

The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 1

Part 1 Introduction

Chapter 1 Introduction

Version A

October 2023



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Sea Link

Document control

Document Properties

Organisation AECOM

Author AECOM

Approved by AECOM

Title Preliminary Environmental Information Report
Volume 1, Part 1, Chapter 1 Introduction

Data Classification Public

Version History

Date	Version	Status	Description / Changes
24/10/2023	A	FINAL	First Issue

1.1 Introduction

1.1.1 Overview of the Proposed Project

1.1.1.1 The Sea Link Project (hereafter referred to as the 'Proposed Project') is a proposal by National Grid Electricity Transmission plc (hereafter referred to as National Grid or the 'applicant') to reinforce the transmission network in the South East of England and East Anglia. The Proposed Project is required to accommodate additional power flows generated from renewable and low carbon energy generation, as well as additional new interconnection with mainland Europe.

1.1.1.2 National Grid owns, builds and maintains the electricity transmission network in England and Wales. Under the Electricity Act 1989, National Grid holds a transmission licence under which it is required to develop and maintain an efficient, coordinated, and economic electricity transmission system.

1.1.1.3 National Grid is also required, under Section 38 of the Electricity Act 1989, to comply with the provisions of Schedule 9 of the Act. Schedule 9 requires licence holders, in the formulation of proposals to transmit electricity, to:

"Schedule 9(1)(a) '...have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest;' and

Schedule 9(1)(b) '...do what [it] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects'."

1.1.1.4 The Proposed Project involves the reinforcement of the electricity transmission system in the South East of England and East Anglia. This would be achieved by reinforcing the network with a predominantly High Voltage Direct Current (HVDC) Link between the proposed Friston substation in the Sizewell area of Suffolk and the existing Richborough to Canterbury 400 kV overhead line close to Richborough in Kent. This reinforcement would be approximately 145 km long, comprising of a principally offshore HVDC link.

1.1.1.5 The Proposed Project would comprise of the following elements:

Suffolk Onshore Scheme

- A connection from the existing transmission network via Friston Substation, including the substation itself. Friston Substation already has development consent as part of other third-party projects¹. If Friston Substation has already been constructed under another consent, only a connection into the substation would be constructed by the Proposed Project.

¹ The proposed Friston Substation already benefits from development consent granted to Scottish Power Renewables (SPR), pursuant to 'The East Anglia ONE North Offshore Wind Farm Order 2022' and 'The East Anglia TWO Offshore Wind Farm Order 2022'.

- A High voltage Alternating Current (HVAC) underground cable of approximately 1.7 km in length between the proposed Friston Substation and a proposed converter station (below).
- A 2 GW HVDC converter station up to 26 m high plus external equipment (such as lightning protection & railings for walkways) near Saxmundham.
- A HVDC underground cable connection of approximately 10 km in length between the proposed converter station near Saxmundham, and a transition joint bay (TJB) approximately 900m inshore from a landfall point (below) where the cable transitions from onshore to offshore technology.
- A landfall on the Suffolk coast (between Aldeburgh and Thorpeness).

1.1.1.6 The proposals in Suffolk have been developed for the Proposed Project as a standalone project, but also include opportunities to co-locate infrastructure for up to two further projects at the converter station site, cable corridors and the landfall location.

Offshore Scheme

- Approximately 130 km of subsea HVDC cable, running between the Suffolk landfall location (between Aldeburgh and Thorpeness), and the Kent landfall location at Pegwell Bay

Kent Onshore Scheme

- A landfall point on the Kent coast at Pegwell Bay.
- A TJB approximately 800 m inshore to transition from offshore HVDC cable to onshore HVDC cable, before continuing underground for approximately 2 km to a new converter station (below).
- A 2 GW HVDC converter station, up to 26 m high plus external equipment (such as lightning protection & railings for walkways), near Minster. A new substation would be located immediately adjacent.
- Removal of approximately 1 km of existing HVAC overhead line, and installation of approximately 2.25 km of new HVAC overhead line from the substation near Minster and the existing Richborough to Canterbury overhead line.

1.1.1.7 The Proposed Project also includes modifications to sections of existing overhead lines in Suffolk and Kent, diversions of third-party assets, and land drainage from the construction and operational footprint. It also includes opportunities for environmental mitigation, compensation and enhancement (which could include hedgerow creation, native tree planting or funding local wildlife groups). The construction phase will involve various temporary construction activities including overhead line diversions, working areas for construction equipment and machinery, site offices, storage, accesses, bellmouths, and haul roads, as well as watercourse crossings and the diversion of public rights of way (PROWs).

- 1.1.1.8 As none of the components of the Proposed Project fell within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) defined under Part 3 of the Planning Act 2008 (PA2008). In consultation with the relevant Local Planning Authorities (LPA) in Suffolk and Kent, the Proposed Project sought direction on 4 March 2022 under Section 35 of the PA2008 from the Secretary of State (SoS) for the Proposed Project to be treated as a development for which development consent under the PA2008 is required.
- 1.1.1.9 On 31 March 2022 Section 35 direction was granted by the SoS on the grounds that:
- "The proposed Project is of national significance, taking into account that it is a large-scale linear electricity transmission reinforcement project of approximately 130km in length and that it has a two Gigawatt capacity to transmit electricity.*
- The proposed Project will play an important role in enabling an energy system that meets the UK's commitment to reduce carbon emissions and the Government's objectives to create a secure, reliable and affordable energy supply for consumers.*
- By progressing the development through the Planning Act 2008 development consent process, it would provide the certainty of a single, unified consenting process and fixed timescales."*
- 1.1.1.10 Since the Section 35 Direction is now granted, National Grid intends to apply for the granting of an order for development consent under Section 37 of the PA2008 to the Planning Inspectorate. The application will provide details of the proposed development and will be accompanied by an Environmental Statement (ES).
- 1.1.1.11 Subject to ongoing design and consultation, should the final design include 2km more of overhead line, then notwithstanding the s35 Direction there would also be NSIP elements.

Terminology

- 1.1.1.12 As noted above National Grid will be submitting an application for development consent to build the Proposed Project.
- 1.1.1.13 A Development Consent Order (DCO) grants the beneficiary of the DCO permission to construct, operate, maintain and decommission the authorised development. In addition, a DCO may apply, modify or exclude an existing statutory provision where it relates to the authorised development. As such, the DCO will also include legislative provisions in relation to; highway works; public rights of way (PRoW); Traffic Regulation Orders; discharging water; dealing with human remains; tree works (including those protected by a Tree Preservation Order and important hedgerows); the compulsory acquisition of land; the temporary use of land and any additional legislative provisions, as required.
- 1.1.1.14 The application will identify the Order Limits, which will include the working areas to install the Proposed Project. The draft Order Limits are shown on **Figure 1.1.1 Draft Order Limits**. The draft Order Limits replace the Scoping Boundary that was used when setting out the scope of the environmental assessment in the Scoping Report (Ref 1.1.5). The topic specific study areas (e.g. landscape and visual) are described in each of the topic chapters based on the draft Order Limits. Other terminology used to describe the Proposed Project is set out in **Volume 1, Part 1, Chapter 4 Description of the Proposed Project**.

1.1.2 The Need for the Proposed Project

- 1.1.2.1 In June 2019, the UK became the first major economy to pass legislation to end its contribution to global warming and bring all greenhouse gas emissions to net zero by 2050, putting clean growth at the heart of our modern industrial strategy and seizing the economic opportunities that transition to a greener economy creates.
- 1.1.2.2 The Government has set out a clear and consistent set of strategic objectives and a long term policy framework as detailed in the following publications:
- The Ten Point Plan for a Green Industrial Revolution (Ref 1.1.1);
 - Net Zero Strategy: Build Back Greener (Ref 1.1.2);
 - British Energy Security Strategy (Ref 1.1.3);
- 1.1.2.3 The latest publication, that sets out the Government's blueprint for the future of energy in the country is entitled Powering Up Britain (Ref 1.1.4) and was published in March 23. It sets out the 'Department for Energy Security and Net Zero' manifesto for the future with a focus on energy security, consumer security, climate security and economic security.
- 1.1.2.4 The department's mission is to replace imported fossil fuels with cheaper, cleaner, domestic sources of energy. Energy security and net zero are two sides of the same coin. The energy transition in line with net zero is one of the greatest economic opportunities for this country.
- 1.1.2.5 Offshore wind energy has an important role to play in delivering this strategy, and a significant step change is required to deliver up to 50 GW of offshore wind energy by 2030, given the current capacity is around 13 GW
- 1.1.2.6 The independent review of Net Zero concluded that the transition to net zero is the economic opportunity of the 21st century, driving investment, jobs and creating significant opportunity across the UK.
- 1.1.2.7 Energy networks will be a critical enabler for the clean energy transition, however, the scale and pace of investment needed to meet the UK's decarbonisation targets are significant; for example, achieving the ambition of up to 50 GW offshore wind by 2030 requires industry to deliver over six times the amount of electricity transmission network infrastructure in the next eight years than has been built in the past 30 years.
- 1.1.2.8 National Grid sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. Overall, National Grid will be investing around £15bn in the UK over 5 years to upgrade our networks and support the UK's net zero ambition. This includes connecting low carbon sources of energy; preparing for the widespread roll out of clean transport and low-carbon heat; and innovating across new technologies needed for an increasingly flexible energy system. We aim to support an affordable and fair transition to net zero, in which nobody is left behind.
- 1.1.2.9 The Great Grid Upgrade is the largest overhaul of the electricity grid in generations. National Grid's infrastructure projects across England and Wales are helping to connect more renewable energy to homes and businesses.
- 1.1.2.10 Multiple significant reinforcements are needed to the transmission system up and down the east coast:

- to facilitate the connection of future sources of renewable and low carbon power generation along the coast, such as offshore wind farms, nuclear power, and interconnectors;
- to enable the transport of all this new proposed power from where it is produced to where it is needed, to centres of demand; and
- to meet security of supply quality standards and ensure we can continue to play our part in connecting millions of people reliably to the energy they need every day.

1.1.2.11 The network is planned and operated under a set of standards designed to ensure there are no widespread electricity supply interruptions. These standards ensure that, for given operational and fault scenarios:

- the electricity system frequency is maintained within statutory limits;
- no part of the network is overloaded beyond its capability; and
- voltage performance stays within acceptable statutory limits, and the system remains electrically stable.

How do network boundaries work?

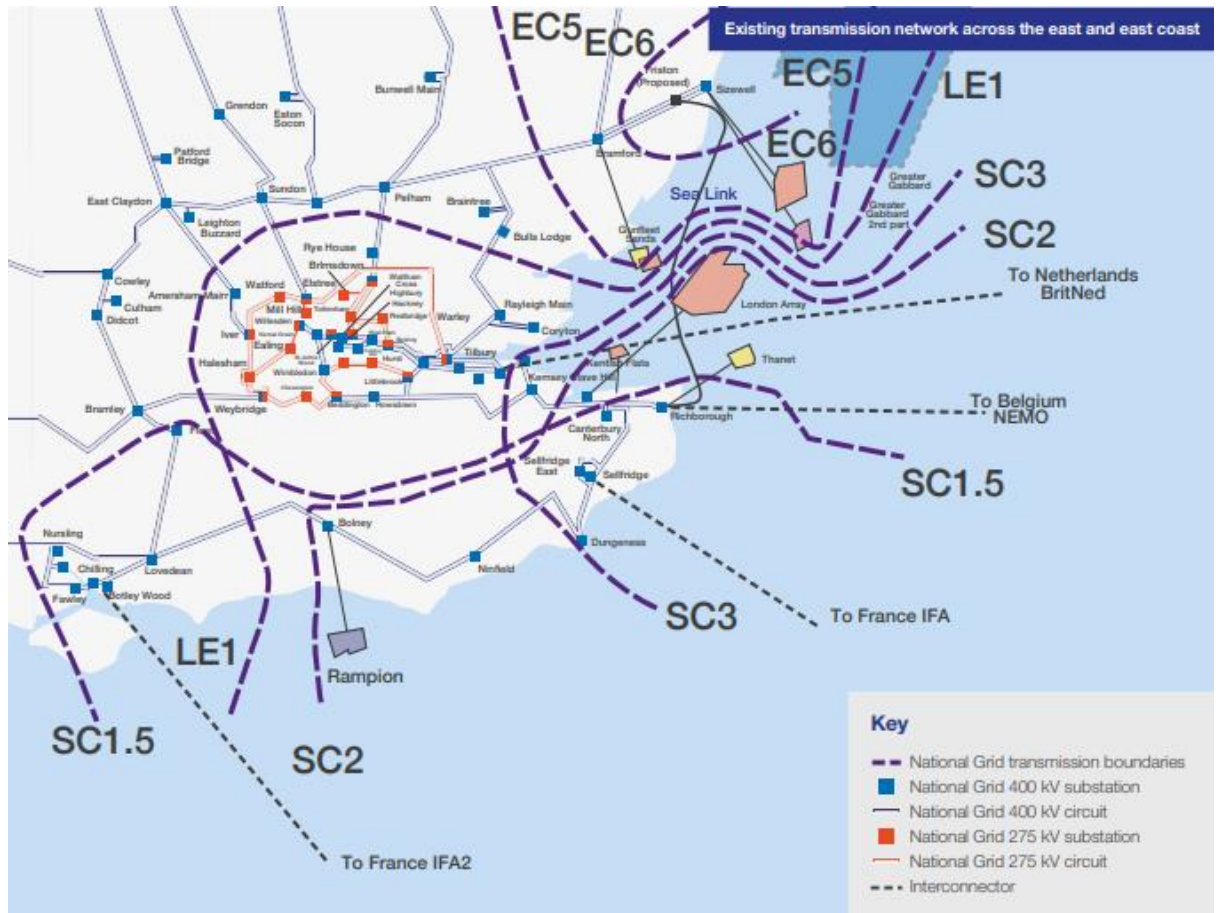
1.1.2.12 To understand current and future demands on the electricity network, the concept of network boundaries is used. A boundary splits the system into sections and shows where there are high-power flows between parts of the network. When flows across a network boundary are forecast to be above the capability of the network, there are two options to manage this:

- Pay electricity generators on one side of the boundary to reduce the energy they produce (and in turn pay generators on the other side of the boundary to compensate for the shortfall). This then reduces the flows of electricity across the boundary. When National Grid Electricity System Operator (ESO) pay generators to do this, these are called 'constraint payments'.
- Increase the capability of the network to allow more electricity to flow.

1.1.2.13 The relevant boundaries are illustrated on Image 1.1.1: Relevant Network Boundaries.

1.1.2.14 The existing transmission network infrastructure in the East Anglia and South East areas was not originally designed to accommodate such large volumes of generation capacity, that is planned to connect here, and the network will require significant reinforcements in the form of new substations and transmission circuits to provide both connections for these new customers and to ensure that power can be transferred securely to the onshore demand centres to meet the needs of electricity consumers in Britain.

Image 1.1.1: Relevant Network Boundaries



The need for reinforcement in East Anglia

- 1.1.2.15 The national electricity transmission system in East Anglia is encompassed by the East Coast (EC) 5 boundary.
- 1.1.2.16 Like much of the high voltage electricity transmission network across the country, the network in East Anglia was largely developed in the 1960s. It was built to supply regional demand, centred around Norwich and Ipswich. A large loop runs from Walpole in the north of the region to Pelham and Rayleigh/Tilbury in the south, via Norwich and Bramford.
- 1.1.2.17 In addition, two 400 kV overhead lines form radial circuits that connect Sizewell B to Bramford substation, these circuits cross boundary EC6. The coastline and relatively shallow waters around East Anglia are attractive for the connection of offshore wind projects, including the large East Anglia Round 3 offshore zone that lies directly to the east. The existing nuclear generation site at Sizewell is one of the approved sites selected for new nuclear generation development. New interconnector projects are also contracted to connect within this area.

- 1.1.2.18 The growth in offshore wind, nuclear generation and interconnector capacities connecting behind this boundary greatly increase the power transfer requirements out of the region as local total generation will exceed local demand. The existing high voltage electricity network in East Anglia does not have the capability needed to reliably and securely transport all the energy that will be connected while meeting the Security and Quality of Supply Standard (SQSS). Several network reinforcement projects are planned to address the shortfall of which the Proposed Project is one.
- 1.1.2.19 In addition to reinforcing the EC5 boundary, by connecting the Proposed Project into the transmission system at the proposed Friston Substation it also reinforces the Bramford-Sizewell radial circuits, which are due to carry additional power from offshore wind, new nuclear and interconnectors, so offering additional constraint savings to the consumer.

The need in the South East

- 1.1.2.20 The south of England transmission region includes boundaries LE1, SC1, SC1.5, SC2 and SC3. The LE1 boundary almost exclusively imports power from the north and west of England into the South East.
- 1.1.2.21 Power flows in the region are determined by the need to meet domestic demand in the southeast as well as imports and exports to Europe via interconnectors.
- 1.1.2.22 As more energy is pulled across London and into Kent, power flows across LE1 are set to increase. Demand for electricity will grow; interconnectors will exchange more energy with European countries to help balance intermittent sources of power. As a result, the electricity transmission network in the South East will need to be reinforced to ensure it is able to continue operating safely and securely.

1.1.3 The Need for an Environmental Impact Assessment

- 1.1.3.1 None of the components which make up the Proposed Project are explicitly identified under Schedule 1 or 2 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations). Schedule 3 of the EIA Regulations sets out the selection criteria for determining if Schedule 2 development is likely to have significant effects and is thereby 'EIA Development'. Having considered the criteria in Schedule 3, National Grid proposes to undertake an EIA having given regard to the whole of Schedule 3 but specifically:

“Characteristics of development

1.- (1) The characteristics of development must be considered with particular regard to—

(a) the size and design of the whole development;

(b) cumulation with other existing development and/or approved development;

and

Location of development

2.- (1) The environmental sensitivity of geographical areas likely to be affected by development, including:

(c) the absorption capacity of the natural environment, in particular:

- (i) wetlands, riparian areas, river mouths;*
- (ii) coastal zone and the marine environment;*
- (iv) nature reserves and parks;*
- (v) European sites and other areas classified or protected under national legislation; and*
- (viii) landscapes and sites of historical, cultural or archaeological significance.”*

1.1.3.2 The potential for likely significant effects that National Grid considers the EIA will need to address were identified in the Scoping Report (Ref 1.1.5) submitted to the Planning Inspectorate on 24 October 2022 and a Scoping Opinion (Ref 1.1.6) was received from the SoS on 1 December 2022. Issues raised in the Scoping Opinion by the Planning Inspectorate are summarised and responded to in the technical Chapters (Part 2, 3,4 and 5).

1.1.4 Geographical Context

1.1.4.1 The draft Order Limits are illustrated on **Figure 1.1.1 Draft Order Limits**. All onshore parts of the Proposed Project would be located within England and offshore parts of the Proposed Project would be located within the English Territorial Waters. For ease of presentation within this Preliminary Environmental Information Report (PEIR), the Proposed Project has been split into three geographical parts, hereafter referred to as: the Suffolk Onshore Scheme; Kent Onshore Scheme; and the Offshore Scheme. **Figure 1.1.2 Suffolk Onshore Scheme Boundary** shows the draft Order Limits for the Suffolk Onshore Scheme. **Figure 1.1.3 Kent Onshore Scheme Boundary** shows the draft Order Limits for the Kent Onshore Scheme. **Figure 1.1.4 Offshore Scheme Boundary** shows the draft Order Limits for the Offshore Scheme.

Suffolk Onshore Scheme

1.1.4.2 The Suffolk Onshore Scheme is illustrated on **Figure 1.1.2 Suffolk Onshore Scheme Boundary** and is located within the administrative boundary of Suffolk County Council (SCC) and the East Suffolk Council (ESC) local planning authority areas.

1.1.4.3 The Suffolk Onshore Scheme is in an area that is predominantly rural. The settlements of Aldeburgh, Thorpeness, Knodishall Common, Friston, Sternfield and Saxmundham are located close to the draft Order Limits. The Sizewell Nuclear Site is located approximately 4.5 km to the north of the draft Order Limits and there are two existing 400 kV overhead lines that cross the draft Order Limits that connect the existing Sizewell substation to Bramford substation.

1.1.4.4 The draft Order Limits includes part of the Suffolk Coasts and Heath Area of Outstanding Natural Beauty (AONB) and is adjacent to the Sandlings Special Protection Area (SPA). Parts of the Leiston Aldeburgh Site of Special Scientific Interest (SSSI) and North Warren Royal Society for the Protection of Birds (RSPB) reserve are located within the draft Order Limit, and two areas of Ancient Woodland are adjacent to the draft Order Limit.

1.1.4.5 The Alde or Ore River is located approximately 1.3 km to the south of the draft Order Limit.

Kent Onshore Scheme

- 1.1.4.6 The Kent Onshore Scheme is illustrated on **Figure 1.1.3 Kent Onshore Scheme Boundary** and is located within the administrative boundary of Kent County Council (KCC) and the Thanet District Council (TDC) and Dover District Council (DDC) local planning authority areas.
- 1.1.4.7 The Kent Onshore Scheme is in an area which is semi-rural although land use in the areas closest to the coast include golf courses and areas of nature conservation. The settlement of Cliffs End is located 300 m to the north of the draft Order Limits and the settlement of Minster approximately 500 m from the draft Order Limits also to the north. Richborough Energy Park and a wastewater treatment works are located 500 m and 150 m respectively to the south of the draft Order Limits. The existing Richborough to Canterbury 400 kV overhead line crosses through the far western extent of the draft Order Limit.
- 1.1.4.8 Parts of the Thanet Coast and Sandwich Bay Ramsar and SPA are located within the draft Order Limit in addition to parts of the Sandwich Bay Special Area of Conservation (SAC), Sandwich Bay to Hacklinge Marshes SSSI and Sandwich and Pegwell Bay National Nature Reserve (NNR).
- 1.1.4.9 The River Stour flows through the southern portion of the draft Order Limits and several watercourses and field drains are present across the draft Order Limits.

Offshore Scheme

- 1.1.4.10 The Offshore Scheme is illustrated on **Figure 1.1.4 Offshore Scheme Boundary** It is located wholly within English Territorial Waters, and it lies within the East Inshore (Ref 1.1.7) and South East Inshore Marine Plan Areas (Ref 1.1.8). The draft Order Limit crosses the Suffolk Coastal Waters, East Anglian Shipping Waters, Eastern English Channel Approaches and the Goodwin Sands and North Dover Strait Marine Character Areas (MCA).
- 1.1.4.11 The Offshore Scheme is located to the west of London Array Offshore Wind Farm and to the east of Thanet, Greater Gabbard and Galloper Offshore Wind Farms.
- 1.1.4.12 Parts of the Outer Thames Estuary and Thanet Coast and Sandwich Bay Ramsar and SPAs are located within the draft Order Limit as well as parts of the Southern North Sea and the Sandwich Bay SACs. Parts of the Leiston Aldeburgh and Sandwich Bay to Hacklinge Marshes SSSI as well as Goodwin Sands Marine Conservation Zone (MCZ) are located within the draft Order Limit.

1.1.5 Purpose of the Preliminary Environmental Information Report

- 1.1.5.1 Regulation 12(2) of the EIA Regulations defines the Preliminary Environmental Information (PEI) as information that has been compiled by the applicant and
“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).”
- 1.1.5.2 Advice Note 7 (Ref 1.1.9) in paragraph 8.4 states that

“There is no prescribed format as to what PEI should comprise and it is not expected to replicate or be a draft of the ES... A good PEI document is one that enables consultees (both specialist and non-specialist) to understand the likely environmental effects of the Proposed Development and helps to inform their consultation responses on the Proposed Development during the pre-application stage.”

- 1.1.5.3 The PEIR has been prepared in accordance with Advice Note 7. The information presented within this PEIR is preliminary. It reflects the current design position of the Proposed Project and the status of the individual environmental assessments the findings of the assessment are set out within this report to allow an informed view to be developed of the Project that is being promoted, the assessment approach that has been undertaken, to draw preliminary conclusions on the likely significant effects of the Proposed Project and the environmental measures proposed.
- 1.1.5.4 This PEIR is intended to give consultees an understanding of the potential likely significant effects to enable them to prepare well informed responses to the statutory consultation. All conclusions and assessments are by their nature preliminary and are based on the Proposed Project design and assumptions described within this PEIR. All assessment work has and continues to apply a precautionary principle, in that where limited information is available (in terms of the proposals for the Proposed Project), a realistic worst case scenario is assessed. The final assessment will be presented within the Environmental Statement (ES) submitted with the application for development consent. This will take into account the representations made during the statutory consultation and ongoing design informed by the EIA process.
- 1.1.5.5 This PEIR identifies which effects may be potentially significant. These potential effects will be taken forward as part of the EIA and additional mitigation may be identified as the design develops further. Therefore, likely significant effects provisionally identified at this preliminary stage may later be found to be not significant following completion of the mitigation strategy when reported in the ES.

1.1.6 Structure of this PEIR

- 1.1.6.1 The structure of this PEIR is outlined below in Table 1.1.1. The PEIR has been presented in three volumes, Volume 1 (main text), Volume 2 (appendices) and Volume 3 (figures) a separate Non-Technical Summary (NTS) has also been provided. For ease of presentation, each volume this PEIR is split into five Parts.
- 1.1.6.2 Part 1 Introduction sets out an overview of the Proposed Project, an overview of the regulatory and planning context; the main alternatives considered; a description of the Proposed Project; sets out the proposed PEIR approach and method.
- 1.1.6.3 Parts 2-4 describe the evolution of the Onshore Schemes in Suffolk and Kent and the Offshore Scheme respectively and provides the technical chapters for each area.
- 1.1.6.4 Part 5 of the PEIR presents potential effects which are project wide (e.g. climate change effects), as well as a number of assessments required under separate regulatory regimes (i.e. Habitat Regulations Assessment, Marine Conservation Zone Assessment and Water Framework Directive Assessment). The latter have been included within the PEIR for convenience of organisation of information; however they have been written as standalone documents in their own right.

- 1.1.6.5 Each technical chapter presents the environmental information for the aspects within that topic. This covers a description of the scope of the topic chapters, the preliminary environmental information comprising baseline, proposed mitigation and a description of the likely significant residual effects.
- 1.1.6.6 Appendices are provided in Volume 2 and the Figures are provided in Volume 3.

Table 1.1.1: Structure of the PEIR

Chapter	Content
Non Technical Summary (NTS)	
Non Technical Summary	The NTS provides a concise description of the Proposed Project. Its purpose is to provide succinct information of the Proposed Project, the considered alternatives, environmental baseline, assessment methodology, mitigation and preliminary environmental effects.
Volume 1 Part 1 - Introduction	
Chapter 1 Introduction	An introduction to the Proposed Project and the purpose and structure of this PEIR
Chapter 2 Regulatory and Planning Context	Sets out an overview of the legislation and policy relevant to the Proposed Project.
Chapter 3 Main Alternatives Considered	An outline of the reasonable alternatives considered for the Proposed Project.
Chapter 4 Description of the Proposed Project	A description of the Proposed Project including permanent features and associated temporary works. It describes the general characteristics of the Proposed Project and outlines areas of uncertainty in relation to design parameters.
Chapter 5 PEIR Approach and Method	A description of the overall EIA methodology that is proposed for the Proposed Project including temporal durations and approach to mitigation and a description of the methodology that has been applied within this PEIR.
Chapter 6 Scoping Opinion and EIA Consultation	Sets out the comments raised in the Scoping Opinion and how these have been addressed in the PEIR or will be addressed in the ES and summarises relevant consultation feedback.
Volume 1 Parts 2 and 3 - Suffolk Onshore Scheme and Kent Onshore Scheme	
Chapter 1 Evolution of the Onshore Schemes in Suffolk and Kent	A description of how the Proposed Project has evolved in Suffolk and Kent.
Chapter 2 Landscape and Visual	Each chapter (2-12) provides a description of:

Chapter	Content
Chapter 3 Ecology and Biodiversity	<ul style="list-style-type: none"> the regulatory and planning context specific to the topic area;
Chapter 4 Cultural Heritage	<ul style="list-style-type: none"> responses to the Scoping Opinion and consultation;
Chapter 5 Water Environment	<ul style="list-style-type: none"> the approach and methodology
Chapter 6 Geology and Hydrogeology	<ul style="list-style-type: none"> the basis of assessment; the study area;
Chapter 7 Agriculture and Soils	<ul style="list-style-type: none"> the relevant baseline environment;
Chapter 8 Traffic and Transport	<ul style="list-style-type: none"> any mitigation including embedded or control and management measures;
Chapter 9 Air Quality	<ul style="list-style-type: none"> preliminary assessment of effects; and
Chapter 10 Noise and Vibration	<ul style="list-style-type: none"> a brief conclusion.
Chapter 11 Socio-economic Recreation and Tourism	
Chapter 12 Health and Wellbeing	
Chapter 13 Intra-project Cumulative Effects	A preliminary intra-project cumulative impact assessment.
Chapter 14 Inter-project Cumulative Effects	A description of the other projects and developments which are proposed and known at the time of writing to be considered for the assessment of the inter-project cumulative effects and a preliminary inter-project cumulative impact assessment.
Volume 1 Part 4 Offshore Scheme	
Chapter 1 Evolution of the Offshore Scheme	A description of how the Proposed Project has evolved in marine environment
Chapter 2 Physical Environment	Each chapter provides a description of:
Chapter 3 Benthic Ecology	<ul style="list-style-type: none"> the regulatory and planning context specific to the topic area;
Chapter 4 Fish and Shellfish Ecology	<ul style="list-style-type: none"> responses to the Scoping Opinion and consultation;
Chapter 5 Marine Mammals	<ul style="list-style-type: none"> the approach and methodology;
Chapter 6 Ornithology	<ul style="list-style-type: none"> the basis of assessment;

Chapter	Content
Chapter 7 Marine Archaeology	<ul style="list-style-type: none"> the study area;
Chapter 8 Shipping and Navigation	<ul style="list-style-type: none"> the relevant baseline environment;
Chapter 9 Commercial Fisheries	<ul style="list-style-type: none"> any mitigation including embedded or control and management measures;
Chapter 10 Other Sea Users	<ul style="list-style-type: none"> preliminary assessment of effects; and a brief conclusion.
Chapter 11 Intra-project Cumulative Effects	A preliminary intra-project cumulative impact assessment.
Chapter 12 Inter-project Cumulative Effects	A description of the other projects and developments which are proposed and known at the time of writing to be considered for the assessment of the inter-project cumulative effects and a preliminary inter-project cumulative impact assessment.
Volume 1 Part 5 Project Wide Effects	
Chapter 1 Climate Change	A preliminary assessment of the Proposed Project on climate change.
Chapter 2 Combined Effects of Onshore and Offshore Elements of the Proposed Project	This chapter sets out how the preliminary combined effects assessment on shared receptors.
Chapter 3 Habitat Regulations Screening Report	This sets out the Habitat Regulations Screening Assessment for the Proposed Project.
Chapter 4 Marine Conservation Zone Assessment	This sets out the Marine Conservation Zone Assessment for the Proposed Project.
Chapter 5 Water Framework Directive Screening Assessment	This sets out the Water Framework Directive Screening Assessment for the Proposed Project.
Volume 2 Appendices	Provides the Appendices which support Volume 1
Volume 3 Figures	Provides the Figures which support Volume 1

1.1.7 Net Gain Commitments

- 1.1.7.1 National Grid has committed to 10% Net Gain in Environmental value including as a minimum 10% Biodiversity Net Gain (BNG) across all its construction projects.
- 1.1.7.2 This commitment is underpinned by the delivery of quantifiable enhancements for biodiversity measured from a baseline using the Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Calculator (Ref 1.1.10) with actions formalised and secured by long term management arrangements with external organisations and partners.
- 1.1.7.3 Wider environmental benefits such as carbon capture and storage, air quality and recreation and associated financial values are also considered and quantified using valuation tools and emerging methodologies.
- 1.1.7.4 These commitments ensure that National Grid can deliver long term environmental improvements as part of our works. The commitments will align and make a positive contribution to regional and national strategies and facilitate collaboration and partnerships with our communities and stakeholders.

1.1.8 Competence

- 1.1.8.1 Regulation 14(4) of the EIA Regulations requires that an ES is prepared by 'competent experts' and that the ES is accompanied by a statement outlining the relevant expertise or qualifications of such experts.
- 1.1.8.2 This PEIR has been prepared and coordinated by environmental consultants who are competent members of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark Scheme (Ref 1.1.11). The Scheme allows organisations that lead the coordination of EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.
- 1.1.8.3 A Statement of Competence (SoC) will be included within the ES, outlining the relevant expertise or qualifications of the experts who have prepared the ES for the Project.

1.1.9 References

Ref 1.1.1 Department for Energy Security and Net Zero, 2020, The Ten Point Plan for a Green Industrial Revolution [online] Available at: <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

Ref 1.1.2 Department for Energy Security and Net Zero, 2022, Net Zero Strategy: Build Back Greener [online] Available at: British Energy Security Strategy - April 2022 <https://www.gov.uk/government/publications/net-zero-strategy>

Ref 1.1.3 Department for Energy Security and Net Zero, 2022, British Energy Security Strategy [online] Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

Ref 1.1.4 Department for Energy Security and Net Zero, 2023, Powering Up Britain [online] Available at: <https://www.gov.uk/government/publications/powering-up-britain>

Ref 1.1.5 National Grid Electricity Transmission plc, Sea Link Environmental Impact Assessment Scoping Report, October 2022 [online] Available at:

<https://infrastructure.planninginspectorate.gov.uk/projects/south-east/sea-link/?ipcsection=docs>

Ref 1.1.6 Sea Link Scoping Opinion Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, December 2022 [online] Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020026/EN020026-000027-EN020026-Scoping-Opinion.pdf>

Ref 1.1.7 Marine Management Organisation (2014). East Inshore and East Offshore Marine Plans. [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/312496/east-plan.pdf.

Ref 1.1.8 The Offshore Scheme is illustrated on **Figure 1.1.4 Offshore Scheme Boundary** It is located wholly within English Territorial Waters, and it lies within the East Inshore (Ref 1.1.7) Marine Management Organisation (2021). South East Inshore Marine Plan. [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004493/FINAL_South_East_Marine_Plan_1_.pdf.

Ref 1.1.9 Planning Inspectorates Advice Note, June 2020 (version 7) [online] Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/>

Ref 1.1.10 Department for Food, Environment and Rural Affairs (2021). Biodiversity metric: calculate the biodiversity net gain of a project or development. [online] Available at: <https://www.gov.uk/guidance/biodiversity-metric-calculate-the-biodiversity-net-gain-of-a-project-or-development>.

Ref 1.1.11 Institute of Environmental Management and Assessment (No Date). EIA Quality Mark Scheme. [online] Available at: <https://www.iema.net/corporate-programmes/eia-quality-mark>.

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