.</p>	mitigation options are considered further in an effort to reduce the overall effect.	
Operation	No significant effects identified.			
Decommissioning	The impacts of the decommissioning phase would be the same as, or not greater than, the construction phase			

### Chapter 17 Traffic and Transport

Further assessment is to be undertaken and reported in the ES when the design of the Proposed Scheme has been fixed following Statutory Consultation and when required data to support the quantitative assessment has been fully captured.

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
<b>Proposed Offshore Scheme</b>				
<b>Chapter 18 Marine Physical Environment</b>				
No significant effects identified.				
<b>Chapter 19 Intertidal and Subtidal Benthic Ecology</b>				
No significant effects identified.				
<b>Chapter 20 Fish and Shellfish</b>				
No significant effects identified.				
<b>Chapter 21 Intertidal and Offshore Ornithology</b>				
Construction, Operation and Maintenance and Decommissioning	Outer Thames Estuary SPA	<b>Moderate and Significant</b> (specifically related to if HDD enabling and cable pull-in works are conducted between 01 November and 31 March)	Measures outlined in OC11 and OC40 to restrict vessel movements to Draft Order Limits or designated transit routes. Further measures to be discussed with NE/JNCC and presented in the subsequent ES.	<b>Moderate adverse (significant).</b>
<b>Chapter 22 Marine Mammals</b>				
No significant effects identified				
<b>Chapter 23 Shipping and Navigation</b>				
No significant effects identified				
<b>Chapter 24 Commercial Fisheries</b>				
No significant effects identified				

Proposed Scheme Phase	Receptor	Environmental effect without further mitigation	Additional mitigation	Residual effect post additional mitigation
<b>Chapter 25 Other Marine Users</b>				
No significant effects identified				
<b>Chapter 26 Marine Archaeology</b>				
No significant effects identified.				
<b>Project wide</b>				
<b>Chapter 27 Climate Change</b>				
No significant effects identified at this stage (further assessment is to be undertaken and reported in the ES).				
<b>Chapter 28 Cumulative Effects</b>				
Further assessment is to be undertaken and reported in the ES.				



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