Preliminary Environmental Information Report Volume 1

Chapter 14 Material Assets and Waste

LLK1-ARU-REP-ENV-000014
Version 0.0
January 2026

LIONLINK

Contents

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

Term	Description
	Nautical 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).

Term	Description
Order Limits	The maximum extent of land within which the Proposed Scheme may take place, as consented.
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)	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)). 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.
Project (the)	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. 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.
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.

Term	Description
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: a) Kiln Lane Substation. b) Underground High Voltage Alternating Current (HVAC) Cables; c) Converter Station. d) Underground High Voltage Direct Current (HVDC) Cables; and e) Landfall.
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	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. 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.
Scottish Power Renewables (SPR) East Anglia One North (EA1N) and East Anglia 2 (EA2) Consents (SPR EA1N and EA2 Consents)	The Orders made following the Scottish Power Renewables applications for development consent for the following projects: a) The East Anglia ONE North Offshore Wind Farm Order 2022; and b) East Anglia TWO Offshore Wind Farm Order 2022
Southern Route Option	A southern cable corridor option that would allow: a) Underground HVAC Cable delivery for Proposed Scheme only, or b) Underground HVAC Cable delivery for Proposed Scheme and ducting for Sea Links Underground HVAC and HVDC cables in that section.

Term	Description
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.
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.

14 Material Assets and Waste

14.1 Introduction

14.1.1 This chapter provides a preliminary assessment of the potential likely significant effects in relation to the Material Assets and Waste from the construction, operation and maintenance, and decommissioning of LionLink (hereafter referred to as 'the Proposed Scheme').

14.1.2 This chapter outlines legislation, policy and guidance that is relevant to Material Assets and Waste, summarises the engagement undertaken to date, sets out the scope and methodology of assessment, and describes the baseline environment. Following this, the likely significant effects of the Proposed Onshore Scheme on Material Assets and Waste are assessed taking account of mitigation measures within the design and control measures. The need for any additional mitigation is then considered along with any proposals for monitoring and/or enhancement. The chapter concludes with a summary of residual effects.

14.1.3 Material Assets and Waste aspects considered within this chapter for the Proposed Onshore Scheme are:

a. the consumption of materials resources;
   i. regional and/or national availability of the main materials required for the site preparation, construction and operation and maintenance;
   ii. Minerals Safeguarding Areas and Allocated Mineral Sites within or adjacent to the Draft Order Limits;
b. the generation and disposal of waste;
   i. the availability and capacity of regional and, where appropriate, national landfill facilities;
   ii. landfill void capacity for both inert and non-inert (non-hazardous and hazardous) landfill types, where available; and
   iii. historical and future trends in waste processing, recovery and/or landfill void capacity.

14.1.4 This chapter should be read in conjunction with **Chapter 2 Description of the Proposed Scheme** of this PEIR, which describes the development parameters against which the effects considered in this chapter have been assessed, and **Chapter 5 EIA Approach and Methodology**, which sets out the approach to the EIA assessment scenarios and general methodology used to provide consistency across assessment topics.

14.1.5 In addition, there may be interrelationships related to the potential effects on Material Assets and Waste and other disciplines. Therefore, this chapter should be read alongside relevant parts of other chapters; namely:

a. **Chapter 8 Ecology and Biodiversity** for detail on the location and management of peatland in the Proposed Onshore Scheme;

b. **Chapter 9 Geology and Contamination** to provide further details on location and spatial distribution of natural resources such as peat and other mineral resources;
c. **Chapter 17 Traffic and Transport** to provide further details on traffic routing; and
d. **Chapter 27 Climate Change** for information regarding carbon and greenhouse gas emissions associated with materials used in the construction, operation and maintenance of the proposed Onshore Scheme.

14.1.6 Material Assets and Waste have the potential to result in a wide range of environmental impacts. Where materials are used and waste is generated, along with how materials are managed, can result in visual impacts, dust, noise, vehicle emissions, and soil and water contamination. Consideration of these impacts and any mitigation measures do not form part of the Material Assets and Waste Assessment and have been considered as part of the other chapters of this PEIR where relevant.

14.1.7 This chapter is supported by the following appendices and figures:

a. **Figure 14.1a Development study area;**
b. **Figure 14.1.b Expansive study area;**
c. **Figure 14.2 Mineral designations;**
d. **Figure 14.3 Waste sites; and**
e. **Appendix 14.1 Material Assets and Waste Forecast Calculations.**

14.2 Legislation, and policy framework

14.2.1 This section identifies the legislation, policy and guidance that has informed the assessment of the likely significant effects on Material Assets and Waste.

14.2.2 **Table 14.1** lists the legislation relevant to the assessment of the likely significant effects on Material Assets and Waste.

Table 14.1: List of relevant legislation for Material Assets and Waste

Legislation	Relevance to assessment
Environmental Protection Act 1990 (Part 2): Waste on Land (Ref 1)	The Environmental Protection Act 1990 Part 2 Waste on Land imposes a Duty of Care on any person who imports, produces, carries keeps, treats or disposes controlled waste or, as a broker, has control of such waste.
The Environment Act 2021 (Ref 2)	The Environment Act provides the new UK framework for environmental protection principally directed to improvements in air and water quality, biodiversity and waste reduction.
The Hazardous Waste (England and Wales) Regulations 2005 (as amended) (Ref 3)	The Hazardous Waste (England and Wales) (Amendment) Regulations 2016 establish the regime for the control and tracking of the movement of hazardous waste. The Proposed Scheme will produce hazardous waste during construction and operation, and the management of hazardous waste streams are outlined in the assessment to comply with the Regulations.

Legislation	Relevance to assessment
The Waste (England and Wales) Regulations 2011 (Ref 4)	The Waste (England and Wales) Regulations 2011 implement the Waste Framework Directive in England and Wales and require waste producers to take account of the waste hierarchy which is a key element of the assessment.
Waste (Circular Economy) (Amendment) Regulations 2020 National Policy (Ref 5)	The Waste (Circular Economy) (Amendment) Regulations 2020 National Policy follows principles of the European Commission Circular Economy (CE) shall also be applied where relevant during assessment and reporting.
Waste Framework Directive (WFD) (as amended) (Directive 2008/98/EC) (Ref 6)	The Waste Framework Directive (WFD) (as amended) (Directive 2008/98/EC) lays down basic waste management principles. It establishes an order of preference for managing and disposing of waste, with the five-step "waste hierarchy" established in the Waste Framework Directive.
The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (as amended) (Ref 7)	The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (as amended) regulate the collection, treatment and disposal of WEEE.
EU Waste Framework Directive 2008/98/EC (Ref 8)	The EU Waste Framework Directive 2008/98/EC provides the overarching legislative framework for the collection transport, recovery and disposal of waste, and includes a common definition of waste, which is "*any substance or object which the holder discards or intends or is required to discard*", with the term "*discard*" including the disposal, recovery or recycling of a substance. The directive also mandates the Waste Hierarchy which requires that where waste is unavoidable products and materials should, subject to regulatory controls, be used again, for the same or a different purpose (re-use). Otherwise, assets should be recovered from waste through recycling. Value can also be recovered by generating energy from waste but only if none of the above offer an appropriate alternative solution.

National policy

Electricity Networks Infrastructure (EN-5) and the Overarching National Policy Statement for Energy (EN-1)

14.2.3 The primary policy which the Secretary of State must have regard to when deciding whether to grant a Development Consent Order (DCO) for the Proposed Scheme are the National Policy Statements (NPSs). Of particular relevance to the Proposed Scheme are the NPS for Electricity Networks Infrastructure (EN-5) and the Overarching National Policy Statement for Energy (EN-1). These sets out policy which guides how applications for development consent for energy infrastructure should be decided and how the effects of such infrastructure are considered.

14.2.4 **Table 14.2** lists the paragraphs from the NPSs and other national policy that are relevant to the Material Assets and Waste assessment. It also sets out where these policy requirements are addressed within this chapter.

Table 14.2: List of relevant national policy for Material Assets and Waste

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
Overarching National Policy Statement for Energy (Ref 9)		
5.15.2	Sustainable waste management is implemented through the waste hierarchy, which sets out the priorities that must be applied when managing waste. These are (in order): • Prevention • Preparing for reuse • Recycling • Other recovery, including energy recovery • Disposal	This requirement has been incorporated into the tertiary mitigation which is outlined in **Section 14.7**. Measures included in **Appendix 2.1 Outline Onshore Code of Construction Practice (Outline Onshore CoCP)** set out how reuse and waste minimisation measures are incorporated into the Proposed Onshore Scheme. Further sustainable waste management measures will be applied through the development of a Site Waste Management Plan (SWMP), which will ensure that waste will be managed in line with good practice and the waste hierarchy.
5.15.3	Disposal of waste should only be considered where other waste management options are not available or where it is the best overall environmental outcome.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. This sets out that reuse and waste minimisation measures have been incorporated to design out waste. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management ensure waste would be managed in line with good practice and the waste hierarchy.
5.15.6	Applicants must demonstrate that development proposals are in line with Defra's policy position on the role of energy from waste in treating residual waste.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. This sets out that reuse and waste minimisation measures have been incorporated to design out waste. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management ensure waste would be managed in line with good practice and the waste hierarchy.

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
5.15.7	The proposed plant must not compete with greater waste prevention, re-use, or recycling, or result in over-capacity of Energy from Waste (EfW) or similar processes for the treatment of residual waste at a national or local level.	To adhere to this requirement, suitable mitigation measures have been implemented and are outlined in **Section 14.7**.
5.15.8, 5.15.9	The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a report that sets out the sustainable management of waste and use of resources throughout any relevant demolition, excavation and construction activities. The arrangements described and a report setting out the sustainable management of waste and use of resources should include information on how re-use and recycling will be maximised in addition to the proposed waste recovery and disposal system for all waste generated by the development. They should also include an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. This sets out that reuse and waste minimisation measures have been incorporated into the design. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management ensure waste would be managed in line with good practice and the waste hierarchy. To further satisfy this policy an assessment of likely significant effects on waste management has been undertake in **Section 14.8** of this chapter.
5.15.10	The applicant is encouraged to refer to the Waste prevention Programme for England: Maximising Resources Minimising Waste and should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. This sets out that reuse and waste minimisation measures have been incorporated into the design. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management ensure waste would be managed in line with good practice and the waste hierarchy.
5.15.12	The UK is committed to moving towards a more 'circular economy'. Where possible, applicants are encouraged to source materials from recycled or reused sources and use low carbon materials, sustainable sources and local suppliers. Construction best practices should be used to ensure that material	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. This sets out that reuse and waste minimisation measures have been incorporated into the design. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
	is reused or recycled on-site where possible.	direct an effective circular economy approach during the construction phase and ensures that waste would be managed in line with good practice and the waste hierarchy.
5.15.13	Applicants are also encouraged to use construction best practices in relation to storing materials in an adequate and protected place on site to prevent waste, for example, from damage or vandalism. The use of Building Information Management tools (or similar) to record the materials used in construction can help to reduce waste in future decommissioning of facilities, by identifying materials that can be recycled or reused.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site waste management ensures that waste would be managed in line with good practice and the waste hierarchy.
National Planning Policy Framework (2024) (Ref 10)		
Section 2: Achieving sustainable development Paragraphs 7 to 14	The NPPF emphasises the need for achieving sustainable development, with an environmental objective which includes making effective use of land, using natural resources prudently, minimising waste and pollution.	The requirement has been incorporated into embedded mitigation which is outlined in **Section 14.7**, and the measures included in the **Outline Onshore CoCP (Appendix 2.1)** regarding site waste management for the Proposed Onshore Scheme. These will ensure that waste generation will be reduced, and unavoidable wastes will be managed in line with good practice and the waste hierarchy.
Section 17: Facilitating the sustainable use of materials Paragraphs 222 to 230	By facilitating the sustainable use of Minerals, and Maintaining Supply, it considers the essential supply of minerals to provide long-term construction needs of the country and to take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously. The policy encourages the prior extraction of minerals, where practical and environmentally feasible, and to maintain a steady and adequate supply of aggregates.	Parts of the Proposed Onshore Scheme are located within Minerals Consultation Areas (MCAs) as defined by the Mineral Planning Authority and is considered in **Sections 14.6**, **14.7** and **14.8**.

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
Paragraph 223 (c)	Safeguard mineral resources by defining Minerals Safeguarding Areas and Minerals Consultation Areas.	This places a requirement on the Mineral Planning Authority to identify Minerals Safeguarding Areas (MSAs) and MCAs. Parts of the Proposed Onshore Scheme are located within MCAs as defined by the Mineral Planning Authority and is considered in **Sections 14.6**, **14.7** and **14.8**.
Paragraph 226 (f)	Maintain landbanks of at least seven years for sand and gravel and at least ten years for crushed rock.	This requires the Mineral Planning Authority to maintain landbanks for minerals. This has been considered in the future baseline contained in **Section 14.6**.
Paragraph 227 (c) Footnote 81	Maintaining a landbank of at least 25 years for brick clay.	This requires the Mineral Planning Authority to maintain landbanks for minerals. This has been considered in the future baseline contained in **Section 14.6**.
National Planning Policy for Waste (2014) (Ref 11)		
The National Planning Policy for Waste is the formal replacement for Planning Policy Statement 10 (PPS10). It follows the principles set out in PPS10, which states that waste should be managed in line with the principles of the waste hierarchy. It is important to ensure that, where possible, waste arisings are minimised to reduce environmental impacts.		
8	The application should demonstrate that the likely impact of a proposed development on existing sites and areas allocated for waste management, is acceptable, does not prejudice the implementation of the waste hierarchy and/or the efficient operation of such facilities.	**Section 14.6** considered the baseline for waste sites in the expansive study area. **Section 14.8** provides and assessment of likely significant effects on waste management capacity from the construction of the Proposed Onshore Scheme.
8	The application should demonstrate that a proposed development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with the rest of the development and, in less developed areas, with the local landscape.	**Section 14.7** describes the measures included to design out waste. Further measures are included in **Appendix 2.1 Outline Onshore CoCP** including site waste management ensure waste would be managed in line with good practice and the waste hierarchy.
8	The application should demonstrate that the handling of waste arisings from the construction and operation of the Proposed Development maximises	**Section 14.7** sets out that reuse has been incorporated into the design. The measures included in **Appendix 2.1 Outline Onshore CoCP** regarding site

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
	reuse/recovery opportunities, and minimises off-site disposal.	waste management ensure waste would be managed in line with good practice and the waste hierarchy.
Our Waste, Our Resource: a strategy for England (2018) (Ref 12)		
	The Resources and Waste Strategy for England 2018 focuses on the importance of driving waste management up the waste hierarchy and states the importance of considering the Government's ambition of promoting resource efficiency and moving towards a circular economy. The Green Construction Board has begun developing guidance for increasing resource efficiency and reducing waste in the construction sector through the adoption of circular economy principles and establishing a definition for net zero avoidable waste.	**Section 14.7** describes the measures included to design out waste. Further measures are included in **Appendix 2.1 Outline Onshore CoCP** including site waste management ensure waste would be managed in line with good practice and the waste hierarchy.
The Waste Management Plan for England (2021) (Ref 13)		
	The Waste Management Plan for England fulfils the requirements of the Waste (England and Wales) Regulations 2011 for waste management plans to be reviewed every six years. While the Resources and Waste Strategy sets out a vision and associated policies to move to a more circular economy, the Waste Management Plan for England focuses on waste arisings and their management. It provides a high-level analysis of the current waste management situation in England and evaluates how implementation of the objectives of the Waste (England and Wales) Regulations 2011 will be supported.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. The measures included in the **Outline Onshore CoCP (Appendix 2.1)** set out how reuse and waste minimisation are incorporated into the Proposed Onshore Scheme. The lead contractor shall be responsible for preparing and maintain a SWMP which complies with the requirements set out in the Outline Onshore CoCP and would provide further detail appropriate to the level of design.
The Waste Prevention Programme for England (2013) (Ref 14)		
	The Waste Prevention Programme in England for 2013 was set out in the policy paper 'Prevention is better than cure: The role of waste prevention in moving to a more resource efficient, circular economy'.	The requirement has been incorporated into the embedded mitigation which is outlined in **Section 14.7**. Measures included in the **Outline Onshore CoCP (Appendix 2.1)** set out how reuse and waste minimisation

Relevant paragraph reference	Summary of policy requirement	Where addressed in PEIR
		measures are incorporated into the Proposed Onshore Scheme.

14.2.5 In April 2025, the Department for Energy Security and Net Zero (DESNZ) published the consultation on the revised energy NPS's, with draft updates made to NPS EN-1, NPS EN-3 and NPS EN-5. The Applicant recognises the clarifications that are proposed in the draft NPS's, including specific reference to Offshore Hybrid Asset's directed into the NSIP regime under Section 35 of the Planning Act 2008 (draft NPS EN-1 paragraph 4.2.18 and draft NPS EN-3 paragraph 1.6.3).

14.2.6 The Applicant acknowledges that the draft policy is subject to change and therefore all potentially relevant references that apply to the Proposed Scheme are not recorded within this PEIR.

14.2.7 The Applicant will continue to monitor the progress of the designation of the draft NPS's and their applicability to the Proposed Scheme, as it progresses through Statutory Consultation and towards the submission of the application for development consent.

Local policy

14.2.8 The local policies listed in **Table 14.3** are considered relevant to the Material Assets and Waste assessment of the Proposed Onshore Scheme.

Table 14.3: List of relevant local policy for Material Assets and Waste

Local planning authority	Relevant local policy	Relevance to assessment
Suffolk County Council	Suffolk Minerals and Waste Local Plan (SMWLP) 2020 (Ref 15)	Suffolk Minerals and Waste Local Plan (SMWLP) 2020 contains planning policies for determining planning applications for minerals and waste development, as well as safeguarding the same from other forms of competing development. The SWMLP takes a positive approach to minerals and waste development that reflects the presumption in favour of sustainable development. The local Plan includes data on the availability of primary, secondary and recycled aggregates; presence of mineral safeguarded sites and/or peat resources; and Information on licensed waste management capacity, including remaining landfill void space and waste

Local planning authority	Relevant local policy	Relevance to assessment
		transfer, waste treatment, metal recycling and waste incineration facilities.

Guidance

14.2.9 In addition, this assessment has been compiled in accordance with the following relevant guidance:

a. Planning Policy Guidance for Waste (2015) (Ref 16);
b. Site Waste Management Plans, (2004) Guidance for Construction Contractors and Clients Voluntary Code of Practice) (Ref 17);
c. DEFRA, (2009) Construction Code of Practice for Sustainable Use of Soils on Construction Sites) (Ref 18);
d. CL:AIRE (2011) Definition of Waste: Development Industry Code of Practice (Ref 19); and
e. IEMA (now the Institute of Sustainability and Environmental Professionals (ISEP)) (2020) Guide to: Materials and Waste in Environmental Impact Assessment (Ref 20) (hereafter referred to as the 'IEMA Guidance').

14.3 Consultation and engagement

14.3.1 This section provides details of the ongoing technical engagement that has been undertaken with key stakeholders and provides a brief overview of the non-statutory public consultation undertaken to date relevant to Material Assets and Waste.

14.3.2 It also describes the outcome of, and response to, the **Scoping Opinion** (Ref 21) in relation to the Material Assets and Waste assessment.

14.3.3 Feedback from engagement and consultation are used to define the assessment approach and to ensure that appropriate baseline information is used.

14.3.4 It should be noted that feedback is also used to drive the design of the Proposed Scheme to avoid, prevent and reduce any likely environmental effects. **Chapter 3 Alternatives and Design Evolution** of this PEIR reports how the Proposed Scheme design has evolved in response to feedback and details of proposed embedded design (Primary) mitigation and standard good practice (Tertiary) mitigation measures relevant to the Material Assets and Waste assessment are provided in **Section 14.7** of this chapter.

Consultation

Non-Statutory Consultation

14.3.5 Feedback received from stakeholders following the close of Non-Statutory Consultation in 2022 and 2023 is outlined within the **Interim Non-Statutory**

Consultation Feedback Summary Report 2023 (Ref 22) and **Supplementary Non-Statutory Consultation Summary Report 2024** (Ref 23).

14.3.6 Responses relating to Material assets and waste were received from Suffolk County Council (SCC). **Table 14.4** includes a summary of key non-statutory consultation feedback received to date and how this has been addressed within the PEIR or will be within the ES.

Table 14.4 Summary of key non-statutory consultation feedback

Stakeholder	Comment	Applicant Response
Suffolk County Council (SCC);	The County Council as minerals and waste planning authority has responsibility for the safeguarding of planned and operational minerals and waste facilities as well as underlying minerals resources. Reference to the Safeguarding plans attached to the Suffolk Minerals & Waste Local Plan indicate that the proposals have the potential to come into conflict with a Concrete Batching Plant at Saxmundham and a number of Wastewater Treatment Plants.	The Scoping boundary has been refined and the Draft Order Limits have been further from the Safeguarded concrete batching plant at Saxmundham and beyond the 400m Sewage treatment plant buffers shown on the Suffolk Minerals & Waste Local Plan. The (see Chapter 3 Alternatives and Design Evolution)
Suffolk County Council (SCC);	In terms of the underlying sand and gravel resources the majority of the proposed development is not irreversible and although during the operational life time of the proposal, which would likely extend beyond the life time of anybody alive today, extraction within parts the area occupied by the underground cables would not be possible. Where minerals are extracted on site during the course of construction then they should be used in the construction of the proposed development where possible. Removal of the development following cessation of use should be required to restore access to mineral resources.	The mineral resources are considered in 14.4 Assessment Methodology, 14.6 Baseline Conditions and. 14.8 Assessment Methodology.

Stakeholder	Comment	Applicant Response
Suffolk County Council (SCC);	Waste created during construction, operation and decommissioning should be treated in accordance with the waste hierarchy of: a) prevention; b) preparing for re-use; c) recycling; d) other recovery, and; e) disposal.	Mitigation measures are outlined in Section 14.7. Waste minimisation measures, delivery and responsible parties for the Proposed Onshore Scheme are set out in **Appendix 2.1 Outline Onshore CoCP** and will be developed further as part of the ES and secured through the DCO

14.3.7 All feedback received has been considered as part of the ongoing EIA.

EIA Scoping Opinion

14.3.8 An Environmental Impact Assessment (EIA) Scoping Opinion was adopted by the Planning Inspectorate on behalf of the Secretary of State on 16 April 2024. Comments received from the Planning Inspectorate in relation to Material Assets and Waste are provided in **Table 14.5**.

Table 14.5: Preliminary response to Planning Inspectorate Scoping Opinion Comments on Material Assets and Waste

Scoping Opinion ID	Scoping Opinion Comment	How this is addressed
3.12.1	The inspectorate agrees that the effects during operation can be scoped out of the ES. The ES should include a description of proposed standard materials used and/or waste management procedures and confirm how these would be secured as part of the DCO. The ES must contain estimates of types, quantities of materials and waste arising from operation including repair or refurbishment.	The Environmental Statement (ES) shall consider estimated types and quantities of materials and waste arising from operation including repair or refurbishment, where there is potential for likely significant effects. **Appendix 2.1 Outline Onshore CoCP** sets out proposed preliminary waste management activities and the use of construction materials and will be developed further as part of the ES and secured through the DCO. Based on the nature and likely quantum of materials and waste during operation, this is scoped out of the assessment.
3.12.2	The Inspectorate is content that operational effects can be scoped out of the assessment provided that the construction phase assessment includes consideration of any permanent sterilisation of natural resource including minerals and peat.	**Section 14.6** and **14.8** sets out the construction phase assessment, which includes consideration of any temporary and permanent sterilisation of natural resources.

Scoping Opinion ID	Scoping Opinion Comment	How this is addressed
3.12.3	The ES should make clear how any mitigation measures are relied upon to avoid, reduce or minimise significant adverse effects are to be delivered/secured through the DCO	Mitigation measures are outlined in **Section 14.7**. Waste minimisation measures, delivery and responsible parties for the Proposed Onshore Scheme are set out in **Appendix 2.1 Outline Onshore CoCP** and will be developed further as part of the ES and secured through the DCO.
3.12.4	The ES should describe any likely significant effects arising from constraint of peat resource during construction.	The construction phase assessment includes consideration of temporary and permanent sterilisation of natural mineral resources in **Section 14.6**. **Chapter 8 Ecology and Biodiversity** and **Chapter 9 Geology and Contamination** of the ES will provide further consideration of peat.
3.12.5	The EIA Scoping Opinion advises the expected type and quantity of natural resource(s) required to construct and operate the Proposed Development should be described in the ES. This should include consideration of water resource requirements.	The expected type and quantity of natural resource(s) required to construct the Proposed Onshore Scheme are considered in **Section 14.6**.

Engagement

14.3.9 This section provides details of the ongoing technical engagement that has been undertaken with stakeholders in relation to Material Assets and Waste.

Key stakeholders

14.3.10 Key stakeholders with views and concerns regarding Material Assets and Waste have been identified as including:

a. Suffolk County Council; and
b. Environment Agency.

14.3.11 A consultation meeting was undertaken with Suffolk County Council in August 2023 to discuss and agree the scope and methodology of the Material Asset and Waste assessment. During the meeting the status of the mineral and waste sites were discussed and possible mitigation measures. Suffolk County Council confirmed the following:

a. Material is imported from other countries via wharfs. This is to supply crushed rock with a higher polished stone value which is not available locally.
b. There is a sand and gravel MCA within the Draft Order Limits. The MCA can be seen on **Figure 14.2 Mineral designations**.

c. There are no operational commercial peat reserves in Suffolk, although there are records of historic resources in the region but not within the Draft Order Limits.
d. There are also no identified hazardous waste facilities in Suffolk, and therefore any hazardous waste may need to be exported out of the region. There are two dry non-reactive hazardous waste cells, within Suffolk.
e. The national importance of the proposals outweighs the sterilisation of the affected regionally important minerals

14.3.12 Additional engagement with stakeholders will continue during and beyond statutory consultation, and further comments received will be addressed in the ES.

14.4 Assessment methodology

14.4.1 This section outlines the methodology followed to assess the likely significant effects of the Proposed Onshore Scheme in relation to Material Assets and Waste comprising:

a. scope of the assessment;
b. study area;
c. methodology;
d. receptor sensitivity, magnitude of impact and significance of effects criteria and
e. assessment of cumulative effects.

14.4.2 The project-wide approach to the assessment methodology is set out in **Chapter 5 EIA Approach and Methodology** of this PEIR.

14.4.3 The assessment methodology followed for the Material Assets and Waste assessment is based on the IEMA Guidance (Ref 20). This guidance is considered an industry best practice approach, which was developed with the support of the IEMA Impact Assessment network (now ISEP) with input from a wide range of professionals and organisations. It provides comprehensive guidance on assessing the impacts and effects of materials and waste on the environment across various project scales.

14.4.4 The preliminary assessment of likely significant effects on waste management in **Section 14.8**, includes a sensitivity analysis which considers the potential for unforecasted quantities of construction waste to change the identified significance of effects. Further work will be undertaken to enable a forecast of waste from construction and excavation of the infrastructure works; this will be used to inform the Proposed Onshore Scheme design and the ES.

Scope of the assessment

14.4.5 Potential likely significant effects requiring assessment may be temporary or permanent and may occur during construction, operation and maintenance, and/or decommissioning. Potential likely significant effects for Material Assets and Waste within the scope of the assessment are summarised in **Table 14.6**.

The scope of the assessment has responded to feedback received as detailed in **Section 14.3**.

14.4.6 This section describes the temporal scope for the assessment as it applies to the Material Assets and Waste. Any areas required for all temporary or permanent works have been considered in this assessment. Temporary works include temporary access roads, site compounds, working platforms stockpiling and other enabling activities within the development study area.

14.4.7 Potential impacts could include the temporary use of waste management facilities capacity (during treatment, if relevant) and a permanent decrease in landfill capacity (disposal). Landfill is a finite resource and the ongoing disposal of waste puts pressure on the existing facilities or requires new sites to be developed. Similarly, waste management and waste treatment facilities have limits on processing capacity, therefore there is the potential for the Proposed Onshore Scheme to utilise a proportion of the remaining available capacity temporarily for the duration of construction.

14.4.8 The first edition of the IEMA Guidance (Ref 20) does not currently include a proposed methodology to assess the impacts and effects during decommissioning due to uncertainties regarding future infrastructure, waste management technologies and legislation. In the absence of appropriate assessment methodology and data, professional judgement has been applied to ensure relevant impacts are appropriately considered, rather than scoped out. Based on professional judgement, construction impacts are likely to be equal or greater in magnitude than the decommissioning impacts, and as such the conclusions for construction effects have been used as a reasonable worst case proxy assessment for decommissioning.

Table 14.6: Summary of the scope for Material Assets and Waste assessment

Receptor	Construction	Operation	Decommissioning
Materials	Scoped in	Scoped out	Scoped in
Waste	Scoped in	Scoped out	Scoped in

Study area

14.4.9 This section describes the spatial scope (the area which may be impacted) for the assessment as it applies to Material Assets and Waste.

14.4.10 The IEMA Guidance (Ref 20) recommends that, where materials can be sourced and waste managed locally, the study area may be commensurately small. Where material sourcing and waste management is required at a regional, national and international level, it recommends that the study area is defined accordingly.

14.4.11 The IEMA Guidance also recommends that two study areas are proposed for materials and waste:

a. The 'development study area' (**Figure 14.1a**) comprises the Draft Order Limits for the Proposed Onshore Scheme, including any areas required for temporary access, site compounds, working platforms and other enabling activities.
b. The 'expansive study area' (**Figure 14.1b**) extends to the availability of construction materials and remaining landfill void space within a defined region or, as appropriate, across multiples regions or nationally, where justified.

14.4.12 Professional judgement has been applied to define the expansive study area for Material Assets and Waste. The study area for construction materials has been expanded nationally.

Materials

14.4.13 The expansive study area for materials availability was determined through a desk-based assessment, which was carried out using professional judgement and available baseline information.

14.4.14 The key materials required for construction of the Proposed Onshore Scheme were identified. Data on the baseline availability of these key materials at a local level was then sought. Where baseline availability data was not available, or where the quantities and types of key materials did not meet the Proposed Onshore Scheme requirements, the expansive study area was extended proportionately to a regional level (East of England) or national level (Great Britain or United Kingdom) as required.

Waste

14.4.15 In accordance with the IEMA Guidance (Ref 20) the expansive study area extends to the remaining landfill capacity within a defined region or across multiple regions. The Proposed Onshore Scheme is situated in the East of England region and is shown in **Figure 14.1b**.

14.4.16 The expansive study area for waste has been determined using the latest available data published by the Environment Agency in the 2023 Waste Data Interrogator (Ref 24) and the 2023 Hazardous Waste Interrogator (Ref 25). The published data is updated on an annual basis. This will be reviewed at ES stage with calculations and assessment completed against the most recent available data.

14.4.17 The Environment Agency Waste Data interrogator (Ref 24) indicates that the East of England has no remaining hazardous waste landfill capacity within the region. The expansive study area has, therefore been extended to identify the nearest region with hazardous waste landfill capacity. The expansive study areas are as follows:

a. inert (East of England);
b. non-hazardous (East of England); and
c. hazardous (East Midlands)

14.4.18 The IEMA Guidance (Ref 20) sets out the main direct impacts and effects for consideration to assess for material consumption and waste disposal as detailed in **Table 14.7**.

Table 14.7: Material consumption and waste disposal impacts (based on IEMA Guidance (Ref 20))

Element	Direct Impacts	Adverse effects
Materials	Consumption of resources	Depletion of resources, resulting in the temporary or permanent degradation of the natural environment.
Waste	Generation and disposal of waste	Reduction in landfill capacity. Unsustainable use or loss of resources to landfill which results in the temporary or permanent degradation of the natural environment.

Assessment scenarios

14.4.19 **Chapter 2 Description of the Proposed Scheme, Section 2.3** of this PEIR provides a description of the Proposed Onshore Scheme, including a geographical description of the site and surroundings. **Chapter 5 EIA Approach and Methodology** of this PEIR provides an overview of the Proposed Scheme's approach to the temporal scope (the time scales over which impacts may occur) of the EIA.

14.4.20 The assessment scenarios and options to be considered are set out within **Section 5.6 Assessment Scenarios and Options** of **Chapter 5** of this PEIR.

14.4.21 Further details regarding the assessment scenarios with regards to Material Assets and Waste are provided in **Appendix 14.1**.

14.4.22 Both options (Northern Route Option and Southern Route Option) with regards to the proposed Underground High Voltage Alternating Current (HVAC) Cable Corridor as described in **Chapter 5 EIA Approach and Methodology** have been assessed. For the HVAC Cable Southern Route Option, the HVAC Cable Route LionLink Infrastructure and ducting for Sea Link Scenario has been assessed as the worst case.

14.4.23 Both options with regards to the proposed Underground High Voltage Direct Current (HVDC) Cable Corridor as described in **Chapter 5 EIA Approach and Methodology** have been assessed.

14.4.24 At this preliminary stage of the design is material quantities and detailed Bill of Quantities is not available for the construction of the proposed Converter Station and Kiln Lane Substation. Therefore, an assessment of effects is not possible at this stage of the Proposed Onshore Scheme. A detailed assessment will be completed at ES Stage based on the available design information.

Baseline methodology

Data collection

14.4.25 Baseline data collection has been undertaken to obtain information over the study area. This section provides the approach to collecting baseline data.

14.4.26 The following sources of data have been utilised to inform the baseline with respect to Material Assets and Waste (**Table 14.8**).

Table 14.8: Data sources used to inform the Material Assets and Waste assessment

Source of data	Baseline data
Environment Agency Waste Interrogator 2019-2023 (Ref 24)	The Waste Data Interrogator includes remaining landfill capacity volumes for each year. This is split into Non-Hazardous Landfill with Stable Non-Reactive Waste (SNRHW), Non-Hazardous and Inert landfill (Obtained April 2025).
Environment Agency Hazardous Waste Interrogator (Ref 25)	The Hazardous Waste Data Interrogator includes all movements of hazardous waste in England and Wales, high-level waste classification geographical locations and tonnage (Obtained April 2025).
Environment Agency Remaining Landfill Capacity 2023 (Ref 26)	The Environment Agency Remaining Landfill Capacity provides datasets for remaining landfill void by site (Obtained April 2025).
Suffolk Minerals and Waste Local Plan (SMWLP) (Ref 15)	The SMWLP includes data on the availability of primary, secondary and recycled aggregates; presence of mineral safeguarded sites and/or peat resources; and Information on licensed waste management capacity, including remaining landfill void space and waste transfer, waste treatment, metal recycling and waste incineration facilities (Obtained April 2025).
East of England Aggregates Working Party (EEAWP) Annual Report 2023 (Ref 27)	The EEAWP contains data on the aggregate sales and reserve data for 2023 have been taken from survey returns made by operators to their respective mineral planning authorities, or, in the case of marine aggregate data, from The Crown Estate's Non-Confidential Statistics for 2023. Information has also been sought on secondary and recycled aggregates along with records of mineral planning applications which have been granted, refused, withdrawn or remain undetermined over the monitoring period (Obtained April 2025).
Suffolk Local Aggregates Assessment 2021-2022 (SLAA) (Ref 28)	The SLAA addresses the National Planning Policy Framework requirements including the forecast of the demand for aggregates, an analysis of all aggregate supply options and an assessment of the balance between demand and supply (Obtained April 2025).
Mineral Products Association (MPA), Regional overview of construction and mineral	The MPA regional overview presents the prospects for construction demand for mineral products, sales of aggregates and construction activity in the UK (Obtained April 2025).

Source of data	Baseline data
products markets in Great Britain 2024 (Ref 29)	
British Geological Survey World Mineral Production 2018-2022 (Ref 30)	The British Geological Survey World Mineral Production report provides statistics on the production of over mineral commodities worldwide, highlighting trends and changes in mineral production over a five-year period (Obtained April 2025).
LandIS Soilscapes Viewer (Ref 31)	The LandIS Soilscapes Viewer provides detailed soil information, such as regional soil variations and their environmental implications, for specific locations across England and Wales (Obtained April 2025).
Natural England Peaty Soils Location (England) (Ref 32)	The Natural England Peaty Soils Location dataset identifies the extent of three classes of peaty soils across England. This dataset is intended to facilitate enhanced coordination among stakeholders in the understanding, management, and restoration of peaty soils (Obtained April 2025).

14.4.27 Baseline data collection for the Material Assets and Waste assessment has been desk based.

Site surveys

14.4.28 No site surveys specific to the Material Assets and Waste assessment are required to be undertaken as part of the EIA process. Therefore, no surveys will take place to support this chapter.

Assessment methodology

14.4.29 The general approach to assessment is set out in **Chapter 5 EIA Approach and Methodology** of this PEIR. Chapter 5 sets out the consistency sought and states the exception where required by guidance. This assessment deviates from the general approach set out in Chapter 5. This chapter follows the methodology and terminology set out in the IEMA guide to: Materials and Waste in Environmental Impact Assessment (Ref 20). The receptor sensitivity and magnitude of impacts are defined below.

Material receptors

14.4.30 The IEMA Guidance (Ref 20) considers that materials are sensitive receptors, in their own right. Consuming materials impacts upon their immediate and (in the case of primary materials) long-term availability; this results in the depletion of natural resources.

Waste receptors

14.4.31 The IEMA Guidance (Ref 20) considers that, for the waste topic, the sensitive receptor is landfill capacity. Consented landfill void is at any one point in time a

finite resource and, through the ongoing disposal of waste, there is a continued need to find alternative means of disposal or recovery.

14.4.32 Landfill void capacity is considered as the sensitive receptor as landfill capacity is considered a finite resource in accordance with the IEMA Guidance (Ref 20). Disposal to landfill results in a permanent impact and the landfill void capacity is no longer available (e.g. in most cases is irreversible).

14.4.33 Impacts on other types of waste management infrastructure (e.g. material recovery facilities) are temporary in nature. The impacts occur over a period of months or years. In accordance with the IEMA Guidance (Ref 20), waste processing and recovery facilities are not considered as receptors, they are part of a system that has the potential to reduce the magnitude of adverse impacts associated with waste generation and disposal. These types of waste management infrastructure are better placed to react to waste management market demands (e.g. by provision of additional plant and equipment).

Sensitivity

Material receptors

14.4.34 The sensitivity of material receptors (i.e. material demand for construction) depends on the availability in the UK and the type of resources to be consumed during construction of the Proposed Onshore Scheme. The assessment has been based on the outline parameters described in **Chapter 2 Description of the Proposed Scheme** of this PEIR, insofar as they relate to the worst-case scenario assessed for the purpose of this chapter as set out in **Section 14.4** above. Taking into account the worst-case scenario using the maximum proposed footprints. The criteria described within **Table 14.9** have been used to determine the sensitivity of materials as defined in the IEMA Guidance (Ref 20).

Table 14.9: Thresholds for considering the sensitivity of material receptor (IEMA Guidance (Ref 20))

Sensitivity	Negligible	Low	Medium	High	Very High
Criteria for material receptor sensitivity	On balance, the key materials required for the construction of a development are forecast (through trend analysis and other information) to be free from	On balance, the key materials required for the construction of a development are forecast (through trend analysis and other information) to be generally	On balance, the key materials required for the construction of a development are forecast (through trend analysis and other information) to suffer from	On balance, the key materials required for the construction of a development are forecast (through trend analysis and other information) to suffer from	On balance, the key materials required for the construction of a development are known to be insufficient in terms of production, supply and/or stock

Sensitivity	Negligible	Low	Medium	High	Very High
	known issues regarding supply and stock and/or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials.*	free from known issues regarding supply and stock and/or Are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials	some potential issues regarding supply and stock and/or Are available comprising some sustainable features and benefits compared to industry-standard materials.	known issues regarding supply and stock and/or Comprise little or no sustainable features and benefits compared to industry-standard materials.	and/or Comprise no sustainable features and benefits compared to industry-standard materials.

*Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise reused, secondary or recycled content (including excavated and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts.

Waste

14.4.35 The sensitivity of waste receptors relates to the availability of regional (and where appropriate, national) landfill void capacity; this is assessed by virtue of the rate at which the available capacity is anticipated to change in the absence of the Proposed Onshore Scheme. The sensitivity thresholds, taken from IEMA Guidance (Ref 20), are identified in **Table 14.10**.

Table 14.10: Thresholds for considering the sensitivity of landfill capacity (Ref 20)

Sensitivity	Negligible	Low	Medium	High	Very High
Inert and non-hazardous ***(The baseline/future baseline of inert and non-hazardous landfill void capacity is expected to...)***	Remain unchanged or is expected to increase through a committed change in capacity.	Reduce minimally: by < 1% as a result of wastes forecast.	Reduce noticeably: by 1–5% as a result of wastes forecast.	Reduce considerably: by 6–10% as a result of wastes forecast.	Reduce very considerably (by > 10%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to be put in place to meet forecast demand.

Sensitivity	Negligible	Low	Medium	High	Very High
Hazardous ***(The baseline/future of hazardous landfill void capacity is expected to...)***	Remain unchanged or is expected to increase through a committed change in capacity.	Reduce minimally: by < 0.1% as a result of wastes forecast.	Reduce noticeably: by 0.1–0.5% as a result of wastes forecast.	Reduce considerably: by 0.5–1% as a result of wastes forecast.	Reduce very considerably (by > 1%); end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.

14.4.36 The sensitivity of landfill capacity in the expansive study area has been determined through the sourcing and use of data relating to the inert, non-hazardous and hazardous landfill void capacity data in the East of England region and, where appropriate / needed, across multiple regions.

14.4.37 For purposes of the construction phase waste assessment, it is necessary to forecast waste generated throughout the construction period (2028 to 2032). The construction waste forecast has been broken down into the distinct construction phase works typically generating waste; these are demolition, excavation and construction. The assessment is then undertaken on the portion of the total estimated waste generation for the construction period considered likely to require off-site disposal to landfill, compared to the landfill capacity forecast to be available in the final year of construction for each waste type (inert, non-hazardous, and hazardous). The likely significant effects of the Proposed Onshore Scheme are identified taking into account the primary and tertiary mitigation. Following assessment, secondary mitigation is identified as required, which is presented in **Section 14.9**.

Magnitude of impacts

Material receptors

14.4.38 The methodology for assessing the magnitude of impact on materials comprises a percentage-based approach that determines the influence of materials consumption on the baseline market capacity (production, stocks or sales), in construction and/or operation, in combination with the potential to sterilise (substantially) one or more allocated mineral site (Ref 20). The magnitude thresholds for materials taken from the IEMA Guidance (Ref 20) to be used are shown in **Table 14.11**.

Table 14.11: Thresholds for considering the magnitude of impacts for materials (IEMA Guidance (Ref 20))

No Change	Negligible	Minor	Moderate	Major
No material is required.	No individual material type is equal to or greater than 1% by volume of the expansive study area baseline availability.	One or more materials is between 1–5% by volume of the expansive study area baseline availability. and/or The development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk.	One or more materials is between 6–10% by volume of the expansive study area baseline availability. and/or One allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.	One or more materials is >10% by volume of the expansive study area baseline availability. and/or More than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.

Waste

14.4.39 The magnitude of impacts from waste has been assessed by determining the percentage of the remaining landfill void capacity that would be depleted by waste produced during the construction of the Proposed Onshore Scheme. For the magnitude assessment, the Landfill Void Capacity (W1) method as described in the IEMA guidance methodology (Ref 20), has been considered over the Landfill Diversion (W2). IEMA (now ISEP) consider the W1 method to be a more robust and detailed methodology, and they recommend this for statutory EIA.

14.4.40 The magnitude thresholds for waste to be used are shown in **Table 14.12**.

Table 14.12: Thresholds for considering the magnitude of impacts for waste (IEMA Guidance (Ref 20))

Magnitude	No Change	Negligible	Minor	Moderate	Major
Inert and non-hazardous	Zero waste generation and disposal from the development.	Waste generated by the development will reduce regional*landfill void capacity baseline** by < 1%.	Waste generated by the development will reduce regional* landfill void capacity baseline** by 1–5%.	Waste generated by the development will reduce regional* landfill void capacity baseline** by 6–10%.	Waste generated by the development will reduce regional* landfill void capacity baseline** by > 10%.

Magnitude	No Change	Negligible	Minor	Moderate	Major
Hazardous	Zero waste generation and disposal from development.	Waste generated by the development will reduce national landfill void capacity baseline** by < 0.1%.	Waste generated by the development will reduce national landfill void capacity baseline** by < 0.1–0.5%.	Waste generated by the development will reduce national landfill void capacity baseline** by < 0.5–1%.	Waste generated by the development will reduce national landfill void capacity baseline** by > 1%.

* Or, where justified, national

** Forecast as the worst-case scenario, during a defined construction and/or operational phase.

Significance

14.4.41 The magnitude of environmental effects associated with materials and waste has been determined by considering the scale and nature of impacts, as defined in **Table 14.11** and **Table 14.12** within the context of the sensitivity of receptors affected, as defined in **Table 14.9** and **Table 14.10**. The significance of effects is presented in **Table 14.13**.

Table 14.13: Significance of effects matrix (in accordance with IEMA Guidance (Ref 20))

Effects		Magnitude of Impact				
		No Change	Negligible	Minor	Moderate	Major
Sensitivity (or value) of receptor	Very high	Neutral	Slight	Moderate / Large	Large / Very large	Very large
	High	Neutral	Slight	Slight / Moderate	Moderate / Large	Large / Very large
	Medium	Neutral	Neutral / Slight	Slight	Moderate	Moderate / Large
	Low	Neutral	Neutral / Slight	Neutral / Slight	Slight	Slight / Moderate
	Negligible	Neutral	Neutral	Neutral / Slight	Neutral / Slight	Slight

14.4.42 The environmental effects, and the associated significance, have been assessed as a function of the sensitivity of the identified receptors (inert, non-hazardous, and hazardous landfill capacity), and the magnitude of impact on those receptors.

14.4.43 In accordance with standard EIA practice, and for the purposes of the EIA Regulations an effect assessed as being moderate, large, or very large is considered significant; however, professional judgement can be applied. Effects assessed as neutral, slight, or moderate are considered not significant unless

professional judgement indicates otherwise based on the specific context or sensitivity of the receptor.

Cumulative assessment

14.4.44 **Chapter 28 Cumulative Effects** of this PEIR defines the methodology for the assessment of cumulative effects.

14.4.45 The Zone of Influence for the inter-project cumulative effects assessment of Material Assets and Waste comprises the East of England. For the Material Assets and Waste assessment, the estimated materials availability and waste capacity data used are based on future demand. The materials and waste assessment is inherently cumulative, because growth forecasts of material consumption and depletion of landfill void capacity are included within the future baseline for the two types of effect. In addition, targeted consultation with the Minerals and Waste Planning Authority and East of England working groups will be undertaken at ES stage to identify other developments, which may not have been considered in material consumption and depletion of landfill void capacity growth projections. These developments will be assessed qualitatively (based on professional judgement) where practicable.

14.5 Assessment assumptions and limitations

14.5.1 This section provides a description of the assumptions and limitations to the Material Assets and Waste assessment.

14.5.2 The assumptions made for the calculation of material and waste quantities have been based on the design data available at this stage and on a description of the Proposed Onshore Scheme as detailed in **Chapter 2 Description of the Proposed Scheme** of this PEIR.

14.5.3 Limited information is available at this stage on material requirements and waste quantities relating to construction of the Proposed Onshore Scheme, as is typical at this planning stage. As such, the Material Assets and Waste assessment is based on preliminary information available at the time of writing. This provides a conservative reasonable worst case for the assessment of likely significant effects based on the information available at this stage. Further assessment will be undertaken at ES stage based on the latest design information.

14.5.4 As part of the preliminary assessment included in this chapter, the excavation activities associated with the Proposed Onshore Scheme comprises the components listed in **Paragraph 14.8.22**, as they are the only elements with sufficient design information for assessment at this stage.

14.5.5 A full assessment of all Proposed Onshore Scheme components will be presented in the ES.

14.5.6 The assessment for Material Assets and Waste receptors is based on a review of the baseline information available at the time of assessment. Whilst the baseline

data sources used in this assessment have been obtained from the most recently available information, it is still possible that conditions could have changed since publication, and it is not possible to confirm the accuracy of the data.

14.5.7 The assessment assumes that all excess material will be re-used on site under the CL:AIRE Definition of Waste Code of Practice (DoW:CoP), where applicable. The requirement to comply with the CL:AIRE DoW:CoP will be set out in the MMP. The MMP will be prepared by the lead contractor preconstruction and will include the proposals for the handling of waste material following the protocols within the CL:AIRE DoW:CoP. The MMP will be implemented by the lead contractor after the submission of the ES. If an excess of material is identified, the material will be registered on the CL:AIRE Material Register and offered to other development, within a suitable (sustainable) distance from site.

14.5.8 The assessment assumes that there will be no requirement for export of clean excavated material from the Proposed Onshore Scheme.

14.5.9 This chapter assumes that the Proposed Onshore Scheme will aim to achieve and exceed UK waste recovery rate targets. The UK had a commitment to recover (e.g. diverting from disposal) at least 70% of non-hazardous construction waste by 2020, as required by the EU Directive on Waste (Ref 8). The published data indicates that England achieve a recovery rate over 90%. The Proposed Onshore Scheme will follow the waste hierarchy structure to minimise the overall volume of waste arisings and with the aim to prevent and minimise waste sent to landfill.

14.5.10 It is recognised, by IEMA (now ISEP), that there is a general lag (in years) in materials, landfill and waste processing capacity data in the UK. The latest available data has been used in this assessment (typically 2023 and 2024). The actual baseline may have evolved, for example landfill capacity may have decreased since the latest data was published. The data will be reviewed and updated for the ES with the latest available information. Historical trends and professional judgements have been applied where possible.

14.5.11 This assessment has not considered the environmental effects associated with the off-site extraction of raw materials used for the off-site manufacture of products.

14.5.12 The procurement strategy for the materials required for the construction of the Proposed Onshore Scheme is unknown at this stage. For the purposes of this assessment, it has been assumed that, apart from bulk fill, not all materials would be available to be sourced regionally (within Suffolk), and as a reasonable worst case, that the majority is sourced nationally (within the UK). In the absence of information regarding the supply chain, publicly available information will be used regarding national and global availability of key raw construction materials assumed to be used for the Proposed Onshore Scheme.

14.5.13 To reduce waste arisings and demand on resources, it is anticipated that material required as fill material would be sourced from earthworks associated with the

Proposed Onshore Scheme. This assumes that processing of the site won materials would produce the necessary quality for materials resulting in a neutral cut and fill balance for the Proposed Onshore Scheme.

14.5.14 In this assessment, construction waste quantities (including damaged materials, packaging waste, waste from staff welfare facilities) have only been forecast from the construction of buildings within the Proposed Onshore Scheme. Based on the design information available, the buildings included in the assessment are the Kiln Lane Substation, the Proposed Converter Station in Suffolk, east of Saxmundham and the associated Construction Compounds. The level of detail required to forecast construction waste generation, arising from the construction of infrastructure works including roads, utilities and other external works and excavation waste generation, arising from the excavation of infrastructure works is not available at this preliminary stage. The forecast therefore currently excludes waste expected to be generated from construction and excavation of infrastructure works.

14.5.15 In this PEIR waste assessment, it has been assumed that 10% of the excavated material will be classified as non-hazardous waste, and the remainder as inert. This is a preliminary, reasonable worse-case estimate.

14.6 Baseline conditions

14.6.1 To provide an assessment of the likely significance of the Proposed Onshore Scheme (in terms of Material Assets and Waste), it is necessary to identify and understand the baseline conditions in the study area. This provides a reference point against which potential changes in Material Assets and Waste can be assessed.

Current baseline

14.6.2 A review of relevant information sources has been undertaken to determine existing and future baseline data and current understanding with regards to material and waste impacts.

Materials

14.6.3 Baseline information on a national and global availability for material resources has been collected for the key raw materials to be used in the Proposed Onshore Scheme. The Proposed Onshore Scheme would require both primary raw materials, such as aggregates and soils, and manufactured construction materials such as steel, aggregate, concrete, and asphalt.

Availability of primary, secondary and recycled aggregates

14.6.4 The Suffolk Minerals and Waste Local Plan (SMWLP) (Ref 15) states that Suffolk's supply of aggregates comes from various sources including indigenous land-won sand and gravel, imported sand and gravel from neighbouring counties, marine dredged sand and gravel, and recycled construction waste. However,

despite having large reserves of marine dredged sand and gravel off the coast of East Anglia, most goes to London or other places in the UK due to market forces. According to the SMWLP, crushed rock, which is primarily used in road maintenance and construction, is not available in Suffolk and is imported by road, rail or sea. The growth in the use of imported crushed rock is uncertain due to various constraints on resources and demand from other projects.

14.6.5 The Suffolk Local Aggregates Assessment (SLAA) (Ref 28) states imported crushed rock is a significant contribution to the county as Suffolk has no indigenous resources of crushed rock, however, further growth is uncertain due to constraints on the productive capacity of existing resources in the neighbouring counties, such as the East Midlands. Recent sand and gravel extraction levels have fluctuated due to economic pressures and the COVID pandemic. Long term trends indicate similar levels of sand and gravel extraction and a decreasing level of reserves. In Suffolk, there are multiple significant infrastructure projects planned however, much of this aggregate will be imported.

14.6.6 There has been an increase in the levels of recycled aggregates over the last twenty years mainly from Construction, Demolition and Excavation waste (CD&E). An aggregate recycling and mineral washing facility was approved in 2024 at Cavenham Quarry, near Bury St Edmonds Suffolk (Ref 28).

14.6.7 The East of England Aggregates Working Party (EEAWP) (Ref 27) provides further detail on aggregate reserves and forecasts of sales for all sub-regions in the East of England. The EEAMP states that at the end of 2023 the sales of land-won sand and gravel decreased 10.1% from 11.29 Mt recorded in 2022 to 10.15 Mt in 2023.

14.6.8 Sales for local crushed rock in 2023 have also decreased 28%. In 2023 sales were recorded at 0.123mt compared to 2022 figures of 0.171 Mt. The 2023 sales figure was lower than the average sales of sand and gravel in Suffolk from 2013 to 2023, which was 0.285 Mt (Ref 27).

14.6.9 At the end of 2023, reserves of land-won sand and gravel in the East of England stood at 121.6Mt. Reserves of crushed rock recorded in 2023 stood at 3.88 Mt which represents the lowest level of reserves recorded over the past decade (down from a high of 5.61mt in 2013). A total of 6.57 Mt of aggregate (sand and gravel) new planning permissions were granted in the East of England (Ref 27).

Availability of construction materials

14.6.10 The manufactured materials would be sourced from established suppliers. Where possible materials would be sourced locally with the application of the proximity principle. The lead contractor would ensure suppliers are sought with adequate material resources for the Proposed Onshore Scheme, without adversely affecting their resources.

14.6.11 The availability of construction materials in the UK and globally is presented in **Table 14.14**.

Table 14.14: Availability of construction materials in the UK and globally.

	Material availability	
Material	**East of England**	**UK and Global**
Aggregate (Ref 27) (Ref 30)	**Sand and gravel:** 121,601,000 tonnes **Crushed rock:** 3,878,000 tonnes	**Sand and gravel production UK:** 54,956,000 tonnes (2023) **Crushed rock production UK:** 121,471,000 tonnes (2023)
Asphalt (Ref 29) (Ref 33)	Approximately 2,750,000 tonnes (2024)	20,000,000 tonnes (2024)
Cement (Ref 30)	-	7,689,000 tonnes (2023) (UK)
Copper (Ref 30)	-	23,000,000 tonnes (2023) (Global)
Steel (Ref 30)	-	5,616,500 tonnes (2023) (UK)

Mineral resource areas, mineral safeguarding areas and mineral consultation areas

14.6.12 The Proposed Onshore Scheme is expected to be underlain by topsoil. Made ground is mapped in isolated pockets across the Proposed Onshore Scheme but is also expected to be found in areas associated with previous development (e.g. road construction or old pits and quarries).

14.6.13 Natural superficial deposits including peat, alluvium (clay, silt, sand and gravel) and head deposits (poorly sorted and poorly stratified clay, silt, sand and gravel) are mapped associated with watercourses and overlie the Lowestoft Formation. The Lowestoft Formation comprises an extensive sheet of chalky pebbly sandy clay with outwash sands and gravels at the base of the formation.

14.6.14 Further details on soil are provided in **Chapter 6 Agricultural Land and Soils**. Further detail regarding superficial geology is provided in **Chapter 9 Geology and Contamination.**

14.6.15 The SMWLP (Ref 15) does not identify any MSA within the development study area.

14.6.16 A large number of the proposed sites for sand and gravel extraction are based in Ipswich, further detail regarding the location and relevant background can be found in the SMWLP.

14.6.17 A large proportion of the Proposed Onshore Scheme goes through a MCA for Sand and Gravel, see **Figure 14.2 Mineral Designations**. In Suffolk, the sand and gravel deposits are generally sand rich with a shortage of stone (Ref 28).

14.6.18 The nearest mineral extraction site to the Proposed Onshore Scheme is Wangford Quarry, located approximately 2.6 km north of the Order limit from the B1387 near Walberswick.

14.6.19 Fen peat soils are present in the area northwest of Middleton within the Minsmere river valley; these are described as medium/ high in carbon and naturally wet (Soilscapes 27) (Ref 31). The peat resources in this location are described by Natural England as deep peaty soils (Ref 32).

14.6.20 Peat has not been safeguarded under the SMWLP (Ref 15), refer to **Chapter 8 Ecology and Biodiversity** and **Chapter 9 Geology and Contamination** for detail on the location and management of peatland in the Proposed Onshore Scheme.

Waste

14.6.21 The baseline conditions of waste have been defined using Environment Agency Waste Data Interrogator data 2019-2023 (Ref 24), Hazardous Waste Interrogator 2023 (Ref 25) and Remaining Capacity (Ref 26) published by the Environment Agency. Whilst waste management is a regulated industry, waste producers are free to choose where their waste is managed. The movement of waste from source to final destination is often across waste planning authority boundaries, depending upon the type of waste and the availability of the waste management facilities required. The expansive study area in which waste generated in Suffolk is managed, has been assessed, and is within the Environment Agency Waste Data Interrogator East of England region. Authorised waste sites within the East of England region are shown in **Figure 14.3 Waste sites**.

Landfill capacity baseline

14.6.22 The Environment Agency Waste Data interrogator (Ref 24) indicates that the East of England has no remaining hazardous waste landfill capacity within the region. The expansive study area has therefore been extended to identify the nearest region with hazardous waste landfill capacity. The nearest facility is in the East Midlands region. National trends in hazardous waste management show that due to the high cost of disposal and the relatively low availability of capacity, hazardous waste is typically transported greater distances for treatment and disposal.

14.6.23 The magnitude of impact for inert and non-hazardous waste is calculated using the regional forecast landfill capacity for the appropriate defined expansive study areas for that waste type, as set out in the Materials and Waste IEMA Guidance (Ref 24). The magnitude of impact for hazardous waste is calculated using the national landfill void capacity, as per the Materials and Waste IEMA Guidance and trends in hazardous waste management. The expansive study areas are as follows:

a. inert waste (East of England) is 45,783,00 tonnes;
b. non-hazardous waste (East of England) is 23,425,000 tonnes;
c. hazardous waste (East Midlands) is 2,000,000 tonnes; and
d. hazardous waste (England) is 10,374,793 tonnes.

Landfill capacity data

14.6.24 The Environment Agency Waste Data interrogator (Ref 24) indicates the remaining landfill capacity for the county of Suffolk is 9,440,000m^3 (2023) comprising of inert and non-hazardous landfills. **Table 14.15** shows the landfill capacity trend from 2019 to 2023.

Table 14.15: The landfill capacity trend for sub regions and the East of England from 2019 to 2023.

Year	Sub- Region (000s cubic metres)						East of England (000s cubic metres)
	Bedfordshire	Cambridgeshire	Essex	Hertfordshire	Norfolk	Suffolk	
2019	779	14,504	13,007	9,785	5,975	6,396,	50,446
2020	683	12,770	17,24	9,173	6,028	6,594	52,494
2021	658	12, 919	14,219	7,807	5,506	6,169	47,278
2022	4,335	20,157,	14,116	8,145	5,144	9,282	61,178
2023	6,542	17,535	11,914	8,186	5,071	9,440	58,688

Waste management facilities

14.6.25 There are a total of nine landfill facilities in Suffolk comprising seven active inert landfills and two active non-hazardous landfill sites (including two dry non-reactive hazardous waste cells).

14.6.26 **Table 14.16** provides a summary of the waste facilities present in Suffolk (Ref 26).

Table 14.16: List of landfill sites in the Environment Agency defined sub-region of Suffolk.

Site and operator name	Facility type	Original permit reference	Facility address	Remaining capacity end 2023 (cubic metres)
Masons Landfill Valencia Waste Management Ltd	L02 - Non-Hazardous Landfill with SNRHW cell	BV4517IM	Great Blakenham, Ipswich IP6 0NW	2,334,739
Folly Farm Landfill Shotely Holdings Ltd	L02 - Non-Hazardous Landfill with SNRHW cell	SP3239BB	Ipswich IP9 2NY	547,270

Site and operator name	Facility type	Original permit reference	Facility address	Remaining capacity end 2023 (cubic metres)
Lawn Farm Quarry Aggmax Transport Ltd	L05: Inert Landfill	400631	Lawn Farm Quarry, Old Bury Road, Wetherden, Suffolk, IP14 3JU	1,274,027
Barton Mills Chalk Quarry Sewells Reservoir Construction Ltd	L05: Inert Landfill	404492	Barton Mills Chalk Quarry, Bury St Edmunds, Suffolk, IP28 6BN	1,050,000
Shrublands Quarry Landfill Brett Aggregates Ltd	L05: Inert Landfill	210046	Shrublands Quarry Landfill, Old Norwich Road, Coddenham, IP6 9QJ	387,600
Flixton Quarry Breedon	L05: Inert Landfill	404004	Flixton Road, Bungay, NR35 1NN	64,285
Barnham Quarry Brett Aggregates Ltd	L05: Inert Landfill	406619	Sandy Lane, Ipswich, Suffolk, IP6 0PB	876,900
Marstons pit Allen Newport Ltd	L05: Inert Landfill	102911	Marstons Pit Cavenham Road Tuddenham Bury St. Edmunds Suffolk IP28 6SE	2,700,000
Hadleigh Quarry Buffalo Crow Ltd	L05: Inert Landfill	404127	Aldham Mill Hill, Hadleigh, Suffolk, IP7 6LE	205,000

14.6.27 The Environment Agency Waste Data interrogator (Ref 24) indicates that the East of England has no remaining hazardous waste landfill capacity within the region as detailed in **Paragraph 14.6.22**. The nearest facility is in the East Midlands region. The hazardous merchant landfill located in Peterborough approximately 140km from the Proposed Onshore Scheme has a remaining capacity of 2,000,000m^3 (Ref 25). The facility is detailed in **Table 14.17**.

Table 14.17: The closest hazardous landfill in relation to the Proposed Onshore Scheme.

Site and operator name	Facility type	Original permit reference	Facility address	Remaining capacity end 2023 (cubic metres)
East Northants Resource Management	L01- Hazardous Merchant Landfill	TP3430GW	Stamford Road, Kingscliffe,	2,000,000

Site and operator name	Facility type	Original permit reference	Facility address	Remaining capacity end 2023 (cubic metres)
Facility Augean South Limited			Peterborough PE8 6XX	

14.6.28 The remaining hazardous landfill capacity in the UK is presented in **Table 14.18**.

Table 14.18: Hazardous landfill void capacity in the UK

Landfill type	Remaining capacity end 2023 (cubic metres)
Hazardous Merchant	9,680,000
Hazardous Restricted	695,000
Total Hazardous	10,375,000

Waste generation

14.6.29 The most recent information available relating to current waste generation and operational waste facilities in East of England has been gathered to provide the baseline for this assessment. Information on the current waste generation and waste management facilities has been determined through sources presented in **Table 14.8**. The Proposed Onshore Scheme will generate waste arising from CD&E activities.

Waste management by type in Suffolk 2023

14.6.30 The Suffolk Waste Study referred to in the SMWLP (Ref 15) indicates that:

a. There is no identified shortfall in waste management facilities at the present time.
b. There is sufficient remaining landfill capacity within the county of Suffolk until the end of Plan period in 2036.
c. Hazardous waste is projected to decrease in the years to 2036.
d. A conservative estimate of a 52% recycling rate with 0.811 million tonnes of residual waste to be managed.

Landfill inputs

14.6.31 Environment Agency Waste Data Interrogator data (Ref 24) for the East of England indicates that 3,673,695 tonnes of waste were received in Suffolk in 2023, with 32,798,222 tonnes in the East of England region.

Future baseline

14.6.32 The future baseline is considered to be from 2028-2032. The future baseline will take into account the following:

a. developments that are likely to be built and operational
b. landbank figures and trends regarding material availability; and

c. forecasted remaining landfill capacity.

Materials

Material trends: landbanks

14.6.33 The EEAWP (Ref 27) states a landbank figure of 10.6 years at the end of 2023 for sand and gravel. By the end of 2023, all mineral planning authorities in the East of England were able to show sand and gravel landbanks exceeding the seven-year threshold, although Hertfordshire's landbank was still quite close to the minimum requirement. A landbank figure of 13.6 years is demonstrated in 2023 for crushed rock. Planning permissions granted in 2023 generated 6.57Mt of additional sand and gravel reserves in the East of England.

14.6.34 The SWMLP (Ref 15) Mineral Policy 1 indicates that Suffolk County Council will allocate extraction sites for sand and gravel to supply 9,300Mt to 2036.

14.6.35 The replenishment rate of permitted reserves in the UK for both land-won sand and gravel and crushed rock are below 100% with sales exceeding new permitted reserves granted each year (Ref 34). This suggests that local supply shortages in regard to primary aggregates could arise in the future and availability is dependent on the allocation of new extraction sites.

Waste

14.6.36 It is currently envisaged that construction of the Proposed Onshore Scheme would last approximately five years, commencing in 2028 with a proposed completion date of 2032. To assess the potential impact of waste generated by the Proposed Onshore Scheme during construction, current infill rates have been utilised to forecast the remaining landfill capacity from 2023 to 2032.

14.6.37 Trends in historic landfill capacity data for the last ten years have been used to calculate the infill capacity rate. The trend for inert, non-hazardous and hazardous landfill has been extrapolated from 2023 for the baseline period (2023-2032). **Inset 1.1**, **Inset 1.2** and **Inset 1.3** in **Appendix 14.1** show the projected future baseline landfill capacity throughout the assessment period for inert, non-hazardous and hazardous waste respectively. These comprise the future baseline (without the Proposed Onshore Scheme) assessment scenario and have been used to establish the sensitivity for inert, non-hazardous and hazardous waste. Additionally, **Inset 1.4** in **Appendix 14.1** shows the forecast for national hazardous landfill capacity, which is used to establish the magnitude of impact, as per IEMA Guidance (Ref 20) and trends in hazardous waste management in England.

14.6.38 Available data shows that inert landfill capacity in the East of England is steadily increasing. The landfill capacity for Suffolk in 2022 has increased to 6,582,026 cubic meters, up from 5,278,329 cubic meters in the previous year. This increase of 1,303,697 cubic meters is attributed to the creation of additional capacity at Lawn Farm Quarry (777,812 cubic meters) and Folly Farm (37,054 cubic meters).

14.6.39 Despite substantial fluctuations in capacity year on year, and as a likely worst case, it has been assumed that inert waste landfill capacity remains unchanged at the capacity available in 2023 (the last year for which data is available). The result shows that inert waste remains unchanged throughout the two regions comprising the study area.

14.6.40 The calculated trend shows a steady decrease in non-hazardous landfill capacity in the future for the East of England.

14.6.41 The SMWLP (Ref 15) indicates hazardous waste is projected to decrease from 0.044Mt in 2015 to 0.031 Mt in 2036. Whilst the historic data for hazardous landfill capacity indicates a steady decrease in East of England expansive study area. In 2015 and 2023 in East of England resulted in a 634% and 204% increase in capacity respectively from the previous years. Had these data points been included, it would have resulted in a future trend projecting significant annual increases in hazardous landfill capacity. The anomalous data points were removed from the trend calculation for hazardous waste, to ensure that a likely worse cast scenario is taken to form the future baseline.

14.6.42 Whilst it is acknowledged that there is a general trend in reducing landfill capacity nationally, waste planning authorities have a responsibility under the National Planning Policy for Waste to make provision for sufficient waste infrastructure capacity. Trends in waste generation, the way in which waste is managed, and the timeline of landfill waste diversion policies (as set out in the Resources and waste strategy for England 2018 (Ref 12), the Waste Management Plan for England 2021 (Ref 13), the Environmental Improvement Plan 2023 (Ref 35) and other relevant strategies and policies, show that there is likely to be a continued demand for landfill capacity beyond 2032.

Sensitivity of receptors

14.6.43 As defined in the IEMA Guidance (Ref 20), the sensitivity of landfill capacity as a receptor is defined by the projected proportional decline in capacity within the assessment period, without the Proposed Onshore Scheme. It is forecast that by the end of construction of the Proposed Onshore Scheme landfill capacity would have declined by the following rates:

a. Inert waste would experience no change from 2023 landfill capacity in the baseline region.
b. Non-hazardous waste would be 34% of 2023 landfill capacity in the baseline region.
c. Hazardous waste would be 64% of 2023 landfill capacity in the baseline region

14.6.44 Based on the above, the sensitivity of the identified receptors, as defined in **Table 14.19**, is considered to be:

a. negligible for inert waste landfill capacity;
b. very high for non-hazardous waste landfill capacity; and

c. very high for hazardous waste landfill capacity.

14.7 Embedded design mitigation and control measures

Design and embedded mitigation measures

14.7.1 As described in **Chapter 2 Description of the Proposed Scheme** of this PEIR, a range of measures have been embedded into the Proposed Onshore Scheme design to avoid or reduce environmental effects. These primary mitigation measures form part of the design that has been assessed, which for Material assets and Waste are listed in **Table 14.19**.

Control measures

14.7.2 Preliminary control measures are set out in **Appendix 2.1 Outline Onshore CoCP** which will manage the effects of construction. The measures of particular relevance to Material Assets and Waste are listed in **Table 14.19**.

Table 14.19: Design and embedded mitigation and control measures relevant to Material Assets and Waste

Commitment reference code	Design and embedded mitigation and control measure	Compliance mechanism
MW:1	**Waste hierarchy:** The Proposed Onshore Scheme design will take into consideration the upper tiers of the waste hierarchy (refer to **Appendix 14.1**, **Inset 1.5**) with a view to minimising the overall volume of waste arisings via designing out waste and maximising efficient use of materials, ultimately to prevent and minimise waste sent to landfill. The Applicant has a commitment to avoid sending material to landfill. The Proposed Onshore Scheme aims to achieve and exceed UK waste recovery rate targets. The UK had a commitment to recover (e.g. diverting from disposal) at least 70% of non-hazardous construction waste by 2020, as required by the EU Directive on Waste (European Commission, 2008). The published data indicates that England achieve a recovery rate over 90%. The Proposed Onshore Scheme will follow the waste hierarchy structure to minimise the overall volume of waste arisings and with the ultimate aim to prevent and minimise waste sent to landfill.	Embedded mitigation by design.
MW:2	**Design:** The Proposed Onshore Scheme aim is to design out waste for material assets and waste, including aspects such as designing, routing and siting, re-use and recovery, materials optimisation, off-site	Embedded mitigation by design.

Commitment reference code	Design and embedded mitigation and control measure	Compliance mechanism
	construction, future (deconstruction and flexibility), and waste efficient procurement.	
MW:3	**Design for re-use and recovery** **Excavation**. The Proposed Onshore Scheme has been designed with an attempt to incorporate all the excavated materials arising within the Draft Order Limits. The material will be used on site under the CL:AIRE DoW:CoP, where applicable. The requirement to comply with the CL:AIRE DoW:CoP will be set out in the MMP.	MMP
MW:4	If an excess of material is identified, the lead contractor will be required to advertise the Proposed Onshore Scheme as a Donor site through CL:AIRE DoW:CoP. Material will be registered with CL:AIRE and offered to other development, within a suitable (sustainable) distance from site. The lead contractor will be obliged to identify other construction projects located in the Expansive study area that can re-use the materials for restoration.	MMP
MW:5	**Design for re-use and recovery** **Construction:** At present it is assumed that all existing aggregate-based material will be incorporated into fill materials on the Proposed Onshore Scheme, subject to suitability and any hazardous content. Additional aggregate based materials required will be sourced from local quarries.	Embedded mitigation by design.
MW:6	**Construction:** The procurement of sustainable materials will be secured through the Outline Onshore CoCP and subsequent iterations of the Outline Onshore CoCP prepared by the lead contractor. Materials will be sourced from local quarries where possible, optimising the use of recycled content, or otherwise from the nearest available source.	Embedded mitigation by design and Outline Onshore CoCP
MW:7	Haul roads and compounds will utilise recycled aggregates from either demolition materials on-site or off-site. Or share haul roads and compounds where possible, with other developments in the area	Outline Onshore CoCP
MW:8	**Design for materials optimisation** The lead contractor will investigate opportunities to introduce standardisation across the Proposed Onshore Scheme to ensure waste inherent in the design is reduced. Site accommodation within the main construction compounds can also be standardised across the	Outline Onshore CoCP

Commitment reference code	Design and embedded mitigation and control measure	Compliance mechanism
	Proposed Onshore Scheme allowing for efficiency in ordering required materials and equipment, and also providing clarity for workers who are then familiar with the site layout whichever compound they access (including operation and location of waste separation facilities). Any temporary site accommodation within the construction compounds will also be designed for deconstruction and re-use.	
MW:9	**Design for off-site construction** The lead contractor will investigate the potential for off-site construction of certain elements of the Proposed Onshore Scheme. Off-site construction can drive improvements in the products or processes employed in construction, ranging from innovative products through to precast components manufactured off-site.	Outline Onshore CoCP
MW:10	**Design for the future (deconstruction and flexibility)** The lead contractor will investigate and identify how materials can be designed to be more flexibly adapted over an asset lifetime. The lead contractor will also consider how the deconstruction of elements can be maximised at the end of their first life.	Outline Onshore CoCP
MW:11	All concrete elements of the Proposed Onshore Scheme have the ability to be crushed and graded to form recycled crushed aggregates. These aggregates can be used in new concrete batching or as earthworks layers, depending on the specification of the future scheme.	Outline Onshore CoCP; MMP; SWMP
MW:12	**Design for waste efficient procurement** The lead contractor will identify and specify materials that can be acquired responsibly, in accordance with a recognised industry standard.	Outline Onshore CoCP
MW:13	**Essential mitigation** A MMP will be prepared by the lead contractor and will include the protocol for the handling of waste material within the CL:AIRE Definition of Waste. The Outline Onshore CoCP; sets out the objectives that need to be met by the MMP.	Outline Onshore CoCP; MMP
MW:14	The location of material storage areas will be determined by the lead contractor following detailed design and detailed construction phase planning, when storage requirements are finalised. The locations and management of the material storage areas will comply with all measures set out in the Outline Onshore CoCP including avoiding known constraints highlighted for	Outline Onshore CoCP

Commitment reference code	Design and embedded mitigation and control measure	Compliance mechanism
	protection within the ES, and the **Design Principles** published as part of Statutory Consultation.	
MW:15	For topsoil storage, a maximum stockpile height of 2m will be implemented if the topsoil material is going to be retained for future reuse on the Proposed Onshore Scheme. The requirement to re-use topsoil will be set out in the soil management plan as part of the MMP.	MMP
MW:16	For cut material, a maximum stockpile height of 5m (2m for topsoil) unless the material has suitable properties and does not present any slope failure concerns. In addition, there may be other relevant factors that will influence the locations of storage areas such as topography or ecology. The procedures for materials management will be secured through the Outline Onshore CoCP and MMP by the lead contractor.	Outline Onshore CoCP and MMP
MW:17	A SWMP is used to plan, implement, monitor and review waste minimisation and management on construction sites. The SWMP is also used to record how waste is prevented, minimised, re-used, recycled and disposed of on a construction site. The lead contractor will capture information and data on site arisings recovered or diverted from landfill and waste sent to landfill and specify management requirements for construction materials, site arisings and waste. The lead contractor will further develop the Outline Onshore CoCP and SWMP through the detailed design phase, producing a second iteration (the full construction phase CoCP) prior to starting on site.	Outline Onshore CoCP and SWMP
MW:18	Reduction of waste should remain the highest priority, where feasible waste produced shall be segregated for recycling. The lead contractor will establish waste storage and recycling areas, for the safe storage and processing of separated waste streams to ensure that opportunities for re-use are maximised. The Proposed Onshore Scheme will strive to implement industry best practice with regard to the Segregation of waste by adopting the Considerate Constructors Scheme (CCS) (Ref 36) colour coding system on waste skips. The colour coding scheme is a simple system which colour labels waste skips indicating the types of waste that can be placed in them. Where no other waste management option is found to be feasible, wastes shall be sent to an appropriately permitted waste management facility in accordance with UK legislation.	SWMP
MW:19	For any non-hazardous, hazardous or inert waste taken off-site, the Waste duty of care: code of practice	Outline Onshore CoCP and SWMP

Commitment reference code	Design and embedded mitigation and control measure	Compliance mechanism
	(Department for Environment, Food and Rural Affairs, 2018) (Ref 37) must be complied with, including the use of registered waste carriers and appropriately permitted sites.	
MW:20	Waste arisings of made ground, soils and sub soil should be classified as per Environment Agency Waste Management 3 (WM3) (2021) (Ref 38) guidelines for waste classification. The lead contractor will develop a testing and classification regime for these materials to ensure the correct waste sentencing or possibility of re-use. Any excess or unsuitable material will need to be classified in accordance with WM3 guidelines prior to its removal from site.	SWMP
MW:21	Hazardous waste shall be correctly labelled and will not be mixed with non-hazardous waste. It will be securely contained and disposed of at an appropriately permitted facility via a registered waste carrier.	SWMP

14.8 Assessment of effects

14.8.1 This section presents the preliminary assessment of likely significant effects on Material Assets and Waste resulting from the construction of the Proposed Onshore Scheme. The likely significant effects of the Proposed Onshore Scheme are identified taking into account the embedded design mitigation and control measures.

14.8.2 Following assessment further mitigation is proposed as required which is presented in **Section 14.9.**

Assessment of effects to Mineral resources

14.8.3 The Proposed Onshore Scheme goes through a MCA for Sand and Gravel as shown on **Figure 14.2 Mineral designations**. Large areas of MCA are present with most sections of the Draft Order Limits. MCA is not present within sub-section B1, B2 and approximately 50% of C2. The Proposed Onshore Scheme has the potential to sterilise these mineral resources. Initial consultation has taken place with the Mineral Planning Authority regarding the known mineral resources, see **Paragraph 14.3.11**.

14.8.4 Temporary haul routes, construction compounds and enabling works associated with the construction have the potential to temporarily sterilise the deposits for the duration of the construction phase only.

14.8.5 All permanent structures, such as buildings, proposed Underground Cable Corridor, and access routes, have the potential to permanently sterilise the MCA

sand and gravel beneath the footprint of the permanent works, including an appropriate exclusion zone.

14.8.6 In terms of the underlying sand and gravel resources the majority of the Proposed Onshore Scheme permanent works impacts are not irreversible. During construction, any minerals extracted on-site will be used to backfill the trenches. Any remaining excess material after backfilling will be utilised on-site in accordance with the CL:AIRE Definition of Waste: Code of Practice (DoW:CoP), where applicable. The requirement to comply with the CL:AIRE DoW:CoP will be detailed in the Materials Management Plan (MMP).

14.8.7 The MCA is present within the Proposed Onshore Scheme Draft Order Limits. The MCA sand and gravel is not formed from one continuous deposit. The Proposed Onshore Scheme interacts with the MCA at a number of locations.

Significance of Likely Effects to Materials Resources

14.8.8 An assessment of the impacts to Minerals will be undertaken in the ES. The ES will be supported with findings from the current ground investigation, which is ongoing at time of writing. The ground investigation findings will inform the thickness of the deposits across the scheme along. The findings will be reviewed and assessed against the construction details for the Proposed onshore scheme.

Assessment of effects to material assets

14.8.9 Material quantities are not available at this stage for the Kiln Lane Substation or the proposed Convertor Station. This is typical for this stage of the Proposed Onshore Scheme design.

14.8.10 Where data is available as presented in **Section 14.6**, the percentage of key material resource for the Proposed Onshore Scheme has been calculated based on available data provided. The percentage of material resource consumption for the Proposed Onshore Scheme has been calculated against the regional and/ or National availability of the material assets (the receptor) in **Table 14.20**. This is based on current production and/or sales data rather than future trends.

14.8.11 The proposed HDVC Cable Corridor has two route options: a Western Route option or an Eastern Route option as detailed in **Chapter 2 Description of the Proposed Scheme.** The proposed construction materials required for the Western Route has been used for the assessment. Based on the length of the Western Route and Eastern Route, required quantities of materials would be similar and, in any event, the Eastern route quantities will not exceed those required for the Western route.

14.8.12 The Southern Route option for the proposed Underground HVAC Cable Corridor is approximately 2.1km in length and will be shared with Sea Link. The Northern Route option is approximately 2km in length and will be occupied by the Proposed Onshore Scheme only. The Southern Route been assessed as the

worst-case scenario due to its significantly larger construction working width requirements. Further details are provided in **Appendix 14.1**.

Significance of Likely Effects to Materials Resources

14.8.13 The sensitivity of material assets is considered medium based on the criteria set out in Table 14.8, defined as 'the key materials required for the construction of a development are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock and/or are available comprising some sustainable features and benefits compared to industry-standard materials'.

14.8.14 The magnitude for material assets for construction is assessed as negligible, as defined in Table 14.10 where 'no individual material type is equal to or greater than 1% by volume of the regional* baseline availability'.

14.8.15 The significance of effect for material assets is currently considered to be **slight (not significant)**.

14.8.16 **Table 14.20** shows the Significance of Likely Effects to key construction materials for the proposed Underground HVDC Cable Corridor and the Southern Route option for the proposed Underground HVAC Cable Corridor.

Table 14.20: Significance of Likely Effects to key construction materials

Material Asset (Receptor)	Worse case development projections (tpa)	Worse case development projections (tpa)	% of Base line availability	Sensitivity	Magnitude	Significance
Primary aggregates	Sand and Gravel and Crushed Rock: 125,479Mt	1,781 tons For CBS: 13,795	0.012%	Medium	Negligible	**Slight (not significant)**
Cement bound sand (Sand: Cement 10:1) (CBS)	Cement: 7,689,000 tonnes*	Cement only: 1,380 tonnes	0.018%	Medium	Negligible	**Slight (not significant)**
Asphalt	2,750,000 tonnes	4,017 tonnes	0.14%	Medium	Negligible	**Slight (not significant)**
*Nationally where regional data is unavailable						

Assessment of effects from Waste

14.8.17 Waste is expected to be generated throughout the five-year construction period, during excavation and construction. Preliminary waste forecasts have been undertaken based on the available design information and use of appropriate industry benchmarks.

14.8.18 The industry benchmarks assume business-as-usual approaches to waste management. The forecast considers a likely worst case and includes reasonable application of waste minimisation measures which would be included in the design and recommended in the Outline SWMP which will accompany the application for development consent.

14.8.19 The quantities of waste forecast to be generated by the Proposed Onshore Scheme, including the optionality for the co-location of infrastructure with NGET's proposed Sea Link project, have not been calculated separately within the Excavation section below due to limited availability of data. Instead, the Excavation and Significance of effects sections report the impacts of the Proposed Onshore Scheme, based on the worst-case scenario from the current available information of each of these options.

Demolition

14.8.20 The construction phase of the Proposed Onshore Scheme does not require demolition of any structures or buildings. Therefore, no waste is expected to be generated as a result of demolition works and is not considered further.

Excavation

14.8.21 Earthworks activities associated with the Proposed Onshore Scheme comprise open trenches, trenchless crossings, structural foundations, preparation of working platforms, and enabling works for supporting infrastructure (for example roads and utilities diversion).

14.8.22 The excavation activities associated with the Proposed Onshore Scheme includes the following components:

a. the proposed Kiln Lane Substation;
b. the proposed Underground HVAC Cables between the proposed Kiln Lane Substation and the proposed Converter Station east of Saxmundham
c. the proposed Converter Station;
d. the proposed Underground HVDC Cables between the proposed Converter Station and the proposed Landfall Site at Walberswick
e. the proposed Landfall Site at Walberswick.

14.8.23 Sufficient design information was available for the proposed Underground HVAC Cable Corridor, proposed Converter Station, the proposed Underground HVDC Cable Corridor and the proposed Landfall to allow for assessment at this stage. Detailed design information was not available at time of writing for Kiln Lane Substation and therefore has not been considered in this PEIR assessment. Kiln

Lane Substation will be considered and included in the full assessment of the Proposed Onshore Scheme and presented in the ES.

14.8.24 Based on the available earthworks design information, it is estimated that 553,154 tonnes of excavated material would be generated by excavation activities during construction of the Proposed Onshore Scheme. These figures do not include Kiln Lane Substation at this stage. Due to the limited data available at this stage, it has been assumed that 10% of the excavated material will be classified as non-hazardous waste and the remainder will be classified as inert. This is a preliminary estimate and will be refined as further ground investigation data and site condition information become available. A more comprehensive assessment will be provided in the ES chapter.

Construction waste

14.8.25 Based on the design information available, a forecast has been prepared of potential quantities of waste generated during construction of the Proposed Onshore Scheme. This waste stream may include damaged materials, packaging waste, and waste from staff welfare facilities. Within the Material Assets and Waste Assessment, construction waste quantities have only been forecast from the construction of the proposed buildings within the Proposed Onshore Scheme, using Benchmark data (Ref 39). Based on the design information available, the buildings included in the assessment are the Kiln Lane Substation, the Proposed Converter Station in Suffolk, east of Saxmundham and the associated Construction Compounds. The forecast currently excludes waste expected to be generated from construction of infrastructure works such as roads, utilities and other external works. Further work will be undertaken to enable a forecast of waste from construction of the infrastructure works. The results of this will be used to inform the design of the Proposed Onshore Scheme and will inform the ES.

Significance of Likely Effects from Waste

14.8.26 The forecasted waste generated from the Proposed Onshore Scheme has been assessed based on the available information at this stage. Full detailed assessment is provided in **Appendix 14.1.**

14.8.27 The impacts to the various landfill types are presented below. The sensitivity thresholds set out in **Table 14.10**

Inert waste

14.8.28 On the basis of the sensitivity thresholds set out in **Table 14.10** and described in **Paragraph 14.6.44** inert landfill receptor sensitivity is considered negligible.

14.8.29 The estimated quantity of inert waste forecast to require off-site disposal is 27,244 tonnes, **Table 14.21** see for details. This quantity represents approximately 87% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a 0.06% reduction in the 45.7Mt

of inert landfill capacity projected to be available in the East of England at the end of construction. Based on the magnitude thresholds set out in **Table 14.11** the magnitude of impact from inert waste during construction is also considered to be negligible.

14.8.30 Using the significance matrix in **Table 14.13**, the Proposed Onshore Scheme is therefore considered likely to generate a **neutral (not significant**) permanent effect on inert landfill capacity during construction.

Non-hazardous Waste

14.8.31 Available data shows that non-hazardous landfill capacity in the East of England is steadily decreasing. On the basis of the sensitivity thresholds set out in **Table 14.10** and described in **Paragraph 14.6.44** the non-hazardous landfill receptor sensitivity is considered very high.

14.8.32 The estimated quantity of non-hazardous waste forecast to require off-site disposal, is 3,952 tonnes, see **Table 14.23** and **Appendix 14.1** for further details. This quantity represents approximately 13% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a 0.03% reduction in the 15.5Mt of non-hazardous landfill capacity projected to be available in the East of England at the end of construction. Based on the magnitude thresholds set out in **Table 14.11** the magnitude of impact from non-hazardous waste during construction is considered to be negligible.

14.8.33 Using the significance matrix in **Table 14.12**, The Proposed Onshore Scheme is therefore considered likely to generate a **slight** (**not significant**) permanent effect on non-hazardous landfill capacity during construction.

Hazardous waste

14.8.34 The calculated trend shows a general decrease in hazardous landfill capacity in the future nationally. On the basis of the sensitivity thresholds set out in **Table 14.10** and described in **Paragraph 14.6.44** the receptor sensitivity is considered very high.

14.8.35 The estimated quantity of hazardous waste forecast to require off-site disposal, is 20 tonnes. This quantity represents approximately 0.07% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a <0.1% reduction in the 6.8Mt of hazardous landfill capacity projected to be available in England at the end of construction. Based on the magnitude thresholds set out in **Table 14.11** the magnitude of impact from hazardous waste during construction is considered to be negligible.

14.8.36 Using the significance matrix in **Table 14.12**, The Proposed Onshore Scheme is therefore considered likely to generate a **slight** (**not significant**) permanent effect on hazardous landfill capacity during construction.

Table 14.21: Waste requiring off-site disposal to landfill by activity type

Landfill type	Demolition	Excavation	Construction	Total
Inert	0	27,069	175	27,244
Non-hazardous	0	3,008	944	3,952
Hazardous	0	0	20	20

Table 14.22: Likely significant effects to Landfill void capacity

Construction waste classification	Waste to landfill (tonnes)	Remaining capacity East of England (tonnes)	% of remaining capacity	Sensitivity	Magnitude	Significance
Inert	27,244	45,783,000	0.06	Negligible	Negligible	**Neutral (not significant)**
Non-hazardous	3952	15,544,658	0.03	Very high	Negligible	**Slight (not significant)**
Hazardous	20	6,839,023	0.0003	Very high	Negligible	**Slight (not significant)**

Operation

Material assets

14.8.37 The Proposed Onshore Scheme has limited potential to generate significant effects during operation and is scoped out of the assessment.

Waste

14.8.38 The operation of the Proposed Onshore Scheme has limited potential to produce any significant solid waste materials during operation and is scoped out of the assessment.

Decommissioning

14.8.39 Impacts from decommissioning are unlikely to be worse and/or materially different from the construction materials/waste impacts.

14.8.40 The first edition of the IEMA Guidance (Ref 20) does not currently include a proposed methodology to assess the impacts and effects during decommissioning due to uncertainties regarding future infrastructure, waste management technologies and legislation. There is currently no quantitative data on the likely materials and waste expected during decommissioning.

14.9 Mitigation, monitoring and enhancement

14.9.1 Mitigation measures are defined in **Chapter 5 EIA Approach and Methodology** of this PEIR, with embedded control measures for Material Assets and Waste being presented in **Section 14.7** of this chapter.

Additional mitigation and enhancement

Material assets

14.9.2 No further mitigation is required for material assets. The assessment has concluded that the effects of material resource consumption are **not significant**.

Waste

14.9.3 No further mitigation is required for inert and non-hazardous waste. There are opportunities for design optimisation and further mitigation that will be described in the Outline SWMP; these may enhance the reduction of waste requiring off-site disposal to landfill.

14.9.4 This initial assessment is based on limited information and may be subject to change at ES stage. Landfill capacity data and material availability reporting typically lag by approximately 2 years. This will be reviewed at ES stage.

Monitoring

Material assets

14.9.5 Further details on how material assets would be monitored will be set out in the Outline SWMP being prepared to accompany the application for development consent. An MMP will be produced to monitor and manage the reuse of soils under CL:AIRE DoW:CoP as detailed in **Section 14.7**.

14.9.6 In accordance with the CL:AIRE DoW:CoP, a verification plan will be produced and submitted to CL:AIRE alongside the MMP. The verification plan will set out the requirements to provide an audit trail of the movement of materials. A verification report will be submitted to CL:AIRE, after the completion of the works.

14.9.7 Procedures adopted by the lead contractor during construction have the potential to control the use of materials and reduce the impact. The lead contractor shall refer to BES 6001 Framework Standard for Responsible Sourcing (Ref 40) and maintain a record of the sourcing and processing of materials used during construction.

Waste

14.9.8 Further details on how waste would be monitored will be set out in the Outline SWMP being prepared to accompany the application for development consent.

14.10 Summary of residual effects

Construction

14.10.1 The potential for likely significant effects on Material Assets and Waste receptors during construction is shown in **Table 14.23**.

Operation

14.10.2 The potential for likely significant effects on Material Assets and Waste receptors during operation has been scoped out as set out in **Table 14.6**.

Decommissioning

14.10.3 Based on the limited information available for decommissioning stage, and given construction impacts are likely to be equal or greater in magnitude than the decommissioning impacts, conclusions for construction effects have been used as a reasonable worst case proxy assessment for decommissioning (see **Section 14.4)**. The assessment presented in **Section 14.8** has concluded that residual significant effects are not likely in relation to Material Assets and Waste receptors across all the construction phase of the Proposed Onshore Scheme.

Table 14.23: Summary of assessment of likely significant effects during construction

Receptor	Environmental effect without further mitigation	Additional Mitigation	Residual effect
Material Assets	The development has the potential to impact the MCA with partial temporary and permanent sterilisation. Depletion of resources resulting in the temporary or permanent degradation of the natural environment.	No mitigation required, recommended measures are presented in **Section 14.9** and include the following: • Reuse site won materials in earthworks. • Use of DoW:CoP to reuse soils during construction.	**Slight (Not significant)**
Waste			
Inert landfill	Unsustainable use or loss of resources to landfill that results in the temporary or permanent degradation of the natural environment.	No mitigation required, recommended measures are presented in **Section 14.9** and include the following: • Reuse of excavated and other arisings on site or on other approved developments. • Recycle or recovery opportunities where possible to avoid landfill.	**Neutral (Not significant)** permanent effect
Non-hazardous landfill			**Slight (Not significant)** permanent effect
Hazardous landfill			**Slight (Not significant)** permanent effect

Receptor	Environmental effect without further mitigation	Additional Mitigation	Residual effect
		• Limit movements by disposing of waste locally.	

14.11 Monitoring

14.11.1 No additional monitoring is proposed for Material Assets and Waste further to those detailed in **Paragraphs 14.9.5** to **14.9.8**.

Topic Glossary and Abbreviations

Term	Definition
AIL	Abnormal Indivisible Loads
BSI	British Standards Institute
CBS	Cement Bound Sand
CL:AIRE	Contaminated Land: Applications in Real Environments
CoCP	Construction Code of Practice
DCO	Development Consent Order
DoW:CoP	Definition of Waste: Code of Practice
EA	Environment Agency
EEAWP	East of England Working Party
EMP	Environmental Management Plan
HDD	Horizontal Directional drilling
HRAsh	Hot Rolled Asphalt
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IEMA	Institute of Environmental Management and Assessment
ISEP	Institute of Sustainability and Environmental Professionals
LAA	Local Aggregates Assessment
m^3:	Cubic metres
MCA	Mineral Consultation Area
Mineral Planning Authority	A Mineral Planning Authority is a local government body in the United Kingdom responsible for planning control over mineral extraction and related development in its area.
MMP	Materials Management Plan
Mt	Megatonnes
NGET	National Gird Electricity Transmission
NPPF	National Planning Policy Framework
PEIR	Preliminary Environmental Information Report
SWMLP	Suffolk Waste Management Local Plan
SWMP	Site Waste Management Plan

References

Ref 1 Environmental Protection Act Part II 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/part/II. (Accessed 06 June 2025)

Ref 2 Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents. (Accessed 06 June 2025)

Ref 3 The Hazardous Waste (England and Wales) Regulations 2020. Available at: https://www.legislation.gov.uk/uksi/2005/894/contents. (Accessed 06 June 2025)

Ref 4 The Waste (England and Wales) Regulations 2011. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents. (Accessed 06 June 2025)

Ref 5 The Waste (Circular Economy) (Amendment) Regulations 2020. Available at: https://www.legislation.gov.uk/uksi/2020/904/contents/made. (Accessed 06 June 2025)

Ref 6 The Water Environment (Water Framework Directive) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/407/contents (Accessed 06 June 2025)

Ref 7 The Waste Electrical and Electronic Equipment Regulations 2013. Available at: https://www.legislation.gov.uk/uksi/2013/3113/contents. (Accessed 06 June 2025)

Ref 8 European Union Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. Available at: https://www.legislation.gov.uk/eudr/2008/98/contents. (Accessed 06 June 2025)

Ref 9 Department for Energy Security and Net Zero (2023) Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf (Accessed 06 June 2025)

Ref 10 Ministry of Housing Communities and Local Government (2024) National Planning Policy Framework. Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf. (Accessed 06 June 2025).

Ref 11 Department for Communities and Local Government (2014). National Planning Policy for Waste. Available at: https://assets.publishing.service.gov.uk/media/5a7ef594e5274a2e8ab4946c/141015_National_Planning_Policy_for_Waste.pdf. (Accessed 06 June 2025)

Ref 12 HM Government. (2018) Our Waste, Our Resource: A strategy for England. Available at: https://assets.publishing.service.gov.uk/media/5c18f11740f0b60bbee0d827/resources-waste-strategy-dec-2018.pdf. (Accessed 06 June 2025).

Ref 13 Department for Environment, Food and Rural Affairs (2021) Waste Management Plan for England. Available at: https://assets.publishing.service.gov.uk/media/60103f71d3bf7f05bc42d294/waste-management-plan-for-england-2021.pdf. (Accessed 06 June 2025).

Ref 14 Department for Environment, Food and Rural Affairs (2023) The waste prevention programme for England: Maximising Resources, Minimising Waste. Available at: https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste/the-waste-prevention-programme-for-england-maximising-resources-minimising-waste. (Accessed 06 June 2025).

Ref 15 Suffolk County Council Minerals and Waste Local Plan (2020). Available at: https://www.suffolk.gov.uk/asset-library/imported/chapters-1-to-18-smwlp-adopted-july-2020.pdf. (Accessed 06 June 2025).

Ref 16 Ministry of Housing, Communities and Local Government (2015). Planning Policy Guidance for Waste. Available at: https://www.gov.uk/guidance/waste#waste--overview (Accessed 06 June 2025).

Ref 17 Department of Trade and Industry, Site waste management plans: Guidance for construction contractors and clients (2009). Available at: https://www.thenbs.com/PublicationIndex/documents/details?Pub=DTI&DocId=267008. (Accessed 06 June 2025)

Ref 18 Department for Environment, Food and Rural Affairs, Construction Code of Practice. Available at: https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf. (Accessed 06 June 2025)

Ref 19 CL:AIRE, The definition of Waste: Development Industry Code of Practice Version 2 2011 (Online). Available at: https://claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document. (Accessed 06 June 2025)

Ref 20 IEMA guide to: Materials and Waste in Environmental Impact Assessment. IEMA, 2020 (Online). Available at: https://www.iema.net/media/0t5fwyhj/iema-materials-and-waste-in-eia-march-2020.pdf. (Accessed 06 June 2025)

Ref 21 Planning Inspectorate Scoping Opinion. Proposed LionLink Multi-purpose interconnector https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020033/EN020033-000103-LION%20-%20Scoping%20Opinion.pdf (Accessed 06 June 2025)

Ref 22 LionLink Multi-Purpose Interconnector (August 2023) Interim Non-Statutory Consultation Feedback Summary Report [online] Available at: https://www.nationalgrid.com/national-grid-ventures/lionlink/library#230548828-3684997351 (Accessed 06 June 2025)

Ref 23 LionLink (March 2024) Supplementary Non-Statutory Consultation Summary Report [online] Available at: https://www.nationalgrid.com/national-grid-ventures/lionlink/library#230548828-3684997351 (Accessed 06 June 2025)

Ref 24 Environment Agency. Waste Data Interrogator, 2023 (Online). Available at: https://www.data.gov.uk/dataset/59ab8448-3905-49c6-9122-ae762f96f66b/2023-waste-data-interrogator. (Accessed 06 June 2025)

Ref 25 Environment Agency. Hazardous Waste Interrogator, 2023 (Online). Available at: https://environment.data.gov.uk/dataset/8ff7fca4-3c6f-46ce-abf1-c7a2e4a1fd76 (Accessed 06 June 2025)

Ref 26 Environment Agency. Remaining Landfill Capacity, 2023 (Online). Available at: https://www.data.gov.uk/dataset/237825cb-dc10-4c53-8446-1bcd35614c12/remaining-landfill-capacity1. (Accessed 06 June 2025)

Ref 27 David Jarvis Associates. East of England Aggregates Working Part Annual Report 2023 (Online). Available at: https://davidjarvis.biz/wp-content/uploads/2025/03/Final-EEAWP-Report-2023.pdf (Accessed 06 June 2025)

Ref 28 Suffolk County Council. Suffolk Local Aggregates Assessment 2021-2022 Data, 2024 (Online). Available at: https://www.suffolk.gov.uk/asset-library/november-2024-suffolk-laa-2021-2022-data.pdf. (Accessed 06 June 2025)

Ref 29 Mineral Products Association. Regional overview of construction and mineral products, 2024 (Online). Available at: https://www.mineralproducts.org/MPA/media/root/Publications/2024/MPA_Regional_overview_of_construction_and_mineral_products_markets_in_GB_2024.pdf. (Accessed 06 June 2025)

Ref 30 British Geological Society. World Mineral Production 2019-2023, 2025 (Online). Available at: https://nora.nerc.ac.uk/id/eprint/537241/1/World%20Mineral%20Production%202018%20to%202022.pdf. (Accessed 06 June 2025)

Ref 31 Cranfield Environment Centre (CEC). LandIS Soilscapes Viewer, 2025 (Online). Available at: https://www.landis.org.uk/soilscapes/. (Accessed 06 June 2025)

Ref 32 Natural England. Peaty Soils Location (England), Natural England Open Data Geoportal, 2008 (Online). Available at: https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::peaty-soils-location-england/about. (Accessed 06 June 2025)

Ref 33 Asphalt Industry Alliance. Key facts Asphalt UK 2024 (Online). Available at: https://www.asphaltuk.org/key-facts/. (Accessed 06 June 2025)

Ref 34 Mineral Products Association. Profile of the UK Mineral Products Industry, 2023 (Online). Available at:

https://mineralproducts.org/MPA/media/root/Publications/2023/Profile_of_the_UK_Mineral_Products_Industry_2023.pdf. (Accessed 06 June 2025)

Ref 35 Department for Environment, Food and Rural Affairs. Environmental Improvement Plan 2023 (Online). Available at: https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64fffa/environmental-improvement-plan-2023.pdf. (Accessed 06 June 2025)

Ref 36 Considerate Constructors Scheme (2024) Colour Coded Waste Skips Available at https://ccsbestpractice.org.uk/entries/2024-ccs-code-checklist/ (Accessed 06 June 2025)

Ref 37 DEFRA (2018) Waste duty of care: code of practice. Available online at: https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice (Accessed 06 June 2025)

Ref 38 Environment Agency (2021) Technical Guidance WM3: Waste classification – Guidance on the classification and assessment of waste. Available online at: https://www.gov.uk/government/publications/waste-classification-technical-guidance. (Accessed 06 June 2025)

Ref 39 Department for Environment, Food and Rural Affairs. UK Statistics on Waste (Online). Available at: https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste. (Accessed 06 June 2025)

Ref 40 BES 6001 Framework Standards for Responsible Sourcing 2023 (Online). Available at: https://bregroup.com/services/standards/sourcing/bes-6001-responsible-sourcing (Accessed 06 June 2025)

National Grid Lion Link Limited

Company number 14722364

1-3 Strand

London

WG2N-5EH

United Kingdom

nationalgrid.com/lionlink