Lighthouse GREEN FUELS

The Lighthouse Green Fuels Order

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Applicant: LGF Projects Limited

Policy Compliance and Accordance Tables

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Glossary

Acronym	In Full / Term
AA	Appropriate Assessment
AGI	Above Ground Infrastructure
ALARP	As low as reasonably practicable
APCR	Air pollution control residue
APFP	Applications: Prescribed Forms and Procedure
AQAL	Air Quality Assessment Levels
ASU	Air Separation Unit
BAT-AEL	Best Available Technique-Associated Emission Levels
BECCS	Bioenergy with Carbon Capture & Storage
BIM	Building Information Management
BNG	Biodiversity Net Gain
CAA	Civil Aviation Authority
CB	Carbon Budget
CCC	Climate Change Committee
CCR	Carbon capture readiness
CCRA	Climate change resilience assessment
CCS	Carbon Capture and Storage
CCUS	Carbon capture usage and storage
CEMP	Construction Environmental Management Plans
CfD	Contracts for Difference
CHP	Combined Heat and Power
CNS	Communications, navigation and surveillance
COMAH	Control of Major Accident Hazards
CO_2	Carbon dioxide
CTMP	Construction Traffic Management Plan
CWTP	Construction Worker Travel Plan
DACCS	Direct Air Carbon Capture and Storage
DAD	Design Approach Document
DEMP	Decommissioning Environmental Management Plan
DCO	Development Consent Order
DIO	Defence Infrastructure Organisation
DNO	District Network Operator
DPD	Development Plan Document
DQRA	Detailed Quantitative Risk Assessment

DTMP	Decommissioning Environmental Management Plan
EA	Environment Agency
EATM	Environmental Assessment of Traffic and Movement
EfW	Energy from Waste
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
EMF	Electric and Magnetic Fields
EPA	Environmental Protection Act
EPC	Engineering Procurement and Construction
EPR	Environmental Permitted Regulations
ES	Environmental Statement
ETDP	Electricity Transmission Design Principles
ExA	Examining Authority
FES	Future Energy Scenarios
FIT	Feed in Tariff
FLH	Functionally Linked Habitat
FRA	Flood Risk Assessments
FWEP	Flood Warning and Evacuation Plan
GGR	Greenhouse gas removals
GHG	Greenhouse Gas
GIS	Gas Insulated Switchgear
GQRA	Generic Quantitative Risk Assessment
GVA	Gross Value Added
HDD	Horizontal directional drilling
HGV	Heavy goods vehicle
HRA	Habitats Regulations Assessment
HSA	Hazardous Substances Authority
HSE	Health and Safety Executive
IAQM	Institute of Air Quality Management
IBA	Incinerator bottom ash
IEMA	Institute of Environmental Management and Assessment
ISEP	Institute of Sustainability and Environmental Professionals
km	kilometre
LFA	Low flying area
LGF	Lighthouse Green Fuels
LLFA	Lead Local Flood Authority
LLCA	Local Landscape Character Areas

LPA	Local Planning Authority
LSE	Likely Significant Effect
LSO	Long sea outfall
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MCA	Marine Character Area
MCCIP	Marine Climate Change Impacts Partnership
MCZs	Marine Conservation Zones
MMO	Marine Management Organisation
MMP	Materials Management Plan
MoD	Ministry of Defence
MPAs	Marine Protected Areas
MPS	Marine Policy Statement
MRV	Monitoring, Reporting and Verification
MSA	Mineral safeguarding area
MSFD	Marine Strategy Framework Directive
MW	Megawatts
MWe	Megawatts electrical
NATS	National Air Traffic Services
NDC	Nationally determined contribution
NEP	Northern Endurance Partnership
NH_3	Ammonia
NNL	No net loss
NNS	Non-Native Species
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NRMM	Non-road Mobile Machinery
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
NSWWS	National Severe Weather Warning Service
PA	Planning Act
PCCU	Post-Combustion Carbon Capture Unit
PINS	Planning Inspectorate
PM	Particulate matter
PPW	Planning Policy Wales

RCBC	Redcar and Cleveland Borough Council
RO	Renewables Obligations
RTFO	Renewable Transport Fuel Obligation
SAC	Special Area of Conservation
SAF	Sustainable Aviation Fuel
SCR	Selective Catalytic Reduction
SEG	Smart Export Guarantee
SEPA	Scottish Environment Protection Agency
SLVIA	Seascape, landscape and visual impact assessment
SNCB	Statutory Nature Conservation Bodies
SNCR	Selective Non-Catalytic Reduction
SoS	Secretary of State
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPZ	Source Protection Zone
SSSI	Sites of Special Scientific Interest
STBC	Stockton-on-Tees Borough Council
SWMP	Site Waste Management Plan
TAG	Transport Analysis Guidance
TANs	Technical Advice Notes
TVCA	Tees Valley Combined Authority
WER	Water Environment Regulations
WFD	Water Framework Directive

Executive Summary

This document (**Policy Compliance and Accordance Tables (Application Document Ref. 5.2.2)**) sets out the Applicant's assessment of the Proposed Development's compliance and accordance with the relevant national and local planning policy framework. It provides a detailed assessment and supports the **Planning Statement (Application Document Ref. 5.2.1)** and the technical assessments presented across the **Environmental Statement (ES) (ES Volumes I – III, Application Document Refs. 6.1 to 6.3).**

This document assesses the compliance of the Proposed Development with the National Policy Statements (NPSs) that have direct effect on the determination of the Proposed Development under Section 104 of the Planning Act 2008, being the Overarching NPS for Energy (EN-1) and the NPS for Renewable Energy Infrastructure (EN-3). This document also considers compliance with the appropriate marine policy, which comprises the UK Marine Policy Statement (UK MPS) and the North East Inshore and Offshore Marine Plan.

This document considers the accordance of the Proposed Development with the NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and the NPS for Electricity Networks Infrastructure (EN-5), which do not have direct effect but are considered important and relevant to the Secretary of State's (SoS) decision-making. The tables also address other matters that the SoS may consider important and relevant to their decision, including the National Planning Policy Framework (NPPF) and the local development plan policies of Stockton-on-Tees Borough Council (STBC) and Redcar and Cleveland Borough Council (RCBC), together with the Tees Valley Joint Minerals and Waste Core Strategy and associated Policies and Sites Development Plan Documents.

Each table within this document sets out the relevant policy or paragraph, details of its requirements and the Applicant's response demonstrating how the Proposed Development, assessed across the ES, complies or accords with that policy.

The tables demonstrate that the Proposed Development:

- complies with the primary decision-making framework set out in EN-1 and EN-3;
- complies with the relevant marine policy (UK MPS and the North East Inshore and Offshore Marine Plan);
- accords with relevant provisions of EN-4 and EN-5 in respect of the gas and electrical connection works;
- and is in general accordance with the NPPF and the relevant local development plan policies of STBC and RCBC

1 Introduction

1.1 Overview

1.1.1 This **Policy Compliance and Accordance Tables document (Application Document Ref 5.2.2)** has been prepared by DWD on behalf of LGF Projects Limited (the Applicant), to support an application (the Application) seeking development consent for the construction, operation, maintenance and decommissioning of the Lighthouse Green Fuels (LGF) project (the Proposed Development) on land within the administrative boundaries of Stockton-on-Tees Borough Council (STBC) and Redcar and Cleveland Borough Council (RCBC).

1.1.2 The Order limits for the Proposed Development are made up of the Main Site and Wider Site, together 'the Site'.

1.1.3 The Application has been submitted to the Planning Inspectorate (PINS), and the decision whether to grant a Development Consent Order (DCO) will be made by the Secretary of State (SoS) for Energy Security and Net Zero pursuant to the Planning Act 2008 (the PA 2008) [Ref 1].

1.1.4 The Proposed Development comprises a commercial-scale second generation Sustainable Aviation Fuel (SAF) production facility and associated infrastructure.

1.2 The Applicant

1.2.1 The Applicant is wholly owned by Alfanar Energy Limited (Alfanar). Alfanar is part of a global project development, manufacturing, and engineering group headquartered in Saudi Arabia. Alfanar has developed significant in-house feedstock-to-SAF expertise. This experience will be utilised to construct and operate the Proposed Development.

1.3 Overview of the Proposed Development

1.3.1 The Proposed Development is anticipated to be the UK's first commercial-scale second generation SAF production facility.

1.3.2 The Proposed Development includes the construction, operation, maintenance and decommissioning of a commercial-scale facility that will produce approximately 180 million litres of advanced SAF and approximately 30 million litres of renewable naphtha each year.

1.3.3 The Proposed Development includes the following elements (the location of each Work No. is shown on the **Works Plans (Application Document Ref 2.4)**):

Table 2.1 Works Description Summaries

Work Number:	
Work No. 1	SAF production facility comprising: • 1A - feedstock pre-treatment facility including flue gas treatment and stack • 1B - SAF processing facility including thermal oxidiser, flue gas treatment, and stack • 1C - up to two flare structures
Work No. 2	Combined heat and power (CHP) generating station comprising: • 2A - boilers and steam turbine generators • 2B - flue gas treatment and stack
Work No. 3	Feedstock and intermediate and final product handling and storage
Work No. 4	Cooling infrastructure for SAF production facility and CHP plant
Work No. 5	Bridge and culvert crossings of existing infrastructure
Work No. 6	Marine infrastructure comprising: • 6A - construction of permanent quay • 6B - permanent quay • 6C - capital and maintenance dredging
Work No. 7	Electrical connection works comprising: • 7A - underground and overground cable connections to the existing North Bank Supply Point • 7B - electrical connection works
Work No. 8	Modified or new natural gas connection and above ground infrastructure (AGI)
Work No. 9	Supply of industrial gases: Only one of Work No. 9A or Work No. 9B would be developed; • 9A - industrial gases connection works comprising installation of new and repurposing of oxygen and nitrogen pipeline connections, and connection to existing low pressure nitrogen supply • 9B - air separation unit (ASU) facility and connections to Work No. 1
Work No. 10	Modification or removal and replacement of industrial wastewater pipeline connection works
Works No. 11	• Export connection works:11A - pipeline(s) for the export of SAF and renewable naphtha • 11B or 11C - a pipeline for the export of carbon dioxide (CO_2) connecting to AGI by others (being either AGI C1 or C2 of the Northern Endurance Partnership (NEP) transport and storage pipeline) Only one of Work No. 11B or Work No. 11C would be developed
Works No. 12	Surface water attenuation, and drainage and discharge works
Works No. 13	Laydown areas comprising: • 13A - temporary construction compounds and laydown areas • 13B - permanent laydown and storage

Work No. 14	Access works and private street improvements

1.3.4 In addition, a range of associated development, both specified and unspecified, is proposed in relation to the above.

1.3.5 The new quay on the River Tees (**Work No. 6**) will allow delivery of modular plant and construction materials by ship during construction and biomass and waste wood feedstock during operation, reducing reliance on road transport. Feedstock will be stored (**Work No. 3**) then pre-treated at the Main Site and processed into SAF through gasification and gas-to-liquids processes (**Work No.1**).

1.3.6 To support operations, the Proposed Development will include a biomass and waste wood-fired CHP plant (**Work No. 2**) with an electrical output capacity of up to 200 megawatts electrical (MWe), providing a low-carbon energy supply for the SAF process. Cooling infrastructure (**Work No. 4**) will be required for the SAF process and the CHP plant. Connections will provide electricity for start-up and to maintain ancillary site supplies (**Work No. 7**), natural gas for start-up and as auxiliary fuel for some processes during operation (**Work No. 8**), and oxygen and nitrogen which will either be delivered to the Site via pipelines or produced by a new ASU in the Main Site (**Work No. 9A or 9B** respectively). Waste materials, including off-specification materials will be exported from the Main Site by road. Finished products (SAF, and a secondary product of the process, renewable naphtha) will be transferred via pipeline(s) (**Work No. 11A**) to local marine loading facilities for marine export or export by road. CO_2 from the acid gas removal unit in **Work No. 1B** will be exported via pipeline (**Work No. 11B or Work No. 11C**) subject to a suitable agreement to connect to one of two proximate AGIs in the NEP project.

1.3.7 The Proposed Development will also include replacement and new wastewater pipeline connection works (**Work No. 10**), surface water drainage systems (**Work No. 12**) and access and street improvements (**Work No. 14**). Space within the Wider Site is identified for temporary construction and laydown and space within the Main Site identified for permanent laydown and storage areas (**Work No. 13**).

1.3.8 The preliminary layout of the Proposed Development is shown on **Indicative General Arrangement Plan (Application Document Ref 2.5.1)** and **Indicative General Arrangement Isometric (Application Document Ref 2.5.2)**.

1.4 The Site

1.4.1 The Site location and boundary (which is also known as the 'Order limits') are shown on **Site Location Plan (Application Document Ref 2.1)**. The Site is located in Teesside on land to the north and south of the River Tees with connection corridors crossing the Tees.

1.4.2 The Main Site is located in the industrial area of Seal Sands approximately 5km east of Billingham town centre and 4km north-east of Middlesbrough town centre, on the north bank of the River Tees in the borough of Stockton-on-Tees). The majority of the Main Site lies south of Seal Sands Road and largely comprises previously developed land formerly used as a chemical plant from the early 1970s. It was last operated by INEOS Nitriles.

1.4.3 The Main Site comprises the main SAF facility development area of the Site, lying to the south and north sides of Seal Sands Road and bounded by the proposed quay in the River Tees, with the River Tees to the east.

1.4.4 The eastern boundary of the Main Site is formed by the River Tees, where existing jetties will be demolished and a new quay developed.

1.4.5 The Wider Site comprises the connection corridors, including land required for road access, pipelines (including under the River Tees), dredging near to the Main Site, and utility connections and construction laydown in both North Tees and (in the borough of Redcar and Cleveland) South Tees.

1.5 The DCO Process

1.5.1 Part 3 of the PA 2008 defines which projects constitute a nationally significant infrastructure project (NSIP). Once classed as an NSIP, development consent (in the form of a DCO) is required under Part 4 of the PA 2008.

1.5.2 In legislative terms the Proposed Development comprises both a SAF production facility and a CHP generating station together with development associated with the SAF production facility and the CHP generating station.

1.5.3 The construction and operation of the main SAF production facility does not automatically fall within the definition of an NSIP. Therefore, on 12 August 2025, the Applicant formally requested a direction by the SoS for Energy Security and Net Zero, pursuant to section 35(1) of the PA 2008, that the following elements be treated as one for which development consent is required. The Section 35 direction request was made in respect of: a main gasification facility to process sustainably sourced biomass; feedstock pre-treatment, syngas clean-up apparatus; Fischer-Tropsch process units; refining units; feedstock, intermediates and finished product storage; quayside with ship loading/ offloading infrastructure; supporting

infrastructure and utility connections (hereafter called the 'Specified Elements').

1.5.4 The SoS for Energy Security and Net Zero issued a direction under Section 35 of the PA 2008 [Ref 1] on 08 September 2025 to confirm that the Specified Elements of the Proposed Development, together with any matters/ development associated with them, should be treated as development for which development consent under the PA 2008 is required.

1.5.5 The CHP plant (**Work No. 2**) surpasses the 50 Megawatt (MW) threshold for generating stations defined in Section 15 of the PA 2008 and is therefore a NSIP in its own right.

1.5.6 An application for development consent for the Proposed Development has been submitted to PINS acting on behalf of the SoS. Subject to the Application being accepted, PINS will then examine it and make a recommendation to the SoS who will then decide whether to grant a DCO.

1.5.7 The application for development consent for the Proposed Development supersedes a previous application that was being progressed by Lighthouse Green Fuels Limited centred on a site off Huntsman Drive in Seal Sands, TS2 1TT (PINS ref. EN010150). Statutory consultation on that application took place between 16 May 2024 and 20 June 2024. As shown on the PINS website[1], that application is discontinued.

1.6 The Purpose and Structure of this Document

1.6.1 This document provides a comprehensive assessment of the Proposed Development against the relevant planning policies and corresponds with the Policy Compliance Document in 'Annex A: Order of information submitted with NSIP applications' in PINS' guidance for NSIPs 'Advice on the Preparation and Submission of Application Documents' last updated March 2026 [Ref 1]. It informs, and should be read in conjunction with, the **Planning Statement** (**Application Document Ref. 5.2.1)** which makes the overall case for the Proposed Development, describes the different elements of the Proposed Development, demonstrates the clear and urgent need for the Proposed Development, the legislative and policy framework and weighs the key benefits of the Proposed Development against its impacts.

1.6.2 This document is structured in a tabular format. It sets out relevant policy wording and then details how the Proposed Development complies with or generally accords (in a compliance table or an accordance table, respectively). Professional judgement has been used to determine the

[1] https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010150

policies that are relevant to the Proposed Development to include in the below tables.

1.7 Overview

1.7.1 Section 104 of the PA 2008 provides that, in deciding an application for development in relation to which a national policy statement has effect, the SoS must have regard to:

a) any relevant NPSs;

b) the appropriate marine policy documents;

c) any local impact report submitted to the SoS;

d) any matters prescribed in relation to development of the description to which the application relates; and

e) any other matters the SoS thinks are both important and relevant to their decision.

1.7.2 The Proposed Development is the subject of a Section 35 Direction dated 8 September 2025. The direction states amongst other things, "*the Proposed Development sits within one of qualifying infrastructure fields (…) (energy)*", and that the Proposed Development, *"is nationally significant".* The Section 35 direction is contained in Appendix B of the **Planning Statement (Application Document Ref. 5.2.1).** Paragraph 1.3.10 of the Overarching National Policy Statement for Energy (EN-1) (2025) [Ref 3] confirms that this NPS, in conjunction with any relevant technology specific NPS, will be the primary policy for SoS decision making on projects in the field of energy for which a direction has been given under Section 35. As such, EN-1 clearly has effect. As the primary policy for the SoS's decision making and assessment of the Proposed Development compliance with EN-1 is contained in Table 2.1 of Section 2 of this document. The assessment of EN-1 in this document commences with Part 5 'Generic impacts with the evaluation of Section 4 'Assessment Principles' contained within the **Planning Statement** (**Application Document Ref. 5.2.1)**.

1.7.3 The NPS for Renewable Energy Infrastructure (EN-3) (2025) [Ref 3] also has direct effect, albeit upon the CHP element of (**Work No. 2**) which will have a generating capacity above 50 MW and will use biomass and waste wood feedstock. This is a Nationally Significant Infrastructure Project ('NSIP') in its own right and was therefore not included in the Section 35 Direction request. As such, compliance of the Proposed Development with EN-3 is assessed in Table 3.1 of Section 3 of this document. The assessment considers the relevant feedstock types in relation to the biomass and energy from waste policies in EN-3 as applicable.

1.7.4 The NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (2024) Ref 5] is partially relevant to the Proposed Development but does not have direct effect because the natural gas connection works (**Work No. 8**) and export pipeline for renewable naphtha and CO_2 (**Work No. 11**) are below NSIP thresholds. The assessment, contained in Table 4.1 in Section 4 of this document, considers the degree of general accordance between **Work Nos. 8** and **11** and EN-4's policies.

1.7.5 Similarly, the NPS for Electrical Networks Infrastructure (EN-5) (2025) [Ref 6] is partially relevant to the Proposed Development but does not have direct effect because the substation and electrical connection works (**Work No. 7**) are below NSIP thresholds. The assessment, contained in Table 5.1 in Section 5 of this document, considers the degree of general accordance between **Work No.7** and EN-5's policies.

1.7.6 The Proposed Development includes works within the UK Marine Area namely the new quay (**Work No. 6**) and pipeline and utility corridors (**Work Nos. 9 and 10**) under the River Tees. The appropriate marine policy therefore comprises the UK Marine Policy Statement (UK MPS) last updated 2020 [Ref 7] and the North East Inshore and Offshore Marine Plan. The compliance with UK MPS is contained in Table 6.1 and with the North East Inshore and Offshore Marine Plan last updated 2021 [Ref 8] is assessed in Table 7.1 of this document.

1.7.7 The National Planning Policy Framework (NPPF), last updated in August 2026 [Ref 9] sets out the Government's planning policies for England and how they should be applied. The NPPF is considered "important and relevant" in the meaning in Section 104 of the PA 2008, however it is of less relevance to the SoS's decision-making than the NPS and therefore the assessment in Table 8.1 in Section 8 considers the degree of general accordance with certain NPPF policies.

1.7.8 The Biomass Policy Statement last updated in 2021 [Ref 10] sets out government policy on the role of biomass generally and is not a National Policy Statement under the PA 2008 nor similar to one. Its policy regarding the use of biomass in industrial processes such as biofuel production is considered "important and relevant" to the SAF production facility (**Work No. 1**) which uses sustainably sourced biomass as a feedstock. Therefore, the policy assessment in Table 9.1 of Section 9 of this document considered the degree of general accordance between the SAF production facility and certain policies in the Biomass Policy Statement.

1.7.9 Local planning policies are also considered to be "important and relevant" in SoS decision-making under Section 104 of the PA 2008. The assessment in Table 10.1 in Section 10 considers the degree of general accordance with

STBC Local Plan (2019) [Ref 11] policies and in Table 11.1 in Section 11 of this document considers the degree of general accordance with policies in the RCBC Local Plan (2018) [Ref 12]. Table 12.1 in Section 12 considers the degree of general accordance with the Proposed Development and Tees Valley Minerals and Waste Core Strategy Development Plan Document (DPD) (2011) [Ref 13] and Table 13.1 in Section 13 considers the degree of general accordance with the Tees Valley Policies and Sites DPD (2011) [Ref 14].

1.7.10 A summary of the above points, containing for each policy document, the type of assessment (compliance or accordance) and the part of the Proposed Development which has been assessed, is provided in Table 1.2.

1.7.11 The policy wording is directly extracted, typically without footnotes or extraneous detail such as call out boxes or diagrams since these can be viewed in the original if desired. All of the policy documents contain policies that are applicable to different development forms (e.g. housing) and technologies (e.g. solar generation) from the Proposed Development, or which are for other reasons irrelevant. We have applied planning professional judgement to determine the policies of relevance. Policies that we consider to be irrelevant to the Proposed Development do not appear in the tables. In the case of the STBC Local Plan and RCBC Local Plan the relevant policies applicable were agreed with officers at pre application stage.

Table 1.2 Summary of policy assessments

Section	Policy name	Policy assessment type (Compliance or Accordance)	Parts of the Proposed Development assessed
2	Overarching NPS for Energy (EN-1)	Compliance	Entire Proposed Development against Section 5 'Generic Impacts.'
3	NPS for Renewable Energy Infrastructure (EN-3)	Compliance	The biomass and/or waste wood fired CHP plant (**Work No. 2**)
4	NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	Accordance	Natural gas connection works (**work No. 8**) and export pipeline for renewable naphtha and CO_2 (**Work No. 11**)
5	NPS for Electricity Networks Infrastructure (EN-5)	Accordance	Electrical connection works (**Work no. 7**)
6	UK Marine Policy Statement	Compliance	The new quay (**Work No. 6**) and pipeline and utility corridors under the River Tees

7	North East Inshore and Offshore marine Plan	Compliance	The new quay (**Work No. 6**) and pipeline and utility corridors under the River Tees
8	National Planning Policy Framework	Accordance	Entire Proposed Development
9	Biomass Policy Statement	Accordance	Use of sustainably sourced biomass as a feedstock in the SAF production facility.
10	STBC Local Plan	Accordance	Entire Proposed Development
11	RCBC Local Plan	Accordance	Entire Proposed Development
12	Tees Valley Minerals and Waste Core Strategy DPD	Accordance	Entire Proposed Development
13	Tees Valley Minerals and Waste Policies and Sites DPD	Accordance	Entire Proposed Development

2 Compliance with Overarching National Policy Statement for Energy (EN-1)

Table 2.1 Compliance with Overarching National Policy Statement for Energy (EN-1) Part 5

NPS EN-1 Section / Topic	Policy Text	Assessment
5.2 Air Quality and Emissions Applicant Assessment	5.2.8 Where the project is likely to have adverse effects on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the ES.	The **Environmental Statement ('ES') Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** describes the relevant air quality legislation, guidance and policy context and presents the methodology used in the assessment of the Proposed Development. It assesses the existing air quality conditions in the vicinity of the Proposed Development and the likely changes that would arise as a result of the construction and operational stages. It predicts the changes in air pollutant concentrations in the local area in terms of the potential effects on human health and ecological receptors. Mitigation measures are proposed which, where necessary, would be implemented to reduce the impact of the Proposed Development on air quality. The Chapter concludes with a summary of the potential significant effects associated with the construction (and decommissioning) and operation of the Proposed Development.
5.2 Air Quality and Emissions Applicant Assessment	5.2.9 The ES should describe: • existing air quality concentrations and the relative change in air quality from existing levels; • any significant air quality effects, mitigation action taken and any residual effects, distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project; • the predicted absolute emissions, concentration change and absolute concentrations as a result of the proposed project, after mitigation methods have been applied; and • any potential eutrophication impacts.	Details of the assessment methodologies are provided within **Appendix 8A: Air Quality - Construction Assessment** and **Appendix 8B: Air Quality - Operational Assessment (ES Volume III, Application Document Ref. 6.3).** The air quality impacts of the construction and operation have been assessed. Appropriate mitigation has been considered as part of the air quality assessment and is outlined in Section 8.7 and consideration of residual effects in Section 8.8 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1).** The predicted air quality effects of eventual decommissioning of the Proposed Development are considered to be comparable to, or less than, those assessed for construction activities. This is based upon the assumption that groundwork, traffic movements and site work likely to be required to decommission the Proposed Development would be less than that required for its construction, particularly as no ground improvement works would be expected to take place during decommissioning of the Proposed Development and sub-surface structures would be left in situ. Therefore, the assessment of air quality impacts during constructions is considered representative of the decommissioning phase. Eutrophication impacts have been assessed in respect to the deposition of nitrogen from the Proposed Development, within **Appendix 8A: Air Quality – Construction Assessment (ES Volume III, Application Document Ref. 6.3)** and **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3)**.
5.2 Air Quality and Emissions Applicant Assessment	5.2.10 In addition, applicants should consider the Environment Targets (Fine Particulate Matter) (England) Regulations 2023 and associated Defra guidance.	In compliance with NPS EN-1 paragraph 5.2.10, the Environment Targets (Fine Particulate Matter) (England) Regulations 2022 and associated Defra guidance have been included as part of the air quality assessment in the application of the Air Quality Assessment

NPS EN-1 Section / Topic	Policy Text	Assessment
		Levels (AQAL) for PM2.5 shown in Table 8.1 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1).** Particulate emissions have been included in the assessment of construction dust and traffic impacts **(Appendix 8A: Air Quality – Construction Assessment (ES Volume III, Application Document Ref. 6.3))**. nitrogen dioxide (NO_2) and Carbon Monoxide (CO) emissions from the operational Proposed Development have also been considered Appendix 8B: Air Quality Operational Assessment **(ES Volume III, Application Document Ref. 6.3).**
5.2 Air Quality and Emissions Applicant Assessment	5.2.11 Defra publishes future national projections of air quality based on estimates of future levels of emissions, traffic, and vehicle fleet. Projections are updated as the evidence base changes and the applicant should ensure these are current at the point of an application. The applicant's assessment should be consistent with this but may include more detailed modelling and evaluation to demonstrate local and national impacts. If an applicant believes they have robust additional supporting evidence, to the extent they could affect the conclusions of the assessment, they should include this in their representations to the Examining Authority along with the source.	Background data for 2024 (based on the Defra 2021 background maps) has been obtained from Defra published maps for the relevant grid squares containing the Main Site. Background concentrations for the grid squares covering the relevant affected road network are included within **Appendix 8A: Air Quality – Construction Assessment** and **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3).** This approach is compliant with NPS EN-1 paragraph 5.2.11.
5.2 Air Quality and Emissions Applicant Assessment	5.2.12 Where a proposed development is likely to lead to a breach of any relevant statutory air quality limits, objectives or targets, or affect the ability of a non-compliant area to achieve compliance within the timescales set out in the most recent relevant air quality plan/strategy at the time of the decision, the applicant should work with the relevant authorities to secure appropriate mitigation measures to ensure that those statutory limits, objectives or targets are not breached.	**Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1), Appendix 8A: Air Quality – Construction Assessment** and **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3)** demonstrate that the Proposed Development would not lead to a breach of any relevant statutory air quality thresholds or affect the ability of a non-compliant area to achieve compliance.
5.2 Air Quality and Emissions Applicant Assessment	5.2.13 The Secretary of State should consider whether mitigation measures are needed both for operational and construction emissions over and above any which may form part of the project application. A construction management plan may help codify mitigation at this stage. In doing so the Secretary of State should have regard to the Air Quality Strategy in England, or the Clean Air Plan for Wales in Wales, or any successors to these and	Emissions of dust and particulates from the construction stage of the Proposed Development will be controlled in accordance with good industry practice, through incorporation of reasonably appropriate control measures according to the risks posed by the activities undertaken, as determined through this assessment process. The management of dust and particulates and application of adequate mitigation measures will be enforced through embedding appropriate measures in detailed Construction Environmental Management Plans (CEMP). The submitted **Appendix 5A: Framework Construction Environmental Management Plan (fCEMP) (ES Volume III, Application Document Ref 6.3)** states that detailed

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	should consider relevant advice within Local Air Quality Management guidance and PM2.5 targets guidance. 5.2.14 The mitigations identified in Section 5.14 on traffic and transport impacts will help mitigate the effects of air emissions from transport. 5.2.15 Many activities involving air emissions are subject to pollution control. The considerations set out in Section 4.12 on the interface between planning and pollution control therefore apply. The Secretary of State must also consider duties under other legislation including duties under the Environment Act 2021 in relation to environmental targets and have regard to policies set out in the government's Environmental Improvement Plan.	CEMPs may incorporate a dust management plan where relevant. Schedule 2 (Requirements) of the **draft DCO (Application Document Ref 3.1)** secures that no part of the authorised development, save for preliminary works, may commence until a detailed CEMP for that part has been approved by the relevant planning authority in consultation with the relevant consultees. The detailed CEMPs will be developed by the EPC Contractor in accordance with the principles set out in the Framework Construction Environmental Management Plan. Impacts of Non-road Mobile Machinery (NRMM) will be mitigated by ensuring that these are located away from the Order Limits and, where possible, the use of diesel- or petrol-powered generators will be avoided. The environmental effects from construction traffic and construction shipping associated with the Proposed Development have been identified as not significant in Section 8.6 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)**, therefore no specific mitigation has been identified as necessary for the construction stage of the Proposed Development. The environmental effects from operational traffic and operational shipping associated with the Proposed Development have been identified as not significant in Section 8.6 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)**, therefore no specific mitigation has been identified as necessary for the construction stage of the Proposed Development. In order to meet Best Available Technique-Associated Emission Levels (BAT-AEL) emissions of Nitrogen oxides (NO_X) from the Proposed Development, NO_X will be controlled through various measures including primary emission controls such as the use of low-NO_X burners and secondary abatement controls such as Selective Non-Catalytic Reduction/Selective Catalytic Reduction (SNCR/SCR). This is considered to be embedded mitigation. SNCR/SCR can result in an emission of Ammonia (NH_3) slip. Therefore, further abatement may be required (such as wet scrubbing) to reduce emissions of NH_3 to ensure that nitrogen deposition impacts are considered acceptable. This has been considered as part of the assessment and the NO_X and NH_3 concentrations from the CHP plant and SAF Production Facility have been modelled at both the BAT-AELs and at lower concentrations to demonstrate the effect that this has on the annual mean NO_x and nitrogen deposition impacts at sensitive ecological receptors. The additional abatement technologies such as wet scrubbing to reduce emissions beyond the BAT-AELs constitute additional mitigation which would be subject to a BAT Assessment and costs benefits analysis that would be required to support the Environmental Permit application to operate the Proposed Development.

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5.2 Air Quality and Emissions Secretary of State decision making	5.2.16 The Secretary of State should give air quality considerations substantial weight where a project would lead to a deterioration in air quality. This could for example include where an area breaches any national air quality limits or statutory air quality objectives. However, air quality considerations will also be important where substantial changes in air quality levels are expected, even if this does not lead to any breaches of statutory limits, objectives or targets. 5.2.17 The Secretary of State should give air quality considerations substantial weight where a project is proposed near a sensitive receptor site, such as an education or healthcare facility, residential use or a sensitive or protected habitat. 5.2.18 Where a project is proposed near to a sensitive receptor site for air quality, if the applicant cannot provide justification for this location, and a suitable mitigation plan, the Secretary of State should refuse consent.	As set out in Tables 8.12 to 8.14 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** the Proposed Development is located near to a limited number of sensitive human receptors and several sensitive ecological receptors. Chapter 8 concludes that after proposed mitigation measures are implemented, there are no anticipated significant residual effects on air quality during all stages of the Proposed Development. Chapter 8 describes how further abatement of NO_x (additional SNCR/SCR) and NH_3 emissions (wet scrubbing) could be applied to reduce annual mean NO_x concentrations and nutrient nitrogen deposition at the closest ecological receptor, Teesmouth and Cleveland Coast, to reduce the potential for significant effects. The Applicant's selection for siting the Proposed Development is justified, supported by the analysis carried out in the **ES (Application Document Ref. 6.1)**, the **Planning Statement (Application Document Ref. 5.2.1)** which demonstrates that the Proposed Development accords with the relevant National Policy Statements. Furthermore, the proposed Development is consistent with and supports the government's aviation decarbonisation objectives and achievement of the SAF Mandate. Suitable mitigation measures identified with **Appendix 5A: Framework Construction Environmental Management Plan, 5B Framework Site Waste Management Plan (fSWMP)** and **Appendix 18C: Framework Construction Traffic Management Plan (fCTMP) and (ES Volume III, Application Document Ref. 6.3)** have been prepared and are secured by Requirements in Schedule 2 to the d**raft DCO (Application Document Ref. 3.1)**. These management plans further demonstrate that the Proposed Development's location is justified.
5.2 Air Quality and Emissions Secretary of State decision making	5.2.19 In all cases, the Secretary of State must take account of any relevant statutory air quality limits, objectives and targets. If a project will lead to non-compliance with a statutory limit, objective or target the Secretary of State should refuse consent.	**The Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1), Appendix 8A: Air Quality – Construction Assessment** and **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3)** demonstrates that the Proposed Development would not lead to a breach of any relevant statutory air quality thresholds or affect the ability of a non-compliant area to achieve compliance.
5.3 Greenhouse Gas Emissions Applicant assessment	5.3.4 All proposals for energy infrastructure projects should include a GHG assessment as part of their ES (See Section 4.3). This should include: • A whole life GHG assessment showing construction, operational and decommissioning GHG impacts, including impacts from change of land use.	**The Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1)** provides the assessment of likely significant effects of greenhouse gases (GHG) from the construction, operation and decommissioning of the Proposed Development Section 14.3 of the chapter confirms the GHG assessment methodology seeks to quantify the whole-life GHG emissions associated with the Proposed Development (absolute Proposed Development emissions) and the difference in emissions between the Proposed Development and baseline scenario, as if the Proposed Development was not constructed.

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	• An explanation of the steps that have been taken to drive down the climate change impacts at each of those stages. • Measurement of embodied GHG impact from the construction stage. • How reduction in energy demand and consumption during operation has been prioritised in comparison with other measures. • How operational emissions have been reduced as much as possible through the application of BAT for that type of technology. • Calculation of operational energy consumption and associated carbon emissions. • Whether and how any residual GHG emissions will be (voluntarily) offset or removed using a recognised framework. • Where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level, if sectoral targets are developed. 5.3.5 A GHG assessment should be used to drive down GHG emissions at every stage of the proposed development and ensure that emissions are minimised as far as possible for the type of technology, taking into account the overall objectives of ensuring our supply of energy always remains secure, reliable and affordable, as we transition to net zero.	Effects that are scoped in for the GHG emissions assessment relevant to the construction stage are: • extraction, transportation and manufacturing of construction materials and products • transport of construction materials and products to site • construction and installation activities • construction waste and waste management; and • construction worker transport. The Proposed Development is inherently designed to reduce the consumption of conventional jet A-1 fuel and its associated carbon emissions by producing SAF. In addition, the Proposed Development prioritises low-carbon energy inputs and logistics and transport strategies to reduce emissions from feedstock and product movement. Operational carbon emissions are presented in Section 14.6 of Chapter 14 and is estimated to result in 3.73 million tonnes of carbon dioxide equivalent ($MtCO_2e$). This is equivalent to approximately 87% of the total lifecycle emissions associated with the Proposed Development. The Proposed Development complies with the 8th bullet point of NPS EN-1 paragraph 5.3.4 because it will displace conventional Jet A-1 fuel, supporting national and aviation sector efforts to limit climate change, by supporting the UK's 2022 Jet Zero Strategy [1a.i.1.a.i.1.a.Ref 15] and SAF Mandate. From 2040 onwards, its contribution to the UK's mandated SAF requirement is expected to represent 5% and is therefore substantial. Over its 30-year operational life, the Proposed Development is expected to produce approximately 180 million litres of low-carbon SAF annually, which equates to a significant reduction in lifecycle GHG emissions when compared to an equivalent volume of traditional jet fuel. The lifecycle emissions of the Proposed Development's low-carbon SAF are approximately 80% lower than those of conventional jet A-1 fuel. This displacement results in avoided emissions that are directly attributable to the Proposed Development. This aligns with the UK's Net Zero Strategy and Jet Zero ambitions and supports UK net zero pathways through the substitution of conventional jet fuel with low-carbon SAF, delivering a strong return on its carbon investment, making it a key enabler of low-carbon aviation. See Section 14.6 to 14.9 of **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1).** In summary the GHG emissions assessment complies with NPS EN-1 paragraphs 5.3.4 and 5.3.5.
5.3 Greenhouse Gas Emissions Mitigation	5.3.6 Applicants should look for opportunities within the proposed development to embed nature-based or technological solutions to mitigate or offset the emissions of construction and decommissioning.	The **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1)** and the **Greenhouse Gas Reduction Strategy (Application Document Ref. 7.6)** describe the embedded design mitigation and standard good practice measures that are

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	5.3.7 Steps taken to minimise and offset emissions should be set out in a GHG Reduction Strategy, secured under the Development Consent Order. The GHG Reduction Strategy should consider the creation and preservation of carbon stores and sinks including through woodland creation, hedgerow creation and restoration, peatland restoration and through other natural habitats.	included throughout all stages of the Proposed Development to reduce and manage GHG emissions associated with the Proposed Development. The Greenhouse Gas Reduction Strategy and **Appendix 5A: Framework Construction Environmental Management Plan (Framework Construction Environmental Management Plan) (ES Volume III, Application Document Ref 6.3)** demonstrates that embedded GHG reduction measures during the construction stage will incorporate technological solutions, such as: • use of modular and prefabricated construction approaches to reduce on-site energy use and waste generation. • encouraging the use of construction materials with lower embodied carbon (e.g. higher recycled content); • increasing recyclability by segregating construction waste to be re-used and recycled, where reasonably practicable; • low-emission demolition and transport methods. The prior approval of detailed versions of the fCEMP and Decommissioning Environmental Management Plan (DEMP) is secured through Requirements in Schedule 2 to the d**raft DCO (Application Document Ref. 3.1)**. The Proposed Development therefore complies with NPS EN-1 policy 5.3.6 and 5.3.7.
5.3 Greenhouse Gas Emissions Secretary of State decision making	5.3.8 The Secretary of State must be satisfied that the applicant has as far as possible assessed the GHG emissions of all stages of the development. 5.3.9 The Secretary of State should be content that the applicant has taken all reasonable steps to reduce the GHG emissions of the construction and decommissioning stage of the development. 5.3.10 The Secretary of State should give appropriate weight to projects that embed nature-based or technological processes to mitigate or offset the emissions of construction and decommissioning within the proposed development. However, in light of the vital role energy infrastructure plays in the process of economy wide decarbonisation, the Secretary of State must accept that there are likely to be some residual emissions from construction and decommissioning of energy infrastructure. 5.3.11 Operational GHG emissions are a significant adverse impact from some types of energy infrastructure which cannot be totally avoided (even with full deployment	The **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1)** has assessed the GHG emissions of all stages of the Proposed Development and summarises of the potential significant effects associated with the construction, operation and decommissioning of the Proposed Development. The total lifecycle GHG emissions associated with the Proposed Development including construction, operation, and decommissioning are approximately 4.3 $MtCO_2e$. The design of the Proposed Development and the associated construction strategy have evolved through the design process, with consideration given throughout to opportunities to minimise GHG emissions. The GHG assessment has been undertaken on the basis that the embedded mitigation measures have been incorporated within the design to minimise emissions as far as practicable. This includes the use of brownfield land to reduce the need for extensive demolition or soils impacts and the use of modular construction methods to reduces on-site energy consumption. **The Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3)** will assist with reducing GHG emissions during the construction stage and sets out how construction activities will be controlled through relevant regulations, industry good practice, and specific mitigation measures. This includes the adoption of technological processes such as use of construction materials with lower embodied carbon (e.g. higher recycled content).

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	of CCS technology). Given the characteristics of these and other technologies, as noted in Part 3 of this NPS, and the range of non-planning policies that can be used to decarbonise electricity generation, such as the UK ETS (see Section 2.4), government has determined that operational GHG emissions are not reasons to prohibit the consenting of energy projects or to impose more restrictions on them in the planning policy framework than are set out in the energy NPSs (e.g. the CCR requirements). Any carbon assessment will include an assessment of operational GHG emissions, but the policies set out in Part 2, including the UK ETS, can be applied to these emissions. 5.3.12 Operational emissions will be addressed in a managed, economy-wide manner, to ensure consistency with carbon budgets, net zero and our international climate commitments. The Secretary of State does not, therefore need to assess individual applications for planning consent against operational carbon emissions and their contribution to carbon budgets, net zero and our international climate commitments.	At the time of decommissioning a DEMP will be prepared which will set out the best practice measures to minimise GHG emissions such as reuse, recycling and low carbon demolition practices. The DEMP will reflect best practice guidance available at the time and will be evidenced based, informed by survey and assessment work. It will be submitted to and be approved by the relevant LPA as per the Requirements to the d**raft DCO (Application Document Ref. 3.1)**. The GHG minimisation measures during the construction and decommissioning stage are set out in greater detail in Section 14.5 of **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1) and the Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3).** The Applicant therefore considers it has taken all reasonable steps to reduce the GHG emissions of the construction, operation and decommissioning stages of the Proposed Development. The Framework Construction Environmental Management Plan provides details of the technological processes to mitigate and offset GHG emissions during the construction stage. The DEMP will reflect best practice guidance at the time of production and is therefore expected to incorporate advanced technological processes to mitigate and offset GHG emissions. The primary purpose of the Proposed Development is to produce an energy product, SAF, which is blended with and displaces conventional fossil-derived Jet A-1 fuel, thereby contributing to the decarbonisation of the aviation sector and supporting the UK's SAF Mandate targets. Over its estimated 30-year operational life, the Proposed Development is expected to produce approximately 180 million litres of low-carbon SAF annually, which equates to a significant reduction in lifecycle GHG emissions when compared to an equivalent volume of traditional jet fuel. Over the full operational period, the cumulative avoided emissions from an are estimated to be in the region of 12.8 $MtCO_2e$ This means the Proposed Development is expected to deliver a carbon payback ratio of approximately 3:1, whereby for every tonne of GHG emitted across its lifecycle, around 3 tonnes are avoided through low-carbon SAF displacement of jet A-1 fuel. This represents a substantial net climate benefit. The construction emissions of approximately 559,670 tCO_2e are expected to be offset within less than 1.5 years of operation, based on annual avoided emissions from low-carbon SAF use. This relatively short payback period reinforces the strategic value of the Proposed Development in accelerating aviation sector decarbonisation. Therefore, while the Proposed Development does result in GHG emissions from construction, operation and decommissioning, its role in displacing conventional jet fuel leads to a net reduction in atmospheric GHG concentrations. The project not only aligns with the UK's Net Zero Strategy and Jet Zero ambitions but also supports UK net zero

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		pathways through the substitution of conventional jet fuel with SAF, delivering a strong return on its carbon investment, making it a key enabler of low-carbon aviation. See Section 14.6 to 14.9 of **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1).**
5.4 Biodiversity and Geological Conservation Applicant assessment	5.4.18 Where the development is subject to EIA, the applicant should ensure that the ES clearly sets out any effects on internationally, nationally, and locally designated sites of ecological or geological conservation importance (including those outside England and Wales), on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity, including irreplaceable habitats. 5.4.19 The applicant should provide environmental information proportionate to the infrastructure where EIA is not required to help the Secretary of State consider thoroughly the potential effects of a proposed project.	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** and **Chapter 11: Marine and Freshwater Ecology (ES Volume I, Application Document Ref. 6.1)** set out all the designated sites of ecological conservation importance within the relevant Zones of Influence (ZoI) of the Proposed Development. Table 10.7, Table 10.8 and Table 10.9 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** list the identified internationally, nationally and locally designated sites that could be potentially affected by the Proposed Development. There are eight internationally designated sites within 15km of the site, 28 nationally designated sites within 20km of the site and six locally designated sites within 2km of the site. Table 11.11 of **Chapter 11: Freshwater and Marine (ES Volume I, Application Document Ref. 6.1)** lists the identified marine designated sites which could be potentially affected by the Proposed Development. There are two internationally designated marine sites within 10km of the site, two nationally designated marine sites within 5km of the site and one locally designated marine site within 2km of the site. Section 10.4 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** and Section 11.4 of **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** outline the Habitats of Principal Importance (HoPI) within the Site or within the relevant ZoIs. Section 10.5 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** outlines embedded mitigation against adverse impacts on terrestrial ecology that will be included as part of the design of the Proposed Development. The mitigation hierarchy has been applied and the loss of HoPI has avoided where possible before other measures have been considered. Section 10.6 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** assesses the likely impacts and effects of the construction, operation and decommissioning of the Proposed Development on terrestrial ecology. Section 10.7 outlines additional mitigation measures which are required to address the significant impacts during the construction, operation and decommissioning phases of the Proposed Development. Section 11.5 of **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** outlines embedded mitigation against adverse impacts on freshwater and marine ecology that will be included as part of the design of the Proposed Development.

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		Section 11.6 of **Chapter 11: Freshwater and Marine (ES Volume I, Application Document Ref. 6.1)** assesses the likely impacts and effects of the construction, operation and decommissioning of the Proposed Development on freshwater and marine ecology. Section 11.7 outlines additional mitigation measures which are required to address the significant impacts during the construction, operation and decommissioning phases of the Proposed Development.
5.4 Biodiversity and Geological Conservation Applicant assessment	5.4.20 The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests 5.4.21 Applicants should consider wider ecosystem services and benefits of natural capital when designing enhancement measures.	Section 10.5 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** sets out how the mitigation hierarchy has been applied, having regard to the purpose of this nationally significant infrastructure. Avoidance of significant effects (in the first instance) and mitigation measures have been developed throughout the design process of the Proposed Development in line with the mitigation hierarchy. The loss of notable habitat/HoPI has been avoided where possible during the design of the Proposed Development (e.g. areas of reedbed, Open Mosaic Habitat and sparsely vegetated habitat providing FLL for qualifying birds of the Teesmouth SSSI, breeding habitat for Schedule 1 bird species (e.g. marsh harrier) and Functionally Linked Habitat (FLH) for qualifying invertebrates of the SSSI). Where the loss of this habitat has been unavoidable, offsite mitigation has included the creation of better quality habitats to compensate for those lost during construction and enhancement of existing habitats to be retained as set out in full within the **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (fLBMES) (Application Document Ref 5.8)**. Section 11.5 of **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** sets out how the impact avoidance measures for potential impacts on marine receptors have been developed into the design. The Applicant has included embedded mitigation for freshwater and marine ecology in Section 11.7 of **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**. Following the application of embedded mitigation, any all identified significant effects would be reduced to **negligible** or **minor adverse** (**not significant**). Mitigation details will be developed in order to lower residual effects on an iterative basis following broad stakeholder engagement. The mitigation hierarchy will be followed whereby: • priority will be given to avoiding negative effects; • followed by reduction of remaining negative effects; and, • targeted mitigation where necessary. The area for proposed capital and maintenance dredging is currently subject to maintenance dredging by the Statutory Harbour Authority.

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		Sediment sampling has been undertaken to confirm the levels of chemical determinands in the dredge area, which concludes no significant effects through the appropriate management and dredging methods. As set out within **Chapter 22: Cumulative and combined Effects (ES Volume I, Application Document Ref. 6.1)**, there is a small risk of potential for significant cumulative effects associated with overlapping dredging and dredge disposal activities between the Proposed Development and the Woodsmith Project harbour works (NSIP3/RCBC41). These effects were assessed as **moderate adverse f**or freshwater and marine ecology and the water environment if construction activities overlap temporally. Section 21 of **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1)** details that no potential significant effects associated with the construction and operation of the Proposed Development in relation to Geology and Soils have been identified. Ground investigation is proposed ahead of the construction works to provide further information on the ground contamination conditions. This data will be used to inform refinement of risk assessments and produce a remediation strategy which will be implemented during the construction works. Assessment of sediment quality and water quality sampling of the River Tees transitional waterbody has been undertaken in the area proposed to be dredged during April 2026 to inform the consenting strategy. Results are reported and assessed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**.
5.4 Biodiversity and Geological Conservation Applicant assessment	5.4.22 As set out in Section 4.7, the design process should embed opportunities for nature inclusive design. Energy infrastructure projects have the potential to deliver significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains (see Section 4.6 on Environmental and Biodiversity Net Gain). The scope of potential gains will be dependent on the type, scale, and location of each project. 5.4.23 The design of energy NSIP proposals will need to consider the movement of mobile/migratory species such as birds, fish and marine and terrestrial mammals and their potential to interact with infrastructure. As energy infrastructure could occur anywhere within England and Wales, both inland and onshore and offshore, the potential to affect mobile and migratory species across the UK and more widely across Europe (transboundary effects) requires consideration, depending on the location of	The Applicant has applied the mitigation hierarchy set out in Section 1.6.2 of **fLBMES (Application Document Ref 5.6).** The Proposed Development will result in the permanent loss of baseline features within the Main Site and temporary impacts to features across the Wider Site. On-site avoidance, minimisation and restoration is not possible within the Main Site while maintaining operational requirements for the infrastructure. Therefore, off-site offsetting/compensation is required. Minimisation and restoration measures will be implemented across the Wider Site to facilitate the reinstatement of baseline features over the Proposed Development's lifetime. Section 3 of the **fLBMES (Application Document Ref 5.6)** sets out the embedded avoidance and mitigation measures. Section 4 of the **fLBMES (Application Document Ref 5.6)** sets out additional mitigation that will be implemented in conjunction with the embedded mitigation. Section 5.2 of the **fLBMES (Application Document Ref 5.6)** sets out potential for further biodiversity enhancements and habitat creation through the colonisation of the proposed quay to compensate for the loss of baseline intertidal habitat (artificial intertidal structure). Potential

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	development. Applicants should consider relevant plan policies in marine plans in England.	enhancement features will be explored further at the detailed design stage when design of the proposed quay is available. The movement, transverse and migration of mobile marine and terrestrial ecology and their interaction with Proposed Development have been considered within **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1), Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** and the **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1)**. The Applicant has considered the North East Inshore and Offshore Marine Plan in Table 7.1 and UK Marine Policy Statement in Table 6.1 of this document below.
5.4 Biodiversity and Geological Conservation Applicant assessment	5.4.24 Energy projects will need to ensure vessels used by the project follow existing regulations and guidelines to manage ballast water.	Mitigation on Freshwater and Marine Ecology includes conformity with existing regulations and guidelines on ballast water as set out in Table 3.4 of the **Framework Construction Environmental Management Plan (ES Vol II. Application Document 6.3.4)**.
5.4 Biodiversity and Geological Conservation Applicant assessment – Habitats Regulations	5.4.26 The applicant should seek the advice of the appropriate SNCB and provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether an HRA Appropriate Assessment is required. Applicants can request and agree 'Evidence Plans' with SNCBs, which is a way to record upfront the information the applicant needs to supply with its application, so that the HRA can be efficiently carried out. If an AA is required, the applicant must provide the Secretary of State with such information as may reasonably be required to enable the Secretary of State to conduct the AA. This should include information on any mitigation measures that are proposed to minimise or avoid likely significant effects. 5.4.27 If, during the pre-application stage, the SNCB indicate that the proposed development is likely to adversely impact the integrity of habitat sites, the applicant must include with their application such information as may reasonably be required to assess a potential derogation under the Habitats Regulations. 5.4.28 If the SNCB gives such an indication at a later stage in the development consent process, the applicant must provide this information as soon as is reasonably possible and before the close of the examination. This information must include assessment of alternative	A Stage 1 Habitat Regulations Assessment and Stage 2 Appropriate Assessment has been undertaken in **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1)**. The screening assessment has identified a credible source–pathway–receptor linkage between the Proposed Development and qualifying features of the following European site(s): • Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA (Marine Component GB) only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and introduction or spread of Invasive Non-Native Species (INNS); • North York Moors SPA via air pollution; • North York Moors SAC via air pollution; • Northumbria Coast SPA and Ramsar via air pollution and introduction or spread of INNS; • Durham Coast SAC via air pollution and introduction or spread of INNS; and • Castle Eden Dene SAC via air pollution. On the basis of the available evidence, it cannot be excluded that the Proposed Development, either alone or in-combination with other plans or projects, would have a Likely Significant Effect (LSE) on Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site, in view of the sites' conservation objectives. In accordance with Regulation 63 of the Habitats Regulations, the competent authority must therefore undertake an AA to determine whether the proposal would have an adverse effect on the integrity of the affected European site(s), and to identify any necessary

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	solutions, a case for IROPI and appropriate environmental compensation. 5.4.29 Provision of such information will not be taken as an acceptance of adverse impacts and if an applicant disputes the likelihood of adverse impacts, it can provide this information as part of its application 'without prejudice' to the Secretary of State's final decision on the impacts of the potential development. If, in these circumstances, an applicant does not supply information required for the assessment of a potential derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination.	mitigation or alternatives. **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1)** contains information to enable the competent authority to undertake such an assessment.
5.4 Biodiversity and Geological Conservation Applicant assessment – Habitats Regulations	5.4.30 It is vital that applicants consider the need for compensation as early as possible in the design process as 'retrofitting' compensatory measures will introduce delays and uncertainty to the consenting process. 5.4.31 Applicants should work closely at an early stage in the pre-application process with SNCB and Defra/Welsh Government to develop a compensation plan for all protected sites adversely affected by the development. Applicants should engage with the relevant LPA at an early stage regarding the proposed location of compensatory measures. Applicants should also take account of any strategic plan level compensation plans in developing project level compensation plans. 5.4.32 Before submitting an application, applicants should seek the views of the SNCB and Defra/Welsh Government as to the suitability, securability and effectiveness of the compensation plan to ensure the development will not hinder the achievement of the conservation objectives for the protected site. In cases where such views are provided, the applicant should include a copy of this information with the compensation plan in their application for further consideration by the Examining Authority.	As set out within the **Consultation Report (Application Document Ref. 5.1.1)** the Applicant has engaged with the relevant SNCB (Natural England) since September 2025, as part of the technical design and environmental assessment work. A Stage 1 Habitat Regulations Assessment and Stage 2 Appropriate Assessment has been undertaken in **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1).** The Appropriate Assessment concluded that the Proposed Development would not adversely affect the integrity of any of the European sites with identified source-pathway-receptor linkages and therefore compensatory measures are not required.
5.4 Biodiversity and Geological Conservation	5.4.33 Applicants should include measures to mitigate fully the direct and indirect effects of development on ancient woodland, ancient and veteran trees or other	No records of ancient or veteran trees were identified during a desk study as part of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)**, therefore ancient and veteran trees were scoped out of the assessment. Pinkney and

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Applicant assessment – Ancient woodland, ancient trees, veteran trees and other irreplaceable habitats	irreplaceable habitats during both construction and operational stages[161].	Gerrick SSSI is designated for ancient woodland situated on base-rich soils and was therefore scoped into the assessment for operation. The Proposed Development is not anticipated to have any significant adverse effects on Pinkney and Gerrick SSSI. No other ancient woodlands or irreplaceable habitats have been identified within the ZoI of the Proposed Development.
5.4 Biodiversity and Geological Conservation Applicant assessment – Protection and enhancement of habitats and species	5.4.34 Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity, and the protection and restoration of the ability of habitats to store or sequester carbon as set out under Section 4.6. 5.4.35 Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the Environment Act 2021 and the Environmental Improvement Plan.	The Applicant has followed the mitigation hierarchy as detailed in outlined the **fLBMES (Application Document Ref 5.6).** The **Framework BNG Plan Appendix 5.8A** of the **fLBMES (Application Document Ref 5.6)** captures the baseline and post-development biodiversity value of the Proposed Development with a strategy on how the Proposed Development will meet the policy minimum (since mandatory BNG is not applicable to this development) of no net loss (NNL). These measures have been developed to maintain ecological functionality and biodiversity value, whilst supporting the conservation of designated sites, HoPI, protected species and notable ecological assemblages. Subject to the implementation of the mitigation, compensation, monitoring and enhancement measures secured through Requirements in Schedule 2 of the **draft DCO (Application Document Ref 3.1)** and detailed LBMES, the Proposed Development will provide a robust framework for the protection and management of landscape and biodiversity interests throughout its lifetime. Although Biodiversity Net Gain (BNG) is not mandatory for the Proposed Development, the Applicant has committed to a no net loss in biodiversity objective (NNL). The **Framework BNG Plan Appendix 5.8A** of the **fLBMES (Application Document Ref 5.6)** captures the baseline and post-development biodiversity value of the Proposed Development with a strategy on how the Proposed Development will meet the policy minimum (since mandatory BNG is not applicable to this development) of NNL.
5.4 Biodiversity and Geological Conservation Mitigation	5.4.36 Applicants should include appropriate avoidance, mitigation, compensation and enhancement measures as an integral part of the proposed development. In particular, the applicant should demonstrate that: • during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works; • the timing of construction has been planned to avoid or limit disturbance; • during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised,	The Proposed Development and measures outlined the **fLBMES (Application Document Ref 5.6)** follow the mitigation hierarchy which comprises the following: • Avoid - Developers should prioritise preventing or minimising environmental harm through thoughtful site selection, layout, and design. Where significant impacts cannot be avoided, alternative locations should be explored. • Minimise - Where impacts are unavoidable, appropriate measures must be taken to reduce their extent and severity during and after development. • Restoration - Any habitats that are damaged or degraded must be reinstated to a satisfactory condition once construction or the project is complete. • Offset - As a final step, any remaining impacts must be offset by creating or enhancing habitats elsewhere.

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	including as a consequence of transport access arrangements; • habitats will, where practicable, be restored after construction works have finished; • opportunities will be taken to enhance existing habitats rather than replace them, and where practicable, create new habitats of value within the site landscaping proposals. Where habitat creation is required as mitigation, compensation, or enhancement, the location and quality will be of key importance. In this regard habitat creation should be focused on areas where the most ecological and ecosystems benefits can be realised; and • mitigations required as a result of legal protection of habitats or species will be complied with. 5.4.37 Applicants should produce and implement a Biodiversity Management Strategy as part of their development proposals. This could include provision for biodiversity awareness training to employees and contractors so as to avoid unnecessary adverse impacts on biodiversity during the construction and operation stages. 5.4.38 In the design of any direct cooling system the locations of the intake and outfall should be sited to avoid or minimise adverse impacts on the receiving waters, including their ecology. There should also be specific measures to minimise impact to fish and aquatic biota by entrainment and impingement or by excessive heat or biocidal chemicals from discharges to receiving waters. 5.4.39 To further minimise any adverse impacts on geodiversity, where appropriate applicants are encouraged to produce and implement a Geodiversity Management Strategy to preserve and enhance access to geological interest features, as part of relevant development proposals.	The Proposed Development will result in the permanent loss of baseline features within the Main Site and temporary impacts to features across the Wider Site. On-site avoidance, minimisation and restoration is not possible within the Main Site due to constrictions and design. Therefore, off-site offsetting/compensation is required. Minimisation and restoration measures will be implemented across the Wider Site to facilitate the reinstatement of baseline features over the Proposed Development's lifetime. The Applicant has committed to a no net loss in biodiversity objective (NNL). The **Framework BNG Plan Appendix 5.8A** of the **fLBMES (Application Document Ref 5.6)** captures the baseline and post-development biodiversity value of the Proposed Development with a strategy on how the Proposed Development will meet the minimum of NNL. Section 3 of the **fLBMES (Application Document Ref 5.6)** sets out embedded mitigation during the construction and operation phases of the Proposed Development. The **fCEMP (Appendix 5A (ES Volume III, Application Document Ref 6.3)** sets out best practice mitigation measures to be incorporated into the Proposed Development during the construction phase. It will form the basis of the detailed CEMP which will be provided by the appointed contractor prior to works commencing, in accordance with Requirement 4 in Schedule 2 of the **Draft DCO (Application Document Ref 3.1).** Section 4.4.10 of the **fLBMES (Application Document Ref 5.6)** sets out the commitment to biodiversity awareness training to promote awareness of protected and notable species on Site. All construction personnel will receive a site induction and ecological toolbox talk prior to commencing works. The locations of the intake and outfall have been sited to minimise impact on receiving waters and ecology. Potential impacts are discussed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**. Section 21 of **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1)** details that no potential significant effects associated with the construction and operation of the Proposed Development in relation to Geology and Soils have been identified. The Proposed Development is largely on made ground reclaimed from the sea in modern times, and within existing below river tunnel infrastructure, meaning that geodiversity is not impacted.
	5.4.40 The government's Environmental Improvement Plan and the Environment Act 2021 mark a step change in ambition for wildlife and the natural environment. The Secretary of State should have regard to the aims and	The Applicant has considered the Environment Act 2021, as evidenced by the application of the mitigation hierarchy set out in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1), Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1), fLBMES (Application Document Ref 5.6),**

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	goals of the government's Environmental Improvement Plan, and in Wales the objectives of the Nature Recovery Plan, and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere. 5.4.41 In addition, in exercising functions in relation to Wales, the Secretary of State should consider section 6 of the Environment (Wales) Act 2016 and seek to maintain and enhance biodiversity, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of the Secretary of State's functions.	and **Framework BNG Plan (Appendix 5.8A) (Application Document Ref 5.6)** and also evidenced by Applicant's commitment to achieving no net loss in biodiversity as part of the Proposed Development. The Government's 25-Year Environmental Plan (25YEP) was published in 2018 to support clean growth and innovation in low-carbon technologies, Supporting projects akin to SAF's production and its role in decarbonising aviation.
5.4 Biodiversity and Geological Conservation Secretary of State decision making	5.4.42 The benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. The Secretary of State may take account of any such net benefit in cases where it can be demonstrated. 5.4.43 As a general principle, and subject to the specific policies below, development should, in line with the mitigation hierarchy, aim to avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives (as set out in Section 4.3 above). Where significant harm cannot be avoided, impacts should be mitigated and as a last resort, appropriate compensation measures should be sought. 5.4.44 If significant harm to biodiversity resulting from a development cannot be avoided (for example through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then the Secretary of State will give significant weight to any residual harm. 5.4.45 The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into, in order to ensure that any mitigation or biodiversity net gain measures, if offered, are delivered and maintained. Any habitat creation or enhancement delivered including linkages with existing habitats for compensation or	The Proposed Development will result in the permanent loss of baseline features within the Main Site and temporary impacts to features across the Wider Site. On-site avoidance, minimisation and restoration is not possible within the Main Site according to current designs. Therefore, off-site offsetting/compensation is required. Minimisation and restoration measures will be implemented across the Wider Site to facilitate the reinstatement of baseline features over the Proposed Development's lifetime. Although Biodiversity Net Gain (BNG) is not mandatory for the Proposed Development, the Applicant has committed to a no net loss in biodiversity objective (NNL) which is considered to represent the minimum required by paragraph 4.6.6 of NPS EN-1 which states *"Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible"*. The **Framework BNG Plan Appendix 5.8A of the fLBMES (Application Document Ref 5.6)** captures the baseline and post-development biodiversity value of the Proposed Development with a strategy on how the Proposed Development will meet the voluntary NNL objective. These measures have been developed to maintain ecological functionality and biodiversity value, whilst supporting the conservation of designated sites, HoPI, protected species and notable ecological assemblages. Subject to the implementation of the mitigation, compensation, monitoring and enhancement measures secured through Requirements in Schedule 2 of the **draft DCO (Application Document Ref 3.1)** and detailed LBMES, the Proposed Development will provide a robust framework for the protection and management of landscape and biodiversity interests throughout its lifetime. The impacts on designated sites of international, national, and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity is discussed in the Applicant's assessment of EN-1 5.4.54 - 5.4.56 below. As set out in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**, there are no nationally designated fully marine sites within 10km of

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	biodiversity net gain should generally be maintained for a minimum period of 30 years, or for the lifetime of the project, if longer. 5.4.46 The Secretary of State will need to take account of what mitigation measures may have been agreed between the applicant and the SNCB and the MMO/NRW (where appropriate). The Secretary of State will also need to consider whether the SNCB or the MMO/NRW has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences. 5.4.47 Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. The Secretary of State should give appropriate weight to environmental and biodiversity enhancements, although any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited. 5.4.48 When considering proposals, the Secretary of State should maximise such reasonable opportunities in and around developments, using requirements or planning obligations where appropriate. This can help towards delivering biodiversity net gain as part of or in addition to the approach set out at Section 4.6. 5.4.49 In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national, and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment. 5.4.50 In making a decision, the Secretary of State must take into account any measures in relation to other plans or projects which are (i) located within the marine area and (ii) have been used or are identified for use to deliver: • compensatory measures for adverse effects on Special Protection Areas and Special Areas of Conservation; or	the proposed marine works. The closest is Runswick Bay Marine Conservation Zone, which lies 24km distant to the south-east and 14km from the offshore dredging disposal site. Appropriate mitigation measures have been developed in consultation with the Marine Management Organisation (MMO) and the Environment Agency (EA). Responses to consultation submissions from the MMO and EA are included in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** and **Chapter 11: Marine and Freshwater Ecology (ES Volume I, Application Document Ref. 6.1).**

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	• measures of equivalent environmental benefit for damage to MCZs. Any impact which negatively impacts the efficacy of the measure will need to be offset to ensure the original compensation requirement is satisfied.	
5.4 Biodiversity and Geological Conservation Secretary of State decision making – Habitats Regulations	5.4.51 The Secretary of State must consider whether the project is likely to have a significant effect on a protected site which is part of the National Site Network (a habitat site), a protected marine site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects.	A Stage 1 Habitat Regulations Assessment and Stage 2 Appropriate Assessment has been undertaken in **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1)**. The screening assessment has identified a credible source–pathway–receptor linkage between the Proposed Development and qualifying features of the following European site(s): • Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA (Marine Component GB) only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and introduction or spread of Invasive Non-Native Species (INNS); • North York Moors SPA via air pollution; • North York Moors SAC via air pollution; • Northumbria Coast SPA and Ramsar via air pollution and introduction or spread of INNS; • Durham Coast SAC via air pollution and introduction or spread of INNS; and • Castle Eden Dene SAC via air pollution. On the basis of the available evidence, it cannot be excluded that the Proposed Development, either alone or in-combination with other plans or projects, would have a Likely Significant Effect (LSE) on Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site, in view of the sites' conservation objectives. In accordance with Regulation 63 of the Habitats Regulations, the competent authority must therefore undertake an AA to determine whether the proposal would have an adverse effect on the integrity of the affected European site(s), and to identify any necessary mitigation or alternatives. **Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.1)** contains information to enable the competent authority to undertake such an assessment.
5.4 Biodiversity and Geological Conservation Secretary of State decision making – Sites of Special Scientific Interest (SSSIs)	5.4.52 The Secretary of State should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.	The Applicant has assessed the impact of the development on biodiversity and geology within Section 10.6 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** which concludes that following impacts are likely during the construction phase: • habitat loss;

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		• habitat disturbance; • loss of FLL; • air pollution; • dust emissions; • water pollution. • artificial lighting; and • noise and vibration **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** concludes that following the implementation of mitigation measures set out within the chapter, all potential significant effects will be reduced to **minor adverse (not significant).** The Applicant has put forward commitments and requirements within the **draft DCO (Application Document Ref. 3.1)** including embedded mitigation strategies secured in the oCEMP and a commitment to 'No Net Loss' in respect of biodiversity in the fLBMES.
5.4 Biodiversity and Geological Conservation Secretary of State decision making – Marine Conservation Zones	5.4.53 The Secretary of State is bound by the duties on public authorities in relation to MCZs imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.	As set out in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**, there are no nationally designated fully marine sites within 10km of the proposed marine works.
5.4 Biodiversity and Geological Conservation Secretary of State decision making – Regional and Local Sites	5.4.54 The Secretary of State should give due consideration to regional or local designations. However, given the need for new nationally significant infrastructure, these designations should not be used in themselves to refuse development consent.	A list of Local Designated Sites within 2km of the Site is set out in Table 10.10 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1).** Due to its proximity to the Site, Eston Pumping Station LWS is scoped in to the ES. As shown in **Figure 10.4: Locally Designated Sites within 2km (ES Volume II, Application Document Ref 6.2)**, approximately 0.17 ha of the Site fall within the boundary of the Eston Pumping Station LWS (7.40% of the designation). This includes use of the existing access road between Bran Sands WwTW and Tees Dock. No construction works are proposed within the designated site, only access for construction vehicles and machinery. It is therefore anticipated that habitats will not be lost on either a permanent or temporary basis within the designated site. Section 10.6.61 of **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** confirms no significant impacts are anticipated as a result of the Proposed Development. All other local designated sites are scoped out due to a lack of impact pathways arising from the Proposed Development.

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5.4 Biodiversity and Geological Conservation Secretary of State decision making – Ancient woodland, ancient trees, veteran trees and other irreplaceable habitats	5.4.55 The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of any irreplaceable habitats, including ancient woodland, and ancient and veteran trees unless there are wholly exceptional reasons[163] and a suitable compensation strategy exists.	As set out in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** no irreplaceable habitats are listed as part of the baseline and no records of ancient or veteran trees have been recorded within the Site. Therefore, there is no loss of irreplaceable habitat as a result of the Proposed Development.
5.4 Biodiversity and Geological Conservation Secretary of State decision making – Protection and enhancement of habitats and species	5.4.56 The Secretary of State should ensure that species and habitats identified as being of importance for the conservation of biodiversity are protected from the adverse effects of development by using requirements, planning obligations, or licence conditions where appropriate. 5.4.57 The Secretary of State should refuse consent where harm to a protected species and relevant habitat would result, unless there is an overriding public interest and the other relevant legal tests are met. In this context the Secretary of State should give substantial weight to any such harm to the detriment of biodiversity features of national or regional importance or the climate resilience and the capacity of habitats to store carbon, which they consider may result from a proposed development.	Table 4.1 of the **fLBMES (Application Document Ref 5.6)** sets out the likely impacts of the Proposed Development on ecological features and habitat. Table 4.2 of the **fLBMES (Application Document Ref 5.6)** sets out the summary of additional mitigation requirements required to compensate the loss of habitats. A minimum of 69.36 ha of habitat would provided off site to meet the Applicant's NNL commitment. The relevant BNG habitats to be compensated and their total area is set out below: • Reedbed: 6.43 ha • OMH: 12.67 ha • Other neutral grassland: 23.15 ha • Bramble scrub: 2.34 ha • Mixed scrub: 3.86 ha • Willow scrub: 6.30 ha • Other broadleaved woodland: 7.06 ha • Urban tree: 0.05 ha • Vacant or derelict land: 7.50 ha Section 4.4 of the **fLBMES (Application Document Ref 5.6)** sets out the impacts of the Proposed Development on species. If required, applications will be made for protected species licensing in advance of construction works commencing. Bespoke methodologies will be prescribed within any licence application. Licensing will also prescribe requirements for compensation or features where applicable. Species which have the potential to require licensing include: • Otter and water vole – in the event resting or breeding places are identified within the Site during the second field survey; and; • Invasive Non-Native Species (INNS) – in the event that INNS are to be eradicated, controlled and/or contained as part of construction and operational activities. No impacts on protected species for terrestrial ecology are anticipated as detailed in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10).** If required, applications will be made for protected species licensing in advance of construction works commencing. Bespoke methodologies will be prescribed within any licence application. Licencing will also prescribe requirements for compensation or

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		features where applicable. However, it should be noted that currently no protected species licences are envisaged as being required based on the surveys undertaken at the Site to date. **Table 11.23 of Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)** sets out a list of marine protected species likely to be identified within the ZoI. The sensitivity of protected species that may be present and the significance of effects during construction and operation are set out in Section 11.6 of **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1).** Given that there are notable and protected species, as well as sensitive habitats capable of supporting these species within the ZoI, additional surveys have been proposed for marine species and habitats. The findings and updated assessments will be submitted as they become available, post-DCO submission. The following surveys have been undertaken to complement the ES and consenting strategy: • vibrocore and 0.1m2 Day grab survey for sediment quality within proposed capital dredging area to confirm any exceedance of Cefas Action Levels for contaminant determinands indicating historic contamination; • subtidal benthic survey (0.1m^2 Day grab, towed freshwater lens camera and 2 m scientific beam trawl) to determine presence of marine priority habitats or species and any marine INNS; • intertidal scrape survey to determine presence of marine priority species and any marine INNS • eDNA sampling to indicate migratory fish status (presence); and • Marine mammal observations from the existing revetment. Committed mitigation and management is set out in Section 4 of the **Framework Construction Environmental Management Plan (ES Vol II. Application Document 6.3.4).** Detailed Construction Environmental Management Plan(s) (CEMPs) will be prepared and implemented by the appointed Engineering Procurement and Construction (EPC) Contractor(s) in accordance with the fCEMP, as secured by a Requirement 4 in the **draft DCO (Application Document Ref. 3.1).**
5.5 Civil and Military Aviation and Defence Interests Applicant assessment	5.5.38 Where the proposed development may affect the performance of civil or military aviation communications, navigation and surveillance (CNS), meteorological radars and/or other defence assets an assessment of potential effects should be set out in the ES (see Section 4.3). 5.5.39 The requirement for Air Traffic Control (ATC) and non-cooperative surveillance – i.e. radar/tracking	The Applicant has consulted the Civil Aviation Authority (CAA), Ministry of Defence (MoD), NATS and Teesside International Airport on the Proposed Development as part of the Statutory Consultation. NATS responded on 3 December 2025 stating that it operates no infrastructure within 10km of the site in question. Accordingly, it anticipates no impact from the Proposed Development.

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	technologies – forms part of the environmental baseline for proposed developments. 5.5.40 The applicant should consult the MOD, Met Office, Civil Aviation Authority (CAA), NATS and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation, meteorological or other defence interests. 5.5.41 Any assessment of effects on aviation, meteorological or other defence interests should include potential impacts of the project upon the operation of CNS infrastructure, Instrument Flight Procedures, flight patterns (both civil and military), generation of weather warnings and forecasts, other defence assets (including radar) and aerodrome operational procedures. It should also assess the demonstratable cumulative effects of the project with other relevant projects in relation to aviation, meteorological and defence. 5.5.42 In addition, consideration of developments near aerodromes should take into account the following factors: • Bird Strike Risk – Aircraft are vulnerable to wildlife strike, in particular bird strike. Birds and other wildlife may be attracted to the vicinity of an aerodrome by various types of development, for example, large buildings with perching/roosting opportunities for birds. It is therefore important that infrastructure, buildings and other elements from energy installations, as well as environmental mitigation and enhancement are designed in such a way so as not to increase the bird strike risk to the airport for developments within 13km (this can vary). • Building Induced Turbulence – If a significant building or structure is proposed close to the airport/runways, there is potential for building induced turbulence/wind shear to be created which has the potential to impact on aircraft on take-off and landing. Studies may be required to identify	The CAA responded on 3 December 2025 stating that the CAA's airspace team should be consulted when a development involves structures of a height of 90 metres or more. The Applicant had consulted the airspace team as part of the Statutory Consultation and no response was received. The Defence Infrastructure Organisation (DIO) responded on 9 December 2025, on behalf of the MoD, referring to their response to the EIA Scoping consultation which states that the Proposed Development is sited in a low flying area (LFA). The MoD has no objection to the principle of this application subject to any tall and narrow structures being charted on aviation maps to allow deconfliction. Teesside International Airport is a statutory undertaker and is the nearest licensed civil aerodrome located approximately 18km west of the Main Site. The Proposed Development is located outside the airport's safeguarding zone and is not expected to be impact the airport. Teesside International Airport did not respond to the Statutory Consultation. The Main Site is also located 6km north west of Yearby Airstrip an unlicensed airstrip. The airstrip currently states that flying over the industrial complex in Seal Sands should be avoided and has an approach procedure from the south. The Proposed Development is therefore not anticipated to impact Yearby Airstrip and, as Yearby Airstrip is not a statutory undertaker, it was not consulted as part of the Statutory Consultation. The Proposed Development is not located in the safeguarded consultation zone for meteorological infrastructure and therefore the Met Office was not consulted. The applicant will continue to engage with the relevant consultees as required. The cumulative effects of the Proposed Development with other Sites have been assessed in **Chapter 22: Cumulative and combined Effects (ES Volume I, Application Document Ref. 6.1)** and no significant impacts have been identified with respect to aviation or defence. The Proposed Development is not located near a licensed aerodrome and not anticipated to increase the risk of bird strike in relation to watered areas/habitats created, nor is it expected to cause turbulence as a result of its structures or its plumes. The Proposed Development is not located near CNS infrastructure such that it would generate electro-magnetic and electrical noise interference. The Planning Inspectorate's response to the Scoping Opinion (**Appendix 2B: Scoping Opinion Responses (ES Volume III Application Document Ref. 6.3.3)**) request agreed this topic could be scoped out of the ES.

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	the extent of any turbulence resulting from the energy infrastructure. • Thermal Plume Turbulence – This is caused under certain conditions by the release of hot air from a power plant equipped with a dry cooling system. The plumes generated by these facilities have the potential to create invisible turbulence that can affect the manoeuvrability of aircraft. 5.5.43 In addition, consideration of development near communication, navigation, and surveillance (CNS) infrastructure should take into account statutory technical safeguarding zones defined in accordance with Planning Circular 01/03, or any successor, and the potential for energy development, and/or its supporting infrastructure, to produce electro-magnetic and electrical noise interference which may degrade the capability or operation of defence CNS infrastructure. 5.5.44 If any relevant changes are made to proposals during the pre-application and determination period, it is the responsibility of the applicant to ensure that the relevant aviation, meteorological and defence consultees are informed as soon as reasonably possible.	
5.5 Civil and Military Aviation and Defence Interests Mitigation	5.5.45 The applicant should include appropriate mitigation measures as an integral part of the proposed development. 5.5.46 Mitigation for infringement of obstacle limitation surfaces may include: • Agreed changes to operational procedures of the aerodromes in accordance with relevant guidance, provided that safety assurances can be provided by the operator that are acceptable to the CAA where the changes are proposed to a civilian aerodrome. Applicants should engage airport operators at an early stage of the planning process to understand the potential impacts of development on aviation operations and develop mitigations if appropriate; or	Requirement 13 'Aviation warning lighting' of the d**raft DCO (Application Document Ref. 3.1)** requires details of aviation warning lighting to be submitted to the relevant local planning authority prior to the commencement of development and for the authority to consult the CAA on those details. The aviation warning lighting must be installed and operated in accordance with the approved details. Requirement 14 'Air safety' of the d**raft DCO (Application Document Ref. 3.1)** prohibits the commencement of the SAF production facility and CHP generating station save for preliminary works until relevant details of the information that is required by the Defence Geographic Centre of the MoD for the purpose of aviation charting have been submitted to and approved by the relevant planning authority.

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	• Installation of obstacle lighting and/or by notification in Aeronautical Information Service publications	
5.5 Civil and Military Aviation and Defence Interests Secretary of State decision making	5.5.51 The Secretary of State should be satisfied that the effects on meteorological radars, civil and military aerodromes, aviation technical sites and other defence assets or operations have been addressed by the applicant and that any necessary assessment of the proposal on aviation, NSWWS or defence interests has been carried out. 5.5.52 In particular, the Secretary of State should be satisfied that the proposal has been designed, where possible, to minimise adverse impacts on the operation and safety of aerodromes and that realistically achievable mitigation is carried out on existing surveillance systems such as radar/tracking technologies. It is incumbent on Operators of aerodromes to regularly review the possibility of agreeing to make reasonable changes to operational procedures. 5.5.53 When assessing the necessity, acceptability, and reasonableness of operational changes to aerodromes, the Secretary of State should be satisfied that they have the necessary information regarding the operational procedures along with any demonstrable risks or harm of such changes, taking into account the cases put forward by all parties. When making such a judgement in the case of military aerodromes, the Secretary of State should have regard to interests of defence and national security.	The **Consultation Report (Application Document Ref. 5.1.1)** and its appendices **(Application Document Refs: 5.1.2 and 5.1.3)** sets out the consultation responses received by the CAA, DIO and MoD. The DIO, on behalf of the MoD requested that any tall structures are charted. Accordingly, the Applicant has drafted Requirement 14 'Air safety' of the **draft DCO (Application Document Ref. 3.1)** which requires details required by the MoD to be submitted for approval by the relevant planning authority. NATS confirmed that it did not anticipate any impacts from the Proposed Development and the CAA did not comment on the height of the structures. The Applicant has drafted Requirement 13 'Aviation warning lighting' of the **draft DCO (Application Document Ref. 3.1)** which requires consultation with the CAA before approval. Aviation warning light would minimise adverse impacts on aviation navigation however given the distance between the Proposed Development and the nearest licensed civil aerodrome, Teesside International Airport, the Proposed Development is not considered to be an obstacle in the aerodrome's vicinity.
5.5 Civil and Military Aviation and Defence Interests Secretary of State decision making	5.5.54 In the case of meteorological radars, the Secretary of State should consider the extent to which the provision of weather and flood warnings is compromised.	The Proposed Development is not expected to impact meteorological radars. Responses from NATS and the Defence Infrastructure Organisation (DIO) in **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3.3)** confirm that the Proposed Development does not conflict with NATS's safeguarding criteria and that the DIO have no objection to the principle of the Proposed Development subject to any tall and narrow structures being charted on aviation maps. There was no mentioned of meteorological radars in scoping consultation responses.
5.5 Civil and Military Aviation and Defence Interests Secretary of State decision making	5.5.55 If there are conflicts between the government's energy and transport policies and military interests in relation to the application, the Secretary of State should expect the relevant parties to have made appropriate efforts to work together to identify realistic and pragmatic	The request, made by the DIO on behalf of the MoD, for tall and narrow structures to be charted on aviation maps has been accommodated by way of Requirement 14 in the d**raft DCO (Application Document Ref. 3.1).** The Applicant is not aware of any further considerations in relation to military interest and does not consider there to be a conflict between military interests and the Proposed Development which would make substantial

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	solutions to the conflicts. In so doing, the parties should seek to protect the aims and interests of the other parties as far as possible, recognising simultaneously the evolving landscape in terms of the UK's energy security and the need to tackle climate change, which necessitates the installation of wind turbines, and the need to maintain air safety and national defence and the national weather warning service. 5.5.56 There are statutory requirements concerning lighting to tall structures. Where lighting is requested on structures that goes beyond statutory requirements by any of the relevant aviation and defence consultees, the Secretary of State should be satisfied of the necessity of such lighting taking into account the case put forward by the consultees. The effect of such lighting on the landscape and ecology may be a relevant consideration. 5.5.57 Lighting must also be designed in such a way as to ensure that there is no glare or dazzle to pilots and/or ATC, aerodrome ground lighting is not obscured and that any lighting does not diminish the effectiveness of aeronautical ground lighting and cannot be confused with aeronautical lighting. Lighting may also need to be compatible with night vision devices for military low flying purposes.	contribution to the decarbonisation of the aviation industry. The Applicant will continue to engage with these relevant consultees if required. . Details of aviation warning lighting would be secured by Requirement 13 of the d**raft DCO (Application Document Ref. 3.1).**
5.5 Civil and Military Aviation and Defence Interests Secretary of State decision making	5.5.59 In order to avoid unacceptable adverse impacts of electro-magnetic and electrical noise interference from energy development, and/or its supporting infrastructure, and associated infrastructure on defence technical assets and operations, the Secretary of State will take account of statutory technical safeguarding zones defined in accordance with Planning Circular 01/03, or any successor, when considering DCO applications. 5.5.60 Where suitable technological solutions have not yet been developed or proven, the Secretary of State will need to consider the likelihood of a solution becoming available within the time limit for implementation of the Development Consent Order.	Electrical connection cabling and equipment is to follow existing established connection corridors in the Teesside area. The Proposed Development is not expected to cause adverse impacts from electro-magnetic and electrical noise interference.

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5.5 Civil and Military Aviation and Defence Interests Secretary of State decision making	5.5.61 Where a proposed energy infrastructure development would significantly impede or compromise the safe and effective use of civil or military aviation, meteorological radars, defence assets and/or significantly limit military training, the Secretary of State may consider the use of 'Grampian conditions'[176], or other forms of requirement which relate to the use of current or future technological solutions, to mitigate impacts on legacy CNS equipment. 5.5.62 Where, after reasonable mitigation, operational changes, obligations and requirements have been proposed, the Secretary of State should consider whether: • a development would prevent a licensed aerodrome from maintaining its licence and the operational loss of the said aerodrome would have impacts on national security and defence, or result in substantial local/national economic loss, or emergency service needs • it would cause harm to aerodromes' training or emergency service needs • the development would impede or compromise the safe and effective use of defence assets or unacceptably limit military training • the development would have a negative impact on the safe and efficient provision of en-route air traffic control services for civil aviation, in particular through an adverse effect on CNS infrastructure • the development would compromise the effective provision of weather warnings by the NSWWS, or flood warnings by the UK's flood agencies 5.5.63 Provided that the Secretary of State is satisfied that the impacts of proposed energy developments do not present risks to national security and physical safety, and where they do, provided that the Secretary of State is satisfied that appropriate mitigation can be achieved, or appropriate requirements can be attached to any Development Consent Order to secure those mitigations, consent may be granted.	The Proposed Development would not impede or compromise the safe and effective use of meteorological radars and defence assets. The Proposed Development includes aviation warning lighting on taller structures including cranes to reduce the risk of collision for civil and military aviation. The details of aviation warning lighting will be secured by Requirement 13 of the d**raft DCO (Application Document Ref. 3.1)** and installed and operated in accordance with legislation and CAA guidance. Moreover, Requirement 13 requires consultation with the CAA to be discharged. No further aviation safety measures are proposed for civil aviation. As a result, the Proposed Development would not prevent a navigational hazard to an aerodrome which would adversely impact the operation of an aerodrome. The request, made by the DIO on behalf of the MoD, for tall and narrow structures to be charted on aviation maps has been accommodated by way of Requirement 14 in the d**raft DCO (Application Document Ref. 3.1).** The Applicant is not aware of any further considerations in relation to military interest and does not consider there to be a conflict between military interests and the Proposed Development. With regards to NPS EN-1 paragraph 5.5.62, the Proposed Development would not impact a licensed aerodrome's operation. The Draft Development Consent Order accommodates the MoD's requested requirement to chart taller structures. No further impacts on the safe and effective use of military assets or military training are therefore anticipated and no further mitigation is required. NATS has confirmed that it anticipates no impacts form the Proposed Development on CNS infrastructure or air traffic control. The Proposed Development would not impact weather warning and flood warning services and therefore no mitigation is proposed. The Applicant considers that the SoS can be satisfied that the Proposed Development does not impact civil and military aviation and defence interests.

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5.6 Coastal Change Applicant assessment	5.6.9 Where relevant, applicants should undertake coastal geomorphological and sediment transfer modelling to predict and understand impacts and help identify relevant mitigating or compensatory measures. 5.6.10 The ES (see Section 4.3) should include an assessment of the effects on the coast, tidal rivers and estuaries. In particular, applicants should assess: • The impact of the proposed project on coastal processes and geomorphology, including by taking account of potential impacts from climate change. If the development will have an impact on coastal processes the applicant must demonstrate how the impacts will be managed to minimise adverse impacts on other parts of the coast; • The implications of the proposed project on strategies for managing the coast as set out in Shoreline Management Plans (SMPs)[177] (which are designed to identify the most sustainable approach to managing flood and coastal erosion risks from short to long term and are long term non-statutory plans which set out the agreed high-level objective for coastal flooding and erosion management for each SMP area), any relevant Marine Plans, River Basin Management Plans, and capital programmes for maintaining flood and coastal defences and Coastal Change Management Areas; • The effects of the proposed project on marine ecology, biodiversity, protected sites and heritage assets; • How coastal change could affect flood risk management infrastructure, drainage and flood risk; • The effects of the proposed project on maintaining coastal recreation sites and features; • The vulnerability of the proposed development to coastal change, taking account of climate change, during the project's operational life and any decommissioning period. 5.6.11 For any projects involving dredging or deposit of any substance or object into the sea, the applicant should	The Site is located within the tidal Tees Estuary at Seal Sands, a heavily modified and actively managed environment rather than natural coastline, where an existing jetty is to be demolished and replaced. Consideration of coastal processes and geomorphology relating to the new quay, capital dredging and demolition of the existing jetties (**Work No. 6**), are set out in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1)**, Section 12.6, supported by modelling undertaken for the **Flood Risk Assessment (Application Document Ref. 5.7)** and the **Water Environment Regulations (WER) Assessment (Application Document Ref. 5.10)**. Tables 6.1 and 7.1 of this document consider the compliance of the Proposed Development with the UK Marine Policy Statement and the North East Inshore and North East Offshore Marine Plan. **Table 15.3** of **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1)**, notes that the assessment of sea level rise, storm surge, coastal erosion and coastal squeeze is considered in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1)**. Paragraph 5.7.1 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1)** confirms that material dredged during quay construction will be disposed of offshore by deposit at Tees Bay C or another site agreed with the MMO. Effects on marine ecology, biodiversity and protected sites, including the Teesmouth and Cleveland Coast SPA, SSSI and Ramsar site and Teesmouth NNR, are assessed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1)**. Flood risk implications are addressed in the **Flood Risk Assessment (Application Document Ref. 5.7)**. The assessment has had regard to the relevant Marine Plan and River Basin Management Plan policies applicable to the Tees frontage. A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Habitat Regulations. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the d**raft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of any nationally or internationally designated sites including Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects.

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	consult the MMO and Historic England or the NRW in Wales. Where a project has the potential to have a major impact in this respect, this is covered in the technology specific NPSs. For example, EN-4 looks further at the environmental impacts of dredging in connection with Liquified Natural Gas (LNG) tanker deliveries to LNG import facilities. 5.6.12 The applicant should be particularly careful to identify any effects of physical changes on the integrity and special features of MPAs. These could include MCZs, habitat sites including Special Areas of Conservation and Special Protection Areas with marine features, Ramsar Sites, Sites of Community Importance, and SSSIs with marine features. Applicants should also identify any effects on the special character of Heritage Coasts[178]. 5.6.13 Applicants must demonstrate that full account has been taken of the policy on assessment and mitigation in paragraphs 4.3.1 to 4.3.9 of this NPS, taking account of the potential effects of climate change on these risks.	
5.6 Coastal Change Mitigation	5.6.14 Applicants should propose appropriate mitigation measures to address adverse physical changes to the coast, in consultation with the MMO, the EA or NRW, LPAs, other statutory consultees, Coastal Partnerships and other coastal groups, as it considers appropriate. Where this is not the case, the Secretary of State should consider what appropriate mitigation requirements might be attached to any grant of development consent.	Appropriate mitigation measures have been developed in consultation with the MMO and the EA. Embedded mitigation includes the use of low turbidity dredging techniques, scheduling of dredging works to avoid key ecological periods, and disposal of suitable dredged material at offshore disposal regimes regulated by the MMO (such as Tees Bay C), or on land for any contaminated material, in accordance with a Deemed Marine Licence secured within the **draft DCO (Application Document Ref. 3.1)**.
5.6 Coastal Change Secretary of State decision making	5.6.15 The Secretary of State should be satisfied that the proposed development will be resilient to coastal erosion and deposition, taking account of climate change, during the project's operational life and any decommissioning period. Proposals that aim to facilitate the relocation of existing energy infrastructure from unsustainable locations which are at risk from coastal change, should be supported where it would result in climate resilient infrastructure. 5.6.16 The Secretary of State should not normally consent new development in areas of dynamic shorelines where the proposal could inhibit sediment flow or have an	**Chapter 12: Water Environment** and **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1)** demonstrate that the Proposed Development will be resilient to coastal erosion, deposition and sea level rise, taking account of climate change, over its assumed operational life and subsequent decommissioning period. As the Site lies within an already heavily modified and regularly dredged section of the Tees Estuary, effects on sediment flow and coastal processes at other locations are assessed as negligible to minor and not significant, with permanent hydromorphological change limited to the immediate vicinity of the new quay (see **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1)**. Works below Mean High Water Springs, including capital dredging and offshore disposal, require a Deemed Marine Licence (secured within the **draft DCO (Application Document**

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	adverse impact on coastal processes at other locations. Impacts on coastal processes must be managed to minimise adverse impacts on other parts of the coast. Where such proposals are brought forward, consent should only be granted where the Secretary of State is satisfied that the benefits (including need) of the development outweigh the adverse impacts. 5.6.17 The Secretary of State should ensure that applicants have restoration plans for areas of foreshore disturbed by direct works and will undertake pre- and post-construction coastal monitoring arrangements with defined triggers for intervention and restoration. 5.6.18 The Secretary of State should examine the broader context of coastal protection around the proposed site, and the influence in both directions, i.e. coast on site, and site on coast. 5.6.19 The Secretary of State should consult the MMO on projects which could impact on coastal change in England, or NRW for projects in Wales, since the MMO or NRW may also be involved in considering other projects which may have related coastal impacts. 5.6.20 In addition to this NPS, the Secretary of State must have regard to the appropriate marine policy documents in taking any decision which relates to the exercise of any function capable of affecting any part of the UK marine area. 5.6.21 The Secretary of State should also have regard to any relevant Shoreline Management Plans[179]. 5.6.22 Substantial weight should be attached to the risks of flooding and coastal erosion and the Secretary of State should be satisfied that the applicant has taken full account of the policy on assessment and mitigation in paragraphs 4.3.1 to 4.3.9 of this NPS, taking account of the potential effects of climate change on these risks.	**Ref. 3.1)**). The Proposed Development has been the subject of ongoing consultation with the MMO throughout the assessment process. As set out within **Table 6.1** and **Table 7.1** of this document, it is considered that the Proposed Development complies with the UK Marine Policy Statement and the North East Inshore and North East Offshore Marine Plan. Any areas temporarily disturbed by construction, including demolition of the existing mooring infrastructure will be reinstated in accordance with the **fCEMP (Application Document Ref. 6.3)** and the conditions of the Deemed Marine Licence secured within the **draft DCO (Application Document Ref. 3.1)**. While the new quay will likely remain in situ following decommissioning of the development (as it will have residual life remaining and is capable of supporting new economic development) the Site lies within an already heavily modified area of coastline and will be set at an appropriate height to act as a flood defence (see **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1)**. On this basis, the Applicant considers that the Secretary of State can be satisfied that full account has been taken of the flood risk and coastal change policy set out at paragraphs 4.3.1 to 4.3.9 of NPS EN-1, including regard to the relevant Marine Plan.
5.7 Dust, Odour, Artificial Light, Smoke, Steam, and Insect Infestation	5.7.5 The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke,	The **Statutory Nuisance Statement (Application Document Ref. 5.5)**, which identifies relevant matters set out at Section 79(1) of the Environmental Protection Act (EPA) 1990 in respect of statutory nuisance and considers if the Proposed Development could result in a

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Applicant assessment	and artificial light to have a detrimental impact on amenity, as part of the ES. 5.7.6 In particular, the assessment provided by the applicant should describe: • the type, quantity and timing of emissions • aspects of the development which may give rise to emissions • premises or locations that may be affected by the emissions • effects of the emission on identified premises or locations • measures to be employed in preventing or mitigating the emissions 5.7.7 The applicant is advised to consult the relevant LPA and, where appropriate, the EA about the scope and methodology of the assessment.	nuisance and the measures, where relevant, to prevent and mitigate such nuisance occurring. Detailed assessments, including the type, quantity and timing, of these potential statutory nuisances and where necessary, mitigation measures are provided in **Chapter 8: Air Quality, Chapter 9: Noise and Vibration, Chapter 13 Landscape and Visual Amenity and Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1)** and their associated appendices in **ES Volume II (Application Document Ref. 6.2)**, In the Main Site, decommissioning effects are considered to be comparable to or less than those associated with construction of the Proposed Development for the reasons set out in the ES. The detailed assessments, contained in the ES, in relation to, air quality, noise and vibration, surface water and hydrology and landscape, conclude that relevant best practice mitigation measures would be in place during any decommissioning works, and no additional mitigation has been identified as necessary for the decommissioning stage of the Proposed Development. A Decommissioning Environmental Management Plan (DEMP) will be produced and submitted to the LPA for approval pursuant to Requirement 19 to the **draft DCO (Application Document Ref. 3.1)** prior to the commencement of any decommissioning activities. The DEMP will ensure that all decommissioning works are undertaken in accordance with industry best practice as the time of decommissioning. The Proposed Development will not involve the keeping of animals and, as such, Section 79(1)(f) is not considered relevant and has not been assessed. In addition, the nature of the Proposed Development is not expected to give rise to the accumulation of pests, insects or vermin, therefore 79(1)(fa) has not been assessed. The host authorities and EA were consulted as part of the Proposed Development's Statutory Consultation which ran from 2 December 2025 until 13 January 2026 on the scope of the assessments. Their views have been incorporated into the detailed assessments of potential statutory nuisance in the **Statutory Nuisance Statement (Application Document Ref. 5.5)**.
5.7 Dust, Odour, Artificial Light, Smoke, Steam, and Insect Infestation Mitigation	5.7.8 Mitigation measures may include one or more of the following: • engineering: prevention of a specific emission at the point of generation; control, containment and abatement of emissions if generated • lay-out: adequate distance between source and sensitive receptors; reduced transport or handling of material	Section 4 of the **Statutory Nuisance Statement (Application Document Ref. 5.5)** summarises the embedded and additional mitigation measures that will be applied to prevent the nuisance impacts set out in the EPA 1990. A detailed description of the embedded mitigation measures for each type of nuisance is provided in Section 4.6 of the **Statutory Nuisance Statement (Application Document Ref. 5.5)**. Mitigation measures during the construction stage are also set out in the **Framework Construction Environmental Management Plan** in **Appendix 5A of ES Volume III (Application Document Ref. 6.1)** and the DEMP will include mitigation measures to reduce emissions during the decommissioning stage. The detailed CEMP and

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	• administrative: limiting operating times; restricting activities allowed on the site; implementing management plans 5.7.9 Construction should be undertaken in a way that reduces emissions, for example the use of low emission mobile plant during the construction, and demolition stages as appropriate, and consideration should be given to making these mandatory in Development Consent Order requirements. 5.7.10 Demolition considerations should be embedded into designs at the outset to enable demolition techniques to be adopted that remove the need for explosive demolition. 5.7.11 A construction management plan may help clarify and secure mitigation.	DEMP will be secured through requirements in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)**. As a result of relevant mitigation being suitably secured, it is not expected that the construction, operation, maintenance or decommissioning of the Proposed Development would engage Section 79(1) and give rise to any statutory nuisance claim under the EPA 1990. The Main Site is largely cleared of previous buildings and structures, and explosive demolition is not envisaged as a demolition technique during any stage of the Proposed Development.
5.7 Dust, Odour, Artificial Light, Smoke, Steam, and Insect Infestation Secretary of State decision making	5.7.12 The Secretary of State should satisfy itself that: • an assessment of the potential for artificial light, dust, odour, smoke, steam and insect infestation to have a detrimental impact on amenity has been carried out • that all reasonable steps have been taken, and will be taken, to minimise any such detrimental impacts	The **Statutory Nuisance Statement (Application Document Ref. 5.5)** concludes that the only matters addressed by the EPA 1990 which have been assessed as potentially being relevant for the Proposed Development are those associated with noise, artificial light, odours, smoke, dust arising on premises and fumes. The Statutory Nuisance Statement demonstrates that with the application of embedded mitigation or additional mitigation no statutory nuisance effects are considered likely to occur. As confirmed within the **Statutory Nuisance Statement (Application Document Ref. 5.5),** the nature of the Proposed Development is not expected to give rise to the accumulation of pests, insects or vermin, and therefore these impacts have not been assessed. The operation of the Proposed Development would be regulated by the EA through an Environmental Permit and would undergo regular monitoring and reporting. Embedded mitigation and appropriate controls will be secured as appropriate through management plans and requirement within Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**.
5.7 Dust, Odour, Artificial Light, Smoke, Steam, and Insect Infestation Secretary of State decision making	5.7.13 If development consent is granted for a project, the Secretary of State should consider whether there is a justification for all of the authorised project (including any associated development) to be covered by a defence of statutory authority against nuisance claims. If the Secretary of State cannot conclude that this is justified, the Secretary of State should disapply in whole or in part the defence through a provision in the Development Consent Order.	Article 45 of the **draft DCO** (**Application Document Ref. 3.1**) contains provision for a defence to proceedings in respect of statutory nuisance (Section 79 (1) (a, b, c, d, e, fb, g, ga and h) should they be initiated against the Applicant or any future operators of the Proposed Development (in respect of Section 79(1) of the EPA 1990 (statutory nuisances and inspections thereof)), subject to certain criteria. Embedded mitigation and appropriate controls will be secured as appropriate through management plans and requirements within the DCO. As a result, it is not expected that the construction, operation, maintenance or decommissioning of the Proposed Development would engage Section 79(1) and give rise to any statutory nuisance claims under the EPA 1990. It is therefore

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		appropriate to include a defence against certain specific statutory nuisance proceedings within the Draft Development Consent Order.
5.7 Dust, Odour, Artificial Light, Smoke, Steam, and Insect Infestation Secretary of State decision making	5.7.14 Where the Secretary of State believes it appropriate, the Secretary of State may consider attaching requirements to the development consent, to secure certain mitigation measures. 5.7.15 In particular, the Secretary of State should consider whether to require the applicant to abide by a scheme of management and mitigation concerning insect infestation and emissions of odour, dust, steam, smoke, and artificial light from the development. The Secretary of State should consider the need for such a scheme to reduce any loss to amenity which might arise during the construction, operation and decommissioning of the development. A construction management plan may help codify mitigation at that stage.	The Applicant considers that all relevant mitigation has been secured via appropriate mechanisms within the **draft DCO (Application Document Ref. 3.1)** and no further scheme of management or mitigation relating to these nuisances is required.
5.8 Flood Risk Applicant assessment	5.8.13 A site-specific flood risk assessment should be provided for all energy projects in Flood Zones 2 and 3 in England or Defended Flood Zones and Flood Zones 2 and 3 in Wales. In Flood Zone 1 in England or Flood Zone 1 in Wales, an assessment should accompany all proposals involving: • sites of 1 hectare or more • land which has been identified by the EA or NRW as having critical drainage problems • land identified (for example in a local authority strategic flood risk assessment) as being at increased flood risk in future • land that may be subject to other sources of flooding (for example surface water) • where the EA or NRW, Lead Local Flood Authority, Internal Drainage Board or other body have indicated that there may be drainage problems. 5.8.14 This assessment should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.	A Level 3 Flood Risk Assessment (FRA) has been prepared for the Proposed Development **(Application Document Ref. 5.7)**, reflecting that while most of the Main Site is in Flood Zone 1, certain elements of the Site, including sections of the access routes, pipeline corridors, and the proposed quay, fall within Flood Zones 2 and 3a. There are no areas of Flood Zone 3b mapped in the vicinity of the Site. The FRA identifies and assesses the risk of flooding to and from the Proposed Development from all sources, including fluvial, tidal, surface water, groundwater and artificial sources, and sets out how these risks will be managed, taking climate change into account over the Proposed Development's assessed design life. The construction activities, including management of temporary site drainage during construction, will be managed through a Construction Environmental Management Plan (CEMP). **Appendix 5A: fCEMP (ES Volume III, Application Document Ref. 6.3.4)** is provided with the Application. As such, this FRA only considers permanent impacts associated with the operational phase of the Proposed Development. The **Framework Drainage Strategy (Annex A.3 to the FRA, Application Document Ref. 5.7)** outlines that the maintenance of drainage features will be largely in accordance with the requirements of the CIRIA SuDS Manual and environmental permitting requirements. Below and above-ground features will be inspected regularly to ensure they operate as intended. The **FRA (Application Document Ref. 5.7)** has been prepared by competent flood risk professionals and is proportionate to the scale, nature and location of the Proposed Development. It considers the risk of flooding both to and from the Proposed Development, taking the effects of climate change into account across a range of scenarios (Higher Central, Upper End and the H++ credible maximum), and states the

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	5.8.15 The minimum requirements for Flood Risk Assessments (FRA) are that they should: • Be proportionate to the risk and appropriate to the scale, nature and location of the project; • Consider the risk of flooding arising from the project in addition to the risk of flooding to the project; • Take the impacts of climate change into account, across a range of climate scenarios, clearly stating the development lifetime over which the assessment has been made185; • Be undertaken by competent people, as early as possible in the process of preparing the proposal; • Consider both the potential adverse and beneficial effects of flood risk management infrastructure, including raised defences, flow channels, flood storage areas and other artificial features, together with the consequences of their failure and exceedance; • Consider the vulnerability of those using the site, including arrangements for safe access and escape; • Consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and include information on flood likelihood, speed-of-onset, depth, velocity, hazard and duration; • Identify and secure opportunities to reduce the causes and impacts of flooding overall, making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management; • Consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and coastal processes; • Include the assessment of the remaining (known as 'residual') risk after risk reduction	design life over which the assessment has been made (30 years reasonable worst case, with sensitivity testing to 75 and 100 years in line with EA guidance). The FRA considers the effects of flood risk management infrastructure, including the defences at Greatham Creek and Port Clarence, together with the consequences of defence failure or exceedance through breach modelling. Safe access and egress, and the vulnerability of site users, are addressed through the proposed Flood Warning and Evacuation Plan (FWEP) and on-site refuge arrangements. The FRA quantifies flood likelihood, depth, hazard and duration for a range of events, and identifies residual risk after mitigation, demonstrating that this can be safely managed. Surface water management, including the existing drainage arrangements, proposed discharge rates, hierarchy of drainage options and sustainability principles, is addressed in the **Framework Drainage Strategy** (**Annex A.3** to the **FRA**), which is described further in the response to paragraph 5.8.25 below.

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	measures have been taken into account and demonstrate that these risks can be safely managed, ensuring people will not be exposed to hazardous flooding; • Consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of the project may affect drainage systems. Information should include: ○ Describe the existing surface water drainage arrangements for the site; ○ Set out (approximately) the existing rates and volumes of surface water run-off generated by the site. Detail the proposals for restricting discharge rates; ○ Set out proposals for managing and discharging surface water from the site using sustainable drainage systems and accounting for the predicted impacts of climate change. If sustainable drainage systems have been rejected, present clear evidence of why their inclusion would be inappropriate; ○ Demonstrate how the hierarchy of drainage options has been followed[186]; ○ Explain and justify why the types of SuDS187 and method of discharge have been selected and why they are considered appropriate; ○ Explain how sustainable drainage systems have been integrated with other aspects of the development such as open space or green infrastructure, so as to ensure an efficient use of the site; ○ Describe the multifunctional benefits the sustainable drainage system will provide;	

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	○ Set out which opportunities to reduce the causes and impacts of flooding have been identified and included as part of the proposed sustainable drainage system; ○ Explain how run-off from the completed development will be prevented from causing an impact elsewhere; ○ Explain how the sustainable drainage system been designed to facilitate maintenance and, where relevant, adoption. Set out plans for ensuring an acceptable standard of operation and maintenance throughout the lifetime of the development; • Detail those measures that will be included to ensure the development will be safe and remain operational during a flooding event throughout the development's lifetime without increasing flood risk elsewhere; • Identify and secure opportunities to reduce the causes and impacts of flooding overall during the period of construction; and • Be supported by appropriate data and information, including historical information on previous events.	
5.8 Flood Risk Applicant assessment	5.8.16 Further guidance can be found in the Planning Practice Guidance Flood Risk and Coastal Change section which accompanies the NPPF, TAN15 for Wales or successor documents.	The **FRA (Application Document Ref. 5.7)** has had regard to the Planning Practice Guidance on Flood Risk and Coastal Change which accompanies the NPPF, together with the relevant EA climate change guidance and the Stockton-on-Tees Borough Council and Redcar and Cleveland Borough Council Strategic Flood Risk Assessments (SFRAs).
5.8 Flood Risk Applicant assessment	5.8.17 Development (including construction works) will need to account for any existing watercourses and flood and coastal erosion risk management structures or features, or any land likely to be needed for future structures or features so as to ensure: • Access, clearances and sufficient land are retained to enable their maintenance, repair, operation, and replacement, as necessary; • Their standard of protection is not reduced; and	The Proposed Development accounts for existing flood and coastal erosion risk management structures and features, principally the Tees revetment (as per the **FRA (Application Document Ref. 5.7)**). The construction of the new quay along the alignment of the existing revetment represents a change to the alignment of this defence. Where possible, other structures will be set back 16m from the quay to satisfy EA access requirements. Where this cannot be achieved, the design will enable access for the quay's maintenance, repair, operation and replacement, by agreement with the site operator. The standard of protection and structural integrity of the defence are not reduced by the Proposed Development.

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	• Their condition or structural integrity is not reduced. 5.8.18 Applicants for projects which may be affected by, or may add to, flood risk should arrange pre-application discussions before the official pre application stage of the NSIP process with the EA or NRW, and, where relevant, other bodies such as Lead Local Flood Authorities, Internal Drainage Boards, sewerage undertakers, navigation authorities, highways authorities and reservoir owners[191] and operators. 5.8.19 Such discussions should identify the likelihood and possible extent and nature of the flood risk, help scope the FRA, and identify the information that will be required by the Secretary of State to reach a decision on the application when it is submitted. The Secretary of State should advise applicants to undertake these steps where they appear necessary but have not yet been addressed. 5.8.20 If the EA, NRW or another flood risk management authority[192] has reasonable concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the EA or NRW and take all reasonable steps to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the authority's concerns.	Pre-application discussions have been undertaken with the EA, including a meeting with the EA's Sustainable Places and Data, Digital and Evidence teams on 15 April 2026, in addition to consultation undertaken through the Scoping Opinion (November 2025) and statutory consultation on the Preliminary Environmental Information Report (January 2026). These discussions have informed the scope of the **FRA (Application Document Ref. 5.7)** and the hydraulic modelling methodology, which was agreed with the EA in advance, and have identified the information required by the Secretary of State to determine the application. Comments raised by the EA at Scoping Opinion and PEIR stages, including in relation to Flood Zone classification, vulnerability classification, climate change allowances and the drainage strategy, have been discussed with the EA and addressed within the FRA and the **Framework Drainage Strategy (Annex A.3 to the FRA, Application Document Ref. 5.7)**. A summary of consultation responses and the Applicant's response is provided at **Table 4.1** of the **FRA (Application Document Ref. 5.7)**.
5.8 Flood Risk Applicant assessment	5.8.21 The Sequential Test[193] ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites with medium risk areas and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas. 5.8.22 The technology specific NPSs set out some exceptions to the application of the Sequential Test. However, when seeking development consent on a site allocated in a development plan through the application of the Sequential Test, informed by a strategic flood risk assessment, applicants need not apply the Sequential	The Sequential Test has been applied to the Proposed Development, as set out in the **FRA (Application Document Ref. 5.7)** and Section 5.2 of the **Planning Statement (Application Document Ref. 5.5)**. The Main Site is located predominantly within Flood Zone 1, the lowest flood risk category. Where elements of the Wider Site, including connection corridors and the proposed quay, fall within Flood Zones 2 and 3a, this reflects the need to connect to, or locate within corridors of, existing third-party infrastructure and receiving points, and the requirement for a water-side location to receive feedstock by ship. Consideration of alternative sites is presented in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1)**, which considers three alternative Teesside sites, including a lower-lying, higher flood risk alternative at the former Air Products TV1/TV2 site. A sequential approach has also been applied at the site level within the Main Site layout, locating less vulnerable components, such as feedstock reception, storage and the quay, towards the Tees side of the Main Site, and more vulnerable components, such as buildings and process plant, towards the north and west. **Chapter 6: Alternatives (ES**

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	Test, provided the proposed development is consistent with the use for which the site was allocated and there is no new flood risk information that would have affected the outcome of the test. 5.8.23 Consideration of alternative sites should take account of the policy on alternatives set out in Section 4.3. All projects should apply the Sequential Test to locating development within the site.	**Volume I, Application Document Ref 6.1.6.)** sets out the various and significant technical suitability and availability reasons why the alternative sites were not taken forward. No other alternative sites have been identified that are both available and suitable. Considering these factors, the Site is considered to comply with the principles of the Sequential Test.
5.8 Flood Risk Mitigation	5.8.24 To satisfactorily manage flood risk, arrangements are required to manage surface water and the impact of the natural water cycle on people and property. 5.8.25 In this NPS, the term SuDS refers to the whole range of sustainable approaches to surface water drainage management including, where appropriate: • Source control measures including rainwater recycling and drainage; • Infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities; • Filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns; • Filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed; • Basins, ponds and tanks to hold excess water after rain and allow controlled discharge that avoids flooding; and • Flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding.	Arrangements to manage surface water and the impact of the natural water cycle on people and property are set out in the Framework Drainage Strategy (**Annex A.3** to the **FRA**, **Application Document Ref. 5.7**), which sets out the proposed approach to the collection, conveyance, attenuation, treatment and discharge of surface water runoff across the Main Site, during construction and operation. As set out in the **FRA (Application Document Ref. 5.7),** the Proposed Development is not considered suitable for infiltration-based sustainable drainage systems (SuDS) due to ground conditions and potential contamination risk associated with the Site's former industrial use. Surface water runoff will be managed close to source by natural infiltration across the site and paved areas will be generally limited to the process units. All surface water features, including SuDS, will be lined or sealed to prevent contamination. The ponds (in combination with any upstream features) will provide sufficient attenuation for events up to and including the 1 in 100-year rainfall event plus climate change. The surface water attenuation infrastructure and drainage and discharge works in connection with the main site are included in **Work No.12** as outlined in the d**raft DCO (Application Document Ref. 3.1)**.
5.8 Flood Risk Mitigation	5.8.26 Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts. 5.8.27 The surface water drainage arrangements for any project should, accounting for the predicted impacts of	The Main Site is predominantly at a height above predicted flood levels and largely flat; as such it does not have any existing natural overland flow paths (see **FRA (Application Document Ref. 5.7)**). Proposed drainage will be designed in accordance with current regulations and guidance, and as appropriate, incorporating overland flood flow routes for the conveyance of excess floodwater towards areas of low vulnerability land use.

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	climate change throughout the development's lifetime, be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, unless specific off-site arrangements are made and result in the same net effect	The final surface water discharge rate will be confirmed at detailed design in accordance with Lead Local Flood Authority (LLFA) guidance, with flows managed to ensure no increase in the volumes and peak flow rates of surface water leaving the Site, taking the predicted impacts of climate change into account. Hydraulic modelling presented in the **FRA (Application Document Ref. 5.7)** confirms that the Proposed Development does not result in any material increase in flood risk elsewhere. The detailed drainage design will be confirmed post-DCO and will be developed in accordance with the drainage principles, design parameters, and commitments set out within the **Framework Drainage Strategy (Annex A.3** to the **FRA (Application Document Ref. 5.7))**.
5.8 Flood Risk Mitigation	5.8.28 It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration facilities or attenuation storage to be provided outside the project site, if necessary, through the use of a planning obligation. 5.8.29 The sequential approach should be applied to the layout and design of the project. Vulnerable aspects of the development should be located on parts of the site at lower risk and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities should be taken to lower flood risk by reducing the built footprint of previously developed sites and using SuDS.	Attenuation of clean surface water is proposed via retention ponds located on the Main Site, sized to limit and reduce peak discharge rates and total volumes discharged, as set out in the Framework Drainage Strategy (**Annex A.3** to the **FRA (Application Document Ref. 5.7)**). As set out within Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** and Section 9.2 of the **FRA (Application Document Ref. 5.7),** a sequential approach has been applied to the layout and design of the Proposed Development, with vulnerable components located on parts of the Site at lower flood risk, as described in the response to paragraph 5.8.23 above.
5.8 Flood Risk Mitigation	5.8.30 Where a development may result in an increase in flood risk elsewhere through the loss of flood storage, on-site level-for-level compensatory storage, accounting for the predicted impacts of climate change over the lifetime of the development, should be provided. 5.8.31 Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked. Where development may cause the deflection or constriction of flood flow routes, these will need to be safely managed within the site.	The **FRA (Application Document Ref. 5.7)** demonstrates that the Main Site is not at risk from fluvial flooding in the 1% Upper End 2070's scenario even in its baseline condition. The proposals to raise the Main Site therefore do not displace fluvial floodwater and compensatory floodplain storage is not considered necessary. Hydraulic modelling confirms that any deflection or constriction of flood flow routes associated with the Proposed Development, results in negligible changes to modelled water levels at off-site locations, which are safely managed within the assessment.
5.8 Flood Risk Mitigation	5.8.32 Where development may contribute to a cumulative increase in flood risk elsewhere, the provision of multifunctional sustainable drainage systems, natural	As set out within **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)** and the **FRA (Application Document Ref. 5.7)**, cumulative effects assessment has not been undertaken with regards to flooding as the

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	flood management and green infrastructure can also make a valuable contribution to mitigating this risk whilst providing wider benefits.	hydraulic modelling demonstrates, the Proposed Development would not result in any material increase in flood risk elsewhere and surface water runoff would be managed in a controlled manner such that flood risk on-site and off-site would not increase. As the **FRA (Application Document Ref. 5.7)** confirms no material change to flood levels, flood extents or flood risk beyond the Site, there is no realistic pathway by which the Proposed development could combine with other developments to give rise to significant cumulative flood effects. Furthermore, the local flood regime is predominantly influence by tidally controlled water levels within the Tees Estuary, limiting the potential for interactions between developments to materially alter flood risk.
5.8 Flood Risk Mitigation	5.8.33 The receipt of and response to warnings of floods is an essential element in the management of the residual risk of flooding. Flood Warning and evacuation plans should be in place for those areas at an identified risk of flooding. 5.8.34 The applicant should take advice from the local authority emergency planning team, emergency services and, where appropriate, from the local resilience forum when producing an evacuation plan for a manned energy project as part of the FRA. Any emergency planning documents, flood warning and evacuation procedures that are required should be identified in the FRA.	A site-specific Flood Warning and Evacuation Plan (FWEP) will be prepared for the Proposed Development, to be secured through the CEMP (Requirement 4 of the **draft DCO (Application Document Ref. 3.1)**). Mitigation includes signing up to the EA's flood warning service to act as an early warning system. The EA flood warnings can provide advance notice of areas at risk of flooding from rivers, tidal, and groundwater sources. The FWEP will be developed in consultation with the relevant local authority emergency planning team, emergency services and, where appropriate, the local resilience forum.
5.8 Flood Risk Mitigation	5.8.35 Flood resistant and resilient materials and design should be adopted to minimise damage and speed recovery in the event of a flood.	As set out within the **FRA (Application Document Ref. 5.7),** flood resistant and resilient design measures are proposed, including durable ground floor finishes that are less likely to be affected by saline water; elevation of critical infrastructure, machinery and electrical equipment above design flood levels (a minimum of 5.68mAOD generally, and 5.83mAOD within 20m of the Site boundary where wave effects are greater); waterproof protection for water-sensitive electrical components at the quay; non-return valves on water supply, sewerage and drainage infrastructure; and consideration of sacrificial materials where appropriate, to minimise damage and speed recovery in the event of a flood.
5.8 Flood Risk Secretary of State decision making	5.8.36 In determining an application for development consent, the Secretary of State should be satisfied that where relevant: • The application is supported by an appropriate FRA; • The Sequential Test has been applied and satisfied as part of site selection (subject to the exception set out in paragraph 5.8.22 of this NPS, and any technology specific exceptions set out in other NPSs);	The Applicant considers that the SoS can be satisfied that the application is supported by an appropriate **FRA (Application Document Ref. 5.7)**, that the Sequential Test has been applied and satisfied (as set out within Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** and Section 9.2 of the **FRA (Application Document Ref. 5.7)** and that a sequential approach has been applied at the site level to direct the most vulnerable components to areas of lowest flood risk. The Proposed Development, including the quay, is classified as Essential Infrastructure given its need for a water-side location, and satisfies the Exception Test through the sustainability benefits of the SAF facility and the flood resilience measures embedded in the design (as set out within Section 5 of the

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	• A sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk; • The proposal is in line with any relevant national and local flood risk management strategy194; • SuDS (as required in the next paragraph on National Standards) have been used unless there is clear evidence that their use would be inappropriate; • In flood risk areas the project is designed and constructed to remain safe and operational during its lifetime, without increasing flood risk elsewhere (subject to the exceptions set out in paragraph 5.8.22); • The project includes safe access and escape routes where required, as part of an agreed emergency plan, and that any residual risk can be safely managed over the lifetime of the development; and • Land that is likely to be needed for present or future flood risk management infrastructure has been appropriately safeguarded from development to the extent that development would not prevent or hinder its construction, operation or maintenance. 5.8.37 For energy projects which have drainage implications, approval for the project's drainage system, including during the construction period, will form part of the development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. 5.8.38 In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for appropriate operation and maintenance of any SuDS throughout the project's lifetime. Where this is secured through the adoption of any SuDS features, any necessary access rights to property will need to be granted.	**Planning Statement (Application Document Ref. 5.2.1)** and Section 9.3 of the **FRA (Application Document Ref. 5.7)**. The Main Site is designed to remain safe and operational during at least the 1-in-200-year flood event in accordance with NPPF Annex 3, with general ground levels raised to a minimum of 5.08mAOD, providing greater than 99% confidence of non-exceedance against the 0.5% AEP 2105 Higher Central flood level. SuDS have been adopted where practicable, with infiltration-based systems excluded due to ground contamination risk; the drainage system will be secured through Requirement 17 of the **draft DCO (Application Document Ref. 3.1)**, and the appropriate body responsible for its maintenance confirmed at detailed design. The **FRA (Application Document Ref. 5.7)** confirms that the proposal has considered the relevant national and local flood risk management strategy, including the Stockton-on-Tees Local Flood Risk Management Strategy (2016) and Redcar and Cleveland Borough Council Local Flood Risk Management Strategy (2017). Hydraulic modelling demonstrates no material increase in flood risk elsewhere. The Main Site (in North Tees) lies predominantly within Flood Zone 1, indicating low baseline risk, with only certain access routes and pipeline corridors (within the Wider Site), and the proposed quay within Flood Zones 2 and 3a. The **Framework Drainage Strategy (Annex A.3 to the FRA, Application Document Ref. 5.7)** outlines that drainage during the construction period is dealt within the **fCEMP (ES Volume III, Application Document Ref. 6.3.4)**. The **Flood Risk Assessment (Application Document Ref. 5.7)** and the **Framework Drainage Strategy (Annex A.3 to the FRA, Application Document Ref. 5.7)** covers drainage during operation and decommissioning. The effects on drainage have been assessed in line with the National Standards published by Ministers under paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. The Proposed Development includes safe access and egress arrangements, an on-site refuge and muster points, and will be supported by a Flood Warning and Evacuation Plan to manage residual risk over its operational life, secured through the CEMP (Requirement 4 of the **draft DCO (Application Document Ref. 3.1)**). Consultation with the EA has been ongoing throughout the assessment (as set out within Section 4 of the **FRA (Application Document Ref. 5.7)** and the Applicant is not aware of any outstanding objections to the granting of development consent on flood risk grounds. The **FRA (Application Document Ref. 5.7)** demonstrates that the Proposed Development would not result in any material increase in flood risk elsewhere and would manage surface water runoff in a controlled manner such that flood risk on-site and off-site would not increase.

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	5.8.39 Where relevant, the Secretary of State should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, taking into account the nature and security of the infrastructure on the proposed site. Responsible bodies could include, for example the landowner, the relevant lead local flood authority or water and sewerage company (through the Ofwat-approved Sewerage Sector Guidance[195]), or another body, such as an Internal Drainage Board. 5.8.40 If the EA, NRW or another flood risk management authority continues to have concerns and objects to the granting of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the authority to try to resolve the concerns. 5.8.41 Energy projects should not normally be consented within Flood Zone 3b[196], or Zone C2 in Wales, or on land expected to fall within these zones within its predicted lifetime. This may also apply where land is subject to other sources of flooding (for example surface water). However, where essential energy infrastructure has to be located in such areas, for operational reasons, they should only be consented if the development will not result in a net loss of floodplain storage, and will not impede water flows. 5.8.42 Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the Secretary of State may grant consent if they are satisfied that the increase in present and future flood risk can be mitigated to an acceptable and safe level and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3 above. In any such case the Secretary of State should make clear how, in reaching their decision, they have weighed up the increased flood risk against the benefits of the project, taking account of the nature and degree of the risk, the future impacts on climate change,	

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	and advice provided by the EA or NRW and other relevant bodies.	
5.9 Historic Environment Applicant assessment	5.9.11 The applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA, and describe these along with how the mitigation hierarchy has been applied in the ES (see Section 4.3). This should include consideration of heritage assets above, at, and below the surface of the ground. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. The assessment should include reference to any historic landscape or seascape character assessment and associated studies as a means of assessing impacts relevant to the proposed project. 5.9.12 As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the applicant should have consulted the relevant Historic Environment Record[203] (or, where the development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact. 5.9.13 Where a site on which development is proposed includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, accurate representative visualisations may be necessary to explain the impact[204]. 5.9.14 The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately	The potential impact of the Proposed Development upon the historic environment is not considered in its own chapter within the ES and was largely scoped out. Due to the extent of previous development and the location of the Order Limits land on reclaimed land, it is unlikely that there are any archaeological remains of interest in the deposits of made ground found across the site. The Applicant proposed to scope out 'Buried Heritage assets within the Site' and 'Designated and non-designated heritage assets outside of the Site'. See Table 11.2 of **Appendix 2A: Scoping Report (ES Volume III Application Document Ref. 6.3**). With regards to designated heritage assets located outside of the Site, none are present within the 1km study area and the nearest listed buildings and conservation areas are located approximately 1.5km away. Due to the existing industrial character of the Site and surroundings, no significant effects are anticipated for both the construction and operation stages. The Planning Inspectorate's response to the Scoping Opinion request referenced two heritage assets located outside the study area. Eston nab, a Scheduled Monument located 12km south of the Proposed Development and the Grade 2 listed Middlesbrough Transport Bridge located 7km southwest of the Main Site. In **Appendix 2B: Scoping Opinion Responses (ES Volume III Application Document Ref. 6.3.3**), the Planning Inspectorate response noted the potential views to the Site from Eston Nab scheduled monument and the setting of the listed Middlesbrough Transporter Bridge which were identified by RCBC and Historic England in their respective consultation responses. The Planning Inspectorate also noted that Eston Nab should be considered in the visual impact assessment with a reference to its value as a heritage receptor. The Planning Inspectorate agreed with the Applicant's assessment and stated that significant effects are not likely and impacts on the setting of heritage assets can be scoped out of the ES. The Applicant's justification for scoping out 'Buried Heritage assets within the Site' was that they would be limited to remains of geoarchaeological or paleoenvironmental interest within tidal flat and peat deposits due to the historic development of the Site. The CEMP will include measures to mitigate any impacts. Therefore, these effects can be scoped out of the construction and operation stage as no significant effects are anticipated. The Planning Inspectorate agreed with the Applicant's assessment and stated that due to the previous development of the site, significant effects are not likely, and this matter can be scoped out.

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	understood from the application and supporting documents. Studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected. 5.9.15 The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible: • Enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected; • Considering where required the development of archive capacity which could deliver significant public benefits; and • Considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme. 5.9.16 Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary, or permanent. 5.9.17 Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.	Per the Planning Inspectorate's comments, the Applicant has considered views from Eston Nab and its value as a heritage receptor. The Landscape and Visual Impact Assessment ('LVIA') includes Eston Nab Scheduled Monument as a visual receptor, referenced VP10. The LVIA concludes that the effects would be **Minor adverse (not significant)** during construction and **Minor adverse (not significant)** during operation and therefore not significant. See **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13).**
5.9 Historic Environment Mitigation	5.9.18 A documentary record of our past is not as valuable as retaining the heritage asset, and therefore the ability to record evidence of the asset should not be a factor in	The Proposed Development would not result in the loss of a heritage asset or the loss of significance of any heritage asset, with **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** outlining that only visual receptors at

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	deciding whether such loss should be permitted, and whether or not consent should be given. 5.9.19 Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State will require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the asset's importance and significance and the impact. The applicant should be required to publish this evidence and to deposit copies of the reports with the relevant Historic Environmental Record. They should also be required to deposit the archive generated in a local museum or other public repository willing to receive it. 5.9.20 Where appropriate, the Secretary of State will impose requirements on the Development Consent Order to ensure that the work is undertaken in a timely manner, in accordance with a written scheme of investigation that complies with the policy in this NPS and which has been agreed in writing with the relevant local authority, and to ensure that the completion of the exercise is properly secured. 5.9.21 Where the loss of significance of any heritage asset has been justified by the applicant on the merits of the new development and the significance of the asset in question, the Secretary of State should consider: • Imposing a requirement in the Development Consent Order; and • Requiring the applicant to enter into an obligation that will prevent the loss occurring until the relevant part of the development has commenced, or it is reasonably certain that the relevant part of the development is to proceed. 5.9.22 Where there is a high probability (based on an adequate assessment) that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State will consider requirements to ensure appropriate procedures	Viewpoint 7 RSPB Saltholme would receive **moderate adverse** effects during construction and operation of the Proposed Development. The assessment of visual effects on Eston Nab provided in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** concludes that the effects at this visual receptor would be **Minor adverse (not significant)** during construction and **Minor adverse (not significant)** during operation and therefore not significant. During the construction stage visual effects would arise due to the presence of construction activity however this would be set against the existing large scale heavy industry surrounding the Proposed Development site. Similar, adverse visual effects during the operational stage should be considered against the existing large scale heavy industry surrounding the Proposed Development site. No additional mitigation is likely to materially reduce the visual effects of the construction and operational stages on Eston Nab therefore no mitigation measures are proposed. Irrespective of this, the residual effect on Eston Nab is not significant. Given the existing heavy industrial character of the Proposed Development's context, it is not considered that the significance of Eston Nab is affected by the Proposed Development.

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	are in place for the identification and treatment of such assets discovered during construction.	
5.9 Historic Environment Secretary of State decision making	5.9.23 In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development, including by development affecting the setting of a heritage asset, taking account of: • Relevant information provided with the application and, where applicable, relevant information submitted during the examination of the application; • Any designation records, including those on the National Heritage List for England, or included on Cof Cymru for Wales; • Historic landscape character records; • The relevant Historic Environment Record(s), and similar sources of information; • Representations made by interested parties during the examination process; and • Expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it. 5.9.24 The Secretary of State must also comply with the requirements on listed buildings, conservation areas and scheduled monuments, set out in regulation 3 of the Infrastructure Planning (Decisions) Regulations 2010. 5.9.25 In considering the impact of a proposed development on any heritage assets, the Secretary of State should consider the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal. 5.9.26 The Secretary of State should consider the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities, including to their quality of life, their	With regards to NPS EN-1 paragraph 5.9.23, the Applicant did not identify any designated heritage assets within the Order Limits or within the 1km study area. The Applicant therefore proposed to scope out Impacts on the setting of heritage assets on the basis of the intervening distance and existing industrial character of the site as stated in **Appendix 2A: Scoping Report (ES Volume III Application Document Ref. 6.3.2)** submitted with this application. The Applicant has had regard to the advice contained in the Scoping Opinion adopted by the Planning Inspectorate and considered Eston Nab, a Scheduled Monument within the assessment of visual effects. This position was informed by the representation made by RCBC in their Scoping Opinion consultation response. No further representations in relation to historic environment were made during the pre-application stage **Appendix 2B: Scoping Opinion Responses (ES Volume III Application Document Ref. 6.3.3))**. The assessment of visual effects has taken account of the contribution that Scheduled Monuments make to the landscape value and attached a high value to view of Eston Nab. The assessment of visual effects on Eston Nab provided in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** concludes that the residual effect on Eston Nab is not significant. Given the existing heavy industrial character of the Proposed Development's context, it is not considered that the significance of Eston Nab is affected by the Proposed Development. The Applicant therefore considers that the application provides the Secretary of State with sufficient information to assess the significance and setting of Eston Nab. With regards to paragraph 5.9.24 of EN-1, the Applicant considers that the Secretary of State can comply with the requirements on listed buildings, conservation areas and scheduled monuments, set out in subsections 1 to 3 of regulation 3 of the Infrastructure Planning (Decisions) Regulations 2010. With regards to paragraphs 5.9.25 and 5.9.26 of EN-1 the Applicant considers that the visual assessment demonstrates that there are no conflicts between the conservation of Eston Nab and the Proposed Development and the Proposed Development does not have significant adverse effect on the setting of the heritage asset or its contribution to its setting.

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	economic vitality, and to the public's enjoyment of these assets.	
5.9 Historic Environment Secretary of State decision making	5.9.27 The Secretary of State should also consider the desirability of the new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).	Inherent mitigation in the siting and layout of the Main Site away from sensitive receptors has been maximised as far as possible while balancing operational efficiency and safety. Due to the scale of the Proposed Development, visual mitigation such as planting and bunding would not be effective. Moreover, views from Eston Nab to the Site of the Proposed Development would be defined by large scale heavy industry. The Applicant does not consider that it is desirable for effects on Eston Nab to be minimised at the expense of the operational performance and safety of the Proposed Development. The visual assessment undertaken in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** which concludes that the residual visual effect on Eston Nab is not significant demonstrates that the Proposed Development would not result in harm to the significance of the heritage asset. The Proposed Development at the Main Site would be consistent in use and scale with existing heavy industry and would bring about effective reuse of a large disused site. It would make effective use of the river location for bulk transport and the quay topside infrastructure and CSUs potentially will reinforce the industrial character and local distinctiveness of the riverside. The Quay's design is regulated by the **Outline Design Principles (Application Document Ref. 5.3.2)**, within Design Principles (DPs) 27 – 30, ensuring that design is considerate of its historic environment.
5.9 Historic Environment Secretary of State decision making	5.9.28 When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. This is irrespective of whether any potential harm amounts to substantial harm, total loss, or less than substantial harm to its significance. 5.9.29 The Secretary of State should give considerable importance and weight to the desirability of preserving all heritage assets. Any harm or loss of significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification. 5.9.30 Substantial harm to or loss of significance of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional. 5.9.31 Substantial harm to or loss of significance of assets of the highest significance, including Scheduled Monuments; Protected Wreck Sites; Registered	With regards to the Secretary of state's consideration of the Proposed Development's impact on a designated heritage asset, the Applicant considers that the Planning Inspectorate's agreement to scope out an assessment of impacts on the setting of heritage assets in the **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref 6.3.3|)** and the visual assessment undertaken in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** which concludes that the residual visual effect on Eston Nab is not significant demonstrates that the Proposed Development would not result in harm to the significance of a heritage asset. The Applicant therefore considers that the decision-making considerations in 5.9.28 to 5.9.37 are not relevant to the Proposed Development.

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	Battlefields; grade I and II* Listed Buildings; grade I and II* Registered Parks and Gardens; and World Heritage Sites, should be wholly exceptional. 5.9.32 Where the proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm to, or loss of, significance is necessary to achieve substantial public benefits that outweigh that harm or loss, or all the following apply: • The nature of the heritage asset prevents all reasonable uses of the site; • No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; • Conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and • The harm or loss is outweighed by the benefit of bringing the site back into use. 5.9.33 Where the proposed development will lead to less than substantial harm to the significance of the designated heritage asset, this harm should be weighed against the public benefits of the proposal, including, where appropriate securing its optimum viable use. 5.9.34 In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset. 5.9.35 Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 5.9.30 or less than substantial harm under paragraph 5.9.31, as appropriate, considering the relative significance of the	

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	element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole. 5.9.36 Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the Secretary of State should not take its deteriorated state into account in any decision[208]. 5.9.37 When considering applications for development affecting the setting of a designated heritage asset, the Secretary of State should give appropriate weight to the desirability of preserving the setting of such assets and treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the Secretary of State should give great weight to any negative effects, when weighing them against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval.	
5.10 Landscape and Visual Applicant assessment	5.10.16 The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects (see Section 4.3). Several guides have been produced to assist in addressing landscape issues. 5.10.17 The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England and local development plans in Wales. 5.10.18 For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them. 5.10.19 The applicant should consider landscape and visual matters in the early stages of siting and design, where site choices and design principles are being	A Landscape and Visual Impact Assessment ('LVIA') for the Proposed Development has been carried out and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**, in accordance with the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3). The assessment is informed by published landscape character assessments, studies, relevant supporting evidence base documents, aerial photography, mapping and fieldwork carried out in March and August 2025 and March 2026 this is supported by **Appendix 13A: Landscape Baseline and Effects (ES Volume III, Application Document Ref. 6.3)**, **Appendix 13B: Visual Baseline and Effects (ES Volume III, Application Document Ref. 6.3)**, **Appendix 13C: Framework Lighting Strategy (ES Volume III, Application Document Ref. 6.3)** and **Appendix 13D: LVIA Methodology (ES Volume III, Application Document Ref. 6.3)**. The LVIA includes an assessment of cumulative effects, the findings of which are reported in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**. The scope of the LVIA was agreed with Stockton on Tees Borough Council (STBC) and the Planning Inspectorate through the Scoping Opinion issued on 11 November 2025 (see **Appendix 2B: Responses to Scoping Opinion (ES Volume III,**

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	established. This will allow the applicant to demonstrate in the ES how negative effects have been minimised and opportunities for creating positive benefits or enhancement have been recognised and incorporated into the design, delivery and operation of the scheme. 5.10.20 The assessment should include the effects on landscape components and character (including key characteristics) during construction and operation. For projects which may affect a National Park, The Broads or a National Landscape the assessment should include effects on the natural beauty and special qualities of these areas. 5.10.21 The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on dark skies, local amenity and nature conservation. 5.10.22 The assessment should also address the landscape and visual effects of light pollution and other emissions (see Section 5.2 and Section 5.7), from construction and operational activities on residential amenity and on sensitive locations, receptors and views, and how these will be minimised. 5.10.23 Applicants are expected to justify BAT for the use of a cooling system that involves visible steam plumes or has a high visible structure, such as a natural draught cooling tower explaining why the application of modern hybrid cooling technology or other technologies is not reasonably practicable. 5.10.24 Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality. 5.10.25 In considering visual effects it may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude	**Application Document Ref. 6.3)**), with the assessment of site specific character, North York Moors National Park, decommissioning, residential amenity survey and lighting at night all agreed to be scoped out of the assessment. The Site and most of the landscape study area is located within NCA 23: Tees Lowlands, as defined by Natural England and illustrated on **Figure 13.5: Published Landscape Character Areas (ES Volume 2, Application Document Ref. 6.2)**. It is characterised by a flat, low-lying landscape along the estuary of the River Tees including major industrial installations, transport infrastructure and energy facilities. The landscape study area for the LVIA extends to 2km from the Site, within which five Local Landscape Character Areas (LLCAs) have been defined: Tees Industry, Tees Urban/Residential, Tees Coast and Estuary, Tees Wetlands and Tees Farmland. The Site itself sits within LLCA 1: Tees Industry, which is assessed as having very low sensitivity due to its very low landscape value and very low susceptibility to change given the dominance of existing heavy industry. The surrounding LLCAs have a high susceptibility to change and higher sensitivity, ranging from medium (Tees Urban/Residential) to high (Tees Coast and Estuary, Tees Wetlands and Tees Farmland). The value attached to the surrounding landscapes is low for Tees Urban/Residential, medium for Tees Farmland and high for Tees Coast and Estuary, and Tees Wetlands. The Proposed Development is not located within or adjacent to a National Park, the Broads or a National Landscape (formerly Areas of Outstanding Natural Beauty). The North York Moors National Park lies approximately 10km to the south-east; as agreed with the Inspectorate through scoping (**Appendix 2B: Responses to Scoping Opinion (ES Volume 2, Application Document Ref. 6.3)**), significant effects on the National Park are not likely. As confirmed within the Scoping Opinion (**Appendix 2B** in **ES Volume 2, Application Document Ref. 6.3)**), impacts to visual amenity resulting from lighting at night were scoped out of the assessment (ID 3.6.8). Regarding visible plumes, it is concluded within **Annex C** of **Appendix 8B: Assessment of Construction Phase Effects (ES Volume III, Application Document Ref. 6.3)** at the scale of the Site and the context of the surrounding heavy industry within the Tees Estuary, any potential plume from the cooling towers in not considered to be relevant for the assessment due to its relative short length and limited occurrence. Landscape and visual matters have been considered from the outset of the design process. The **Design Approach Document (Application Document Ref. 5.3.1)** demonstrates how the design has evolved to minimise harm to the landscape and visual amenity, having regard to siting, operational and other relevant constraints. For example, the Proposed Development incorporates mechanical draught cooling towers (**Work No. 4**)

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	of impact on equally sensitive receptors. This may assist the Secretary of State in judging the weight they should give to the assessed visual impacts of the proposed development.	of no more than 40m in height, which are designed to minimise the formation of visible plumes. Landscape and visual matters were considered from the outset of the site selection process, as demonstrated in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1)**. The selection of the Seal Sands site was informed, among other factors, by the objective of locating the Proposed Development on previously developed land within an established industrial area, thereby minimising landscape and visual effects by siting the Proposed Development in a context where large-scale industrial structures already dominate the character of the area. In terms of landscape effects, the LVIA concludes that effects on all five LLCAs during both construction and operation **are minor adverse (not significant)**. Notwithstanding the medium magnitude of impact on LLCA 1: Tees Industry, reflecting the physical change to the Site itself, the very low sensitivity of that LLCA results in a **minor adverse**, **not significant effect**. For the higher sensitivity LLCAs, the magnitude of impact is assessed as very low in both stages, as the Proposed Development would be perceived as a continuation of the existing industrial character of the Tees Estuary. The study area for the visual baseline comprises a generally low-lying topography with elevated areas at Cowpen Bewley Woodland Park and undulating landscape to the north west. Therefore, views of tall industrial features such as industrial plant, power station, tall pylons and overhead powerlines, port cranes, stacks, oil storage and refinery as well as wind turbines within the Tees valley, Teesport area and along the coastline are highly visible across the landscape. In terms of visual effects, ten representative viewpoints were selected and agreed with STBC, covering residents of local communities, recreational users and visitors within a 10km study area. Wireline visualisations were prepared for Saltholme RSPB Nature Reserve (Viewpoint 7) and South Gare (Viewpoint 9). The LVIA concludes that effects at the majority of viewpoints are **minor adverse (not significant)** during both construction and operation, with the Proposed Development's tall structures not being noticeable due to intervening buildings and structures and the Proposed Development being seen in the context of existing large-scale heavy industry. However, **moderate adverse (significant)** effects are identified at viewpoint 7 (Saltholme RSPB Nature Reserve), where high sensitivity recreational receptors would experience a medium magnitude of impact due to the proximity of the Site and the panoramic nature of views across the reserve. These represent the only residual significant landscape or visual effects arising from the Proposed Development.
5.10 Landscape and Visual Mitigation	5.10.26 Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design of a proposed energy infrastructure	Landscape and visual considerations have been embedded in the design of the Proposed Development throughout the pre-application process, in accordance with the approach encouraged by EN-1.

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	project may result in a significant operational constraint and reduction in function – for example, electricity generation output. There may, however, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape and/or visual effects outweigh the marginal loss of function. 5.10.27 Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within its development site and wider setting. The careful consideration of colours and materials will support the delivery of a well-designed scheme, as will sympathetic landscaping and management of its immediate surroundings. 5.10.28 Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site. For example, filling in gaps in existing tree and hedge lines may mitigate the impact when viewed from a more distant vista.	The **Framework Construction Environmental Management Plan (ES Appendix 5A, Document Ref. 6.3.4)** details the general construction measures that would be implemented during construction of the Proposed Development to mitigate temporary effects. Preparation of a detailed final CEMP(s) is secured by Requirement 4 in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)**. **Appendix 13C: Framework Lighting Strategy (ES Volume III, Application Document Ref 6.3)** confirms that lighting will be designed to include shielded and directional luminaires to limit the amount of light spill, as secured by Requirement 11 in Schedule 2 of the d**raft DCO (Application Document ref 3.1)**. The following embedded mitigation measures are incorporated and are an inherent part of the consented scheme: • Visually recessive, non-reflective colours of white and light grey for the external finish of structures to reduce visual prominence and assist integration within the surrounding industrial setting, as detailed in the **Design Approach Document (Application Document Ref: 5.3.1)**; and • A **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)** to minimise obtrusive light whilst meeting operational safety requirements. Detailed design matters, including external appearance, colours, materials and finishes, are secured by Requirement 3 in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)**, ensuring that the local authorities retain sufficient control to deliver good landscape and visual design outcomes at the detailed design stage. Given the scale of the Proposed Development and the open, flat nature of the surrounding landscape, additional planting would not be effective in screening the proposed stacks and tall structures in long-distance views. No further mitigation beyond that embedded in the design has been identified as reasonably practicable without unacceptable reductions in the operational capacity of the Proposed Development. The residual significant effect at Viewpoint 7 therefore represents effects that remain after the full application of the mitigation hierarchy.
5.10 Landscape and Visual Secretary of State decision making	5.10.29 The Secretary of State should take into consideration the level of detailed design which the applicant has provided and is secured in the Development Consent Order, and the extent to which design details are subject to future approvals. 5.10.30 The Secretary of State should be satisfied that local authorities will have sufficient design content secured to ensure future consenting will meet landscape, visual and good design objectives.	All landscape effects and the majority of visual effects are assessed as **minor adverse** and **not significant**. Significant residual adverse effects are limited to one viewpoint, Saltholme RSPB Nature Reserve (Viewpoint 7), where a **moderate adverse (significant)** visual effect is predicted during both construction and operation for high sensitivity recreational receptors. These residual effects cannot be further mitigated without unacceptable operational constraints. The SoS is not required to give great weight to designated landscape considerations in this instance, as the Proposed Development is not located within or in close proximity to a National Park, the Broads or a National Landscape. The significant visual effects that remain are localised, confined to one recreational viewpoint in the immediate vicinity of the

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	5.10.31 When considering visual impacts of thermal combustion generating stations, the Secretary of State should presume that the adverse impacts would be less if a hybrid or direct cooling system is used. The Secretary of State should therefore expect information in the application justifying BAT for the use of a cooling system that involves visible steam plumes or has a high visible structure, such as a natural draught cooling tower, and be satisfied that the application of modern hybrid cooling technology or other technologies is not reasonably practicable before giving consent to a development with natural draught cooling towers. 5.10.32 When considering applications for development within National Parks, the Broads and National Landscapes the conservation and enhancement of the landscape and scenic beauty should be given great weight by the Secretary of State in deciding on applications for development consent in these areas. The Secretary of State may grant development consent in these areas in exceptional circumstances. Such development should be demonstrated to be in the public interest and consideration of such applications should include an assessment of: • The need for the development, including in terms of national considerations[213], and the impact of consenting or not consenting it upon the local economy; • The cost of, and scope for, developing all or part of the development elsewhere outside the designated area or meeting the need for it in some other way, taking account of the policy on alternatives set out in Section 4.3; and • Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated. 5.10.33 For development proposals located within designated landscapes the Secretary of State should be satisfied that measures which seek to further purposes of the designation are appropriate, reasonable and proportionate to the type and scale of the development.	Site, and arise in a landscape setting already heavily influenced by industrial development of comparable scale. The adverse visual impacts should be weighed accordingly. Section 13.5 of **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** outlines the embedded measures as part of the design process to mitigate the environmental effects on the landscape and siting of the Proposed Development. A sufficient level of design content is secured through the **Outline Design Principles (Application Document Ref. 5.3.2)**, the **Design Approach Document (Application Document Ref. 5.3.1)** and the requirements in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)** to enable the SoS and the local authorities to be satisfied that future detailed design will meet landscape, visual and good design objectives. The SoS should weigh the residual significant visual effects against the substantial benefits of the Proposed Development, including its substantial contribution to the decarbonisation of the aviation sector and achievement of the SAF Mandate through the displacement through the substitution of conventional jet fuel with low carbon SAF making it a key enabler of low-carbon aviation. The Applicant therefore considers that the proposed Development complies with the SoS's decision making principles in respect of landscape and visual impacts.

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	The Secretary of State should ensure that any projects consented in these designated areas should be carried out to high environmental standards, including through the application of appropriate requirements where necessary. 5.10.34 The duty to seek to further the purposes of nationally designated landscapes also applies when considering applications for projects outside the boundaries of these areas, which may have impacts within them. The aim should be to avoid harming the purposes of designation or to minimise adverse effects on the designation. Such projects should be designed sensitively given the various siting, operational, and other relevant constraints. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for the Secretary of State to refuse consent. 5.10.35 The scale of energy projects means that they will often be visible across a very wide area. The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project. 5.10.36 In reaching a judgement, the Secretary of State should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable. 5.10.37 The Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation. 5.10.38 The Secretary of State should consider whether requirements to the consent are needed requiring the incorporation of particular design details that are in keeping with the statutory and technical requirements for landscape and visual impacts.	

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5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.8 The ES (see Section 4.3) should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors. For developments on previously developed land, the applicant should ensure that they have considered the risk posed by land contamination and how it is proposed to address this.	The **Planning Statement (Application Document Ref. 5.2.1)** states the existing land use confirming that the Main Site is predominantly brownfield land comprising concrete hardstanding and vegetation. The western end of the Main Site includes a historic landfill site. The area of the Main Site north of Seal Sands Road is also vegetated with grass and woodland scrub. Available historical maps indicate that this part of Seal Sands has not been previously developed. Section 3.5 of the Planning Statement describes the surrounding land uses confirming it is a significant industrial hub including Control of Major Accident Hazards (COMAH) regulated sites and also proposed developments in the vicinity of the Proposed Development. Surrounding developments are shown on **Figure 3.1 (ES Volume II, Application Document Ref. 6.2)**. Appendix 22A: Long List of Other Developments **(ES Volume II, Application Document Ref. 6.2)** identifies a number of additional relevant development proposals in the vicinity of the Order Limits which were used in the cumulative effects assessment contained in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)**. The **Planning Statement (Application Document Ref. 5.5)** and **Chapter 7: Planning and Energy Policy (ES Volume I, Application Document Ref. 6.1)** list the allocations within the surrounding Local Development Plans, as well as designations within and adjacent to the Order Limits. Part of the Main Site has been designated as a Specialist Employment Allocation and a Protected Employment area. The Pipeline and Utility Corridors when crossing the river Tees are within the Teesmouth and Cleveland Coast Site of Special Scientific Interest ('SSSI') and Special Protection Area ('SPA'). In the Tees Valley Joint Minerals and Waste DPDs, the entirety of the Site is located within a Salt and Gypsum Deep Resources mineral safeguarding area (MSA). The Pipeline and Utilities Corridors intercept the Tees Dock Marine dredged sand and gravel safeguarding wharf area. The scale of the Proposed Development has been taken into consideration and informed the study area which is described in **Chapter 2: Assessment Methodology Policy (ES Volume I, Application Document Ref. 6.1)** and **Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1).** The Proposed Development will be located on largely brownfield land, and the Application proposes proportionate measures in respect of contaminated land. **Chapter 21 Geology and Soils (ES Volume I, Application Document Reference 6.1)** considers the risks to human health, surface water quality and groundwater quality arising from the Proposed

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		Development's interaction with existing land contamination during construction, operation and decommissioning stages. ES Chapter 21 explains and is supported by **Appendix 21A: Geoenvironmental Preliminary Risk Assessment (ES Volume III, Application Document Ref. 6.3)** which identifies baseline conditions following a desktop review of relevant data sets. Moreover, ES Appendix 21A includes a review of the environmental setting to assess the sensitivity of the surrounding area to contamination/pollution and a qualitative environmental risk assessment to produce a preliminary conceptual site model (CSM) summarising potential pollutant linkages associated with the Proposed Development and undertaken in accordance with the EA LCRM guidance. Table 2.1 of ES Chapter 21 explains how consultation undertaken with statutory consultees has informed the Applicant's consideration of the risks posed by contamination. Section 21.6 of ES Chapter 21 describes the embedded and good practice mitigation for ground conditions that has been incorporated into the Proposed Development design or assumed to be in place for each stage of the development. These measures will contribute towards minimising the risks posed by land contamination. Section 21.7 presents the results of the assessment of likely significant effects with the embedded and good practice mitigation measures. Paragraph 21.7.3 explains that Potential contaminant linkages (PCLs) identified in **Geoenvironmental Preliminary Risk Assessment** which are deemed to pose a 'moderate' risk or greater will be further investigated by intrusive ground investigations secured through DCO Requirement 18, see Draft Development Consent Order (Application Document Ref.3.1). Once the ground investigation results are available, further risk assessment in the form of a Tier 2 Generic Quantitative Risk Assessment (GQRA), and (if necessary) a Tier 3 Detailed Quantitative Risk Assessment (DQRA), will be completed in accordance with LCRM. PCLs taken forward for the environmental assessment of potential significant effects during the construction phase include impacts to construction workers, site users and visitors and site neighbours from contaminants in soils and groundwater via direct contact, inhalation and ingestion pathways, Table 21.10 of ES Chapter 21 outlines the assessment of likely significant effect during the construction phase of the Proposed Development. In summary, as a result of disturbance of made ground/groundwater potentially impacted with contaminants associated with historical and recent land uses as a chemical works, former landfill and other industrial use, there is considered to be a negligible magnitude of change (adverse) upon human health, controlled waters and building materials. This therefore results in neutral to slight adverse effects, which are not considered significant. Table 21.11 of ES Chapter 21 outlines the assessment of likely significant effects during the operation phase of the Proposed Development. In summary, as a result of accidental

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		releases of contaminants during operation, there is considered to be a negligible magnitude of change upon human health and controlled waters. This therefore results in neutral to slight adverse effects, which are not considered significant. ES Chapter 21 concludes that no potential significant effects associated with the construction and operation of the Proposed Development in relation to Geology and Soils have been identified. The Applicant considers that ES Chapter 21 has considered the risks posed by land contamination and demonstrates that contamination will not prevent the development or result in unacceptable effects and therefore the Proposed Development complies with paragraph 5.11.8 of NPS EN-1.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.9 Applicants will need to consult the local community on their proposals to build on existing open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green and blue infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. When considering proposals for green infrastructure, applicants should refer to the Green Infrastructure Framework. 5.11.10 Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.	The **Planning Statement (Application Document Ref. 5.2.1)** confirms that the Proposed Development does not propose to build on existing open space, sports or recreational buildings and land. This was informed by a review of the local policy designations in STBC and RCBC's Local Plans and the Proposed Development therefore complies with paragraph 5.11.10.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.11 During any pre-application discussions with the applicant the LPA should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements.	The **Consultation Report (Application Document Ref. 5.1.1)** and its appendices **(Application Document Refs: 5.1.2 to 5.1.8)** summarise the engagement between the Applicant and the host authorities during the pre-application stage.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.12 Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5).	**Figure 17.4 Land Use (ES Volume II, Application Document Ref. 6.2)** confirms the Proposed Development does not impact best and most versatile agricultural land.

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5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.13 Applicants should also identify any effects and seek to minimise impacts on soil health and protect and improve soil quality taking into account any mitigation measures proposed. 5.11.14 Applicants are encouraged to develop and implement a Soil Management Plan which could help minimise potential land contamination. The sustainable reuse of soils needs to be carefully considered in line with good practice guidance where large quantities of soils are surplus to requirements or are affected by contamination[222].	**Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1)** identifies effects on soil health and sets out the embedded mitigation measures which minimise impacts on soil health and improve soil quality. It sets out how the detailed CEMP will set out pollution prevention measures to protect underlying soils and groundwater with reference to guidance.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.15 Developments should contribute to and enhance the natural and local environment by preventing new and existing developments from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. 5.11.16 Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.	The effects of the Proposed Development on the natural and local environment are considered within **Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1)**. The Applicant's assessment does not anticipate that the Proposed Development will result in any unacceptable impacts in its own right or cumulatively with other developments on air quality, noise, water resources, land contamination or land instability as outlined in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)**.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.17 Applicants should ensure that a site is suitable for its proposed use, taking account of ground conditions and any risks arising from land instability and contamination. 5.11.18 For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination, and where contamination is present, applicants should consider opportunities for remediation where possible. It is important to do this as early as possible as part of engagement with the relevant bodies before the official pre-application stage.	**Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21)** considers risks to human health, surface water quality and groundwater quality arising from the Proposed Development's interaction with existing land contamination during construction and operation. It includes a number of mitigation measures that have been developed and details of consultation with the relevant bodies. Table 21.10 of **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21)** outlines the assessment of likely significant effect during the construction phase of the Proposed Development. In summary, as a result of disturbance of made ground/groundwater potentially impacted with contaminants associated with historical and recent land uses as a chemical works, former landfill and other industrial use, there is considered to be a negligible adverse effect upon human health, controlled waters and building materials.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.19 Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.	The MSAs that apply to the Order Limits (as identified in the Joint Minerals and Waste Core Strategy DPD) are for deep Salt and deep Gypsum resources and extend under the whole of the Site. Salt and Gypsum deposits within bedrock are encountered at significant depth beneath the Proposed Development. The British Geological Society GeoIndex online mapping

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		indicates that both the salt and gypsum deposits cover a significant area along the east coast area of England from Teesmouth to the Humber Estuary. Salt is understood to be mined to the west of Seal Sands by controlled brine pumping within deposits at depths greater than 300m. Cavities of controlled size and shape are created to maintain the stability of the overlying strata. Gypsum is mined using the pillar and stall method, with a 75% extraction rate. The pillar and stall method does not give rise to surface subsidence as the pillars support the overlying strata. Both minerals are present at depth and have historically been worked by mining rather than surface exploitation. The spatial extent, scale and methods of mining these deep resources are such that they afford a wide range of opportunities for extraction, should this be viable in the future. It is not therefore considered that the Proposed Development would have any material impact on the future extraction of these mineral resources. There is a small section of designated marine dredged sand and gravel (TMWCS Policy MWC4 and MWC5) and safeguarded wharf (TMWCS Policy MWC 11) within RCBC's administrative area south of Dabholm Gut which overlaps with the industrial gas connection works (**Work No. 9A**), the Temporary construction laydown areas (**Work No. 13A**) and Access and private street improvements (**Work No. 14**). **Work No. 9A** in this location comprises the use of the existing low pressure nitrogen pipeline or a new high-pressure pipeline and upgrading the existing oxygen pipeline. **Work No. 13A** in this location comprises temporary construction compounds and laydown areas and **Work No. 14** comprises use of and maintenance of private roads, including improvement works and access points required for both construction and operation The area of overlap between mineral designation and **Work No. 9A** contains existing pipeline infrastructure and the Proposed Development does therefore not propose a materially different physical constraint to mineral related development within these designated areas. **Work No.13A** in this location comprises shrub land is also located along the south bank of Dabholm Gut and physically obstructed from the River Tees by the Riverside Ro-Ro terminal and other existing marine infrastructure. Notwithstanding these physical obstructions which would make wharf development impractical, **Work No. 13A** is temporary and would no longer be required following completion of the construction stage. **Work No. 14** comprises existing private streets. The development in this location is physically limited and led by the existing street network which would inhibit development related to the minerals designations. Due to the temporal nature of **Work No. 13A** and the presence of existing pipeline and road infrastructure which determines the location of Works No. 9A and 14 the Proposed

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		Development would have any material impact on the future development of the designated marine dredged sand and gravel and safeguarded wharf.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Applicant assessment	5.11.20 The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if it is, whether their proposal may be inappropriate development within the meaning of Green Belt policy (see paragraph 5.11.36 below). 5.11.21 However, infilling or redevelopment of major developed sites in the Green Belt, if identified as such by the LPA, may be suitable for energy infrastructure. It may help to secure jobs and prosperity without further prejudicing the Green Belt or offer the opportunity for environmental improvement. Applicants should refer to relevant criteria[224] on such developments in Green Belts. 5.11.22 Moreover an applicant may be able to demonstrate that particular energy infrastructure, such as an underground pipeline, may be considered an "engineering operation" and regarded as not inappropriate in Green Belt. This is provided it preserves the openness of the Green Belt and does not conflict with the purposes of Green Belt designation. It may also be possible for an applicant to show that the physical characteristics of a proposed overhead line in a particular location would not have so harmful an impact as to conflict with the purposes of Green Belt designation, or with other protections of rural landscape.	The Proposed Development is not located in the countryside and is not located in the Green Belt, so this policy is not considered to be of relevance.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Mitigation	5.11.23 Although in the case of most energy infrastructure there may be little that can be done to mitigate the direct effects of an energy project on the existing use of the proposed site (assuming that some of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the	The Main Site is predominantly brownfield land having previously been used for a chemical plant. The **Design Approach Document (Application Document Ref. 5.3.1) (DAD)** sets out the design vision which has guided the evolution of the Proposed Development from initial appraisals of the different parts of the Site, through the carrying out of surveys and further

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	application of good design principles, including the layout of the project and the protection of soils during construction.	research related to the Environmental Impact Assessment to Non-Statutory and Statutory Consultation in addition to other forms of ongoing engagement. The design vision is based on design objectives which are listed in table 5.1 of the **DAD** With regards to the Main Site, Table 5.1 states that the layout and design of all infrastructure will seek to minimise adverse impacts on sensitive receptors through appropriate siting, particularly with respect to landscape and visual impacts. With regards to the proposed new quay, the design objectives include seeking to avoid any negative impacts on navigational safety for other users of the River Tees. With regards to the Wider Site, a design objective was to avoid disturbing undisturbed land. This encouraged the use of existing cable and pipeline corridors and avoided new areas of easement that may sterilise large areas of land. The design vision is secured by the Outline Design Principles, which are set out in **Outline Design Principles (Application Document Ref. 5.3.2)** and feed into the final, detailed design of the Proposed Development, to ensure a good design process continues to be followed. The Outline Design Principles are secured by Requirement 3 in the **draft DCO (Application Document Ref. 3.1)** along with other documents to control and minimise effects of the Proposed Development on the site and its surroundings. This includes the **Works Plans (Application Document Ref. 2.3)** which sets the limits where the development authorised by the draft DCO can be carried out, the **Environmental Statement (Application Document Ref. 6.)** which sets the maximum design parameters and the environmental management plans which secures the proposed mitigation measures.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Mitigation	5.11.24 Where green infrastructure is affected, the Secretary of State should consider imposing requirements to ensure the functionality and connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space including appropriate access to National Trails and other public rights of way and new coastal access routes. 5.11.25 The Secretary of State should also consider whether any adverse effect on green infrastructure and other forms of open space is adequately mitigated or compensated by means of any planning obligations, for example exchange land and provide for appropriate	The Proposed Development is not expected to impact any existing green infrastructure. The impacts of the Proposed Development on terrestrial ecology are considered in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)**. **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1)** states that the construction of the Proposed Development may have a negative impact on PRoW within the study area through temporary disruption, including reduced amenity associated with construction traffic and HGV movements on nearby roads. The effect would be temporary, localised and limited in extent, and is therefore not considered likely to be significant. Where required, any temporary closure or diversion would be managed through the provisions of the draft DCO and the construction management measures set out in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.1)**.

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	management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness and quality, and accessibility. 5.11.26 Alternatively, where sections 131 and 132 of the Planning Act 2008 apply, replacement land provided under those sections will need to conform to the requirements of those sections.	
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Mitigation	5.11.27 Existing trees and woodlands should be retained wherever possible. Under the Environment Act 2021 the government set a legally binding target to increase the tree canopy and woodland cover to 16.5% of total land area of England by 2050. The Environmental Improvement Plan recognises the need to protect and increase tree canopy and woodland covers. The applicant should assess the impacts on, and loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the scheme. Mitigation may include, but is not limited to, the use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured. Where possible, projects should include the reuse of materials and use of sustainable materials such as timber, or recycled materials.	As set out in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)**, the Proposed Development would result in the loss of 7.06 hectares of other broadleaved woodland and 0.05 hectares of urban tree currently on Site. Compensatory habitat will be created offsite for habitats of medium distinctiveness or higher as part of the habitat mitigation for the Proposed Development. Further information on the habitat creation options can be found in the **fLBMES (Application Document Ref 5.8).** The biodiversity unit value of the baseline and compensatory habitats are provided within the Framework BNG Plan **(Appendix 5.8A to the fLBMES (Application Document Ref 5.8))**.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Mitigation	5.11.28 Where a proposed development has an impact upon a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources. 5.11.29 Where a project has a sterilising effect on land use (for example in some cases under transmission lines) there may be scope for this to be mitigated through, for example, using or incorporating the land for nature conservation or wildlife corridors or for parking and storage in employment areas.	The MSAs that apply to the Order Limits (as identified in the Joint Minerals and Waste Core Strategy DPD) are for deep Salt and deep Gypsum resources and extend under the whole of the Site. Salt and Gypsum deposits within bedrock are encountered at significant depth beneath the Proposed Development. The British Geological Society GeoIndex online mapping indicates that both the salt and gypsum deposits cover a significant area along the east coast area of England from Teesmouth to the Humber Estuary. Salt is understood to be mined to the west of Seal Sands by controlled brine pumping within deposits at depths greater than 300m. Cavities of controlled size and shape are created to maintain the stability of the overlying strata. Gypsum is mined using the pillar

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		and stall method, with a 75% extraction rate. The pillar and stall method does not give rise to surface subsidence as the pillars support the overlying strata. Both minerals are present at depth and have historically been worked by mining rather than surface exploitation. The spatial extent, scale and methods of mining these deep resources are such that they afford a wide range of opportunities for extraction, should this be viable in the future. It is not therefore considered that the Proposed Development would have any material impact on the future extraction of these mineral resources. There is a small section of designated marine dredged sand and gravel (TMWCS Policy MWC4 and MWC5) and safeguarded wharf (TMWCS Policy MWC 11) within RCBC's administrative area south of Dabholm Gut which overlaps with the industrial gases connection works (**Work No. 9A**), the Temporary construction laydown areas (**Work No. 13A**) and Access and private street improvements (**Work No. 14**). **Work No. 9A** in this location comprises the use of the existing low pressure nitrogen pipeline or a new high-pressure pipeline and upgrading the existing oxygen pipeline. **Work No. 13A** in this location comprises temporary construction compounds and laydown areas and **Work No. 14** comprises use of and maintenance of private roads, including improvement works and access points required for both construction and operation The area of overlap between mineral designation and **Work No. 9A** contains existing pipeline infrastructure and the Proposed Development does therefore not propose a materially different physical constraint to mineral related development within these designated areas. **Work No.13A** in this location comprises shrub land is also located along the south bank of Dabholm Gut and physically obstructed from the River Tees by the Riverside Ro-Ro terminal and other existing marine infrastructure. Notwithstanding these physical obstructions which would make wharf development impractical, **Work No. 13A** is temporary and would no longer be required following completion of the construction stage. **Work No. 14** comprises existing private streets. The development in this location is physically limited and led by the existing street network which would inhibit development related to the minerals designations. Due to the temporal nature of **Work No. 13A** and the presence of existing pipeline and road infrastructure which determines the location of **Works No. 9A** and **14** the Proposed Development would have any material impact on the future development of the designated marine dredged sand and gravel and safeguarded wharf.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt	5.11.30 Public Rights of way, National Trails, and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The Secretary of State should expect applicants to take	The **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1)** states that the construction of the Proposed Development may have a negative impact on PRoW within the study area through temporary disruption, including reduced amenity associated with construction traffic and HGV movements on nearby roads. A short-term

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Mitigation	appropriate mitigation measures to address adverse effects on coastal access, National Trails, other rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve or create new access. In considering revisions to an existing right of way, consideration should be given to the use, character, attractiveness, and convenience of the right of way. 5.11.31The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements or other provisions in respect of these measures should be included in any grant of development consent.	temporary closure and diversion of footpath 116/31 near Dabholm Gut may also be required during construction of the industrial gases connection (**Work No. 9**). The effect would be temporary, localised and limited in extent. The overall impact is therefore not considered likely to be significant in the context of the local area's PRoW network. Crossing controls may also be required where the King Charles III England Coast Path crosses the access to the track following the Sembcorp Corridor along the A178, just south of the Seal Sands roundabout. The overall impact on long distance trails was considered negligible. The proposed mitigation measures are therefore considered acceptable. Article 13 of the **draft DCO (Application Document Ref. 3.1)** includes powers to temporarily close, divert and alter PRoW, and a schedule and accompanying PRoW plan will identify the location and extent of any closure and the proposed diversion route. Where required, any temporary closure or diversion would be managed through the provisions of the Draft Development Consent Order and the construction management measures set out in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.1)**.
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Secretary of State decision making	5.11.32 The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements or the Secretary of State determines that the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. 5.11.33 The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location. 5.11.34 The Secretary of State should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. Where schemes are to be sited on best and most versatile agricultural land the Secretary of State should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.	The Proposed Development does not impact open space, sports and recreational buildings and land. It does also not impact coastal recreation sites nor BMV land.

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	5.11.35 In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the Secretary of State should consider the implications for development of the creation of a continuous signed and managed route around the coast, as provided for in the Marine and Coastal Access Act 2009.	
5.11 Land Use, Including Open Space, Green Infrastructure, and Green Belt Secretary of State decision making	5.11.36 When located in the Green Belt, energy infrastructure projects may comprise 'inappropriate development'. Inappropriate development is by definition harmful to the Green Belt. The NPPF makes clear that most new building is inappropriate in Green Belt[226] and should be refused permission unless in very special circumstances. 5.11.37 Very special circumstances are not defined in national planning policy as it is for the individual decision maker to assess each case on its merits and give relevant circumstances their due weight. However, when considering any planning application affecting Green Belt land, the Secretary of State should ensure that substantial weight is given to any harm to the Green Belt when considering any application for such development, while taking account, in relation to renewable and linear infrastructure, of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation. Very special circumstances may include the wider environmental benefits associated with increased production of energy from renewables and other low carbon sources. 5.11.38 In England, Local Green Spaces may be designated locally in Local Plans and Neighbourhood Plans. These enjoy the same protection as Green Belt in England and the Secretary of State should adopt a similar approach. 5.11.39 In Wales, 'green wedges' may be designated locally[227]. These enjoy the same protection as Green Belt	The Proposed Development is not located in the countryside and is not located in the Green Belt, so this policy is not considered of relevance.

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	in Wales and the Secretary of State should adopt a similar approach. 5.11.40 Green wedges do not convey the same level of permanence of a Green Belt and should be reviewed by the local authority as part of the development plan review process.	
5.12 Noise and Vibration Applicant assessment	5.12.6 Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment: • A description of the noise generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal characteristics, if the noise is impulsive, whether the noise contains particular high or low frequency content or any temporal characteristics of the noise; • Identification of noise sensitive receptors and noise sensitive areas that may be affected; • The characteristics of the existing noise environment; • A prediction of how the noise environment will change with the proposed development; ○ In the shorter term, such as during the construction period; ○ In the longer term, during the operating life of the infrastructure; and ○ At particular times of the day, evening and night (and weekends) as appropriate, and at different times of year. • An assessment of the effect of predicted changes in the noise environment on any noise-sensitive receptors, including an assessment of any likely impact on health and quality of life / wellbeing where appropriate, particularly among those disadvantaged by other factors who are often disproportionately affected by noise-sensitive areas; • If likely to cause disturbance, an assessment of the effect of underwater or subterranean noise[230]; and	**Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the assessment of likely significant effects of noise and vibration arising from construction, operation and decommissioning of the Proposed Development. This includes a description of the noise generating aspects of the Proposed Development, noise sensitive receptors, noise baseline, likely noise impacts and related mitigations. Impacts of both construction and operational traffic are considered, including the impacts of underwater noise on ecology. The assessment has been developed following consultation with statutory consultees and is considered to be proportionate. A number of relevant British Standards are taken account of (as set out in Table 9.5 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)**) in relation to human health, as is technology specific relevant NPS policy (which is covered in further detail in the relevant accordance tables). Section 9.3 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** details the stakeholder engagement and consultation carried out to date with respect to noise and vibration. This includes with the EA and MMO. Responses to consultation submissions from the EA, NE and MMO regarding underwater noise assessment are included in **Chapter 11: Marine and Freshwater Ecology (ES Volume I, Application Document Ref. 6.1)**. As set out within the **Outline Design Principles (Application Document Ref. 5.3.2)**, a key design principle of the Proposed Development is to reduce noise and vibration impacts by utilising engineering to prevent, control, contain and abate emissions, and laying out the Proposed Development to include adequate distances between source and sensitive receptors. Detailed design of the Proposed Development must be in accordance with these principles, as secured within the **draft DCO (Application Document Ref. 3.1)**. The draft DCO also secures preparation of a CEMP (Requirement 4), which includes a construction noise management plan, as well as limits and monitoring requirements for operational noise (Requirement 15). Section 9.5 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** sets out embedded and good practice mitigation for construction and operation. A number of mitigation measures for the construction of the Proposed Development are set out in the **Appendix 5A: Framework Construction Environmental Management Plan (Framework Construction Environmental Management Plan) (ES Volume III,**

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	• All reasonable steps taken to mitigate and minimise potential adverse effects on health and quality of life. 5.12.7 The nature and extent of the noise assessment should be proportionate to the likely noise impact. 5.12.8 Applicants should consider the noise impact of ancillary activities associated with the development, such as increased road and rail traffic movements, or other forms of transportation. 5.12.9 Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards[231] and other guidance. Further information on assessment of particular noise sources may be contained in the technology specific NPSs. In particular, for renewables (EN-3) and electricity networks (EN-5) there is assessment guidance for specific features of those technologies. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies. 5.12.10 Some noise impacts will be controlled through environmental permits and parallel tracking is encouraged where noise impacts determined by an environmental permit interface with planning issues (i.e. physical design and location of development). The applicant should consult the EA and / or the SNCB, and other relevant bodies, such the MMO or NRW, as necessary, and in particular regarding assessment of noise on protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be considered. 5.12.11 In the marine environment, applicants should consider noise impacts on protected species, as well as other noise sensitive receptors, both at the individual project level and in-combination with other marine activities.	**Application Document Ref. 6.3)** and secured by Requirements in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)**. Noise will also be controlled by an environmental permit that will be secured separately as per the **Other Consents and Licenses Statement (Application Document Ref. 5.4)** and the Deemed Marine License which will be secured through the **draft DCO (Application Document Ref. 3.1)**.

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	5.12.12 Applicants should submit a detailed impact assessment and mitigation plan as part of any development plan, including the use of noise mitigation and noise abatement technologies during construction and operation.	
5.12 Noise and Vibration Mitigation	5.12.13 The Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. In doing so the Secretary of State may wish to impose mitigation measures. Any such mitigation measures should take account of the NPPF or any successor to it and the Planning Practice Guidance on Noise. 5.12.14 Mitigation measures may include one or more of the following: • Engineering: reducing the noise generated at source and/or containing the noise generated; • Lay-out: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose-built barriers, or other buildings; • Administrative: using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise limits/noise levels, differentiating as appropriate between different times of day, such as evenings and late at night, and taking into account seasonality of wildlife in nearby designated sites; and • Insulation: mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building. 5.12.15 The project should demonstrate good design through selection of the quietest or most acceptable cost-effective plant available; containment of noise within buildings wherever possible, taking into account any other adverse impacts that such containment might cause (e.g. on landscape and visual impacts; optimisation of plant	**Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the assessment of likely significant effects of noise and vibration arising from construction, operation and decommissioning of the Proposed Development, taking account of the Noise Policy Statement for England, NPPF, Noise PPG and other relevant policy and legislation, as set out in Section 9.2 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)**. Section 9.5 sets out embedded and good practice mitigation, including good design related matters such as orienting plant within the Proposed Development to use buildings and structures as noise barriers or positioning noise emitting items such as stacks, fans and air inlets away from sensitive receptors where practicable. Section 9.7 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** sets out how based on the assessment of the operational stage, no additional mitigation is proposed. Further information on the design of the Proposed Development can be found in the **Design Approach Document (Application Document Ref. 5.3.1)**. The **Outline Design Principles (Application Document Ref. 5.3.2)** will control the detailed design of the Proposed Development and ensure noise, amongst other things, is taken account, as controlled by the Requirements within Schedule 2 of the **draft DCO (Application Document Ref. 3.1).**

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	layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission). 5.12.16 A development must be undertaken in accordance with statutory requirements for noise. Due regard must be given to the relevant sections of the Noise Policy Statement for England[233], the NPPF, and the government's associated planning guidance on noise. In Wales the relevant policy will be PPW and the TANs, as well as the Welsh Government's Noise and Soundscape Action Plan.	
5.12 Noise and Vibration Secretary of State decision making	5.12.17 The Secretary of State should not grant development consent unless they are satisfied that the proposals will meet the following aims, through the effective management and control of noise: • Avoid significant adverse impacts on health and quality of life from noise; • Mitigate and minimise other adverse impacts on health and quality of life from noise; and • Where possible, contribute to improvements to health and quality of life through the effective management and control of noise. 5.12.18 When preparing the Development Consent Order, the Secretary of State should consider including measurable requirements or specifying the mitigation measures to be put in place to ensure that noise levels do not exceed any limits specified in the development consent. These requirements or mitigation measures may apply to the construction, operation, and decommissioning of the energy infrastructure development.	The **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the assessment of likely significant effects of noise and vibration arising from construction, operation and decommissioning of the Proposed Development. It concluded that no potential significant effects associated with the construction, operation and decommissioning of the Proposed Development have been identified. A number of embedded mitigation measures, inherent in the design of the Proposed Development would be implemented during the construction, operation and decommissioning stages to limit noise emissions. These are set out in Chapter 9.5 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9).** To minimise the level of noise and vibration to which sensitive receptors will be exposed, construction will be conducted in accordance with the detailed Construction Environmental Management Plans, which will be developed in accordance with **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3)**. A detailed version of the Framework Construction Environmental Management Plan is secured through requirements in Schedule 2 to the **draft DCO (Application Document Ref. 3.1)**, including a construction noise management plan which sets out construction noise limits. Operational noise sources will be controlled through design to ensure compliance with local authority criteria, guidance from BS 4142:2014+A1:2019 and using Best Available Techniques (BAT). Operational noise mitigation inherent in the design includes measures such as selection of lower noise plant, installing acoustic enclosures for noisy plant and orientating the development to use buildings as noise barriers. The operational noise assessment, detailed in **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9,** identified a low impact at all noise sensitive receptors therefore no additional mitigation is proposed, beyond the embedded mitigation

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		measured described above and in Section 9.5 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)**. Requirement 15 in Schedule 2 to the d**raft DCO (Application Document Ref. 3.1)** prevents the SAF production facility and CHP plant from being brought into commercial use until a scheme for the management and monitoring of operational noise during operation has been approved by the local planning authority. Noise will also be controlled by an environmental permit that will be secured separately as per the **Other Consents and Licenses Statement (Application Document Ref. 5.4)** and the Deemed Marine License which will be secured through the **draft DCO (Application Document Ref. 3.1)**. The requirement specifies that noise (in terms of the BS4142:2014 rating level) from the operation of the authorised development must be no greater than +5dB difference to the defined representative background sound level during the daytime and no greater than +5dB difference to the defined representative background sound level during the night time adjacent to the nearest residential properties at such locations as agreed with the relevant planning authority. The decommissioning works are expected to be similar in magnitude to those required for construction. The assessment of noise impacts during construction is therefore representative of the decommissioning phase. A DEMP will be produced and submitted to the LPA for approval prior to the commencement of any decommissioning activities. The DEMP will ensure that all decommissioning works are undertaken in accordance with industry best practice as the time of decommissioning. The Applicant therefore considers that the noise requirements in the draft Development Consent Order adequately address the decision-making considerations set out in paragraph 512.18 of EN-1.
5.13 Socio-Economic Impacts Applicant assessment	5.13.2 Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES (see Section 4.3). 5.13.3 The applicant is strongly encouraged to engage with relevant local authorities during early stages of project development so that the applicant can gain a better understanding of local or regional issues and opportunities. 5.13.4 The applicant's assessment should consider all relevant socio-economic impacts, which may include: • The creation of jobs and training opportunities. Applicants may wish to provide information on the sustainability of the jobs created, including where	**Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** presents the findings of the socioeconomic assessment for the Proposed Development, considering effects on employment and economic activity and effects on relevant land use receptors such as local businesses, community and recreational facilities, Public Rights of Way (PRoW), health, and tourism assets where these may be affected by the Proposed Development. The Applicant engaged with the host local authorities (STBC and RCBC) throughout the pre-application process, including through consultation on the Statement of Community Consultation (SoCC) and meetings at which the anticipated socioeconomic characteristics and benefits of the Proposed Development were presented. The Site is located in an industrialised area set away from sensitive human receptors and is within a Direct Impact Area where three of the four Lower Layer Super Output Areas [1a.i.1.a.i.1.a.Ref 16] fall within the most deprived 10% nationally, and where residents generally report worse health outcomes than the regional and national population. The Wider Impact Area has a marginally lower rate of economic activity than the northeast

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	they will help to develop the skills needed for the UK's transition to Net Zero; • The contribution to the development of low-carbon industries at the local and regional level as well as nationally; • The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities; • Any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains; • Effects (positive and negative) on tourism and other users of the area impacted; • The impact of a changing influx of workers during the different construction, operation and decommissioning stages of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development; and • Cumulative effects - if development consent were to be granted for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region. 5.13.5 Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio-economic impacts correlate with local planning policies. 5.13.6 Socio-economic impacts may be linked to other impacts, for example visual impacts considered in Section 5.10 but may also have an impact on tourism and local	average and higher rates of economic inactivity, indicating barriers to entering the workforce. The area surrounding the Site is predominantly characterised by industrial, transport, infrastructure and urban land uses, reflecting the established industrial context of the Site and its surroundings. **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** has been prepared having regard to how the Proposed Development's socio-economic impacts correlate with local planning policies, including the Tees Valley Combined Authority (TVCA) Net Zero Strategy, the TVCA Strategic Economic Plan, and the local plans of STBC, RCBC and Hartlepool Borough Council (HBC), each of which identify economic growth, job creation and low-carbon industrial development as strategic priorities. In relation to the creation of jobs and training opportunities, **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** concludes that the construction stage is expected to support around 4,460 FTE job-years within Teesside and approximately 22,940 FTE job-years across the UK over the four-year construction period (2028 to 2031). On-site construction employment is expected to peak at approximately 2,200 workers in 2029, with around 23% of on-site labour sourced from Teesside. The direct, indirect and induced construction employment effect is assessed as **Moderate Beneficial (Significant)**. During operation, the Proposed Development is expected to create approximately 310 FTE direct jobs, the health effects of which are assessed as **Minor Beneficial (not significant)**, given the limited scale of employment relative to the wider labour market. The Proposed Development is expected to be the UK's first commercial-scale, second-generation SAF production facility. Its establishment within an established industrial area in Teesside directly supports the TVCA's Net Zero Strategy objectives, including its commitment to supporting the development of Sustainable Aviation Fuels and pursuing net zero flights from Teesside International Airport by 2035, as well as the UK Government's SAF Mandate and Jet Zero Strategy objectives. In relation to indirect beneficial impacts for the host region and the use of local supply chains, construction is expected to generate approximately £700 million in total Gross Value Added ('GVA') within Teesside and approximately £1.88 billion at UK level over the construction period, with Teesside capturing approximately 37% of total GVA and around 75% of direct GVA. The construction stage is also expected to have a **Moderate Beneficial (Significant)** effect on local businesses if local businesses are included in the supply chain and contracts are secured locally. It has been assumed that around 4% of total materials and equipment-related capital expenditure will be spent within the Wider Impact Area.

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	businesses. Applicants are encouraged, where possible, to demonstrate that local suppliers have been considered in any supply chain. 5.13.7 Applicants should consider developing accommodation strategies where appropriate, especially during construction and decommissioning stages, that would include the need to provide temporary accommodation for construction workers if required.	In relation to the impact of the influx of construction workers and accommodation demand, approximately 77% of on-site construction workers are expected to come from outside the Wider Impact Area. Therefore, approximately 745 workers could require accommodation locally. Given the available capacity within the local accommodation market, the effect on accommodation demand is assessed as **Negligible (Not Significant)**. Cumulative socio-economic effects have been considered in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**. Taking into account the cumulative construction employment opportunities arising from other planned projects within the Middlesbrough and Stockton travel-to-work area, the cumulative construction employment effect is assessed as **moderate beneficial (significant)** due to the employment, training and expenditure benefits. This is outlined in Table 22-16 in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**.
5.13 Socio-Economic Impacts Mitigation	5.13.8 The Secretary of State should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development. For example, high quality design can improve the visual and environmental experience for visitors and the local community alike.	**Appendix 5C: Framework Construction Environmental Management Plan (Application Document Ref. 6.3)** requires the construction contractor to provide support for construction workers to find suitable accommodation in locations where impact on existing residents and visitors can be minimised. Practicable opportunities to promote local recruitment and procurement, education and skills uplift, and apprenticeship and training schemes will be identified and implemented throughout the construction of the Proposed Development. The Applicant is also exploring partnership arrangements with local education and training providers, including Teesside University and the Middlesbrough College Group, to support skills development and local access to opportunities. Requirement 16 of the d**raft DCO (Application Document Ref. 3.1)** secures an Employment and Skills Plan, to enhance the benefits of the development and maximise local employment, apprenticeship and training opportunities throughout construction and operation of the Proposed Development. The **Outline Design Principles (Application Document Ref. 5.3.2)** aim to promote high quality design to minimise the visual and environmental experience, for example DP11, DP12 and DP13 which implement a context-driven colour strategy and require visual clutter to be minimised.
5.13 Socio-Economic Impacts Secretary of State decision making	5.13.9 The Secretary of State should have regard to the potential socio-economic impacts of new energy infrastructure identified by the applicant and from any other sources that the Secretary of State considers to be both relevant and important to its decision. 5.13.10 The Secretary of State may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in	As demonstrated within Tables 17-12 and 17-13 of **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)**, the overall socio-economic balance of the Proposed Development is substantially positive. As per paragraph 5.13.10, the conclusions within this chapter are supported by suitable evidence, as set out within Section 17.3 (Assessment methodology and significance criteria). The construction of the Proposed Development is anticipated to generate direct, indirect and induced opportunities for employment and GVA, which are likely to give rise to a significant beneficial effect. The operational stage is not anticipated to give rise to any adverse significant effects.

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	view of the need for energy infrastructure as set out in this NPS). 5.13.11 The Secretary of State should consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts. 5.13.12 The Secretary of State may wish to include a requirement that specifies the approval by the local authority of an employment and skills plan detailing arrangements to promote local employment and skills development opportunities, including apprenticeships, education, engagement with local schools and colleges and training programmes to be enacted.	Temporary construction activities are considered likely to generate significant positive effects in the context of local and regional markets, benefiting residents and businesses in the local and regional study areas. Overall, the Proposed Development could support local businesses and a significant number of jobs, as well as significant GVA both directly and indirectly through construction-related spending. The adverse cumulative construction-stage effects on local housing and community infrastructure are capable of being adequately mitigated through the measures described above. It is therefore considered that the Proposed Development complies with the requirements of EN-1 Section 5.13 and that the SoS should give substantial weight to the socio-economic benefits of the Proposed Development in the planning balance.
5.14 Traffic and Transport Applicant assessment	5.14.5 If a project is likely to have significant transport implications, the applicant's ES (see Section 4.3) should include a vision for transport and an assessment of potential transport impacts. 5.14.6 The DfT's Transport Analysis Guidance (TAG)[235] and Welsh Governments WelTAG[236] provides guidance on modelling and assessing the impacts of transport schemes. 5.14.7 National Highways and Highways Authorities are statutory consultees on NSIP applications including energy infrastructure where it is expected to affect the strategic road network and / or have an impact on the local road network. Applicants should consult with National Highways and Highways Authorities as appropriate on the assessment, including any reasonable future tested scenarios and mitigation to inform the application to be submitted. 5.14.8 The applicant should prepare a travel plan adopting a vision-led approach to identify demand management and monitoring and fall back measures that proactively mitigate transport impacts[237] by providing details of proposed measures to improve access by active, public and shared transport to:	**Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18)** presents the findings of the assessment of likely significant effects on traffic and transport arising from the construction, operation and decommissioning of the Proposed Development. The assessment has been undertaken in accordance with best practice guidance, as set out in the Institute of Environmental Management and Assessment (IEMA (now known as the Institute of Sustainability and Environmental Professionals (ISEP)) Guidelines: Environmental Assessment of Traffic and Movement (EATM, 2023) and is supported by **Transport Assessment (Appendix 18A, Document Ref. 6.3)**, a **Framework Construction Traffic Management Plan (Appendix 18D, ES Volume III, Application Document Ref. 6.3)** and a **Framework Construction Worker Travel Plan (fCWTP) (Appendix C to Appendix 18A, Document Ref. 6.3)**. The assessment has been prepared on a worst-case basis in line with the Rochdale Envelope approach, making no allowance for the import and export of construction materials (apart from AILs and major process modules where this would not be physically feasible) by water in order to maximise the predicted construction road traffic impact. The appointed Contractors will continue to review options for the use of shipping when delivering construction materials to the Site. Similarly, the worst-case operational stage scenario has been assessed assuming that 100% of the import and export of feedstock and products associated with the Proposed Development will be via the local road network, notwithstanding that feedstock is expected to be delivered by shipping via the proposed quay (**Work No. 6**). The Main Site is connected to the public highway network via Seal Sands Road, which joins Seaton Carew Road (A178) at Seal Sands Roundabout. From this roundabout, Seaton Carew Road (A178) runs north to Hartlepool and south to Port Clarence. The

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	• Reduce the need for parking associated with the proposal; • Contribute to decarbonisation of the transport network; and • Improve user travel options by offering genuine modal choice. 5.14.9 The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports). 5.14.10 If additional transport infrastructure is needed or proposed, it should always include good quality walking, wheeling and cycle routes, and associated facilities (changing/storage etc.) needed to enhance active transport provision. 5.14.11 Applicants should discuss with network providers the possibility of co funding by government for any third-party benefits. Guidance has been issued[238] which explains the circumstances where this may be possible, although the government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time.	western arm of this roundabout links to the A1185 which connects to the trunk road network via the A689 and A19 north of Billingham. The Site is in a largely industrial area set away from residential areas with limited access by public transport, with no passenger rail station in the vicinity, and limited walking and cycling accessibility. The study area for the assessment comprises 14 junctions and 40 highway links, defined in accordance with Rules 1 and 2 of the EATM Guidelines. The construction stage is anticipated to last approximately three to four years from 2028 to 2031, with the peak year of construction assessed as 2030. At peak construction, up to 2,200 workers are expected on site, generating approximately 2,706 two-way worker vehicle trips per day. Operation is assessed from 2031 and decommissioning from 2046. During construction, the additional traffic generated by the Proposed Development, including HGVs and construction worker vehicles, is predicted to result in small temporary increases in traffic flows on the roads leading to the Main Site. The predicted change in total traffic exceeds 30% on Link 1 (the site access road east of Seal Sands Roundabout), which has been classified as **minor adverse (not significant)**. The effects of severance and pedestrian amenity are assessed as **negligible** or **minor adverse (not significant)** on all other links. The effects on fear and intimidation, highway safety and driver delay are all assessed as negligible (not significant) across the study area. **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3)** undertakes capacity modelling at Portrack Interchange demonstrates that the junction continues to operate within capacity in all construction scenarios, with delays increasing by only approximately 10 passenger car units per hour (pcuHr) in the AM peak and 5 pcuHr in the PM peak from the 2030 base, with no significant adverse impacts. During operation, a maximum of 141 two-way HGV movements per day to and from the Site have been assessed on a worst-case basis, associated with the import of feedstock and processing materials and the export of SAF, naphtha and associated waste materials. Based on the vehicle assignment and assumptions in the **Transport Assessment (Appendix 18A, ES Volume III, Application Document Ref. 6.3)**, operational traffic effects on all links within the study area are assessed as **negligible** or **minor adverse (not significant)**. The investment in the new quay represents additional, highly sustainable transport infrastructure and no further transport infrastructure is proposed. Detailed information regarding decommissioning traffic is not available due to the estimated to operate for at least a 25-year design life of the Proposed Development, which may be extended depending on market conditions and plant performance. On the basis of information currently available, decommissioning traffic effects are expected to be no greater than those of the construction stage and are assessed as **negligible (not significant)**.

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5.14 Traffic and Transport Mitigation	5.14.12 Where mitigation is needed, possible demand management measures must be considered. This could include identifying opportunities to: • Reduce the need to travel by consolidating trips; • Locate development in areas already accessible by active travel and public transport; • Provide opportunities for shared mobility; • Re-mode by shifting travel to a sustainable mode that is more beneficial to the network; • Retime travel outside of the known peak times; and • Reroute to use parts of the network that are less busy. 5.14.13 If feasible and operationally reasonable, such mitigation should be required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts. All stages of the project should support and prioritise a modal shift of freight from road to more environmentally sustainable alternatives, such as rail, cargo bike, maritime and inland waterways, as well as making appropriate provision for and infrastructure needed to support the use of alternative fuels including charging for electric vehicles. 5.14.14 Regard should always be given to the needs of freight at all stages in the construction and operation of the development including the need to provide appropriate facilities for HGV drivers as appropriate[239]. 5.14.15 The Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that: • Control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements; • Make sufficient provision for HGV parking[240], and associated high quality drive facilities either on the site or at dedicated facilities elsewhere241, to support driver welfare, avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and	The following embedded mitigation measures have been incorporated into the design of the Proposed Development and are taken into account within **Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18)**: • Implementation of a Construction Worker Travel Plan ('CWTP') including measures to encourage construction workers to reduce reliance on single occupancy private car use, such as construction worker minibuses and car sharing options **(fCWTP, Appendix C to Appendix 18A, Document Ref. 6.3)**; • Implementation of a CTMP to control the impact of HGVs on the local road network during construction **(Framework Construction Traffic Management Plan, Appendix 18D, Document Ref. 6.3)**; • Working with suppliers to ensure that all relevant materials (including chemicals) brought to the Site that are classified as hazardous are transported in compliance with applicable regulations including the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG Regs) (as amended), during construction, commissioning and operational stages; • Implementation of a CEMP in accordance with the **Framework CEMP (Appendix 5A, Document Ref 6.3)**, which deals with matters which will influence traffic flows (e.g. efficient waste management); and • Implementation of a Decommissioning Environmental Management Plan (DEMP) to control the impact of HGVs during decommissioning, secured by Requirement 19 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1)**. As per paragraph 5.14.13, during operation the SAF Production Facility will use sustainably sourced biomass delivered primarily by ship. Waste wood feedstock for the CHP plant will be delivered to the Main Site by road or by ship, as set out within **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. Having direct access to a quay to enable deliveries of the feedstock is beneficial since it will avoid double handling of that feedstock and secondary transport prior to use. It will also be used during the construction phase for the shipborne import of prefabricated plant modules (abnormal indivisible loads (AILs)), fill material and other construction materials required for construction (see **Chapter 5: Construction Programme and Management, ES Volume I, Application Document Ref. 6.1)**. No additional mitigation measures beyond those embedded in the design have been identified as necessary. Requirement 8 of the **draft DCO (Application Document Ref. 3.1)** secures the CTMP. Including direct provision of a quay as part of the Proposed Development enables use during the construction phase for the shipborne import of prefabricated plant modules (abnormal indivisible loads (AILs)) (see **Chapter 5: Construction Programme and Management, ES Volume I, Application Document Ref 6.1)**. In relation to the quay proposals, **Chapter 18: Traffic and Transport (ES Volume I, Application Document**

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	• Ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force. 5.14.16 The Secretary of State should have regard to the cost-effectiveness of demand management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures. 5.14.17 Applicants should consider the DfT policy guidance "Water Preferred Policy Guidelines for the movement of abnormal indivisible loads" when preparing their application[242]. 5.14.18 If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the Secretary of State of any obligations or requirements needed to secure the mitigation.	**Ref. 6.1.18)** has regard to the DfT policy guidance "Water Preferred Policy Guidelines for the movement of abnormal indivisible loads".
5.14 Traffic and Transport Secretary of State decision making	5.14.19 A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure, and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public and shared transport provision and accessibility. 5.14.20 Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should consider requirements to mitigate adverse impacts on transport networks arising from the development, as set out below. 5.14.21 Development consent should not be withheld provided that the applicant is willing to enter into planning obligations for funding new infrastructure or requirements can be imposed to mitigate transport impacts[243]. In this situation the Secretary of State should apply appropriately limited weight to residual effects on the surrounding transport infrastructure.	The **Transport Assessment (Appendix 18A, ES Volume III, Application Document Ref. 6.3)** concludes that the Proposed Development would not result in severe residual impacts on the highway network and would not have a detrimental impact on highway safety. The residual traffic and transport effects of the Proposed Development across all stages are assessed as **negligible** or **minor adverse** and **not significant**. The Proposed Development is therefore considered to comply with the requirements of EN-1 Section 5.14 and there is no reason relating to traffic and transport that would warrant refusal of development consent. Including direct provision of a quay as part of the Proposed Development enables use during the construction phase for the shipborne import of prefabricated plant modules (abnormal indivisible loads (AILs)), fill material and other construction materials required for construction (see **Chapter 5: Construction Programme and Management, ES Volume I, Application Document Ref. 6.1)**.

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	5.14.22 The Secretary of State should only consider refusing development on highways grounds if there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to the provision of adequate active public or shared transport access and provision.	
5.15 Resource and Waste Management Applicant assessment	5.15.6 Applicants must ensure that all proposals align with circular economy objectives. In England, applicants must demonstrate that development proposals are in line with Defra's policy statement on the role of EfW in treating residual waste. 5.15.7 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. 5.15.8 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. 5.15.9 The applicant must consider the Circular Economy and how to ensure that their project aligns with the government's circular economy ambitions. In Wales applicants are encouraged to refer to 'Towards Zero Waste: Our Waste Strategy for Wales[246]'. 5.15.10 If the applicant's assessment includes dredged material, the assessment should also include other uses of such material before disposal to sea, for example through re-use in the construction process.	**Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** alongside **Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** ('fSWMP') outlines how the Proposed Development will minimise and manage construction materials and waste. The Proposed Development's design will, where possible, include use of sustainable materials to construct the plant and facilitate recycling of materials following decommissioning. A large proportion of the Proposed Development will be of modular construction which will reduce material consumption and waste. It is estimated that 90% of waste generated during construction will be diverted from landfill by re-use, recycling and recovery. The Proposed Development's design will take into consideration the waste hierarchy to reduce waste arisings via designing out waste ad maximising efficient use of materials. A Materials Management Plan (MMP) will be prepared post-DCO. The MMP would be secured by Requirement 4 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)** as part of the detailed CEMP. These impact avoidance and mitigation measures will result in no significant residual effects arising from waste generated by the construction and decommissioning of the Proposed Development. During operation, natural material resource consumption will be limited and only required for maintenance or repair works. An inventory of feedstocks used in SAF production is listed in Table 16.35 within **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** and an estimate of operational waste generated from the Proposed Development is within Table 16.36 **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)**. Paragraph 5.7.1 in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** states that material dredged during quay construction will be disposed of offshore at a disposal site agreed with the MMO. Otherwise, dredged material may be disposed of at an onshore permitted landfill site. It is possible that if some of the dredged material may include previously undisturbed and uncontaminated bedrock which could be used as fill material to raise site levels if proved suitable following appropriate testing.

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	5.15.11The UK is committed to transitioning to a circular economy, a future where resources are kept in use for longer, and waste is reduced; we accelerate the path to net zero, we see investment in critical infrastructure and green jobs, our economy prospers, and nature thrives. 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 is reused or recycled onsite where possible. 5.15.12 Applicants are also encouraged to prepare a construction materials management plan to inform the use of construction best practices in relation to storing materials in an adequate and protected place on site to prevent waste, or degeneration of valuable materials, for example, from accidental damage or excessive weathering. The use of Building Information Management tools (BIM, or similar) to record the materials used in construction can help to reduce waste and realise further value in future decommissioning of facilities, by identifying materials that can be recycled or reused.	
5.15 Resource and Waste Management Secretary of State decision making	5.15.13 The Secretary of State should consider the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development. 5.15.14 The Secretary of State should be satisfied that: • Any such waste will be properly managed, both on-site and off-site; • The waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and • Adequate steps have been taken to give consideration to the circular economy, minimise the volume of waste arisings, and of the volume of waste arisings sent for recovery or disposal, except	**Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** concludes that no significant effects will arise from waste generated by the Proposed Development after impact avoidance and mitigation measures are implemented. This includes impacts on landfill capacity. Hazardous waste arising from the Proposed Development that cannot be re-used will be disposed to hazardous landfill. According to the Future Hazardous Landfill Capacity for England there is adequate landfill to dispose of hazardous waste from the Proposed Development. A Site Waste Management Plan will be secured by Requirement 4 to the **draft DCO (Application Document Ref. 3.1)** in relation to the construction stage. It is estimated that 90% of waste generated during construction will be diverted from landfill by re-use, recycling and recovery. The Proposed Development will be subject to an environmental permit which will also govern waste management arrangements during operation, and it is undesirable to duplicate operation stage controls through the draft DCO. The Proposed Development is therefore considered to comply with the requirements of EN-1 Section 5.15 and there is no reason relating to resource and waste management that would warrant refusal of development consent.

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	where that is the best overall environmental outcome. 5.15.15 Where necessary, the Secretary of State should use requirements or obligations to ensure that appropriate measures for waste management are applied. 5.15.16 The Secretary of State may wish to include a condition on revision of waste management plans at reasonable intervals when giving consent. 5.15.17 Where the project will be subject to the Environmental Permitting regime, waste management arrangements during operations will be covered by the permit and the considerations set out in Section 4.12 will apply. 5.15.18 The Secretary of State should have regard to any potential impacts on the achievement of resource efficiency and waste reduction targets set under the Environment Act 2021 and circular economy objectives.	
5.16 Water Quality and Resources Applicant assessment	5.16.3 Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment, and how this might change due to the impact of climate change on rainfall patterns and consequently water availability across the water environment, as part of the ES or equivalent (see Section 4.3 and 4.10). 5.16.4 The applicant should make early contact with the relevant regulators, including the local authority, the EA and Marine Management Organisation, where appropriate, for relevant licensing and environmental permitting requirements. Applicants should make early contact with the EA, NRW and water companies with their proposed water requirements to understand whether water is available and if new water infrastructure is required. If insufficient water is available for abstraction the EA and NRW will be unable to authorise an abstraction licence.	The impact of the Proposed Development on water quality and resources is assessed in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. Section 12.5 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** sets out embedded and good practice mitigation that has been incorporated into the Proposed Development design or assumed to be in place before undertaking the assessment of likely significant effects. As outlined in Section 12.3 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**, the consultation was progressed at an early stage in order to inform the Proposed Development. The relevant regulators were reached out to and consulted in order to gain a better understanding of the licensing and environmental requirements as well as an understanding as to whether new water infrastructure is required. Section 12.6 of Chapter **12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** identifies that there are not anticipated to be any significant adverse effects on the water environment during construction or operation of the Proposed Development. As a result, no mitigation measures are required beyond the embedded and good practice measures detailed in Section 12.5 of Chapter 12. **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)** assesses the cumulative effects of the Proposed Development and other nearby developments. There is anticipated to be a **moderate adverse** residual cumulative

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	5.16.5 Where appropriate, applicants should manage surface water during construction by treating surface water runoff from exposed topsoil prior to discharging and to limit the discharge of suspended solids e.g. from car parks or other areas of hard standing, during operation. 5.16.6 Applicants should avoid locating potentially polluting activities in the most sensitive locations for groundwater, in particular Source Protection Zone 1 (SPZ) and close to nationally important drinking water supplies. Applicants should consider implementing protective measures to control the risk of pollution to groundwater, for example, through the use of protective barriers. 5.16.7 The ES should in particular describe: • The existing quality of waters affected by the proposed project and the impacts of the proposed project on water quality, noting any relevant existing discharges, proposed new discharges and proposed changes to discharges; • Existing water resources[251] affected by the proposed project and the impacts of the proposed project on water resources, noting any relevant existing abstraction rates, proposed new abstraction rates and proposed changes to abstraction rates (including any impact on or use of mains supplies and reference to Abstraction Licensing Strategies) and also demonstrate how proposals minimise the use of water resources and water consumption in the first instance; • Existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project and any impact of physical modifications to these characteristics; • Any impacts of the proposed project on water bodies or protected areas (including shellfish protected areas) under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 and source protection zones (SPZs) around potable groundwater abstractions;	effect as a result of dredging and dredge spoil disposal if the Proposed Development's construction runs concurrently with NSIP3/RCBC41 as outlined in Table 22.9 in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**. Each of the specific matters listed at EN-1 paragraph 5.16.7 is addressed within **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**: existing water quality and existing and proposed discharges are described in the baseline and assessed in Section 12.3; existing water resources and abstraction, including reliance on mains supply from Northumbrian Water Limited rather than new abstraction, are described in Section 12.4 and considered further in the Section 12.5; existing physical characteristics of the water environment, including flow quantity and dynamics, are described in Section 12.4 and assessed with the support of the **Coastal and Estuary Processes** technical appendix (**Appendix 12A, ES Volume III, Application Document Ref. 6.3**); effects on Water Framework Directive water bodies, Protected Areas and Source Protection Zones are assessed in detail within the **Water Environment Regulations (WER) Assessment (Application Document Ref. 5.10)**; the implications of climate change for each of these matters are addressed in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)**, which cross-refers to Chapter 12; and cumulative effects are assessed in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**.

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	• How climate change could impact any of the above in the future; and • Any cumulative effects.	
5.16 Water Quality and Resources Mitigation	5.16.8 The Secretary of State should consider whether mitigation measures are needed over and above any which may form part of the project application. A construction management plan may help codify mitigation at that stage. 5.16.9 If insufficient water is available for abstraction, the applicant will need to find alternative sources of water to be able to proceed, whether this is developing their own source or collaborating with the water industry or other water abstractors to develop a joint source. 5.16.10 The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated areas for storage and unloading, with appropriate drainage facilities, should be clearly marked. 5.16.11 The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling. If a development needs new water infrastructure, significant supplies or impacts other water supplies, the applicant should consult with the local water company and the EA or NRW.	The impact of the Proposed Development on water quality and resources is assessed in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. Paragraph 5.30.1 in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** states that the Proposed Development will be designed to minimise water use by recycling process water wherever possible, using treatment facilities within the Main Site. .
5.16 Water Quality and Resources Secretary of State decision making	5.16.12 Activities that discharge to the water environment are subject to pollution control. The considerations set out in Section 4.12 on the interface between planning and pollution control therefore apply. These considerations will also apply in an analogous way to the abstraction licensing regime regulating activities that take water from the water environment, and to the control regimes relating to works to, and structures in, on, or under controlled waters. 5.16.13 The Secretary of Secretary of State will need to give impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established	The impact of the Proposed Development on water quality and resources is assessed in **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. Section 12.6 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** identifies that there are not anticipated to be any significant adverse effects on the water environment during construction or operation of the Proposed Development. As a result, no mitigation measures are required beyond the embedded and good practice measures detailed in Section 12.5. Therefore, it is expected that the Secretary of State will not attribute significant weight to impacts on the water environment. The **Water Environment Regulations Assessment (Application Document Ref. 5.10)** concludes that the Proposed Development is not anticipated to cause a deterioration in WER status or preventing the future attainment of status objectives for the relevant water bodies screened in for assessment.

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	under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. 5.16.14 The Secretary of State must also consider duties under other legislation including duties under the Environment Act 2021 in relation to environmental targets and have regard to the policies set out in the government's Environmental Improvement Plan.	

3 Compliance with National Policy Statement for Renewable Energy Infrastructure (EN-3)

Table 3.1 Compliance with National Policy Statement for Renewable Energy Infrastructure (EN-3) Part 2 Assessment and Technology Specific Information

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2.4 Climate change adaptation and resilience	Biomass 2.4.5 Biomass generating stations may be proposed for coastal or estuarine sites where climate change is likely to increase risks from flooding or rising sea levels, for example. 2.4.6 In such cases applicants should, in particular, set out how the proposal would be resilient to: • The effects of rising sea levels and increased risk from storm surge; • Increased risk of flooding; • Impact of higher temperatures; • Increased risk of drought affecting river flows; and • Increased risk of coastal erosion. Energy from Waste 2.4.7 EfW generating stations may also require significant water resources, but are less likely to be proposed for coastal sites. For these proposals, applicants should consider, in particular, how plant will be resilient to: • Increased risk of flooding; and • Increased risk of drought affecting river flows.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* The Combined Heat and Power (CHP) plant (**Work No. 2**) is fuelled by biomass and/or waste wood and therefore paragraphs 2.4.5 and 2.4.6 of EN-3 can be considered relevant because biomass is used as a feedstock and paragraph 2.4.7 of EN-3 can be considered relevant because waste wood is used as a feedstock in the CHP plant. The Main Site, where the CHP plant is situated, is located on the north bank of the tidal River Tees at Seal Sands. The resilience of the Proposed Development to the climate related hazards specified in paragraphs 2.4.5 to 2.4.7 is accordingly considered in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)**. The climate change resilience assessment ('CCRA') included in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)** identifies key hazards of warmer winters, extreme heat, storms and high winds, heavy precipitation and flooding, drought and sea level rise, and the consequential risks associated with each of these climate hazards. With regards to sea level rise, the identified hazards include flooding, reduction in ground stability, deterioration of material structure, disruption to business continuity and safety risk to operational staff. Embedded mitigation measures will account for projected sea level rise in the design through material selection and corrosion control. Consequently, no significant residual effects identified. In relation to flooding, the identified risks include physical damage to assets, power outages, operational disruption, mobilisation of pollutants during extreme precipitation events, and safety risks to operational staff as potential impacts over the operational life of the Proposed Development. Climate projections indicate an increase in the average annual wettest day and an increase in winter precipitation of up to 8% by

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		the 2050-2080 period, as well as projected sea level rise of up to 0.42m by the 2060-2080 period. Notwithstanding these projections, all flood-related risks are assessed as **minor adverse (not significant)** once embedded mitigations have been considered. The embedded mitigation measures include: finished floor levels and drainage design informed by the **Flood Risk Assessment (Application Document Ref. 5.7)**, which has been prepared using climate change allowances appropriate for a development agreed with the Environment Agency in November 2025 hydraulic modelling to inform appropriate mitigation; designing drainage to minimise water held; housing sensitive electrical equipment in areas elevated above flood level; surface water drainage incorporating SuDS and pollution control; enclosed and elevated conveying equipment to reduce flood exposure; and IP-rated exposed machinery installed on plinths or raised foundations. The CCRA concludes that there are no significant residual effects in relation to flooding. With regards to extreme heat, several embedded mitigation measures are proposed such as designing the structures to withstand greater heat; providing ventilation in substations; including belt tensioners in conveying equipment to accommodate thermal variation; and designing equipment to accommodate for thermal expansion and stress. The assessment of significant effects identified the following risks including damage to materials, systems failure from overheating, increased occurrence of machine faults and increased fire risk. The CCRA concludes that the no significant adverse effects arising from extreme heat are expected. In relation to drought, the CCRA identifies potential risks being physical damages and safety risks caused by land subsidence; drying and cracking of materials affecting structural and foundation stability; and low availability of process water and cooling water potentially leading to temporary plant shutdown. All drought-related risks are assessed as negligible, or **minor adverse (not significant)** once embedded mitigations have been considered. Given the scale of the risks identified, no additional mitigation beyond embedded measures has been assessed as necessary. The CCRA concludes that there are no significant residual effects in relation to drought. The CCRA concludes overall that, with embedded mitigation measures implemented in the design and operation of the Proposed Development, there are no likely significant effects arising from any climate change

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		hazard assessed. The Proposed Development is therefore considered to comply with the requirements of EN-3 paragraphs 2.4.5 to 2.4.7.
2.5 Consideration of good design for energy infrastructure	2.5.1 Section 4.7 of EN-1 sets out the criteria for good design that should be applied to all energy infrastructure. 2.5.2 Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* The criteria for good design as set out in Section 4.7 of EN-1 is considered within the main body of the **Planning Statement (Application Document Ref. 5.2.1)**. As detailed in the **Design Approach Document (DAD) (Application Document Ref. 5.3.1),** good design has been a fundamental consideration throughout the development of the different parts of the Proposed Development. The **DAD (Application Document Ref. 5.3.1)** demonstrates how each part of the Proposed Development has been developed in accordance with good design policy, including from the NPSs. This has included the adoption of project level Design Objectives at an early stage, and drafting **Outline Design Principles (Application Document Ref. 5.3.2)** to guide embed good design outcomes in the detailed design of the Proposed Development including integration with new marine infrastructure. The latter are secured by Requirement 3 in the d**raft DCO (Application Document Ref. 3.1)**. The Design Objectives have steered and influenced the design of the different parts of the Proposed Development throughout its lifetime to avoid and reduce adverse impacts wherever possible, make the most of opportunities for enhancement and balance the need for appropriate flexibility within the DCO Application.
2.6 Flexibility in the project details	2.6.1 Where details are still to be finalised, applicants should explain in the application which elements of the proposal have yet to be finalised, and the reason why this is the case. 2.6.2 Where flexibility is sought in the consent as a result, applicants should, to the best of their knowledge, assess the likely worst-case environmental, social and economic effects of the proposed development to ensure that the impacts of the project as it may be constructed have been properly assessed	Although the individual elements of the Proposed Development draw on established technologies including gasification, Fischer-Tropsch synthesis and CHP, the Proposed Development as assembled is anticipated to be the UK's first commercial-scale second generation SAF production facility. It is important to recognise that the Proposed Development contains many emerging and constantly advancing technologies and that final specifications and suppliers cannot be confirmed until the post-consent stage. It is therefore not possible to know the final dimensions and layout of the infrastructure that will be

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	2.6.3 Full guidance on how applicants and the Secretary of State should manage flexibility is set out in Section 4.3 of EN-1.	installed on Site in the event that the Proposed Development is granted consent and delivered, and it is therefore necessary, proportionate, and supported by national policy to allow for a degree of flexibility in the design and layout of the Proposed Development, within the parameters of the Application and the Environmental Impact Assessment ('EIA') undertaken for the Application. As set out within the **Design Approach Document (Application Document Ref. 5.3.1)** the design of the Proposed Development has been underpinned by an ongoing, multidisciplinary design process, with early contractor engagement undertaken during the outline design stage. Notwithstanding this, the appointment of a contractor will not take place until after the SoS has granted a DCO and the Applicant has made a Final Investment Decision to proceed with the Proposed Development. Following the award of construction contract(s), the appointed contractor will need to carry out a number of detailed design studies in order to inform the final design and make most effective use of available technologies and optimise the layout. At the point of submitting the Application, it is therefore not possible to finalise the detailed design of the Proposed Development. In order to provide sufficient flexibility while ensuring a robust EIA, the Applicant has adopted the principles of the 'Rochdale Envelope' approach and assessed, as part of the EIA, maximum (and where appropriate minimum) design parameters for those elements of the Proposed Development where flexibility needs to be retained at the consenting stage. The approach taken is explained in **Chapter 2: Assessment Methodology (ES Volume I, Application Document Ref. 6.1.2)** and **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. These parameters include: • Maximum limits of deviation within which the various elements of the Proposed Development can be constructed within the Site, as defined on the **Works Plans (Application Document Ref. 6.1 2.3)**; and • Maximum scale parameters (height, length and width) for the main buildings and structures, as secured through the **Outline Design Principles Document (Application Document Ref. 6.1 5.3.2)**. The maximum dimensions and parameters will be controlled and secured through the relevant articles and schedules of the d**raft DCO (Application Document Ref. 6.1 3.1)**, including Requirement 3 in

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		Schedule 2, in addition to the **Works Plans (Application Document Ref. 6.1 2.3)**. Final details will be submitted to and approved by the relevant local planning authority once finalised. The effects of the Proposed Development have been assessed in relation to compliance with Section 4.3 of EN-1, as per paragraph 2.6.3 of EN-3 (see Table 3.1 of this document and the **Planning Statement (Application Document Ref. 5.2.1)**). While SAF production technology is a developing area in which there is ongoing technological advancement, and it is important that the detailed design of the Proposed Development retains some flexibility to allow for that advancement, the Proposed Development would comply with the flexibility parameters set out in Section 4.3 of EN-1.
2.7 Biomass and Energy from Waste - Applicant Assessment		
Waste treatment capacity	2.7.7 As the primary function of EfW plants is to treat waste, applicants must demonstrate that proposed plants will meet a clearly defined need to facilitate the diversion of non-recyclable waste sent to landfill, or enable the replacement of older, less efficient waste combustion facilities. In line with Defra's policy statement[17], development consent will not be granted for further EfW developments in England unless these criteria are met. 2.7.8 Applicants must demonstrate how their application accords with The Environmental Targets (Residual Waste) (England) Regulations 2023. This will require applicants to demonstrate that their proposal does not hinder the Government achieving higher recycling rates (for example by relying on 'locking in' material that may be recyclable) or rely on a residual waste volume of more than 287 kilograms of non-major mineral residual wastes per head of population in England by the end of 31st December 2042. Applicants in England must demonstrate that they are meeting a residual waste treatment need that cannot be met by existing EfW facilities and EfW facilities in active development.	*For this topic, the ES considers the CHP plant since this is the only part of the development for which waste wood is potentially combusted.* The Proposed Development is a commercial-scale SAF production facility powered by a biomass and waste wood-fired CHP plant. The CHP plant (**Work No. 2**) uses sustainably sourced biomass and/or waste wood as feedstock. The choice of primary feedstock (biomass) for the SAF plant itself has been considered against potential alternatives. The Applicant considers that sustainably sourced biomass will provides the only commercially available solution at scale for the SAF plant itself, with that feedstock able to be readily imported and/ or sourced from the UK supply chain in the required quantities to meet the operational needs of the Proposed Development as set out in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6)**. The feedstock for the SAF plant is biomass (which may under SAF Mandate includes waste wood) while the feedstock for the CHP plant is biomass and/or waste wood that is not deemed biomass (as defined in the Industrial Emissions Directive). Waste wood feedstock is chemically comparable to the biomass feedstock, and the inclusion of waste wood serves to widen the supply choice for resilience of feedstock supply. The Proposed Development is not intended as a waste management facility since it will at most accept only one specific type of waste of the many waste streams nationally (commercial and industrial, construction, household, etc). The Proposed Development does not therefore engage the residual

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		waste treatment need or the energy from waste capacity policy set out in paragraphs 2.7.7 and 2.7.8 of EN-3, and those provisions are not directly applicable to the Proposed Development. The environmental permit will govern the feedstock supply for the CHP plant and it would be undesirable in relation to general planning principles to duplicate controls on feedstock within the draft DCO.
Transport infrastructure	2.7.10 Biomass or EfW generating stations are likely to generate considerable transport movements. For example, a biomass or EfW plant that uses 500,000 tonnes of fuel per annum might require up to approximately 220 heavy goods vehicle (HGV) movements per day (Monday – Friday) to import the fuel. There will also be residues which will need to be regularly transported off site. 2.7.11 Government policy encourages multi-modal transport and it is expected that applicants will transport materials (fuel and residues) by water or rail routes where possible, with road transport expected where this is not feasible, or for shorter journeys. 2.7.12 Applicants should locate new biomass or EfW plants in the vicinity of existing transport routes wherever possible. 2.7.13 Although there may in some instances be environmental advantages to rail or water transport, whether such methods are viable is likely to be determined by the economics of the scheme. 2.7.14 Road transport may be required to connect the site to the rail network, waterway, or port. Therefore, any application should incorporate suitable access leading from the main highway network, including any new transport infrastructure required. 2.7.15 Consideration of transport modes should also consider the movement of captured carbon from these facilities where direct access to a storage network is unavailable.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* As described in **Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18)**, the Proposed Development has been designed to maximise the use of water transport for the import of feedstock, with biomass and waste wood delivered via the new quay (**Work No. 6**) on the River Tees, thereby avoiding considerable road transport movements that would otherwise be generated by the Proposed Development during operation. This approach directly accords with the multi-modal transport policy in paragraphs 2.7.11 to 2.7.13 of EN-3, minimising the volume of road HGV movements that would otherwise be required to import feedstock. A worst-case operational transport assessment has been undertaken on the assumption that 100% of feedstock is delivered by road. In practice, the quay will enable the majority of feedstock to be delivered by ship, substantially reducing operational HGV movements far below the worst-case assessed figure of 141 two-way movements per day. The Main Site is located in the established industrial area of Seal Sands, with direct access via Seaton Carew Road (A178), which links to the A1185, which connects to the trunk road network via the A689 and the A19 north of Billingham. Access and highway improvements are included within the Proposed Development (**Work No. 14**). While there is potential for CO_2 captured from the CHP plant to be exported via pipeline to the Northern Endurance Partnership infrastructure (**Work Nos. 11B or 11C**), the necessary post combustion compression and capture unit (PCCU) would require a separate consent. The use of alternative carbon dioxide transport in the event of NEP unavailability, such as shipping, is not ruled out and the estuary

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		location is inherently feasible. Road or rail transport of captured carbon dioxide is not anticipated.
2.7 Biomass and Energy from Waste - Technical considerations		
Combined heat and power (CHP)	2.7.16 Guidance on CHP is set out in Section 4.8 of EN-1, which sets out the requirements on applicants either to include CHP or to present evidence in the application that the possibilities for CHP have been fully explored. 2.7.17 Applications related to biomass and EfW facilities must detail how the plant will maximise the amount of heat available and provide heat to a heat network within three years of entering operation.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* Section 6 of the **Planning Statement (Application Document Ref. 5.2.1)** gives consideration to guidance set out in Section 4.8 of EN-1 and describes how CHP is a central element of the Proposed Development and will supply that useful heat will be supplied directly to the SAF Production Facility from the commencement of operation. The CHP plant satisfies paragraph 2.7.17 by providing the required quantity of useful heat to the SAF Production Facility from the commencement of operations. The heat network is therefore effectively internal to the Proposed Development, with steam exported directly from the CHP plant to the SAF process, rather than relying on an outside heat network.
Carbon capture readiness (CCR)	2.7.18 The government recognises the need to prioritise biomass use to applications where it can deliver GHG emission reductions in hard-to-decarbonise sectors, without other viable alternatives, to comply with our net zero and wider environmental goals. One of these priority applications is the use of biomass to deliver negative emissions through Bioenergy with Carbon Capture & Storage (BECCS). 2.7.19 The Biomass Strategy established the role which BECCS could play in reducing carbon emissions across the economy and set out how the technology could be deployed. 2.7.20 Guidance on CCR and plans to transition to a new regime, Decarbonisation Readiness, are set out in Section 4.9 of EN-1. 2.7.21 CCR is currently relevant to proposed biomass plant at or over 300MW of generating capacity. 2.7.22 CCR will come into force for new and substantially refurbished EfW developments from 28 February 2026.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* The effects of the Proposed Development have been assessed in relation to compliance with Section 4.9 of EN-1, as per paragraph 2.7.20 of EN-3 (see the **Planning Statement**, **Application Document Ref. 5.2.1)**. This assessment notes that carbon capture technology is not proposed as part of the current DCO application and as such, Section 4.9 of EN-1 is therefore not directly engaged. In relation to Carbon Capture Readiness ('CCR'), paragraph 4.9.25 of EN-1 confirms that CCR applies to new combustion plants with a generating capacity at or over 300MW that are of a type covered by the Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013. The CHP plant (**Work No. 2**) has an electrical output capacity of

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		up to 200MWe and therefore falls below the 300MW threshold at which mandatory CCR requirements are engaged. The CCR requirements set out at paragraphs 4.9.28 to 4.9.37 of EN-1. As set out within the **Combined Heat and Power Statement (Application Document Ref. 7.4)**, the CCR requirements have now been replaced by decarbonisation readiness and included in The Environmental Permitting (England and Wales) Regulations 2016 [1a.i.1.a.i.1.a.Ref 17]. As such, decarbonisation readiness will be demonstrated as part of the environmental permit application for the Proposed Development with one of the specific requirements of decarbonisation readiness being compliance with the 'space test' as per as per EN-1 paragraph 4.9.37 and the 'Decarbonisation readiness in environmental permit applications guidance' (2026). **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)** confirms the Main Site is located close to the consented Northern Endurance Partnership (NEP) CO_2 transport and storage infrastructure. In future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be sent to a Post-Combustion Carbon Capture Unit (PCCU) and directed via two possible CO_2 export pipeline route (either **Work No. 11B or 11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage, subject to NEP availability. This would result in the Proposed Development achieving even greater negative carbon emissions and further reducing the carbon intensity of the final SAF Product. Development of a PCCU does not form part of the Proposed Development and would be developed under separate consent. Article 22 'Compulsory acquisition of rights' of the **draft DCO (Application Document Ref. 3.1)** would ensure that only one CO_2 export pipeline route is developed **Work Nos 11B** and **11C** are shown on the **Works Plans** (**Application Document ref. 2.3)**. The Proposed Development has been designed to allow the future addition of CO_2 transport and storage access to the biomass and waste wood fired CHP enabling further negative carbon emissions. It is therefore considered to be consistent with government objectives. In relation to Decarbonisation Readiness, as discussed above, the Proposed Development is not a conventional EfW facility and is also below 300MW. Notwithstanding this, and consistent with the guidance at

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		paragraph 2.7.20 of EN-3, DR requirements will be addressed through the Environmental Permitting regime administered by the EA. As set out in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**, the Applicant has engaged with the EA pre-application in relation to the Environmental Permit for the Proposed Development. The Proposed Development therefore demonstrates compliance with paragraphs 2.7.18 to 2.7.22 of EN-3. The design has been developed to support future BECCS potential, the CHP plant falls below the current CCR threshold for biomass plant, and DR requirements will be addressed through the Environmental Permitting process.
Fuels	2.7.23 The social, environmental, and economic case for widespread deployment of biomass-fuelled plant depends on the sustainability of fuel used in it. 2.7.24 The Renewables Obligation (RO)[18], administered by the Office of Gas and Electricity Markets (Ofgem) and the Contracts for Difference (CfD) scheme[19] are the main support mechanisms for renewable electricity in the UK. 2.7.25 To receive incentives under these two schemes, and for their output to count towards the UK's renewable energy targets, plants fuelled by biomass must use fuel which meets certain sustainability criteria. These criteria are set out in the relevant Renewables Obligation Order, in the case of the RO, and in the contract for the CfD scheme, and reporting against them is mandatory. 2.7.26 The sustainability criteria include a minimum GHG emissions saving and general restrictions on the use of materials from land that is important on carbon or biodiversity grounds, such as primary forest, highly biodiverse grasslands, or peatlands and, for woody biomass, a requirement that the forests are managed sustainably. 2.7.27 In assessing the GHG emissions, applicants should take account of emissions associated with cultivation, processing, and transport of biomass for electricity generation and direct land use change. The criteria apply to both domestic and imported material. 2.7.28 As a part of the Biomass Strategy, government has committed to reviewing the UK's biomass sustainability criteria. Once final guidance is published, applicants for new installations are expected to comply with any new requirements.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* The CHP plant (**Work No. 2**) will be fuelled by sustainably sourced biomass and waste wood, or a blend of the two. The Applicant is committed to ensuring that all biomass feedstock used in the CHP plant will meet applicable sustainability criteria. Further information on the feedstock sourcing can be found **in Chapter 4: Proposed Development (Application Document Ref. 6.1.4)** which sets out that all feedstocks will be procured in accordance with the applicable regulatory requirements for the intended use. Paragraph 2.7.24 of EN-3 makes reference to the Renewables Obligation (RO), however as this scheme closed to new applicants in 2017 it is not available to the Proposed Development. Paragraph 2.7.24 of EN-3 also reference the Contracts for Difference scheme, which the Applicant is not partaking in. The Sustainable Aviation Fuel (SAF) Mandate is the relevant standard for this project. The SAF Mandate is the UK's key policy mechanism to secure demand for SAF. It delivers GHG emission savings by encouraging the supply of SAF by setting a legal obligation to blend increasing proportions of SAF into fuel supplied at UK airports, rising to 10% by 2030 and 22% by 2040. This creates a direct, legally mandated market for the Proposed Development's primary output.

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	2.7.29 Guidance on management of waste used as fuel for EfW plants, is set out in the waste management section of this NPS (paragraphs 2.7.50 – 2.7.56).	The sustainability criteria under the SAF Mandate, administered by the Department for Energy Security and Net Zero and the Civil Aviation Authority, apply to the feedstock and production pathway used to produce SAF. These criteria have similar objectives to the biomass sustainability criteria under the RO and CfD (GHG savings thresholds, land use restrictions, sustainable forest management), but are specifically tailored to the SAF production context. The sustainability criteria to be applied include minimum greenhouse gas emissions savings and restrictions on the sourcing of material from land of high carbon or biodiversity value, including requirements for sustainably managed forests in respect of woody biomass. The Proposed Development will use sustainably sourced biomass, which may include agricultural residues (see **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)**). The GHG emissions associated with the cultivation, processing and transport of the biomass feedstock have been taken into account in **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)**, assessed in relation to compliance with paragraph 2.7.27 of EN-3. That assessment concludes that the Proposed Development will deliver an estimated 12.8 $MtCO_2e$ of avoided emissions over its 30-year operational life through the displacement of conventional jet fuel, equivalent to a carbon payback ratio of approximately 3:1. As per paragraph 2.7.29, management of waste used as feedstock for EfW plants is set out below in the assessment against paragraphs 2.7.50 to 2.7.56.
Nature of applications	2.7.30 Applicants must provide details on the makeup of their proposed EfW/biomass combustion plant, which is likely to consist of the following: • A main combustion plant building incorporating emissions abatement technologies, electricity generation units, a cooling assembly (variety of types and methods), and chimney stack(s); • Buildings necessary for fuel reception, storage, sorting and pre treatment facilities; and • Ancillary plant such as an electricity substation, civil engineering workshops and offices.	*For this topic the ES considers the CHP plant since this is the only part of the development for which waste wood is potentially combusted.* **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** provides details of the makeup of the Proposed Development, assessed in relation to compliance with paragraph 2.7.30 of EN-3. The CHP plant includes boilers and steam turbine generators (**Work No. 2A**), and flue and gas treatment and stack (**Work No. 2B**). Feedstock handling and storage, and intermediate and final product handling and storage, including conveyors, storage silos, tanks and buildings are included within the Proposed Development (**Work No. 3**). As described in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**, the design of the CHP plant reflects

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	2.7.31 Details should be provided on any development proposals that may also incorporate additional features such as waste transfer or treatment facilities. 2.7.32 Where EfW proposals for mixed waste incineration include material of animal origin, applicants may require ancillary development in order to comply with the requirements of the Animal By-Products (Enforcement) (England) Regulations 2013.	a combined heat and power arrangement in which over 90% of the available energy in the feedstock is converted into beneficial electricity and steam for the SAF Production Facility.
Commercial aspects of EfW plants	2.7.33 EfW plants are unlike other electricity generating power stations in that they have two roles: the principal purpose being treatment of waste; and secondly the recovery of energy as a byproduct of this process. The commercial rationale for EfW plants will include both the gate fee received per tonne of waste handled and income received from energy recovery. 2.7.34 Like any combustion generating station, operators secure fuel through contracts. Local authorities issue municipal waste disposal contracts which are often long term (up to 25 years). Contracts to dispose of private sector wastes or local authority collected waste aggregated by private sector waste handlers are, generally, shorter (around 15 years). Applicants may decide to focus on either public or private sector waste treatment contracts, or a combination of the two.	*For this topic the ES considers the CHP plant since this is the only part of the development for which waste wood is potentially combusted.* EN-3 paragraph 2.7.34 notes that Applicants may focus on either public or private sector waste treatment contracts, or a combination of the two. The Proposed CHP plant would use biomass and waste wood as a feedstock. As set out in **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)**, approximately 701,000 tonnes of waste wood would be utilised annually for the CHP plant. The sole purpose and commercial rational for the CHP plant is to provide heat and power to the SAF Production Facility to produce SAF compliant with the SAF Mandate to meet the objectives set by the SAF Mandate. Further information on the feedstock sourcing can be found **in Chapter 4: Proposed Development (Application Document Ref. 6.1.4)** which sets out that all feedstocks will be procured in accordance with the applicable regulatory requirements for the intended use.
Network connection	2.7.35 Biomass and EfW electricity generating stations connect into a transmission network. The technical feasibility of exporting electricity from a biomass or waste combustion plant is dependent on the capacity of the grid network to accept the likely electricity output together with the voltage and distance of the connection. 2.7.36 Applicants will usually have assured themselves that a viable connection exists before submitting the development proposal to the Secretary of State, and where they have not done so they take that commercial risk. In accordance with Section 4.11 in EN 1, any application to the Secretary of State must include information on how the generating station is to be connected and whether any environmental	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* The CHP plant will not export electricity on an ongoing basis to the national transmission network. All electricity and steam generated by the CHP plant will be consumed on-site by the SAF Production Facility. An electrical connection (**Work No. 7**) is nonetheless included within the Proposed Development to provide power for start-up and ancillary site supplies. This is outlined in the **Electricity Grid Connection Statement (Application Document Ref. 7.1)**, which outlines that unlike most

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	issues are likely to arise from that connection. Further advice on grid connections is presented in Section 4.11 of EN-1 and in EN-5.	generating stations of this scale, there will not be a conventional connection to the grid for the commercial export of the electricity generated. The network connection requirements set out in paragraphs 2.7.35 and 2.7.36 of EN-3 and 4.11 of EN-1 are therefore of limited applicability to the Proposed Development, as confirmed within the **Planning Statement (Application Document Ref. 5.2.1)**.
Flexibility	2.7.37 In some cases, not all aspects of the proposal may have been settled in precise detail at the point of application. Such aspects may include: • The composition, calorific value and availability of fuel; • The precise details of all elements of the proposed development. 2.7.38 Guidance on how applicants should manage flexibility is set out in Section 4.3 of EN-1.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* As described in the **Design Approach Document (Application Document Ref. 5.3.1)** and **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.3.4)**, a number of aspects of the detailed design of the Proposed Development have not been finalised at the point of application, including the precise composition, calorific value and availability of the biomass and waste wood feedstock blend, consistent with the flexibility considerations identified at paragraph 2.7.37 of EN-3. The Rochdale Envelope approach has been adopted to ensure that the worst-case environmental, social and economic effects of the Proposed Development have been assessed in relation to compliance with Section 4.3 of EN-1, as per paragraph 2.7.38 of EN-3 (see Table 3.1 of this document and the **Planning Statement (Application Document Ref. 5.2.1).**
2.7 Biomass and Energy from Waste - Impacts		
Air quality and greenhouse gas emissions	2.7.41 Applicants should include in the ES an assessment of the air emissions resulting from the proposed infrastructure and demonstrate compliance with the relevant regulations (see Section 5.2 and 5.3 of EN-1). Applicants should include in the ES an assessment of the air emissions associated with delivery and movement of people, fuel and materials. This should include consideration of cumulative effects from construction, operation and vehicle movements. 2.7.43 Applicants should take into account the presence of Air Quality Management Areas, NO2 Programme Clean Air Plans and proximity to	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** describes the relevant air quality legislation, guidance and policy context and presents the methodology used in the assessment of the Proposed Development. It assesses the existing air quality conditions in the vicinity of the Proposed Development and the likely changes that would arise as

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	large numbers of people and vulnerable receptors (e.g. health facilities, care homes and schools) when considering site selection. 2.7.44 For combustion plant using CCS, the ES should reflect the latest evidence on the air quality impacts of carbon capture using amine-based solvents.	a result of the construction operational and decommissioning phases. It predicts the changes in air pollutant concentrations in the local area in terms of the potential effects on human health and ecological receptors. Mitigation measures are proposed and the chapter concludes with a summary of the of the potential significant effects associated with the construction (and decommissioning) and operation of the Proposed Development. Table 2.1 of this document assesses the Proposed Development against Sections 5.2 and 5.3 of EN-1, which conclude that the Proposed Development would comply with these sections. Details of the assessment methodologies are provided within **Appendix 8A: Air Quality - Construction Assessment** and **Appendix 8B: Air Quality - Operational Assessment (ES Volume III, Application Document Refs. 6.3)**. This includes an assessment of emissions from ship movements associated with the delivery of construction stage material and delivery of biomass and waste wood feedstock during the operational stage and also an assessment of road traffic during the construction and operation stages. The air quality impacts of all project stages have been assessed. Appropriate mitigation has been considered as part of the air quality assessment and is outlined in Section 8.7 and consideration of residual effects in Section 8.8 of **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)**. As set out in **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** the Proposed Development is located near to a limited number of sensitive human receptors and several sensitive ecological receptors. **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** concludes that there are no anticipated significant residual effects on air quality during all stages as a result of the Proposed Development after embedded mitigation measures within the CEMP secured by Requirement 4 of the d**raft DCO (Application Document Ref. 3.1)** are considered. In relation to paragraph 2.7.44 of NPS EN-3, development of a PCCU does not form part of the Proposed Development, and as such is not considered in the EIA and would need to be developed under a separate consent should this come forward at a later date.

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Landscape and visual	2.7.45 An assessment of the landscape and visual effects of the proposed infrastructure should be undertaken in accordance with the guidance set out in Section 5.10 of EN-1.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* In relation to compliance with paragraph 2.7.45 of EN-3, an assessment of the landscape and visual effects of the Proposed Development has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. The findings of that assessment, and details of how the Proposed Development complies with Section 5.10 of EN-1, are set out in Table 2.1 of this document.
Noise and vibration	2.7.46 Sources of noise and vibration may include: • The delivery and movement of fuel and materials; • The processing of waste for fuel at EfW generating stations; • The gas and steam turbines that operate continuously during normal operation; and • The external noise sources such as externally-sited air-cooled condensers that operate continuously during normal operation. 2.7.47 Applicants should include in the ES a noise assessment of the impacts on amenity in case of excessive noise from the project in line with guidance set out in Section 5.12 in EN-1.	*For this topic, the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** assesses the impact of stationary sources of noise during operation of the Proposed Development on residential receptors. These stationary sources include the Combined Heat and Power (CHP) plant, exhaust stacks as part of the CHP and ventilation and temperature control plant. A low impact is identified at all considered residential receptors. Therefore, operational noise – including noise from the CHP plant – is assessed as not significant.
Odour, insect and vermin infestation	2.7.48 Applicants should assess the potential for insect and vermin infestation and emissions of odour as set out in EN-1 Section 5.7, with particular regard to the handling and storage of waste for fuel.	*For this topic, the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* Nuisance from odours arising on premises is considered in the **Statutory Nuisance Statement (Application Document Ref. 5.5)**, which identifies the matters set out at Section 79(1) of the Environmental Protection Act (EPA) 1990 in respect of statutory nuisance and considers if the Proposed Development could result in a

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		nuisance and the measures, where relevant, to prevent and mitigate such nuisance occurring. The Statutory Nuisance Statement confirms that the Proposed Development is not considered to have the potential to cause odour due to the lack of nearby sensitive human receptors. Furthermore, there are not expected to be any significant odours during operation. The Proposed Development will not involve the keeping of animals and, as such, Section 79(1)(f) is not considered relevant and has not been assessed. In addition, the nature of the Proposed Development is not expected to give rise to the accumulation of pests, insects or vermin, therefore 79(1)(fa) has not been assessed.
Waste management	2.7.49 In accordance with the waste hierarchy, EfW developments in England must demonstrate that they will help lower the amount of non-recyclable waste sent to landfill or help enable the replacement of older, less efficient facilities. Applicants should give consideration to policy statements published by government related to the need and role of EfW facilities. 2.7.50 Applicants should set out how they intend to ensure that recyclable materials, including those that may be recyclable in the future, will be separated and sent for appropriate treatment. In accordance with the waste hierarchy, recyclable material must not be combusted. Applicants must ensure that their proposals do not result in the 'lock in' of material that may be recyclable, preventing the movement of material up the waste hierarchy. 2.7.51 Applicants should undertake an assessment of the proposed EfW plant, examining the conformity of the scheme with the management of waste in accordance with the waste hierarchy and the effect of the scheme on the relevant Waste Local Plan, or plans where a proposal is likely to involve more than one local authority. 2.7.52 Applicants should set out the extent to which the generating station and capacity proposed is compatible with, and supports the statutory, long-term residual waste reduction target for England, taking into account existing residual waste treatment capacity and that already in development. Applicants should also consider the declining availability of residual waste arisings in context of the government's commitment to transition to a circular economy.	*This topic is considered in relation to the CHP plant since this is the only part of the Proposed Development that will potentially combust waste wood feedstock.* **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)** sets out that all feedstocks will be procured in accordance with the applicable regulatory requirements for the intended use. The UK SAF Mandate requires SAF to be produced from eligible feedstocks that satisfy the sustainability and greenhouse gas (GHG) emissions saving requirements set out under the Renewable Transport Fuel Obligation (RTFO). To the extent that waste wood is used as a feedstock, it will comply with the waste hierarchy and this will be auditable as part of SAF Mandate compliance and the environmental permit.

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	2.7.53 Where appropriate, assessments should refer to the Annual Monitoring Reports published by relevant waste authorities which provide an updated figure of existing waste management capacity and future waste management capacity requirements. 2.7.54 Where EfW developments are developed to enable the replacement of older, less efficient facilities, capacity should not necessarily be replaced like for like and must reflect updated waste management capacity needs. 2.7.55 The results of the assessment of the conformity with the waste hierarchy and the effect on relevant waste plans should be included in the application to the Secretary of State.	
Residue management	2.7.56 Generating stations that burn waste (even if mixed with biomass fuel) produce two types of residues: • Incinerator bottom ash (IBA) is comprised mainly of non-combustible material from the combustion chamber. The quantity of IBA produced is dependent on the technology process and fuel type but might be as much as 20% (in terms of weight) of the waste throughput of the generating station; and • air pollution control residue (APCR), a residue from flue gas emission abatement technology and usually 3-4% (in terms of weight) of the waste throughput of the generating station. 2.7.57 The two residues from waste combustion generating stations cannot be mixed; they must be disposed of separately, under different regimes. 2.7.58 Biomass combustion generating stations will also produce both combustion and flue gas treatment residues which must not be mixed. Residues arising from biomass combustion generating stations are usually between 1% and 12% (in terms of weight) of the fuel capacity of the plant. 2.7.59 The regulation of waste disposal for waste combustion and flue gas residues from biomass combustion is intended to reduce the amount of waste that is sent to landfill. Waste combustion APCr is classified as a hazardous waste material and needs to be managed as such.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** presents the quantity and type of operational waste generated from the CHP plant, as well as the management of combustion and flue gas treatment residues during operation of the CHP plant. It is anticipated that 40,000 tonnes per annum of bottom ash will be generated by the CHP plant. In relation to compliance with paragraph 2.7.60 of EN-3, waste management for combustion and flue gas treatment residues from the CHP plant will be regulated through the Environmental Permit for the Proposed Development, to be issued by the EA. As set out in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**, the Applicant has engaged and will continue to engage with the EA pre-application in relation to the Environmental Permit, which will include requirements for the management, recovery and disposal of all residue streams from the CHP plant in accordance with the waste hierarchy and applicable hazardous waste regulations. The effects of the Proposed Development have been assessed in relation to compliance with Section 5.15 of EN-1, as per paragraph 2.7.60 of EN-3 in this table, which concludes that with the

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	2.7.60 Waste management is covered in the Environmental Permit for operation of waste or biomass generating stations (see Section 5.15 of EN-1). 2.7.61 Applicants should include the production and recovery or disposal of residues as part of the ES. Any proposals for recovery of ash and mitigation measures should be described. 2.7.62 Applicants should set out the consideration they have given to the existence of accessible capacity in waste management sites for dealing with residues for the planned life of the power station. 2.7.63 Applicants must ensure proposals do not result in an overcapacity of EfW waste treatment provision at a local or national level.	implementation of impact avoidance and mitigation measures, the Proposed Development will result in no significant residual effects arising from waste generated by construction and decommissioning. As per paragraph 2.7.61, Table 16.36 of **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1)** sets out how operational waste is proposed to be disposed of. In relation to compliance with paragraph 2.7.62 of EN-3, the Applicant has given consideration to the accessible capacity in waste management sites for dealing with residues over the planned operational life of the Proposed Development. **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** addresses the availability of regional and national landfill void capacity for the management of hazardous and non-hazardous waste arisings. The assessment confirms that sufficient capacity exists within the north east region and nationally to accommodate the residue streams from the Proposed Development that cannot be recovered or recycled, and that the Proposed Development would not give rise to significant adverse effects on regional or national landfill void capacity. In relation to paragraph 2.7.63 of EN-3, the Proposed Development is not an EfW development treating mixed residual waste and will not give rise to any overcapacity of EfW waste treatment provision at a local or national level.
Water quality and resources	2.7.64 The design of water-cooling systems for EfW and biomass generating stations will have additional impacts on water quality, abstraction and discharge. This can affect marine ecosystems where cooling systems use seawater. These may include: • discharging water at a higher temperature than the receiving water, affecting the biodiversity of aquatic flora and fauna; • the use of resources may reduce the flow of watercourses, affecting the rate at which sediment is deposited, conditions for aquatic flora and potentially affecting migratory fish species (e.g. salmon); • the fish impingement and/or entrainment, i.e. being taken into the cooling system during abstraction; and • the discharging of water containing chemical anti-fouling treatment for use in cooling systems may have adverse impacts on aquatic biodiversity.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* Section 4.4 of **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** details how water will be used within the CHP plant. Water for the cooling towers will be from a raw water supply from NWL which will treated on site before use. Steam generated by the boilers in the CHP plant will be cooled and condensed within the cooling towers (**Work No. 4**) and returned to the boilers for re-use. In order to manage the cycle, water will be intermittently purges via blowdown and removed from the cycle and replace with fresh demineralised water. Therefore, there are no impacts as a result of water discharge from the CHP plant. Further, as the CHP plant is not

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	2.7.65 Where the project is likely to have effects on water quality or resources the applicant should undertake an assessment as required in EN-1, Section 5.16. The assessment should particularly demonstrate that appropriate measures will be put in place to avoid or minimise adverse impacts of abstraction and discharge of cooling water. 2.7.66 Applicants should include specific measures to minimise fish impingement and/or entrainment, and the discharge of excessive heat to receiving waters, and should consider discharge profiles that minimise the impact on temperature and resultant dissolved oxygen levels. 2.7.67 As river and sea temperatures rise (as a result of already locked in climate change) then the operational constraints necessary to protect ecosystems will also increase. Applicants should consider climate risks when designing water cooling systems, ensuring they are fit for the future.	drawing large volumes of water from water bodies during operation, there is no risk of fish impingement or entrainment. The impact of the Proposed Development overall on water quality or resources is assessed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** and **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. Section 11.5 of **Chapter 11: Freshwater and Marine (ES Volume I, Application Document Ref. 6.1.11)** sets out embedded and good practice mitigation that has been incorporated into the Proposed Development Design or assumed to be in place before undertaking the assessment of likely significant effects. This includes measures outlined in **Appendix 5A: Framework Construction Management Plan (ES Volume III, Application Document Ref. 6.3.4)** which will be secured by Requirement 4 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1)**. Section 11.6 of **Chapter 11: Freshwater and Marine (ES Volume I, Application Document Ref. 6.1.11)** identifies that after proposed mitigation measures are implemented, there are not anticipated to be any significant adverse effects on freshwater and marine ecology from the Proposed Development Section 12.5 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** sets out embedded and good practice mitigation that has been incorporated into the Proposed Development Design or assumed to be in place before undertaking the assessment of likely significant effects. This includes measures outlined in **Appendix 5A: fCEMP (ES Volume III, Application Document Ref. 6.3.4)** which will be secured by Requirement 4 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**. Section 12.6 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** identifies that there are not anticipated to be any significant adverse effects on the water environment during construction or operation of the Proposed Development. As a result, no mitigation measures are required beyond the embedded and good practice measures detailed in Section 12.5.

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2.7 Biomass and Energy from Waste - Mitigation		
Air quality and greenhouse gas emissions	2.7.68 Applicants should provide details on the air quality and emissions that will result from their plant, which may include NOx, SOx, NMVOCs or particulates (PM2.5, PM10). They should detail the abatement technologies adopted, which should be those set out in the relevant sector guidance notes as produced by the Environment Agency (EA). The EA will determine if the technology selected for the waste/biomass plants is considered Best Available Technique (BAT), and that therefore the Secretary of State does not need to consider equipment selection in its determination process.	**Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1) and Appendix 8B: Operation Methodology (ES Volume III, Application Document Ref. 6.3)** provides details on changes to air quality and emissions that will result from the CHP plant. Table 3.13 of Appendix 8B details the emission concentrations from the CHP plant for NO_x, SO2, Volatile Organic Compounds (VOCs) and particulates (PM_{10} and $PM_{2.5}$). Potential mitigation or abatement measures are outlined in Section 8.7 of ES Chapter 8. The Proposed Development will be designed such that process emissions to air comply with the relevant ELVs requirements specified in either the IED, or, if tighter, the relevant Best Available Technique (BAT) Reference Documents/BAT Conclusions/BAT – Associated Emission Levels (BAT-AEL), as detailed in **Appendix 8B: Air Quality Operational Assessment (ES Volume III, Application Document Ref. 6.3)**. This will be regulated by the EA through the Environmental Permit required for the operation of the Proposed Development. In order to meet the BAT-AELs, emissions of NO_X from the Proposed Development, NO_X will be controlled through various measures including primary emission controls such as the use of low-NO_X burners and secondary abatement controls such as Selective Non-Catalytic Reduction/Selective Catalytic Reduction (SNCR/SCR). As use of SNCR/SCR can result in an emission of NH_3 slip, further abatement may be required (such as wet scrubbing) to reduce emissions of NH_3 to ensure that nitrogen deposition impacts are considered acceptable. This has been considered as part of the assessment and the NO_X and NH_3 concentrations from the CHP plant and SAF Production Facility have been modelled at both the BAT-AELs and at lower concentrations to demonstrate the effect that this has on the annual mean NO_x and nitrogen deposition impacts at sensitive ecological receptors. It is considered that the use of additional technologies to reduce emissions beyond the BAT-AELs would be additional mitigation, and therefore the results of this scenario are presented in Section 8.7of **Chapter 8: Air Quality (ES Volume I, Application Document 6.1.8)**. Such additional mitigation would be subject to a BAT Assessment and CBA that would be required to support the Environmental Permit application for operation of the Proposed Development.

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		Table 14.4 in **Chapter 14: Greenhouse Gas Emissions (ES Volume I, Application Document Ref. 6.1.14)** details the greenhouse gas emissions per lifecycle phase of the Proposed Development. As all operational energy use is assumed to be generated by the CHP plant, Module B6 in Table 14.4 is considered to be the total greenhouse gas emissions from the operation of the CHP plant. Overall, approximately 1,456,840 tCO^2e of GHGs will be emitted by the CHP plant during operation.
Landscape and visual	2.7.69 Good design that is sympathetic and contributes positively to the landscape character and quality of the area will go some way to mitigate adverse landscape and visual effects. 2.7.70 Applicants should consider the design of the generating station, including the materials to be used in the context of the local landscape character. 2.7.71 Although micro-siting within the development area can help, mitigation is achieved primarily through aesthetic aspects of site layout and building design including size, external finish and colour of the generating station to minimise intrusive appearance in the landscape as far as engineering and technical requirements permit. The precise architectural treatment will need to be site specific.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* In relation to compliance with paragraphs 2.7.69 to 2.7.71 of EN-3, landscape and visual mitigations have been embedded within the design of the Proposed Development from the outset. The following embedded mitigation measures are incorporated and are an inherent part of the consented scheme: • Visually recessive, non-reflective colours of white and light grey for the external finish of structures to reduce visual prominence and assist integration within the surrounding industrial setting, as detailed in the **Design Approach Document (Application Document Ref. 6.1 5.3.1)**; and • A **Framework Lighting Strategy (Appendix 13C, Document Ref. 6.3)** to minimise obtrusive light whilst meeting operational safety requirements. The precise architectural treatment has been developed on a site-specific basis, having regard to the industrial character of the Seal Sands area and the existing large-scale structures that characterise the landscape. Detailed design, including external appearance, colours and materials, is secured by Requirement 3 in Schedule 2 of the d**raft DCO (Application Document Ref. 6.1 3.1)**.
Noise and vibration	2.7.72 As described in paragraph 5.12.15 of EN-1, the primary mitigation for noise for biomass and EfW generating stations is through good design to enclose plant and machinery in noise-reducing buildings, wherever possible, and to minimise the potential for operations to create noise.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy,*

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	2.7.73 Noise from gas and steam turbines should be mitigated by attenuation of exhausts and steam release valves to reduce any risk of low-frequency noise transmission. 2.7.74 Noise from features including sorting and transport of material during operation of biomass or EfW generating stations is unavoidable. Similarly, noise from apparatus external to the main generating station may be unavoidable. This can be mitigated through careful plant selection.	*which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the embedded mitigation measures that have been incorporated into the design to reduce operational noise from stationary sources such as the CHP plant. The effects of the Proposed Development have been assessed in relation to compliance with Section 5.12 of EN-1 (see Table 3.1 of this document), which concludes that no potential significant noise and vibration effects associated with construction, operation and decommissioning are likely to occur and the Proposed Development would comply with Section 5.12 of EN-1.
Odour, insect and vermin infestation	2.7.75 In addition to the mitigation measures set out in paragraph 5.7.8 of EN-1, reception, storage and handling of waste and residues should be carried out within defined areas, for example bunkers or silos, within enclosed buildings at EfW generating stations. 2.7.76 To minimise potential for infestation, operators are required to produce a written management system as part of their environmental permit and this will include consideration of odour, insect and vermin management. The EA and NRW will regulate facilities against this plan.	Waste wood feedstock for the CHP plant will be conveyed to flat storage (part of **Work No. 3**) with appropriate fire protection and segregation as required by the Environmental Permit required for operation of the Proposed Development. It will subsequently be fed from storage and charged into the boilers. Section 4 of the **Statutory Nuisance Statement (Application Document Ref. 5.5)** states that the Proposed Development is not considered to have the potential to cause odour due to the lack of nearby sensitive human receptors. Furthermore, there are not expected to be any significant operational odours from the Proposed Development. The Proposed Development will not involve the keeping of animals and, as such, Section 79(1)(f) is not considered relevant and has not been assessed. In addition, the nature of the Proposed Development is not expected to give rise to the accumulation of pests, insects or vermin, therefore 79(1)(fa) has not been assessed. The Applicant has not prepared management plans for odour and vermin due to the absence of likely impacts. However, **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.1**) states that appropriate mitigation and control measures would include monitoring measures in line with Institute of Air Quality Management (IAQM) best practice guidance such as regular site inspections which would identify unexpected odours or vermin infestation sufficient to mitigate against this emission source.

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Residue management	2.7.77 The environmental burdens associated with the management of combustion residues can be mitigated through recovery of secondary products, for example aggregate or fertiliser, rather than disposal to landfill. 2.7.78 The primary management route for fly ash is hazardous waste landfill; however, there may be opportunities to reuse this material for example in the stabilisation of industrial waste. 2.7.79 The management of hazardous waste will be considered by the EA or NRW through the Environmental Permitting regime	Table 16.36 of **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1)** sets out how operational waste is proposed to be disposed of.
Water Quality and resources	2.7.80 In addition to the mitigation measures set out in paragraphs 5.16.8 – 5.16.11 of EN-1, design of the cooling system should include intake and outfall locations that avoid or minimise adverse impacts.	As discussed in the response to 2.7.64 above, Section 4.4 of **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** details how water will be used within the CHP plant. Water for the cooling towers will be from a raw water supply from NWL which will treated on site before use. Steam generated by the boilers in the CHP plant will be cooled and condensed within the cooling towers (**Work No. 4**) and returned to the boilers for re-use. In order to manage the cycle, water will be intermittently purges via blowdown and removed from the cycle and replace with fresh demineralised water. Therefore, there are no impacts as a result of water discharge from the CHP plant. Further, as the CHP plant is not drawing large volumes of water from water bodies during operation, there is no risk of fish impingement or entrainment.
2.7 Biomass and Energy from Waste - Secretary of State decision making		
Site selection and design – *transport infrastructure*	2.7.81 Where existing access is inadequate and the applicant has proposed new infrastructure, the Secretary of State will need to be satisfied that the impacts of the new infrastructure are acceptable as set out in Section 5.14 of EN-1.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* Table 2.1 of this document and the **Planning Statement (Application Document Ref. 5.2.1)** demonstrate that the Proposed Development complies with Section 5.14 of EN-1. The residual traffic and transport effects of the Proposed Development across all phases are assessed as negligible or **minor adverse and not significant.** The Proposed Development is therefore considered to comply with the requirements of EN-1 Section 5.14.

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Site selection and design- *National designations*	2.7.82 Paragraphs 2.3.6 – 2.3.8 in this NPS outline how the national designations will be considered by the Secretary of State in decision making.	There are a number of statutory designated sites within the Terrestrial Biodiversity Zones of Influence (ZoI) as identified within **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** in Table 10.8 (International Statutory Designated Sites within 15km of the Site), Table 10.9 (National Statutory Designated Sites within 20km of the Site), Table 10.10 (Local Designated Sites within 2km of the Site). Potential impacts to these sites are considered throughout the **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)**, which concludes that effects following implementation of additional mitigations would be negligible. Table 11.11 of **Freshwater and Marine Ecology (Application Document Ref. 6.1.11)** identifies a number of statutory designated sites within the Freshwater and Marine ZoIs (2km from the Marine Infrastructure Area for Local/ Non-Statutory Sites, 5km for Nationally Designated Sites, and 10km for Internationally Designated Sites) Potential impacts to these sites are considered throughout the chapter, which concludes that effects following implementation of additional mitigations would be **minor adverse**. The responses to Sections 5.4 and 5.10 of EN-1 in Table 2.1 of this document confirm that the relevant tests for CNP infrastructure in sites with nationally recognised designations have been met. The **Planning Statement (Application Document Ref. 5.2.1)** presents that the urgent need for the Proposed Development outweighs any significant adverse effects. The Applicant has considered the Environment Act 2021, as evidenced by the application of the mitigation hierarchy set out in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1), Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1), fLBMES (Application Document Ref 5.6),** and **Framework BNG Plan (Appendix 5.8A) (Application Document Ref 5.6)** and also evidenced by Applicant's commitment to achieving no net loss in biodiversity as part of the Proposed Development. The Government's 25-Year Environmental Plan (25YEP) was published in 2018 to support clean growth and innovation in low-carbon technologies, Supporting projects akin to SAF's production and its role in decarbonising aviation. As detailed in **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3.3)**, the impact historic

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		environment and cultural heritage has been scoped out, except the impacts on Easton Nab which are considered in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. There is not anticipated to be a significant adverse effect on Eston Nab.
Technical considerations - *Fuels*	2.7.83 Sustainability of the biomass or bioliquid fuel that a biomass or bioliquid-fuelled generating station will burn is a relevant and important consideration for the Secretary of State in deciding on any development consent applications. 2.7.84 The sustainability criteria will apply to both new and existing generating stations to the extent that they claim renewable electricity support. The RO and CfD regimes (and any successor to them) are critical elements in the business case of most biomass and bioliquid plants, so that in any given case the incentive effect of linking the support to the satisfaction of sustainability criteria may constitute an entirely adequate control on the sustainability of a plant's fuel sources. However, it is possible that the support may not be available for the whole of a plant's operational life, and it is also possible in principle that plants may be able to operate profitably without them at certain periods. 2.7.85 The Secretary of State should consider in each case whether it is appropriate to rely on the RO and CfD, or any successor incentive regime to ensure the sustainability of a plant's fuel over its whole life. 2.7.86 The Secretary of State should not grant consent to a proposed biomass or bioliquid-fuelled generating station unless they are satisfied that the operator will (so far as it can reasonably be expected to do so) ensure that the biomass or bioliquid fuel it burns meets applicable RO, CfD or any successor incentive regime sustainability criteria, whether or not support is being claimed. 2.7.87 Where appropriate, the Secretary of State may include a requirement to this effect in the DCO. 2.7.88 The Secretary of State should not grant consent to an EfW development unless they are satisfied that the proposals will meet a clearly defined need to facilitate the diversion of non-recyclable waste away from landfill or enable the replacement of an older, less efficient waste combustion facility. The Secretary of State should be satisfied that a proposed EfW development is feasible for the duration of its proposed lifecycle in light of ambitions and targets to drive declining residual waste volumes. The Secretary of State should therefore be satisfied that an	In relation to whether the Proposed Development will ensure that the biomass and waste wood feedstock combusted in the CHP plant meets applicable sustainability criteria under the RO and CfD, the RO scheme is not available to the Proposed Development, and the CfD scheme has limited relevance to the Proposed Development due to no electricity being exported on an ongoing basis to the National Grid. As per paragraph 2.7.85 of EN-3, the SoS should consider in each case whether it is appropriate to rely on the RO and CfD, or any successor incentive regime to ensure the sustainability of a plant's fuel over its whole life. The SAF Mandate is considered relevant to this project rather than the RO or CfD. As set out in **Chapter 4: Proposed Development (ES Volume III, Application Document Ref. 6.3.4)**, the biomass to be used in the SAF Production Facility will meet the sustainability criteria specified in the SAF Mandate. As set out above in the assessment of paragraphs 2.7.23 to 2.7.29 of EN-3, the Proposed Development is considered to comply with the sustainability criteria principles included in the SAF Mandate including minimum greenhouse gas emissions savings and restrictions on the sourcing of material from land of high carbon or biodiversity value. The EfW waste treatment needs provisions at paragraph 2.7.88 of EN-3 are not applicable to the Proposed Development for the reasons set out at in the assessment of paragraph 2.7.88 above. Further, as set out in **Chapter 4: Proposed Development (ES Volume III, Application Document Ref. 6.3.4),** the Proposed Development will in future be subject to recognised sustainability assurance schemes, chain of custody requirements and independent verification in accordance with the RTFO Carbon and Sustainability Guidance and any additional requirements introduced under the SAF Mandate As such it would be undesirable to duplicate such controls in a DCO requirement.

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	EfW plan is not of a scale that relies on material that disincentivises good waste management practices (e.g. separation of waste) or material that is recyclable, now or in the future, using BAT.	
Technical considerations - *Combustion plant types and scale*	2.7.89 EfW and biomass plants covered by this NPS may include a range of different combustion technologies, including grate combustion, fluidised bed combustion, gasification and pyrolysis. 2.7.90 The Secretary of State should not be concerned about the type of technology used. 2.7.91 The fuel throughput capacity of the plant considered by the Secretary of State may vary widely depending on composition, calorific value, and availability of fuel. 2.7.92 Throughput volumes for biomass plants are not, in themselves, a factor in Secretary of State decision-making as there are no specific minimum or maximum fuel throughput limits for different technologies or levels of electricity generation; this is a matter for the applicant. 2.7.93 The increase in traffic volumes, any change in air quality, and any other adverse impacts as a result of the increase in throughput should be considered by the Secretary of State in accordance with this NPS and balanced against the net benefits of the combustion of waste and biomass as described in this section and in paragraph 3.3.37 of EN-1.	To provide low carbon electricity and steam, a CHP plant with an output of up to 200MWe will be constructed and operated within the Main Site. The CHP boilers are likely to be a fluidised bed type with associated fuel silos and steam system. It will be fuelled by either biomass or waste wood or a blend of the two. In relation to compliance with paragraphs 2.7.89 to 2.7.93 of EN-3, the SoS should not be concerned with the type of combustion technology used, and fuel throughput volumes for biomass plants are not in themselves a factor in decision-making. The traffic and transport, air quality effects and other adverse impacts associated with the scale of biomass throughput have been assessed in the **Environmental Statement (Application Document Ref. 6.1)** and are addressed in the relevant sections of the **Planning Statement (Application Document Ref. 5.2.1)**, where they are balanced against the substantial net benefits of the Proposed Development.
Technical considerations - *Combined heat and power*	2.7.94 The government's strategy for CHP is described in Section 4.8 of EN-1, which sets out the requirements on applicants either to include CHP or present evidence in the application that the possibilities for CHP have been fully explored. Applications related to biomass and waste combustion as part of an EfW facility must detail how the plant will maximise the amount of heat available and provide heat to a heat network within three years of entering operation. 2.7.95 Given the importance which government attaches to CHP, for the reasons set out in EN-1 the Secretary of State will need to be satisfied that the applicant has provided appropriate evidence that CHP is included or that the opportunities for CHP have been fully explored. For non-CHP stations, the Secretary of State may also require that developers ensure that their stations are configured to allow heat supply at a later date as described in Section 4.8 of EN-1 and the guidance on CHP issued by then DTI in 2006 26.	Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** gives consideration to guidance set out in Section 4.8 of EN-1 and describes how CHP (**Work No.2**) of the **draft DCO (Application Document Ref. 3.1)** is a central element of the Proposed Development and will supply useful heat directly to the SAF Production Facility from the commencement of operation. The CHP plant satisfies paragraph 2.7.94 of EN-3 by providing the required quantity of useful heat to the SAF Production Facility. The heat network is therefore effectively internal to the Proposed Development, with steam exported directly from the CHP plant to the SAF process, rather than relying on an outside heat network.

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Impacts - *Air quality and greenhouse gas emissions*	2.7.98 Although a carbon assessment will be provided as part of the ES, the policies set out in Part 2 of EN-1 will apply. As set out in Section 5.3 of EN-1, the Secretary of State does not need to assess individual applications for planning consent against operational carbon emissions and their contribution to carbon budgets, net zero and the government's international climate commitments. 2.7.99 The Secretary of State should otherwise generally give air quality and emissions considerations substantial weight, following the guidance set out in Section 5.2 of EN-1. 2.7.100 Compliance with the Environmental Permitted Regulations (EPR) is enforced through the environmental permitting regime regulated by the EA. Plants not meeting the requirements of the EPR would not be granted a permit to operate. 2.7.101 The pollutants of concern arising from the combustion of waste and biomass may include NOx, SOx, NMVOCs and particulates. In addition, emissions of heavy metals, dioxins and furans are a consideration for waste combustion generating stations, but limited by the EPR and waste incineration BAT conclusions and regulated by the EA. 2.7.102 Where a proposed EfW plant or biomass generating station meets the requirements of the EPR and BAT conclusions and will not exceed the local air quality standards or adversely affect the delivery of the Environment Act 2021 PM2.5 targets, National Emission Ceiling Regulations emissions limits or other statutory limits, objectives or targets, the Secretary of State should consider the proposed waste generating station as having acceptable impacts on health. 2.7.103 Although Decarbonisation Readiness requirements will be assessed through the Environmental Permitting Regime the Secretary of State should be satisfied that facilities will be able to pass the "space requirement" feasibility test. Proposed EfW developments should be built in accordance with the government's Decarbonisation Readiness requirements once they come into force.	Table 2.1 of this document assesses the Proposed Development against Sections 5.2 and 5.3 of EN-1, and concludes that the Proposed Development would comply with these sections. As set out in **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** the Proposed Development is located near to a limited number of sensitive human receptors and several sensitive ecological receptors. The CHP plant will meet the requirements of the Environmental Permitting Regulations 2016 and the relevant BAT conclusions, and dispersion modelling provided in **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3)** demonstrated that AQALs will not be exceeded. Chapter 8 concludes that there are no anticipated significant residual effects on air quality during all stages as a result of the Proposed Development. The air quality assessment of operational impacts has assumed that the BAT-AELs will be met for CHP plant as required under the IED and in accordance with the use of BAT under the Environmental Permitting regime. The Proposed Development would not lead to non-compliance with any statutory air quality limit, objective or target. In relation to Decarbonisation Readiness (DR), as discussed above, the Proposed Development is not a conventional EfW facility. Notwithstanding this, and consistent with the guidance at paragraph 2.7.103 of EN-3, DR requirements will be addressed through the Environmental Permitting regime administered by the EA. As set out in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**, the Applicant has engaged with the EA pre-application in relation to the Environmental Permit for the Proposed Development. The **Combined Heat and Power Statement (Application Document Ref. 7.4)**, confirms that decarbonisation readiness will be demonstrated as part of the environmental permit application for the Proposed Development with one of the specific requirements of decarbonisation readiness being compliance with the 'space test' as per as per EN-1 paragraph 4.9.37, EN-3 paragraph 2.7.103 and the 'Decarbonisation readiness in environmental permit applications guidance' (2026).
Impacts - *Landscape and Visual*	2.7.104 The Secretary of State should be satisfied that the design of the proposed generating station is of appropriate quality and minimises adverse effects on the landscape character, visual amenity and quality.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy,*

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	2.7.105 The Secretary of State should take into account that any biomass/EfW plant will require a building able to host fuel reception and storage facilities, the combustion chamber and abatement units, and a stack of sufficient height to safeguard human health and minimise local impacts on the environment. 2.7.106 The overall size of the building will be dependent on design and fuel throughput, although it is unlikely to be less than 25m in height. External to the building there may be cooling towers, the size of which will also be dependent on the throughput of the generating station. 2.7.107 The Secretary of State should expect applicants to seek to design the landscaping plan of EfW/biomass plant sites to visually enclose them at low level as seen from surrounding external viewpoints. This can make the scale of the generating station less apparent, and helps conceal its lower level, smaller scale features. 2.7.108 Earth bunds and mounds, tree planting or both may be used for softening visual intrusion and may also help to attenuate noise from site activities. However, these features should be sympathetic to local landscape character and follow best practice.[27] 2.7.109 When having regard to the considerations in respect of other impacts set out Section 5.10 in EN-1 and this NPS, the Secretary of State is satisfied that the location is appropriate for the project, and that it has been designed sensitively (given the various siting, operational and other relevant constraints) to minimise harm to landscape and visual amenity, the visibility of a EfW plant or biomass electricity generating station should be given limited weight.	*which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* In relation to compliance with paragraphs 2.7.104 to 2.7.109 of EN-3, the design of the CHP plant and associated development has been developed to be of appropriate quality and to minimise adverse effects on landscape character, visual amenity and quality. It should also be viewed in the context of a much larger industrial facility. The CHP plant will require boilers and steam turbine generators (**Work No. 2A**) and flue gas treatment and stack (**Work No. 2B**). The condensation of steam exiting the steam turbine will be achieved using cooling water from the cooling towers no more than 40m high that are designed to minimise the formation of visible plumes, although some may occur dependent on the ambient weather conditions. The flue gas will be passed through a flue gas treatment plant, prior to being released to atmosphere through a single stack (with multiple flues) up to 140m high. The Proposed Development's potential residual significant visual effects are localised, confined to one recreational viewpoint in the immediate vicinity of the Site, and arise in a landscape setting already heavily influenced by industrial development of comparable scale. Landscaping within the Main Site has been designed to assist in softening the visual impact of lower-level features where practicable, as secured through the **fLBMES (Application Document Ref. 6.1 5.8)** and the requirements in Schedule 2 of the d**raft DCO (Application Document Ref. 6.1 3.1)**. Given the open, flat nature of the landscape and the operational height requirements of the Proposed Development, earth bunding and tree planting are not viable as primary screening measures for the taller structures. As set out in the **Outline Design Principles (Application Document Ref. 5.3.2)**, a context-driven colour strategy will be utilised for the Proposed Development. Low elevation infrastructure will provide visual enclosure as per paragraph 2.7.107 of EN-3 by utilising darker, visually recessive, non-reflective tones to visually anchor the facility and blend with the surrounding industrial baseline or tree lines. Tall structures will transition to visually recessive, non-reflective lighter, neutral tones to reduce their silhouette against the sky. The Applicant considers that the Site is appropriate for the Proposed Development as it has been designed sensitively given the siting,

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		operational and other relevant constraints to minimise harm to landscape and visual amenity.
Impacts - *Noise and vibration*	2.7.110 The Secretary of State should consider the noise and vibration impacts according to Section 5.12 in EN-1 and be satisfied that noise and vibration will be adequately mitigated through requirements attached to the consent. 2.7.111 The Secretary of State will need to take into consideration the extent to which operational noise will be separately controlled by the EA or NRW. 2.7.112 The Secretary of State should not grant development consent unless it is satisfied that the proposals will meet the aims set out in 5.12 of EN-1.	*For this topic the ES considers the Main Site in aggregate, reflecting the fact that the CHP plant and SAF plant and their associated development are in close proximity and are part of a single project. The assessment of compliance therefore considers the Main Site against EN-3 policy, which is directly effective for the CHP plant component and of relevance to other development at the Main Site.* **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the assessment of likely significant effects of noise and vibration arising from construction, operation and decommissioning of the Proposed Development. It concluded that no potential significant effects associated with the construction, operation and decommissioning of the Proposed Development have been identified. A number of mitigation measures for the construction and operation of the Proposed Development related to noise and vibration are secured by **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3)**. A detailed version of the Framework Construction Environmental Management Plan is secured through Requirement 4 in Schedule 2 to the d**raft DCO (Application Document Ref. 3.1)**, including a construction noise management plan. Requirement 15 in Schedule 2 to the d**raft DCO (Application Document Ref. 3.1)** also control construction and operational noise limits and require the submission of a scheme for management and monitoring noise during operation is to be submitted and approved by the local planning authority before the Proposed Development is bought into commercial use. The effects of the Proposed Development have been assessed in relation to compliance with Section 5.12 of EN-1 (see Table 2.1 of this document), which concludes that no potential significant noise and vibration effects associated with construction, operation and decommissioning are likely to occur and the Proposed Development would comply with Section 5.12 of EN-1.
Impacts - *Odour, insect and vermin infestation*	2.7.113 The Secretary of State should be satisfied that the proposal sets out appropriate measures to minimise impacts on local amenity from odour, insect and vermin infestation.	Section 4 of the **Statutory Nuisance Statement (Application Document Ref. 5.5)** states that the Proposed Development is not considered to have the potential to cause odour due to the lack of nearby sensitive human receptors. Furthermore, the CHP plant will be

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		fuelled by biomass or waste wood, or a combination of the two, rather than commercial/industrial waste and therefore there is not expected to be any significant operational odours. The Proposed Development will not involve the keeping of animals and, as such, Section 79(1)(f) is not considered relevant and has not been assessed. In addition, the nature of the Proposed Development is not expected to give rise to the accumulation of pests, insects or vermin, therefore 79(1)(fa) has not been assessed. Therefore, no impacts on local amenity as a result of odour, insect and vermin infestation are expected.
Impacts - *Waste management*	2.7.114 In line with Defra's current policy statement, the Secretary of State should not grant development consent for further EfW plants in England unless satisfied that the proposal will help lower the amount of non-recyclable waste sent to landfill, or enable the replacement of older, less efficient facilities. 2.7.115 The Secretary of State should be satisfied that the proposed EfW development will not prevent recyclable materials, including those that may be recyclable in the future, being separated and sent for appropriate treatment, i.e. repair, reuse or recycling. The Secretary of State should give consideration to policy statements published by government related to the need and role of EfW facilities. 2.7.116 The Secretary of State should be satisfied, with reference to the relevant waste strategies and plans, that the proposed EfW plant is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England. 2.7.117 Where there are concerns in terms of a possible conflict, evidence should be provided to the Secretary of State by the applicant as to why this is not the case or why a deviation from the relevant waste strategy or plan is nonetheless appropriate and in accordance with the waste hierarchy. 2.7.118 The Secretary of State should also consider whether a requirement, including monitoring, is appropriate to ensure compliance with the waste hierarchy.	**Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** presents how the waste from the CHP plant will be managed. The CHP plant will use waste wood as a feedstock to supply energy and steam for the SAF Processing Plant. The waste wood feedstock will be Grade C waste wood (predominantly coming from construction / demolition sites, household waste recycling centres and bulky waste collections). The Proposed Development will move Grade C waste wood up the waste hierarchy by diverting it from landfill and using it as a fuel source. As shown in Table 12.2, Proposed Development accords with Policy MWC6 in the Tees Valley Minerals and Waste DPD which outlines the local waste strategy. The Proposed Development complies with local and national waste policy as a biomass and waste-wood fired CHP plant which drives waste up the waste hierarchy.

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Impacts - *Residue management*	2.7.119 The Secretary of State should give substantial weight to development proposals that have a realistic prospect of recovering materials as described in paragraphs 2.7.78 - 2.7.80 of this NPS. 2.7.120 The Secretary of State should consult the EA on the suitability of the proposals. 2.7.121 When the Secretary of State considers noise and vibration, release of dust and transport impacts, they should recognise that these impacts may arise from the need for residue disposal as well as other factors. 2.7.122 The Secretary of State should be satisfied that management plans for residue disposal satisfactorily minimise the amount that cannot be used for commercial purposes. C2.7.123 The Secretary of State should consider what requirements it may be appropriate to impose. If the EA has indicated that there are no known barriers to it issuing an Environmental Permit for operation of the proposed biomass generating station/EfW plant and agrees that management plans suitably minimise the wider impacts from ash disposal, any residual ash disposal impacts should have limited weight.	**Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** presents how the waste from the CHP plant will be managed. Waste management for combustion and flue gas treatment residues from the CHP plant will be regulated through the Environmental Permit for the Proposed Development, to be issued by the EA. As set out in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**, the Applicant has engaged and will continue to engage with the EA pre-application in relation to the Environmental Permit, which will include requirements for the management, recovery and disposal of all residue streams from the CHP plant in accordance with the waste hierarchy and applicable hazardous waste regulations. These requirements. Table 16.36 of **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1)** sets out how operational waste is proposed to be disposed of. The effects of the Proposed Development have been assessed in relation to compliance with Section 5.15 of EN-1, which concludes that with the implementation of impact avoidance and mitigation measures, the Proposed Development will result in no significant residual effects arising from waste generated by construction and decommissioning.
Impacts - *Water quality and resources*	2.7.124 The Secretary of State should be satisfied that the applicant has demonstrated measures to minimise adverse impacts on water quality and resources as described above and in Section 5.16 of EN-1.	The effects of the Proposed Development have been assessed in relation to compliance with Section 5.16 of EN-1 (see Table 3.1 of this document) **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** concludes that after proposed mitigations measures are implemented, no significant adverse effects associated with construction, operation and decommissioning are likely to occur and the Proposed Development would comply with Section 5.16 of EN-1.

4 Accordance with National Policy Statement for natural gas supply infrastructure and gas and oil pipelines (EN-4)

Table 4.1 Accordance with National Policy Statement for natural gas supply infrastructure and gas and oil pipelines (EN-4)

NPS EN-4 Section / Topic	Policy Text	Assessment
2.3 Climate change adaptation	2.3.1 Part 2 of EN-1 covers the government's energy and climate change strategy, including policies for mitigating climate change. 2.3.2 Section 4.10 of EN-1 sets out generic considerations that applicants and the Secretary of State should take into account to help ensure that new gas supply infrastructure and oil and gas pipelines are resilient to climate change, and that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime. 2.3.3 Section 5.6 Coastal Change and Section 5.8 Flood Risk of EN-1 sets out generic considerations that applicants and the Secretary of State should take into account in order to manage coastal change and flood risks. 2.3.4 As climate change is likely to increase risks to some of this infrastructure, from flooding or rising sea levels for example, applicants should in particular set out how the proposal would be resilient to: • increased risk of flooding; • effects of rising sea levels and increased risk of storm surge; • higher temperatures; • increased risk of earth movement, coastal erosion, or subsidence from increased risk of flooding and drought; and • any other increased risks identified in the applicant's assessment. 2.3.5 The resilience of the project to climate change should be assessed in the Environmental Statement (ES) accompanying an application. For example, future increased risk of flooding should be covered in the flood risk assessment.	Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.10 (Climate Change Adaptation and Resilience) of EN-1. Table 2.1 of this document includes an assessment of the compliance of the Proposed Development against Section 5.6 (Coastal Change) and Section 5.8 (Flood Risk) of EN-1. The assessments referred to above consider, among other things, the findings of the environmental impact assessment in relation to the resilience of the Proposed Development to climate change including risk of flooding; rising sea level; higher temperatures; risk of coastal erosion; and risk of subsidence from flooding and drought is accordingly considered in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15).** Resilience of the Proposed Development to the future increased risk of flooding is assessed in the **Flood Risk Assessment (Application Document Ref. 5.7)**.
2.4 Consideration of good design for energy infrastructure	2.4.1 The Planning Act 2008 requires the Secretary of State to have regard, in designating an NPS, to the desirability of good design. 2.4.2 Applicants should consider the criteria for good design set out in EN-1 Section 4.7 at an early stage when developing projects.	The criteria for good design as set out in Section 4.7 of EN-1 is considered within the main body of the **Planning Statement (Application Document Ref. 5.2.1)**. The assessment referred to above considers, among other things, the design process set out in the **Design Approach Document (DAD) (Application Document Ref. 5.3.1).** The DAD shows that good design has been a fundamental consideration throughout the development of the different parts of the Proposed Development. The design objectives established in the DAD are built upon in the **Outline Design Principles**

NPS EN-4 Section / Topic	Policy Text	Assessment
		(Application Document Ref. 5.3.2) which is secured by Requirement 3 in Schedule 2 the **draft DCO** (**Application Document Ref. 3.1)** and provides further detail. The **Outline Design Principles (Application Document Ref. 5.3.2**) include specific principles for Wider Site including export pipeline works (**Work No. 11**).
2.5 Hazardous substances	2.5.1 Section 4.14 of EN-1 sets out the regime for obtaining hazardous substance consent where it is required. 2.5.2 All establishments wishing to hold stocks of certain hazardous substances, which include oil and gas, above a threshold quantity must consult the Hazardous Substances Authority (HSA), which is usually the local planning authority, and the Health and Safety Executive (HSE) at pre-application stage[3]. In the case of natural gas, the threshold is 15 tonnes. 2.5.3 The HSA will consult the Environment Agency (EA) in England, and Natural Resources Wales (NRW) in Wales, who are the COMAH competent authorities alongside the HSE for non-nuclear activities.	**Section 6.2** of the **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.14 (Hazardous Substances) of EN-1. The assessment referred to above considers, among other things, the assessment in **Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 6.1.19)** of the potential hazardous substances present on the Site during the operational phase of the Proposed Development, and the confirmation in the **Other Consents and Licences Statement (Application Document Ref. 5.4)** that an application for Hazardous Substances Consent is to be submitted to the local planning authority, acting as the hazardous substance authority, in advance of construction.
2.6 Control of Major Accident Hazards	2.6.1 Gas storage and supply infrastructure sites are subject to stringent safety standards under the Control of Major Accident Hazards (COMAH) Regulations 2015. 2.6.2 The COMAH Regulations apply to onshore underground gas storage facilities, LNG import facilities and gas reception facilities. 2.6.3 Underground storage sites will come within the scope of COMAH if the quantity of gas stored meets or exceeds the thresholds in Schedule 1, Part 2 of the Regulations – 50 tonnes (lower tier) and 200 tonnes (top tier). 2.6.4 All sites subject to applications under this NPS are likely to qualify as top tier COMAH sites. 2.6.5 Section 4.13 of EN-1 provides further information on the COMAH Regulations and the assessment which should be carried out by applicants. COMAH Regulations apply throughout the life cycle of the facility, i.e. from determining suitability of location, and the design and build stage, through to decommissioning.	The **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.13 (Safety) of EN-1. The assessment referred to above considers, among other things, the assessment in **Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 6.1.19)** which confirms the pipelines will be designed to the appropriate standards and will follow regulatory controls under pipeline safety and COMAH frameworks and the risk of major accidents and disasters such that the operations are considered as low as reasonably practicable (ALARP) by the Competent Authorities (the HSE and the EA). Therefore, the natural gas connection and export pipeline works, **Work Nos. 8 and 11**, comply with EN-4 paragraphs 2.6.1 to 2.6.5 to the extent that it is relevant to the below NSIP scale of gas pipeline infrastructure proposed. As the Proposed Development will be an upper tier COMAH establishment a licence under the COMAH Regulations 2015 will be acquired as detailed in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**.
2.21 Natural Gas and Oil Pipelines: Applicant assessment		

NPS EN-4 Section / Topic	Policy Text	Assessment
Factors influencing site selection	2.21.1 When designing the route of new pipelines applicants should research relevant constraints including proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and watercourse crossings. Applicants should be aware of plans and strategies that may impact upon these constraints, such as water level management plans in areas with peat soils. 2.21.2 Applicants should undertake desktop studies in the first instance, followed up by consulting the appropriate authority, operator, or conservation body if necessary. 2.21.3 Undetected underground cavities from mine workings, abandoned industrial sites and other activities, such as waste disposal, or other utilities' services (water, telecommunications, etc.) could have an effect on the integrity and safety of a pipeline. The effects might include collapse of underground tunnels, damage to utility services and pollution of water courses. 2.21.4 Applicants should undertake desktop studies to identify historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste sites, unexploded ordnance, utility services and any other below surface usage when assessing routes for a pipeline. 2.21.5 When choosing a pipeline route, applicants should seek to avoid or minimise adverse effects from usage below the surface. 2.21.6 Additional study may also be required to support environmental assessments depending on evidence available and findings of desktop studies. 2.21.7 Applicants may need to remove and dispose of contaminated material. 2.21.8 When considering the route of the pipeline, further consideration to the potential maintenance of the pipeline should also be factored in and the impacts that maintenance or additional protection of the pipeline may have.	**Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1)** notes that the chosen Site is considered to offer a highly suitable location in part due to access to connections to natural gas, existing pipe rack corridors and with regards to a pipeline connection to the NEP AGI C2, **Work Nos. 11B** and **11C**, to the Northern Endurance Partnership transport and storage network. The **Planning Statement (Application Document Ref. 5.2.1)** confirms the proposed routes for the natural gas connection and export pipeline works, **Work Nos. 8** and **11**, would be in the existing Seals Sands industrial area and is remote from residential receptors, hospitals, railway and major road crossings. Furthermore, **Work Nos. 8** and **11** do not cross the River Tees. The indicative routes and connection points of these pipelines are shown on the **Connection Route Plans (Application Document Ref. 2.10)**. The methods which have informed the baseline and future baseline environmental conditions relevant to **Work Nos. 8** and **11** is described in the **Environmental Statement Chapters (ES Volume I, Application Document Ref. 6.1)** this includes desktop studies, consultation with the appropriate authority. **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1)** considers the effects of mining, waste and landfill. The **Pipelines Statement (Application Document Ref. 7.2)** confirms pipelines for **Work Nos. 8 and 11** will be run above ground on existing pipe tracks/racks where practicable. Open-cut techniques or trenchless methods may also be required such as for crossings. The detailed survey of the pipelines would be subject to further environmental and technical study where necessary. **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1)** includes a summary of potential sources of contamination in Table 21.7 including within the Wider Site. Table 21.10 goes on to set out embedded mitigation measures, including completion of ground investigation and risk assessment, prior to construction with remediation strategies developed as appropriate to deal with any contamination and gas risks in addition to an unexpected contamination discovery strategy. These are controlled by Requirement 18 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1).** The assessment of operational impacts in **Chapters 8-21 (ES Volume I, Application Document Ref. 6.1)** includes consideration of maintenance activities.

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		As such impact of the pipelines are limited. The route of pipelines is determined by existing infrastructure, and other routing options are not available.
Pipeline safety	2.21.9 The principal legislation governing the safety of pipelines (The Pipelines Safety Regulations 1996) requires that pipelines are designed, constructed and operated so that the risks are as low as is reasonably practicable (ALARP). 2.21.10 The HSE enforces these Regulations, which place general duties on all pipeline operators and additional duties on the operators of major accident hazard pipelines. 2.21.11 The additional duties require the pipeline operator to provide certain information to HSE at various stages in the lifecycle of a pipeline. 2.21.12 In determining compliance, HSE expects pipeline operators to apply relevant good practice as a minimum. 2.21.13 In the pipeline industry there are well established standards, covering design, operation and maintenance of major accident hazard pipelines which can be used to demonstrate risks are ALARP. 2.21.14 If a pipeline operator wishes to use other standards, recommendations, or guidance then this should be discussed with the HSE and may be acceptable to the HSE, provided that the pipeline operator can demonstrate that they achieve at least the equivalent levels of safety. A gap analysis should be undertaken to confirm this.	The pipelines forming the natural gas **(Work No. 8)**, SAF & renewable naphtha **(Work No. 11A)** and carbon dioxide **(Work No. 11B)** connections will be manufactured and installed to fully comply with The Pipeline Safety Regulations 1996 and all other relevant standards to ensure that the risks are ALARP. **Chapter 19: Major Accidents and Disasters (Application Document Ref. 6.1.20)** concludes that all Major Accident and Disaster Risk Events identified during the construction, operation and decommissioning of the Proposed Development would be Tolerable or Tolerable if ALARP (Not Significant). Therefore, the residual effects at this time, based on the information available to date, are deemed not significant. In conclusion, **Work Nos. 8**, **11A** and **11B** comply with EN-4 policy on pipeline safety to the extent that it is relevant to the below NSIP scale of pipeline connection. A Pipeline Safety Notification will be made to HSE at least 6 months prior to the start of construction of **Work No. 8**, **Work No, 11A** and **Work No. 11B** as detailed in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**.
2.21 Natural Gas and Oil Pipelines: Impacts: *Noise and Vibration*	2.21.15 Section 5.12 of EN-1 sets out the generic considerations in relation to the impacts of noise and vibration. 2.21.16 In addition, there are specific noise and vibration considerations which apply to gas and oil pipelines during the pre-construction and construction phases. 2.21.17 The applicant will need to identify all the noise and vibration sensitive receptors likely to be affected during these phases and consider any associated pipeline maintenance or protection that may be additionally required. 2.21.18 During the pre-construction phase there could be vibration effects from seismic surveys. During construction, tasks may include site clearance, soil movement, ground excavation, tunnelling, trenching, pipe laying and welding, and ground reinstatement.	**Table 2.1 of this document** includes an assessment of the compliance of the Proposed Development against Section 5.12 Noise and Vibration) of EN-1. The assessments referred to above consider, among other things, the **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** and presents the assessment of likely significant effects of noise and vibration arising from construction, operation, including maintenance and decommissioning of the Proposed Development. This includes a description of the noise generating aspects of the Proposed Development, noise sensitive receptors, noise baseline, likely noise impacts and related mitigations. In general, the siting (in an existing industrialised area with several connections and pipeline corridors in proximity) and design of the Proposed Development has limited sensitive receptors nearby and has suitable

NPS EN-4 Section / Topic	Policy Text	Assessment
	2.21.19 In addition, increased HGV traffic may be generated on local roads by the movement of materials. These types of noise and vibration impacts will need to be assessed. 2.21.20 The commissioning of a new pipeline can involve extensive periods of drying after hydrotesting, using air compressors, and noise mitigation may be required for this type of activity. 2.21.21 A new gas pipeline may require an above ground installation such as a gas compression station on the route of the pipeline to boost transmission line pressure; these should be outside of protected landscapes wherever possible. 2.21.22 A new oil pipeline may require pumping stations. These may be located in quiet rural areas, and therefore the control of noise from these facilities is likely to be an important consideration.	transport access for construction and operation of the required connections. An assessment of vibration impacts was scoped out of the ES, agreed with PINS in Section 3.2 of **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3.3),** because no vibration sensitive receptors were identified. Mitigation measures for compressors are embedded into the design of the proposed natural gas and export connection works. The **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3.4)** confirms that all compressors shall be sound reduced models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. With regards to paragraph 2.21.21 of EN-4, the natural gas connection (**Work No. 8**) would connect to the National Gas transmission network at or in the vicinity of an existing Above Ground Installation (AGI) south of Seal Sands Road in the western part of the Main Site and is therefore remote and not within a protected landscape. With regards to paragraph 2.21.22 of EN-4, the pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) would be located in the Seal Sands industrial area and is therefore not within a rural area.
2.21 Natural Gas and Oil Pipelines: Impacts: *Biodiversity, Landscape and Visual*	2.21.23 Sections 5.4 and 5.10 of EN-1 set out the general principles that should be applied in the assessment of biodiversity and landscape and visual impacts. Section 4.3.15 of EN-1 outlines how applicants should consider reasonable alternatives in an ES. 2.21.24 Additional considerations apply during the construction of a pipeline (which, without mitigation, can affect both landscape, visual amenity and ecology). 2.21.25 These comprise the effects upon specific landscape elements within and adjacent to the pipeline route, such as grasslands, field boundaries (hedgerows, hedge banks, drystone walls, fences), trees, woodlands, and watercourses. 2.21.26 There will also be temporary visual and landscape impacts caused by the need to access the working corridor and to remove flora and soil. 2.21.27 The working width of the pipeline will vary depending on the surrounding terrain. Temporary impacts could include large excavations	Table 2.1 of this document includes an assessment of the compliance of the Proposed Development against Section 5.4 (Biodiversity and Geological Conservation) and Section 5.10 (Landscape and Visual) of EN-1. The **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.3.15 of EN-1 (consideration of reasonable alternatives). The assessments referred to above consider, among other things, the assessment of: • landscape and visual impacts in and **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**; • the assessment of biodiversity in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)**; and

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	where deep pits are needed for boring beneath rivers, roads, and sensitive features. 2.21.28 The considerations in this section also apply to any pipeline maintenance or protection that may be additionally required and associated impacts. 2.21.29 Long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. They are likely to include: • limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline; • the route of the pipeline clearly discernible in the landscape as a result of soil disturbance and altered drainage patterns producing changes to vegetation cover ; and • structures and indication points necessary to identify the pipeline route and provide it with service access.	• Landscape and visual matters were considered from the outset of the site selection process, as demonstrated in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6)**. The main alternative routes considered for the connection corridors, and the reasons for the routes selected, are set out in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6)**. In selecting the routes for the connection corridors, the Applicant has sought to utilise existing cable and pipeline corridors wherever possible to minimise ground disturbance, reduce effects on undisturbed land and avoid creating new areas of easement that could sterilise land or affect sensitive receptors. The potential construction stage landscape and visual effects of the natural gas connection works (**Work No.8**) and the pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) and CO_2 export have been considered in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. Impacts on the landscape during construction were assessed. This includes site clearance and vegetation removal, relevant to **Work No.8** and the installation of above ground pipework along existing pipeline corridors associated with **Works No. 11 A** and **11B**. Impacts on the landscape during operation were from additional above ground pipes and cables within existing pipeline corridors associated with **Works 11A** and **11B**. Given that the connections are within an established industrial area, in the case of **Work No.8** the natural gas connection is located within the Main Site, where the existing baseline is characterised by large-scale industrial structures the landscape and visual effects are assessed as **minor adverse and not significant.** Therefore, the assessment of landscape and visual impacts on **Work Nos. 8** and **11** is considered to comply with EN-4 to the extent that it is relevant to the below NSIP scale of pipeline connection infrastructure for the Proposed Development.
2.21 Natural Gas and Oil Pipelines: Impacts: *Biodiversity, Landscape and Visual*	2.21.30 The ES must include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered (see Section 5.10 of EN-1).	Table 2.1 of this document includes an assessment of the compliance of the Proposed Development against Section 5.10 (Landscape and Visual) of EN-1. The assessment referred to above considers, among other things the landscape and visual impacts of alternative connection routes for **Work**

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		No. 8 and **Work No. 11** as documented in in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6)**. The natural gas connection will be within the Main Site, where the existing baseline is characterised by large-scale industrial structures and in proximity to the National Gas transmission AGI, also located in the Main Site. The proposed routing for the pipelines for export of SAF and renewable naphtha (**Work No. 11A**) and pipelines for the export of carbon dioxide (CO_2) (**work No. 11B**) would utilise existing pipe racks thereby minimising visual effects and effects on biodiversity. The assessment considers that it would be unlikely that an alternative route for **Work No. 8, 11A** or **11B** would have lower visual effects or effects on biodiversity.
2.21 Natural Gas and Oil Pipelines: Impacts: *Biodiversity, Landscape and Visual*	2.21.31 The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work. This is particularly important in designated landscapes. 2.21.32 Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape. In National Parks, The Broads and AONBs, such measures should seek to further the purposes of the designation. 2.21.33 Requirements to be included within the Marine Licence (detailed in paragraph 2.3.16 – 2.3.24 of EN-3) should also be duly considered for infrastructures within coastal and marine zones.	Proposals for the reinstatement of the connection corridor routes as close as practicable to their original condition following construction are included within the **fCEMP (ES Volume III, Application Document Ref. 6.3)** and secured by Requirement 4 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**. Any areas temporarily disturbed by construction will be reinstated in accordance with the conditions of the Deemed Marine Licence secured within the **draft DCO (Application Document Ref. 3.1)**.
2.21 Natural Gas and Oil Pipelines: Impacts: *Water Quality and Resources*	2.21.34 Section 5.16 of EN-1 sets out generic policy on the protection of the water environment during the construction, operation and decommissioning of a project. 2.21.35 Section 4.12 of EN-1 sets out policy on the pollution control framework. 2.21.36 EN-1 emphasises the need for good design and planning to ensure the efficient use of water, including water recycling. 2.21.37 Constructing pipelines creates corridors of surface clearance and excavation that can potentially affect watercourses, aquifers, water	Table 2.1 of this document includes an assessment of the compliance of the Proposed Development against Section 5.16 (Water Quality and Resources) of EN-1. The **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.12 of EN-1 (Pollution Control and Other Environmental Regulatory Regimes). The assessments above consider, among other things, the findings of the **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. In accordance with paragraphs 2.21.34 to 2.21.41 of EN-4, the potential effects of construction of **Work No. 8, 11A**

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	abstraction and discharge points, areas prone to flooding and ecological receptors. Pipeline impacts could include: • inadequate or excessive drainage; • interference with groundwater flow pathways; • mobilisation of contaminants already in the ground; • the introduction of new pollutants; • flooding; • disturbance to water ecology; • pollution due to silt from construction; and • disturbance to species and their habitats. 2.21.38 Impacts during construction should be avoided as far as possible through route selection or mitigated if unavoidable and ground should be reinstated after construction. 2.21.39 The abstraction and disposal of large volumes of water through hydrostatic testing of pipelines during commissioning may also impact on water quality. Abstraction and discharges are regulated by the EA, under an abstraction licence and EP respectively. 2.21.40 Where the project is likely to have effects on water resources or water quality, for example impacts on groundwater recharge or on existing surface water or groundwater abstraction points, or on associated ecological receptors, the applicant should provide an assessment of the impacts in line with Section 5.16 of EN-1 as part of the ES. 2.21.41 Where the project is likely to give rise to effects on water quality, for example through siltation or spillages, discharges from maintenance activities or the discharge of disposals such as wastewater or solvents, the applicant should provide an assessment of the impacts.	or **11B** on watercourses, aquifers, drainage, flood risk and ecological receptors have been assessed as part of that chapter. Section 12.5 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** sets out embedded and good practice mitigation that has been incorporated into the Proposed Development Design or assumed to be in place before undertaking the assessment of likely significant effects. Section 12.6 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** identifies that there are not anticipated to be any significant adverse effects on the water environment during construction or operation of the Proposed Development. As a result, no mitigation measures are required beyond the embedded and good practice measures detailed in Section 12.5 of that document. Hydrostatic testing of pipelines during commissioning will require the abstraction and disposal of volumes of water, which will be regulated by the EA under an abstraction licence and Environmental Permit. As described in Section 5 of the **Planning Statement (Application Document 5.2.1)** in the context of EN-1 section 4.12, the Applicant has engaged with the EA pre-application and does not consider that there would be any impediment to obtaining necessary environmental permits and licences in parallel with the DCO, as per the **Other Consents and Licences Statement (ES Volume I, Application Document Ref. 5.4)**.
2.21 Natural Gas and Oil Pipelines: Impacts: *Soil and Geology*	2.21.42 New pipelines will be installed in a variety of geological conditions. It will be important for applicants to understand the soil types and the nature of the underlying strata, as well as the organic content of different soils. 2.21.43 Underground cavities and unstable ground conditions may present particular risks to pipeline projects. Impacts could include sterilisation of mineral resources or loss of soil quality. 2.21.44 Applicants must assess the stability of the ground conditions associated with the pipeline route and incorporate the findings of that assessment in the ES (see Section 4.3 of EN-1) as appropriate.	In accordance with paragraphs 2.21.42 to 2.21.47 of EN-4, the ground conditions and geological constraints along the pipeline connection corridor routes have been assessed. Table 5.2.2 of the **Policy Compliance and Accordance Tables (Application Document Ref. 5.2.2)** includes an assessment of the compliance of the Proposed Development against Section 4.3 of EN-1 (Environmental Effects/ Consideration). The assessments referred to above consider, among other things, the assessment of soil and geology has been incorporated within **Chapter**

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	2.21.45 Desktop studies, which include known geology and previous borehole data, can form the basis of the applicant's assessment. 2.21.46 The applicant may find it necessary to sink new boreholes along the preferred route to better understand the ground conditions present. 2.21.47 The assessment should cover the options considered for installing the pipeline and weigh up the impacts of the means of installation. 2.21.48 Where the applicant proposes to use horizontal directional drilling (HDD) as the means of installing a pipeline under a National or International Site and mitigating the impacts, the assessment should cover whether the geological conditions are suitable for HDD. 2.21.49 When considering any application where the pipeline goes under a designated area of geological or geomorphological interest, the applicant should submit details of alternative routes, which either bypass the designated area or reduce the length of pipeline through the designated area to the minimum possible, and the reasons why they were discounted. 2.21.50 Applicants should consult with the relevant statutory consultees at an early stage.	**21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21).** The natural gas connection (**Work No. 8**) follows an existing pipeline corridor, which reduces the extent of new ground disturbance required. Paragraph 2.21.48 to 2.21.50 of EN-4 is not considered relevant because **Work No. 8** and **11** do not propose drilling underneath a nationally or internationally designated site or a designated area of geological or geomorphological interest. Accordingly, no consultation with statutory consultees is necessary in relation to this matter.
2.22 Natural Gas and Oil Pipelines: Mitigation		
Site selection	2.22.1 Where it is not considered practicable to select a route that avoids below surface usage, applicants must demonstrate in the ES that mitigating measures will be put in place to avoid adverse effects both on other below ground works and on the pipeline. 2.22.2 Mitigating measures may include: • protection or diversion of underground services; • gas detection near landfill sites; • HDD techniques; and • rerouting.	**Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)** confirms that the SAF for export will be transferred by above ground pipelines to storage vessels at existing third-party local marine loading facilities outside of the Proposed Development site. Natural gas connection (**Work No. 8**) is proposed to construct a new connection (or re-use an existing connection) to the natural gas supply network, which is located within the Site boundary, either within or close to the Main Site. Several mitigation measures for the above ground pipeline connections referred to above are secured by Appendix 5A: **Framework Construction Environmental Management Plan** (**ES Volume III, Application Document Ref. 6.3).** A detailed version of the **Framework Construction Environmental Management Plan** is secured through Requirement 4 in Schedule 2 to the **Draft Development Consent Order (Application Document Ref. 3.1)**.

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Noise and Vibration	2.22.3 Noise mitigation measures applicants should consider for gas and oil pipelines, in particular their associated above-ground installations, include screening or enclosure of compressors and pumps 2.22.4 Other measures could include the use of sound attenuators on ventilation systems, acoustic lagging on pipework, multi-stage (inherently quiet) control valves, gas turbine exhaust silencers, and high efficiency low speed cooler fans, depending on the specific issues. 2.22.5 Vibration mitigation measures could include the use of non-impact piling such as augur boring.	Mitigation measures will be embedded into the construction of the proposed natural gas and export connection works. **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Reference 6.3)** sets out the noise and vibration mitigation measures in Table 1-8. As confirmed in the response to paragraph 2.21.20 of EN-4 all compressors and generators shall be sound reduced models fitted with properly lined and sealed acoustic covers. With regards to vibration, only plant conforming to relevant national, EU or international standards, directives and recommendations on vibrations will be used. In conclusion, the proposed mitigation measures for the construction of the natural gas connection (**Work No. 8**) and export connection (**Work No. 11**) complies with EN-4 policy on mitigation for noise and vibration policy.
Biodiversity, Landscape and Visual	2.22.6 Mitigation measures to protect the landscape, visual amenity and ecology could include reducing the working width required for the installation of the pipeline to reduce the impact on the landscape where it will not be possible to fully reinstate the route. 2.22.7 In circumstances where the habitat to be crossed contains ancient woodland, ancient or veteran trees, trees subject to a Tree Preservation Order, or hedgerows subject to the Hedgerows Regulations 1997, the applicant should consider whether it would be feasible to use HDD under the ancient woodland or thrust bore under the protected tree or hedgerow and the Secretary of State should consider requiring this, where not included in the proposal. 2.22.8 In designated landscapes, measures may need to go beyond those needed to mitigate for the effects of the scheme and seek to enhance the special qualities of the designated area.	Table 2.1 in this document includes an assessment of the compliance of the Proposed Development against Section 5.4 (Biodiversity and Geological Conservation) and Section 5.10 (Landscape and Visual) of EN-1, including the mitigation measures proposed. The Applicant's response to paragraph 2.21.23 explains why the natural gas connection (**Work No. 8**) and export connection (**Work No. 11**) would have limited biodiversity and landscape and visual impacts during the construction and operation stage. Given that the connection corridors do not pass through a National Park, the Broads or a National Landscape, measures to further the purposes of any such designation are not required. **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** confirms that the connection corridors do not cross ancient woodland, ancient or veteran trees, trees subject to a Tree Preservation Order, nor hedgerows subject to the Hedgerows Regulations 1997.
Water Quality and Resources	2.22.9 Mitigation measures to protect the water environment could include techniques for crossing rivers and managing surface water before and after construction, including restoring vegetation and using sustainable drainage systems to control run-off. 2.22.10 Design measures which are typically taken to protect water quality include:	The assessment of water quality and resources has been incorporated within **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)**. Section 12.5 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** sets out embedded and good practice mitigation that has been incorporated into the Proposed

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	• the avoidance of vulnerable groundwater areas or appropriate use of above ground pipeline facilities; • use of the highest specification pipework and best practice in the storage and handling of pollutants to prevent spillage; • careful storage of excavated material away from watercourses and facilities for the disposal of sewage and waste; • use of sustainable drainage systems; and • careful reinstatement of riverbanks and reed beds.	Development Design or assumed to be in place before undertaking the assessment of likely significant effects. Section 12.6 of **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** identifies that there are not anticipated to be any significant adverse effects on the water environment during construction or operation of the Proposed Development. As a result, no mitigation measures are required beyond the embedded and good practice measures detailed in Section 12.5 of the chapter.
Soil and Geology	2.22.11 Mitigation measures to minimise any adverse effects on soil and geology should include measures to ensure that residual impacts on the surface are minor. 2.22.12 Mitigation measures should include appropriate treatment of soil (in particular topsoil and soil with high organic content) during site construction and other infrastructure activity (and appropriate soil storage and reinstatement in line with the principles and practices outlined in the Code of Practice for the Sustainable Management of Soils on Construction Sites[16] and the Agricultural Land Classification[17] which provides guidelines on soil handling and restoration criteria and land quality. 2.22.13 Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This should be in line with the ambition set out in the Environmental Improvement Plan to bring at least 40% of England's agricultural soils into sustainable management by 2028 and increase this to 60% by 2030. 2.22.14 Where HDD is proposed, the applicant should provide an alternative plan for installing the pipeline in the event that HDD fails. Such alternative means could include open cut, micro-tunnelling and tunnelling.	The assessment of soil and geology has been incorporated within **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21).** This includes a number of embedded and good practice mitigation measures applying to the Wider Site, including pipeline corridors, including reference to a detailed CEMP for construction.
2.23 Natural Gas and Oil Pipelines: Secretary of State decision making Impacts		
Pipeline safety	2.23.1 The Secretary of State should seek advice from HSE about safety issues when considering an application.	The Applicant has consulted with the HSE on the Proposed Development as part of both the Statutory and Targeted consultations as set out within the submitted **Consultation Report (Application Document Ref. 5.1.1)** and **Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 3.1.19)**. A Pipeline Safety Notification will be made to HSE at least 6 months prior

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		to the start of construction of **Work No. 8**, **Work No, 11A** and **Work No. 11B** as detailed in the **Other Consents and Licences Statement (Application Document Ref. 5.4)**.
Noise and Vibration	2.23.2 The Secretary of State should follow the principles for decision making set out in Section 5.12 of EN-1.	Table 2.1 of this document demonstrates that the natural gas connection (**Work No. 8**), pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) and pipelines for the export of CO_2 (**Work No. 11B**) comply with the decision-making framework in Section 5.12 of EN-1.
Biodiversity, Landscape and Visual	2.23.3 The Secretary of State should follow the principles for decision making set out in Sections 5.4 and 5.10 of EN-1.	Table 2.1 of this document demonstrates that the natural gas connection (**Work No. 8**), pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) and pipelines for the export of CO_2 (**Work No. 11B**) comply with the decision-making frameworks in Section 5.4 and 5.10 of EN-1.
Water Quality and Resources	2.23.4 The Secretary of State should be satisfied that the impacts on water quality and resources are acceptable in accordance with Section 5.16 of EN-1. 2.23.5 The Secretary of State should liaise with the EA/ NRW/ Scottish Environment Protection Agency (SEPA) over the potential for the new development to result in loss or reduction of supply to any licensed abstraction or unlicensed groundwater abstraction, or any potential interference with current legitimate uses of groundwater or surface waters, taking account of the terms of any relevant EPs or any negative effect on a groundwater dependent ecosystem.	Table 2.1 of this document demonstrates that the natural gas connection (**Work No. 8**), pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) and pipelines for the export of CO_2 (**Work No. 11B)** comply with the decision-making framework in Section 5.16 of EN-1.
Soil and Geology	2.23.6 The Secretary of State should take into account the impact on and from geology and soils when considering a pipeline project. 2.23.7 A proposal will be acceptable from the point of view of soil and geology if the applicant has proposed a route and other measures (if applicable) that either eliminates any adverse impacts on soil and geology or reduces them to an acceptable level, and that the route chosen does not adversely affect the integrity of the pipeline, for example, by increasing materially the risk of fracture or impact on areas of high population.	The assessment of soil and geology has been incorporated within **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21).** It sets out that there are no potential significant effects associated with the construction and operation of the Proposed Development, including the natural gas connection (**Work No. 8**), pipelines for the export of SAF and renewable naphtha (**Work No. 11A**) and pipelines for the export of CO_2 (**Work No. 11B)**.

5 Accordance with National Policy Statement for electricity networks infrastructure (EN-5)

Table 5.1 Accordance with National Policy Statement for electricity networks infrastructure (EN-5)

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2.2 Factors influencing site selection and design	2.2.2 Siting [of new electricity networks infrastructure] is determined by: • The location of new generating stations or other infrastructure requiring connection to the network, and/or • System capacity and resilience requirements determined by the NESO. 2.2.5 Additionally, applicants retain control in managing the identification of routing and site selection between the identified initiating and terminating points or within the development zone. 2.2.6 Moreover, the locational constraints identified above do not, of course, exempt applicants from their duty to consider and balance the site-selection considerations set out below, much less the policies on good design and impact mitigation detailed in Section 2.4 and Section 2.10. 2.2.7 The connection between the initiating and terminating points of a proposed new electricity line will often not be via the most direct route. Siting constraints, such as engineering, environmental or community considerations will be important in determining a feasible route. 2.2.8 There will usually be a degree of flexibility in the location of the development's associated infrastructure such as substations, and applicants should consider carefully their location, as well as their design. 2.2.9 In particular, the applicant should consider such characteristics as the local topography, the possibilities for screening of the infrastructure and/or other options to mitigate any impacts (See Sections 2.9 – 2.10 below and Section 5.10 in EN-1.) 2.2.10 As well as having duties under section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and …do what [they] reasonably can to mitigate any effect which the	**Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)** confirms the electricity required to operate the SAF Production Facility will be provided by the proposed CHP plant within the Main Site so there is no requirement for ongoing export to the national electricity network. An assessment of the landscape and visual effects of the Proposed Development has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. The findings of that assessment, and details of how the Proposed Development complies with Section 5.10 of EN-1 (as per paragraph 2.2.9 of EN-5), are set out in Table 2.1 of this document. To provide power for construction, startup and to maintain ancillary site supplies an electrical connection will be required. The Applicant has offer for an approximately 5MWe connection to the local 11kV grid network operated by the District Network Operator (DNO). The connection will be integrated into the site systems. A below ground 132kV electrical connection is also being explored with the DNO which would be constructed northward to the Main Site from the existing North Bank switchyard which is located approximately 500m to the south of the Main Site (see **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. This connection may require a trenchless crossing beneath the link-line corridor. In the event the 132kV connection is able to be delivered, the 132kV would then be utilised instead of the 11kV connection (**Work No. 7**). The Applicant has described these further in the **Electricity Grid Connection Statement (Application Document Ref. 7.1)** albeit the Applicant does not consider this to be required under regulation 6(1)(a)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 ('the APFP regs'). It should be noted that **Work No. 7** consists of underground and overground 132kV electrical cabling connections but does not include overhead cabling. The **DAD (Application Document Ref. 5.3.1)** appraises the Site and its context and sets out how landscape considerations have fed into the design of the Proposed Development. This has fed into the **Outline Design Principles (Application Document Ref. 5.3.2)** which sets out the design principles in relation to

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	proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects." 2.2.11 Depending on the location of the proposed development, statutory duties under section 85 of the Countryside and Rights of Way Act 2000, section 11A of the National Parks and Access to the Countryside Act 1949 (as amended by section 62 of the Environment Act 1995), and section 17A of the Norfolk and Suffolk Broads Act 1988 may be relevant. Applicants should note amendments to each of these provisions contained in section 245 of the Levelling Up and Regeneration Act 2023.	cable routing, crossing points and to give consideration to the local landscape, sensitive ecological receptors and to respect necessary stand-off distances from existing third-party infrastructure. The Applicant's approach to routeing the proposed electrical connection is considered to accord with this Section of EN-5. Regarding Paragraph 2.2.10 and noting that the Applicant is not a licence-holder, as per footnote 9 of EN-5 the Applicant should still be influenced by the duty under section 9 of the Electricity Act 1989. The principles of schedule 9 have informed the Applicant's approach to **Work No. 7**, as described in the **DAD (Document Ref. 5.3.1)**. In relation to the statutory duties referred to at paragraph 2.2.11, these duties apply to the SoS and ExA as relevant authorities in their decision-making functions, rather than to the Applicant. The North York Moors National Park, approximately 10km to the south-east, is the relevant designated area for the purposes of section 11A of the National Parks and Access to the Countryside Act 1949. Neither **Work No. 7A** nor **Work No. 7B** would affect land within the National Park or give rise to any adverse effects on the purposes of the designation. The SoS should be satisfied that the section 11A duty does not give rise to any constraint on the granting of consent for **Work No. 7**.
2.3 Climate change adaptation and resilience	2.3.1 Section 4.10 of EN-1 sets out the generic considerations that applicants and the Secretary of State should take into account in order to ensure that electricity networks infrastructure is resilient to the effects of climate change. 2.3.2 As climate change is likely to increase risks to the resilience of some of this infrastructure, from flooding for example, or in situations where it is located near the coast or an estuary or is underground, applicants should in particular set out to what extent the proposed development is expected to be vulnerable, and, as appropriate, how it has been designed to be resilient to: • Flooding, particularly for substations that are vital to the network; and especially in light of changes to groundwater levels resulting from climate change; • The effects of wind and storms on overhead lines; • Higher average temperatures leading to increased transmission losses; • Earth movement or subsidence caused by flooding or drought (for underground cables); and	Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 4.10 (Climate Change Adaptation and Resilience) of EN-1. The Planning Statement includes an assessment of the compliance of the Proposed Development against Section 5.6 (Coastal Change) and Section 5.8 (Flood Risk) of EN-1, and the Planning Statement includes an assessment of the compliance of the Proposed Development against Section 2.4 (Climate change adaptation and resilience). The assessment above identifies, among other things, that the resilience of the Proposed Development, including its electricity network infrastructure in **Work No. 7**, to climate change impacts is considered in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)**. This concludes overall that, with embedded mitigation measures successfully implemented into the design and operation of the Proposed Development, there are no likely significant effects arising from any climate change hazard assessed, including flooding, storms, higher temperatures, subsidence and coastal erosion.

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	• Coastal erosion – for the landfall of offshore transmission cables and their associated substations in the inshore and coastal locations respectively. 2.3.3 Section 4.10 of EN-1 advises that the resilience of the project to the effects of climate change must be assessed in the Environmental Statement (ES) accompanying an application. For example, future increased risk of flooding would be covered in any flood risk assessment (see Section 5.8 in EN-1). Consideration should also be given to coastal change (see Section 5.6 in EN-1).	It should be noted that the effects of high winds and storms on overhead lines is not identified as a potential climate hazard for overhead lines as these do not form part of the Proposed Development.
2.4 Consideration of good design for energy infrastructure	2.4.1 The Planning Act 2008 requires the Secretary of State to have regard, in designating an NPS, and in determining applications for development consent, to the desirability of good design 2.4.2 Applicants should consider the criteria for good design set out in EN1 Section 4.7, the Holford and Horlock rules and Electricity Transmission Design Principles (see Section 2.9 below) at an early stage when developing projects. 2.4.3 However, the Secretary of State should bear in mind that electricity networks infrastructure must in the first instance be safe and secure, and that the functional design constraints of safety and security may limit an applicant's ability to influence the aesthetic appearance of that infrastructure. 2.4.4 While the above principles should govern the design of an electricity networks infrastructure application to the fullest possible extent – including in its avoidance and/or mitigation of potential adverse impacts (particularly those detailed in Section 2.10 below) – the functional performance of the infrastructure in respect of security of supply and public and occupational safety must not thereby be threatened.	As per paragraph 2.4.2 of EN-5, the Holford Rules apply to high voltage overhead lines as typically constructed by transmission licence holders, none of which are proposed. However, the rules may be indirectly relevant to any above ground sections of **Work No. 7A** and therefore an assessment of the Proposed Developments accordance with the Holford Rules is set out below in section 2.9. The Horlock Rules relate to the design and siting of National Grid substations are not directly relevant but may be indirectly relevant to the new substation to be constructed as part of **Work No. 7B**. The principles of the Horlock Rules have been embedded in the design of **Work No. 7B**, as set out below in the assessment of accordance with Section 2.9 of EN-5. An assessment against the policies for good design set out in Section 4.7 of EN-1 is contained within the main body of the **Planning Statement (Application Document Ref. 5.2.1)**. As detailed in the **DAD (Application Document Ref. 5.3.1),** safety, security and functionality was a key consideration, but good design has been a fundamental consideration throughout the development of the electrical infrastructure. Efforts were made to avoid and mitigate potential adverse impacts wherever possible, as also demonstrated throughout the **ES (Application Document Ref. 6.1)**. The design vision and objectives described in the DAD are built on in the **Outline Design Principles (Application Document Ref. 5.3.2)** which sets out the Design Principles which have been developed during the pre-application period through surveys and assessments, consultation and design work. These will be key principles that feed into the final, detailed design of the Proposed Development, to ensure a good design process continues to be followed.

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		Compliance with the Outline Design Principles document is secured by a Requirement 3 in the **Draft Development Consent Order (Application Document Ref. 3.1).** DP15 seeks to route external cabling in a rational manner, consolidated onto shared gantries where possible and avoiding haphazard routeing. DP32 requires the cable routing to be micro-sited to minimise the removal of existing established vegetation, avoid sensitive ecological receptors, and respect necessary stand-off distances from existing third-party infrastructure.
2.5 Environmental and Biodiversity Net Gain	2.5.1 When planning and evaluating the proposed development's contribution to environmental and biodiversity net gain, it will be important – for both the applicant and the Secretary of State – to supplement the generic guidance set out in EN-1 (Section 4.6) with recognition that the linear nature of electricity networks infrastructure can allow for excellent opportunities to: • Reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or • Connect people to the environment, for instance via footpaths and cycleways constructed in tandem with environmental enhancements.	Table 2.2 of the **Policy Compliance and Accordance Tables (Application Document Ref. 5.2.2)** includes an assessment of the compliance of the Proposed Development against Section 4 (Environmental and biodiversity net gain) of EN-1. **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1)** sets out that the Proposed Development's BNG objective is to create habitat as close as possible to the baseline habitats lost, and achieve a 'no net loss' in baseline Biodiversity Units. Due to the location of the Site and the constrained nature of the Proposed Development there are not opportunities to reconnect important habitats or connect people to the environment.
2.6 Land Rights and Land Interests	2.6.1 In order to be lawfully able to install, inspect, maintain, repair, adjust, alter, replace or remove an electricity line (above or below ground), its related equipment (such as monopoles, pylons/transmission towers, transformers and cables), and/or its associated mitigation or enhancement schemes, applicants must: • Own the land on, over, or under which the relevant activity is to take place; or • Hold sufficient rights over or interests in that land (typically in the form of an easement); or • Have permission for the activity from the present owner or occupier of that land (typically in the form of a wayleave) 2.6.2 Where the applicant does not own or wish to own the land in question, it should try to reach a voluntary agreement giving it sufficient rights and/or permissions to undertake the relevant work 2.6.3 As a last resort, where it does not succeed in reaching the agreement that it requires, the network company may, as part of its	The Applicant is seeking compulsory acquisition powers within the d**raft DCO (Applicant Document Ref. 3.1)**. The Applicant requires compulsory acquisition powers to ensure that it is able to acquire all of the land and interests required for the Proposed Development, including the land and interests for which a private agreement has not yet been reached. Notwithstanding the position reached in respect of land negotiations as set out in the **Pre-application Land and Rights Negotiation Tracker (Application Document Ref. 4.4),** it is necessary for the Applicant to be granted the compulsory acquisition powers included in the **draft DCO (Application Document Ref. 3.1)** to protect against a scenario where agreement cannot be reached. Whilst seeking compulsory acquisition powers, the Applicant will continue to seek to acquire the land and rights and other interests in, on and over the land by agreement in parallel. This approach of making the application for powers of compulsory acquisition in the Application for the **draft DCO (Application Document Ref. 3.1)** and, in parallel,

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	application to the Secretary of State, seek to acquire rights compulsorily over the land in question by means of a provision in the DCO 2.6.4 In such cases (i.e. where the compulsory acquisition of rights is sought) permanent arrangements are strongly preferred over voluntary wayleaves (which could, for example, be terminable on notice by the landowner) in virtue of their greater reliability and economic efficiency and reflecting the importance of the relevant infrastructure to the government's Clean Power and net zero goals 2.6.5 The applicant may also seek the compulsory acquisition of land. This will not normally be necessary where lines and cables are installed but may be sought where other forms of electricity networks infrastructure (such as new substations) are required. 2.6.6 As detailed in Section 4.1.8 of EN-1, where the use of land at a specific location is required to facilitate the development by providing for mitigation and landscape enhancement, an applicant may, as part of its application to the Secretary of State, seek the compulsory acquisition of that land, or rights over that land. The Secretary of State will consider any such application under the provisions of the Planning Act 2008 and any associated guidance 2.6.7 Ahead of securing land rights or interests for transmission infrastructure development itself, an applicant will, in many cases, need to obtain access to land to conduct technical and environmental surveys to inform their development proposals. Some of these will be seasonal species surveys meaning there are limited opportunities during the course of the year in which they can be undertaken; timely access for surveys can have a significant impact on overall project timelines.	conducting negotiations to acquire land by agreement, accords with relevant compulsory acquisition guidance.
2.9 Applicant assessment: Impacts		
Biodiversity and Geological Conservation	2.9.3 Electricity networks infrastructure pose a particular potential risk to birdlife including large birds, such as swans and geese, and perching birds. These may collide with overhead lines and risk being electrocuted. Large birds may also be electrocuted when landing or taking off by completing an electric circuit between live and ground wires. Even perching birds can be killed as soon as their wings touch energised parts of the infrastructure. 2.9.4 Applicants should consider measures to make lines more visible such as bird flappers and diverters which are covered in more detail in Sections 2.10.2 - 2.10.4.	**The Planning Statement (Application Document Ref. 5.2.1)** includes an assessment of the compliance of the Proposed Development against Section 5.4 (Biodiversity and Geological Conservation) of EN-1. The biodiversity effects of electricity networks infrastructure have been assessed in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10). Work No. 7** consists of underground and overground 132kV electrical cabling connections but does not include overhead cabling, and therefore paragraphs 2.9.3 to 2.9.5 of EN-5 are of no relevance.

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	2.9.5 The applicant will need to consider whether the proposed line will cause such problems at any point along its length and take this into consideration in the preparation of the ES (see Section 4.3 of EN-1). 2.9.6 Particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds, where they are functionally linked to sites designated or allocated under the 'national site network' provisions of the Conservation of Habitats and Species Regulations and Conservation of Offshore Marine Habitats and Species Regulations.	
Landscape and Visual Impact	2.9.9 New substations, sealing end compounds (including terminal towers), and other above-ground installations that serve as connection, switching, and voltage transformation points on the electricity network may also give rise to adverse landscape and visual impacts. 2.9.10 Cumulative adverse landscape, seascape and visual impacts may arise where new overhead lines are required along with other related developments such as substations, wind farms, and/or other new sources of generation. 2.9.11 Landscape and visual benefits may arise through the reconfiguration, rationalisation, or undergrounding of existing electricity network infrastructure. Though mitigation of the landscape and visual impacts arising from overhead lines and their associated infrastructure is usually possible, it may not always be so, and the impossibility of full mitigation in these cases does not countermand the need for overhead lines. 2.9.12 However, in nationally designated landscapes (National Parks, The Broads and National Landscapes) even residual impacts may make an overhead line proposal unacceptable in planning terms (see paragraph 2.9.21 below for guidance on this case). 2.9.13 Where possible, applicants should ensure that the principles detailed in paragraphs 2.9.16-2.9.19 below are embodied in the design of their proposed overhead line route and its associated infrastructure. Applicants should also offer proposals (for instance those detailed in Section 2.10 below) for additional mitigation. 2.9.14 Where the nature or proposed route of an overhead line will likely result in particularly significant landscape and visual impacts, as would be assessed through seascape, landscape and visual impact assessment (SLVIA), the applicant should demonstrate that they have	An assessment of the landscape and visual effects of the Proposed Development has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. The findings of that assessment, and details of how the Proposed Development complies with Section 5.10 of EN-1 (as per paragraph 2.2.9 of EN-5), are set out in Table 2.1 of this document. All landscape effects and the majority of visual effects are assessed as **minor adverse and not significant.** Significant residual adverse effects are limited to one viewpoint, where a **moderate adverse significant** visual effect is predicted during both construction and operation for high sensitivity recreational receptors. This impact, however, result from middle and upper parts of the Proposed Development such as stacks, flare structures and tall buildings, and above ground powerlines would not be noticeable in the surrounding context. The Holford Rules (EN-5, paragraph 2.9.16) apply to high voltage overhead lines as typically constructed by transmission licence holders, none of which are proposed. However, the rules may be indirectly relevant to any above ground sections of **Work No. 7A**. The connection route runs northward from the existing North Bank Supply Point to the Main Site over a distance of approximately 500m. Having regard to the Holford Rules, the following is noted in respect of **Work No. 7A**: • The route has been selected to be as direct as practicable given the short distance involved and the constraints of the existing industrial site layout, with no sharp changes of direction; • The route lies entirely within an established heavy industrial area and does not pass through or adjacent to any area of high amenity value, nationally designated landscape, or area of scientific interest. The North York Moors National Park lies approximately 10km to the south-east and is unaffected by these works; and

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	given due consideration to the costs and benefits of feasible alternatives to the overhead line. This could include, where appropriate re-routing, underground or subsea cables and the feasibility e.g. in cost, engineering or environmental terms of these. Applicants should note the policy position for nationally designated landscapes at paragraph 2.9.21 below. 2.9.15 The ES should set out details of this consideration, including the applicant's rationale for eschewing feasible alternatives to the overhead line, and the mitigation cost-calculation methodology that this rationale may rely upon. 2.9.18 The Horlock Rules (guidelines for the design and siting of substations) were established by National Grid in 2009 in pursuance of its duties under Schedule 9 to the Electricity Act 1989. These principles should be embodied in applicants' proposals for the infrastructure associated with new overhead lines.	• Any overground sections would be perceived against an existing backdrop of large-scale industrial structures, pylons and overhead powerlines, minimising additional visual impact. The connection routes are shown on the **Connection Route Plans (Application Document Ref. 2.9)** and described in the **Electricity Grid Connection Statement (Application Document Ref. 7.1)**. The Horlock Rules (EN-5, paragraph 2.9.18) relate to the design and siting of National Grid substations and may be indirectly relevant to the new substation to be constructed as part of **Work No. 7B**. The principles of the Horlock Rules have been satisfied in the design of **Work No. 7B**, including: • consideration of environmental issues from the earliest stage to balance technical requirements against environmental effects (see Section 6.2 of the Planning Statement assessment against EN-1 Section 4.3); • avoidance of internationally and nationally designated landscapes - the North York Moors National Park lies approximately 10km to the south-east and neither connection option would affect this designated area; and • protection of amenity value of existing habitats and landscape features as far as reasonably practicable (see **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**). In accordance with paragraphs 2.9.9 and 2.9.10 of EN-5, the potential landscape and visual effects of the electrical connection works have been considered in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. Given that both connections are non-overhead cable installations within an established industrial area, and that the new substation within **Work No. 7B** will be sited within the Main Site where the existing baseline is characterised by large-scale industrial structures which are already highly visible across the Tees Estuary landscape, the landscape and visual effects associated with **Work No. 7** are assessed as **minor adverse and not significant** during both construction and operation.
Noise and Vibration	2.9.27 All high voltage transmission lines have the potential to generate noise under certain conditions.	The proposed connection to the local 11kV grid network operated by the DNO would be integrated into site systems. A below ground 132kV electrical connection is also being explored with the DNO.

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	2.9.38 Audible noise effects can also arise from substation equipment such as transformers, quadrature boosters and mechanically switched capacitors. 2.9.39 Transformers are installed at many substations, and generate low frequency hum. Whether the noise can be heard outside a substation depends on a number of factors, including transformer type and the level of noise attenuation present (either engineered intentionally or provided by other structures). 2.9.40 For the assessment of noise from substations, standard methods of assessment and interpretation using the principles of the relevant British Standards28 are satisfactory. 2.9.44 The Secretary of State is likely to regard it as acceptable for the applicant to use a methodology that demonstrably addresses these criteria	**Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** presents the assessment of likely significant effects of noise and vibration arising from construction, operation and decommissioning of the Proposed Development. This includes a description of the noise generating aspects of the Proposed Development, noise sensitive receptors, noise baseline, likely noise impacts and related mitigations. The noise assessment for the operational phase concludes that no significant adverse effects or additional mitigation have been identified for operational stationary plant and road traffic noise at residential noise sensitive receptors. As such, no residual operational significant effects for residential noise sensitive receptors have been identified.
Electric and Magnetic Fields (EMFs)	2.9.45 Power frequency EMFs arise from generation, transmission, distribution and use of electricity and will occur around power lines and electric cables and around domestic, office or industrial equipment that uses electricity. 2.9.46 EMFs comprise electric and magnetic fields. Electric fields are the result of voltages applied to electrical conductors and equipment. Fences, shrubs and buildings easily block electric fields. Magnetic fields are produced by the flow of electric current; however, unlike electric fields, most materials do not readily block magnetic fields. The intensity of both electric fields and magnetic fields diminishes with increasing distance from the source. 2.9.47 All overhead power lines produce EMFs. These tend to be highest directly under a line and decrease to the sides at increasing distance. Although putting cables underground eliminates the electric field, they still produce magnetic fields, which are highest directly above the cable. EMFs can have both direct and indirect effects on human health, aquatic and terrestrial organisms.	The 132kV electrical connection works (**Work No. 7**) would be located underground or overground (as opposed to overhead) thereby reducing potential EMF radiation impacts. The connection would include a metallic shield to minimize any electromagnetic radiation impacts as per the industry standards and good practice and required by the DNO. **Appendix 2A: Scoping Report (ES Volume III, Application Document Ref. 6.3.2)** scoped out an assessment of human health from the ES. Section 16.7 of **Appendix 2A: Scoping Report (ES Volume III, Application Document Ref. 6.3.2)** justified this on the basis of the limited number of properties located within the 250m study area and the absence of anticipated impact on any leisure cultural or social resources. The Planning Inspectorate in **Appendix 2B; Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3.3)** agreed with the justification that the operation of the Proposed Development will not impact on health and social care services, schools or other community infrastructure. The electrical connection works (**Work No. 7**) would be located within and adjacent to the Main Site, remote from sensitive residential receptors therefore the maximum levels of electromagnetic radiation received at existing residential properties and places of work from the electrical connection routes would be below ICNIRP 1998 reference levels.

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Sulphur Hexafluoride	2.9.60 Sulphur Hexafluoride (SF6) is an insulating and arc-suppressant gas used in high-voltage switchgear for electricity networks. 2.9.61 It is also an extraordinarily potent greenhouse gas, and fugitive emissions from electricity networks infrastructure are an object of increasing environmental concern, especially in light of the UK's commitment to net zero by 2050. 2.9.62 Applicants should at the design phase of the process consider carefully whether the proposed development could be reconceived to avoid the use of SF6-reliant assets. 2.9.63 Where the development cannot be so conceived, the applicant must provide evidence of their reasoning on this point. Such evidence will include, for instance, an explanation of the alternatives considered, and a case why these alternatives are technically infeasible or require bespoke components that are grossly disproportionate in terms of cost. 2.9.64 In particular, an accounting of the cost differential between the SF6- reliant asset and the appropriate SF6-free alternative should be provided. 2.9.65 Where applicants, having followed the above procedure, do propose to put new SF6-reliant assets onto the electricity system, they should design a plan for the monitoring and control of fugitive SF6 emissions consistent with the Fluorinated gas (F-gas) Regulation and its successors.	The Applicant's design does not specify the use of SF6 reliant assets, as the supply chain for plant such as 132 kV and 33 kV Gas Insulated Switchgear (GIS) will comply with relevant regulations which seek to phase out the use of SF6 assets. Therefore, no monitoring or fugitive emission control plan is considered necessary.
2.10 Applicant assessment: Mitigation		
Biodiversity and Geological Conservation	2.10.2 Careful siting of a line away from, or parallel to, but not across, known flight paths can reduce the numbers of birds colliding with overhead lines considerably. 2.10.3 Making lines more visible by methods such as the fitting of bird flappers and diverters to the earth wire, which swivel in the wind, glow in the dark and use of fluorescent colours designed specifically for bird vision can also reduce the risk of bird collisions and number of potential deaths. The design and colour of the diverters will be specific to the conditions – the line and pylon/transmission tower specifications and the species at risk. 2.10.4 Electrocution risks can be reduced through the design of lattice steel tower crossarms, insulators and the construction of other parts of	As set out above the assessment of accordance against paragraphs 2.9.3 to 2.9.6 of EN-5, **Work No. 7** consists of underground and overground 132kV electrical cabling connections but does not include overhead cabling. Paragraphs 2.10.2 to 2.10.4 of EN-5 are therefore similarly of no relevance.

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	high voltage power lines so that birds find no opportunity to perch near energised power lines on which they might electrocute themselves.	
Landscape and Visual Impact	2.10.5 In addition to good design in accordance with the Holford and Horlock rules (please see paragraphs 2.9.16 - 2.9.19) and the ETDP once published (paragraph 2.9.20), and the consideration of undergrounding or rerouting the line where possible, the principal opportunities for mitigating adverse landscape and visual impacts of electricity networks infrastructure are: • Consideration of network reinforcement options (where alternatives exist) which may allow improvements and/or extensions to an existing line rather than the building of an entirely new line; • Selection of the most suitable type and design of support structure in order to minimise the overall visual impact on the landscape. In particular, ensuring that towers are of the smallest possible footprint and internal volume; and • The rationalisation, reconfiguration, and/or undergrounding of existing electricity networks infrastructure in the vicinity of the proposed development. 2.10.6 Additionally, there are more specific measures that might be taken, and which the Secretary of State could mandate through DCO requirements if appropriate, as follows: • Landscaping schemes, comprising off-site tree and hedgerow planting, are sometimes used for larger new overhead line projects to mitigate potential landscape and visual impacts, softening the effect of a new above ground line whilst providing some screening from important visual receptors. These may be implemented with the agreement of the relevant landowner(s), or the developer may compulsorily acquire the land or land rights in question. Advice from the relevant statutory authority should be sought on the design of such schemes, with particular consideration given to the selection of species mix which is appropriate to the local landscape character; and • Screening, comprising localised planting in the immediate vicinity of residential properties and principal viewpoints can also help to screen or soften the effect of the line, reducing the visual impact from a particular receptor. 2.10.7 As set out in the paragraphs above, where landscaping schemes and/or screening mitigation of the kind described above is required,	An assessment of the landscape and visual effects of the Proposed Development, including the approach to mitigating landscape and visual impacts for the Proposed Development, has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. The findings of that assessment, and details of how the Proposed Development complies with Section 5.10 of EN-1 (as per paragraph 2.2.9 of EN-5), are set out in Table 2.1 of this document. The Electricity Transmission Design Principles (ETDP) have not yet been published and therefore are not relevant (as per paragraph 2.9.20 and 2.10.5). As per paragraph 2.4.2, the Holford Rules apply to high voltage overhead lines as typically constructed by transmission licence holders, none of which are proposed. The Horlock Rules (EN-5, paragraph 2.9.18) relate to the design and siting of National Grid substations and may be indirectly relevant to the new substation to be constructed as part of **Work No. 7B**. The detailed design of Works 7A and 7B, including the final determination of underground versus overground delivery for **Work No. 7A**, is secured by Requirement 3 in Schedule 2 of the d**raft DCO (Application Document Ref. 3.1)**, ensuring that good design principles including those in the Holford and Horlock Rules are carried through to the detailed design stage. Electrical network infrastructure has been embedded in the design of the Proposed Development through the selection of cable routes for both electrical connection options, in accordance with Section 2.10 of EN-5 (see the **Design Approach Document (Application Document Ref. 5.3.1)**). No additional landscaping or screening measures have been identified as necessary given the **minor adverse, not significant** level of assessed visual effects and the industrial character of the surrounding area.

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	rights over the land necessary for such measures may be compulsorily acquired as part of the DCO. 2.10.8 Furthermore, since long-term management of the selected mitigation schemes is essential to their mitigating function, a management plan, developed at least in outline at the conclusion of the examination, and which sets out proposals within a realistic timescale, should secure the integrity and benefit of these schemes. This should also uphold the landscape commitments made to achieve consent, alongside any pertinent commitments to environmental and biodiversity net gain.	
Noise and Vibration	2.10.9 Applicants must consider the following measures: • The positioning of lines to help mitigate noise; • Ensuring that the appropriately sized conductor arrangement is used to minimise potential noise; • Quality assurance through manufacturing and transportation to avoid damage to overhead line conductors which can increase potential noise effects; • Ensuring that conductors are kept clean and free of surface contaminants during stringing/installation; and • The selection of quieter cost-effective plants. 2.10.10 In addition, the ES should include information on planned maintenance arrangements. Where detail is not included, the Secretary of State should consider stipulating appropriate maintenance arrangements by way of requirements attached to any grant of development consent.	**Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** concludes that no significant adverse effects or additional mitigation have been identified for operational stationary plant at residential noise sensitive receptors. As such, no residual operational significant effects for residential noise sensitive receptors are identified. As stipulated in the **Application Grid Connection Statement (Application Document Ref. 7.1)**, Northern Powergrid will be responsible for maintenance of their plant and apparatus and the Applicant will be responsible for the maintenance of their plant and apparatus from the point of connection into the Main Site over the life of the Proposed Development.
Electric and Magnetic Fields (EMFs)	2.10.11 The applicant should consider the following factors: • Height, position, insulation and protection (electrical or mechanical as appropriate) measures subject to ensuring compliance with the Electricity Safety, Quality and Continuity Regulations 2002; • That optimal phasing of high voltage overhead power lines is introduced wherever possible and practicable in accordance with the Code of Practice to minimise EMFs; and • Any new advice emerging from the Department of Health and Social Care relating to government policy for EMF exposure guidelines.	The Applicant has considered the factors relating to EMF exposure and the 132kV electrical connection works (**Work No. 7**) based on underground cables specified with metallic shield to minimize any EMF emissions as per the industry standards and good practice. The 132kV electrical connection works would fall within the remit of Northern Powergrid's contestable and non-contestable works. It is therefore assumed the works would comply with the applicable quality, supply and safety requirements of the Electricity Safety, Quality and Continuity Regulations 2002.

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	2.10.12 Where it can be shown that the line will comply with the current public exposure guidelines and the policy on phasing, no further mitigation should be necessary. 2.10.13 Where EMF exposure is within the relevant public exposure guidelines, re-routeing a proposed overhead line purely on the basis of EMF exposure or undergrounding a line solely to further reduce the level of EMF exposure are unlikely to be proportionate mitigation measures.	The electrical connection would not comprise OHLs near a population centre and therefore optimal phasing is not a relevant consideration. As stated above, it is assumed the works would have regard to emerging government advice and policy related to EMF exposure. The connection would be remote from sensitive human receptors and would therefore fall well under EMF exposure levels and is therefore not anticipated to impact residential properties, cultural and leisure facilities. The electrical connection works comply with NPS policy to the extent they are relevant to the Proposed Development and therefore no mitigation is considered necessary. The Applicant considers **Work No. 7** complies with EN-5 policy paragraph 2.10.12.
Sulphur Hexafluoride	2.10.14 The climate-warming potential of SF6 is such that applicants should, as a rule, avoid the use of SF6 in new developments. 2.10.15 Where no proven SF6-free alternative is commercially available, and where the cost of procuring a bespoke alternative is grossly disproportionate, the continued use of SF6 is acceptable, provided that emissions monitoring and control measures compliant with the F-gas Regulation and/or its successors are in place.	The Applicant's design does not specify the use of SF6 reliant assets, as the supply chain for plant such as 132 kV and 33 kV Gas Insulated Switchgear (GIS) will comply with relevant regulations which seek to phase out the use of SF6 assets. Therefore **Work No. 7** complies with EN-5 policy to the extent that it is relevant to the below NSIP scale of electricity networks infrastructure proposed.
2.11 Secretary of State decision making: Impacts		
Biodiversity and Geological conservation	2.11.1 Where biodiversity impacts are identified, including those associated with bird collision with overhead lines, the Secretary of State should be satisfied that all feasible options for mitigation have been considered and evaluated appropriately.	The biodiversity effects of electricity networks infrastructure have been assessed in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10).** However, **Work No. 7** consists of underground and overground 132kV electrical cabling connections but does not include overhead cabling, and therefore paragraph 2.11.1 is of no relevance.
Landscape and Visual	2.11.2 The Secretary of State should be satisfied that the development, so far as is reasonably possible, complies with the Holford and Horlock Rules (please see paragraphs 2.9.16 - 2.9.19) or any updates to them and has had regard to the ETDP (please see paragraph 2.9.20) once published. 2.11.3 The Secretary of State should also be satisfied that all feasible options for mitigation, including the rationalisation, reconfiguration, or undergrounding of existing electricity networks infrastructure, have been considered and evaluated appropriately.	An assessment of the landscape and visual effects of the Proposed Development has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. The findings of that assessment, including SoS decision making as it relates to landscape and visual impacts for the Proposed Development and details of how the Proposed Development complies with Section 5.10 of EN-1 (as per paragraph 2.11.5 of EN-5), are set out in Table 2.1 of this document.

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	2.11.4 In circumstances where it can be demonstrated that a mitigation measure and/or technological approach is appropriate and/or necessary for a project, including to limit landscape and visual impact as set out above, the Secretary of State should take this into account in decision making. 2.11.5 Nationally designated landscapes have specific statutory purposes. The Secretary of State should have special regard to nationally designated landscapes, where the general presumption in favour of overhead lines should be reversed to favour undergrounding. In addition, the Secretary of State must seek to further the purpose(s) of designated landscapes when making decisions which effect land within the designated area. EN-1 (Section 5.10) and paragraphs 2.9.7 to 2.9.26 above have further guidance on this requirement. 2.11.6 Away from designated landscapes and in locations where there is a high potential for widespread and significant adverse landscape and/or visual impacts, the Secretary of State should be satisfied that the applicant has provided evidence to support a decision on whether undergrounding is or is not appropriate, having considered this on a case-by-case basis, weighing the considerations in paragraph 2.9.25 above.	In accordance with paragraph 2.11.2, the SoS should be satisfied that the electrical network infrastructure elements of the Proposed Development accord so far as is reasonably possible with the Holford and Horlock Rules and that all feasible mitigation options have been considered. This is undertaken above in the assessment of accordance against Section 2.9 of EN-5. As per paragraphs 2.11.3 and 2.11.4 of EN-5, all feasible options for mitigation have been considered and evaluated appropriately within **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**. No additional landscaping or screening measures have been identified as necessary given the **minor adverse, not significant** level of assessed visual effects and the industrial character of the surrounding area. Paragraph 2.11.5 of EN-5 is not relevant as the Proposed Development does not affect any nationally designated landscape. The detailed design of **Works Nos**. **7A** and **7B**, including the final determination of underground versus overground delivery for **Work No. 7A**, is secured by Requirement 3 in Schedule 2 of the **Draft Development Consent Order (Application Document Ref. 3.1)**, ensuring that good design principles including those in the Holford and Horlock Rules are carried through to the detailed design stage. In conclusion, **Work No. 7** complies with EN-5 policy on Landscape and Visual to the extent that it is relevant to the below NSIP scale of electricity networks infrastructure proposed.
Noise and vibration	2.11.7 The Secretary of State should ensure that appropriate assessment methodologies have been used in the evidence presented to it, and that the appropriate mitigation options have been considered and adopted. Where the applicant can demonstrate that appropriate mitigation measures will be put in place, the residual noise impacts are unlikely to be significant. 2.11.8 Consequently, noise from overhead lines is unlikely to lead to the Secretary of State refusing an application, but it may need to consider the use of appropriate requirements in the DCO to ensure noise is minimised as far as is practicable.	Section 9.3 of **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** describes the assessment methodology for noise and vibration and sets out the Applicant's response to consultation comment in relation to the noise assessment and demonstrates how the Applicant has followed best practice guidance in developing appropriate assessment methodologies. Section 9.5 of ES Chapter 9 describes embedded mitigation measures, inherent in the design of the Proposed Development would be implemented during the construction, operation and decommissioning stage. Construction will be conducted in accordance with the detailed Construction Environmental Management Plans including a construction noise management plan which sets out construction noise limits. The detailed plans will be developed in accordance with

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		Appendix 5A: framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3). A detailed version of the fCEMP is secured through Requirement 4 in Schedule 2 to the **Draft Development Consent Order (Application Document Ref. 3.1)**, no additional mitigation specific to the electrical connection works was identified as no significant adverse effects at residential noise sensitive receptors have been identified. No Requirement in relation to operational noise for **Work No.7** is considered necessary. In conclusion **Work No. 7** complies with EN-5 policy on Noise and Vibration to the extent that it is relevant to the below NSIP scale of electricity networks infrastructure proposed.
Electric and Magnetic Fields (EMFs)	2.11.10 Before granting consent to an overhead line application, the Secretary of State should be satisfied that the proposal is in accordance with the guidelines, considering the evidence provided by the applicant and any other relevant evidence. It may also need to take expert advice from the Department of Health and Social Care.	The proposed 132 kV electrical connection would be underground and overground (rather than overhead), designed in accordance with industry standards and good practice and located away from sensitive human receptors thereby falling well below EMF exposure guidelines. In conclusion **Work No. 7** complies with EN-5 policy on EMFs to the extent that it is relevant to the below NSIP scale of electricity networks infrastructure proposed.
Sulphur Hexafluoride	2.11.17 The Secretary of State should grant consent for an electricity networks development only if the applicant has demonstrated either: i. That the development will not use SF6; or ii. (a) That there is no proven commercially available alternative to the use of SF6; and (b) That a bespoke SF6-free alternative would be grossly disproportionate in terms of cost; and (c) That emissions monitoring and control measures compliant with the F-gas Regulation and/or its successors are in place	The Applicant's design does not specify the use of SF6 reliant assets, as the supply chain for plant such as 132 kV and 33 kV (GIS) will comply with relevant regulations which seek to phase out the use of SF6 assets. With regards to paragraphs 2.11.17 of EN-5 the Secretary of State can be confident that the development will not use SF6. Therefore **Work No. 7** complies with EN-5 policy to the extent that it is relevant to the below NSIP scale of electricity networks infrastructure proposed.

6 Compliance with UK marine policy statement

Table 6.1 Compliance with UK marine policy statement

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2.1 UK vision for the marine environment	2.1.1 The UK vision for the marine environment is for 'clean, healthy, safe, productive and biologically diverse oceans and seas'. The UK high level marine objectives published in April 2009 set out the broad outcomes for the marine area in achieving this vision and reflect the principles for sustainable development (see Box 1). The process of marine planning will contribute to the achievement and integration of sectoral/ activity specific policy objectives within a framework of economic, social and environmental considerations in order to deliver the high-level marine objectives. This approach will help ensure the sustainable development of the UK marine area and deliver the UK vision.	The UK high level marine objectives are responded to in Table 7.1 of this document as part of the policy compliance response to the North East Inshore Marine Plan.
2.6.1 Marine ecology and biodiversity	2.6.1.1 Marine plan authorities should be mindful that, consistent with the high-level marine objectives, the UK aims to ensure: • A halting and, if possible, a reversal of biodiversity loss with species and habitats operating as a part of healthy, functioning ecosystems; and • The general acceptance of biodiversity's essential role in enhancing the quality of life, with its conservation becoming a natural consideration in all relevant public, private and nongovernmental decisions and policies. 2.6.1.2 The MSFD also includes several key objectives in relation to marine ecology and biodiversity, which were referred to in Section 2.5. The Directive also requires the measures for achieving good environmental status to include spatial measures for biodiversity protection. **Issues for consideration** 2.6.1.3 Marine planning will be a key tool for ensuring that the targets and measures to be determined by the UK for the MSFD can be implemented. As a general principle, development should aim to avoid harm to marine ecology, biodiversity and geological conservation interests (including geological and morphological features), including through location, mitigation and consideration of reasonable alternatives. Where significant harm cannot be avoided, then appropriate compensatory measures should be sought. Additional requirements apply in relation to developments affecting Natura 2000 sites.	**Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assesses the impact of the Proposed Development on marine ecology and biodiversity and proposes mitigation for any significant impacts so that any residual impact is not significant. The chapter considers impact of the Proposed Development on underwater noise, Marine Protected Areas ('MPAs') and protected species. It is anticipated that after mitigation measures are implemented, there will be no significant adverse effects on marine ecology and biodiversity. **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on pollution effects in the water environment. There are no anticipated significant adverse effects arising from pollution. Table 7.1 of this document outlines how the Proposed Development will comply with policies regarding ecology, biodiversity and water pollution within the North East Inshore Marine Plan.

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	2.6.1.4 It is also recognised that the benefits of development may include benefits for marine ecology, biodiversity and geological conservation interests and that these may outweigh potential adverse effects. Development proposals may provide, where appropriate, opportunities for building-in beneficial features for marine ecology, biodiversity and geodiversity as part of good design; for example, incorporating use of shelter for juvenile fish alongside proposals for structures in the sea. When developing Marine Plans, marine plan authorities should maximise the opportunities for integrating policy outcomes. 2.6.1.5 Marine plan authorities should apply precaution within an overall risk-based approach, in accordance with the sustainable development policies of the UK Administrations. The marine plan authority should ensure that appropriate weight is attached to designated sites; to protected species; habitats and other species of principal importance for the conservation of biodiversity; and to geological interests within the wider environment. 2.6.1.6 Many individual wildlife species receive statutory protection under a range of legislative provisions. Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in the UK and thereby requiring conservation action[2] or are subject to recommended conservation actions by an appropriate international organisation[3]. Priority marine features are being defined in the seas around Scotland. The marine plan authority should ensure that development does not result in a significant adverse effect on the conservation of habitats or the populations of species of conservation concern[4] and that wildlife species and habitats enjoying statutory protection are protected from the adverse effects of development in accordance with applicable legislation. 2.6.1.7 The commitment to develop an ecologically coherent network of marine protected areas across the UK marine area and the implications of this activity are discussed in more detail in Chapter 3.	
2.6.2 Air quality	2.6.2.1 Activities and developments in the marine and coastal area can have adverse effects on air quality at various stages. The construction, operation and decommissioning phases of projects can involve emissions to air which could lead to adverse impacts on human health,	**Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** assesses the impact of the Proposed Development on air quality.

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	biodiversity, or on the wider environment. Other key sources that impact air quality include emissions from shipping, oil and gas platforms at sea, oil and gas importing facilities, vehicle emissions as a result of increased coastal activity, and dust from construction. The generation of energy from renewable sources has an overall beneficial effect on air quality, as compared with fossil fuels.	After proposed mitigation measures have been implemented, no significant adverse impacts on air quality are anticipated. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding air quality within the North East Inshore Marine Plan.
2.6.3 Noise	2.6.3.1 Noise resulting from a proposed activity or development in the marine area or in coastal and estuarine waters can have adverse effects on biodiversity although knowledge of the extent of impacts is limited and there are few systematic monitoring programmes to verify adverse effects. Man-made sound emitted within the marine environment can potentially affect marine organisms in various ways. It has the potential to mask biologically relevant signals; it can lead to a variety of behavioural reactions, affect hearing organs and injure or even kill marine life. Manmade sound sources of primary concern with regard to disturbance of marine life are explosions, shipping, seismic surveys, offshore construction and offshore industrial activities, for example dredging, drilling and piling, sonar of various types and acoustic deterrent devices. 2.6.3.2 It should be noted that for certain animals[5], deliberate disturbance[6] is prohibited and can only be carried out in accordance with the terms of a licence. The descriptors for achieving good environmental status under the MSFD include keeping underwater noise at levels that do not adversely affect the marine environment. Specific environmental targets in relation to the impacts of underwater noise are being developed as part of the implementation of the Directive and will be incorporated into Marine Plans as appropriate. 2.6.3.3 Noise from marine activities can also affect people. An EU Directive on Environmental Noise (EU 2002/49/EC) that deals with noise impacts on people is currently under review. Excessive noise can have wide ranging impacts on the quality of human life, health, and use and enjoyment of areas, including those with high visual quality. Its impact therefore needs to be considered and managed appropriately.	**Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** assesses the impact of the Proposed Development on human receptors as a result of changes and/or increases in noise. No significant effects as a result of changes and/or increase in noise are identified. **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** of the ES assesses the impact of the Proposed Development on marine ecology as a result of changes and/or increases in underwater noise. After mitigation and monitoring measures within JNCC Guidelines are applied, it is anticipated that there will be no significant adverse effects arising from underwater noise during construction or operation of the Proposed Development. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding noise within the North East Inshore Marine Plan.

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2.6.4 Ecological and chemical water quality and resources	2.6.4.1 Developments and other activities at the coast and at sea can have adverse effects on transitional waters[7], coastal waters and marine waters. During the construction, operation and decommissioning phases of developments, there can be increased demand for water, discharges to water and adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants into the water environment and the likelihood of transmission of invasive non-native species, for example through construction equipment, and their impacts on ecological water quality need to be considered. **Issues for consideration** 2.6.4.3 The marine plan authority should satisfy itself where relevant that any development will not cause a deterioration in status of any water to which the WFD applies, subject to the provision of Article 4.7 of that Directive, or prevent compliance with any WFD obligation and is consistent with the requirements of daughter directives of the WFD including those on priority substances and groundwater. Decision makers should also take into account impacts on the quality of designated bathing waters and shellfish waters from any proposed development[8]. 2.6.4.4 Marine plan authorities will also need to take into account, once developed, any relevant targets, indicators or measures aimed at achieving good environmental status under the MSFD. One element of good environmental status involves ensuring that concentrations and effects of contaminants are kept within acceptable limits, so as to ensure that there are no significant impacts on, or risks to, the wider marine environment.	**Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** and **Chapter 12 Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on discharges to water and ecological effects resulting from modifications to the water environment. It is anticipated that no significant adverse effects will arise from discharges to water and changes to the water environment. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding water environment within the North East Inshore Marine Plan
2.6.5 Seascape	2.6.5.1 The effects of activities and developments in the marine and coastal area on the landscape, including seascape, will vary on a case-by-case basis according to the type of activity, its location and its setting. There is no legal definition for seascape in the UK but the European Landscape Convention (ELC) defines landscape as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”. In the context of this document, references to seascape should be taken as meaning landscapes with views of the coast or seas, and coasts and the adjacent	**Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** details the assessment of impacts on landscape and visual amenity. The Proposed Development is located within Marine Character Area 22 (MCA 22). The key characteristics of MCA 22 are busy shipping lanes; extensively developed lowland coast, and associated estuaries, rivers and shelving coastal waters; bright lighting as a result to the large industrial area at Middlesbrough; and relatively industrialised character.

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	marine environment with cultural, historical and archaeological links with each other. **Issues for consideration** 2.6.5.2 When developing Marine Plans, marine plan authorities should consider at a strategic level visual, cultural, historical and archaeological impacts not just for those coastal areas that are particularly important for seascape, but for all coastal areas, liaising with terrestrial planning authorities as necessary. In addition, any wider social and economic impacts of a development or activity on coastal landscapes and seascapes should be considered. 2.6.5.3 In considering the impact of an activity or development on seascape the marine plan authority should take into account existing character and quality, how highly it is valued and its capacity to accommodate change specific to any development. Landscape Character Assessment methodology may be an aid to this process. 2.6.5.4 For any development proposed within or relatively close to nationally designated areas, the marine plan authority should have regard to the specific statutory purposes of the designated areas. The design of a development should be taken into account as an aid to mitigation.	The Proposed Development is in keeping with this character and no landscape impacts are anticipated during construction or operation. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding landscape and seascape within the North East Inshore Marine Plan.
2.6.6 Historic environment	2.6.6.1 The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged. Those elements of the historic environment – buildings, monuments, sites or landscapes – that have been positively identified as holding a degree of significance meriting consideration are called 'heritage assets'. 2.6.6.2 The historic environment of coastal and offshore zones represents a unique aspect of our cultural heritage. In addition to its cultural value, it is an asset of social, economic and environmental value. It can be a powerful driver for economic growth, attracting investment and tourism and sustaining enjoyable and successful places in which to live and work. However, heritage assets are a finite and often irreplaceable resource and can be vulnerable to a wide range of human activities and natural processes. 2.6.6.3 The view shared by the UK Administrations is that heritage assets should be enjoyed for the quality of life they bring to this and	There are no designated marine heritage assets situated within the Site and the Site does not contribute to the significance of any marine or underwater assets situated in the River Tees. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding heritage assets within the North East Inshore Marine Plan.

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	future generations, and that they should be conserved through marine planning in a manner appropriate and proportionate to their significance. Opportunities should be taken to contribute to our knowledge and understanding of our past by capturing evidence from the historic environment and making this publicly available, particularly if a heritage asset is to be lost. 2.6.6.4 Some heritage assets have a level of interest that justifies statutory designation, the purpose of which is to ensure that they are protected and conserved for the benefit of this and future generations. In coastal/intertidal zones and inshore/offshore waters designated heritage assets may include scheduled monuments (designated under the Ancient Monuments and Archaeological Areas Act 1979[9]), protected wreck sites (designated under the Protection of Wrecks Act 1973) and sites designated under the protection of Military Remains Act 1986. In Scotland they may also include Historic Marine Protected Areas designated under the Marine (Scotland) Act 2010. 2.6.6.5 Many heritage assets with archaeological interest in these areas are not currently designated as scheduled monuments or protected wreck sites but are demonstrably of equivalent significance. The absence of designation for such assets does not necessarily indicate lower significance and the marine plan authority should consider them subject to the same policy principles as designated heritage assets (including those outlined) based on information and advice from the relevant regulator and advisors. **Issues for consideration** 2.6.6.7 In considering the significance of heritage assets and their setting, the marine plan authority should take into account the particular nature of the interest in the assets and the value they hold for this and future generations. This understanding should be applied to avoid or minimise conflict between conservation of that significance and any proposals for development. 2.6.6.8 The marine plan authority, working with the relevant regulator and advisors, should take account of the desirability of sustaining and enhancing the significance of heritage assets and should adopt a general presumption in favour of the conservation of designated heritage assets[10] within an appropriate setting. The more significant the asset,	

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	the greater should be the presumption in favour of its conservation. Substantial loss or harm to designated assets should be exceptional and should not be permitted unless it can be demonstrated that the harm or loss is necessary in order to deliver social, economic or environmental benefits that outweigh the harm or loss. 2.6.6.9 Where the loss of the whole or a material part of a heritage asset's significance is justified, the marine plan authority should identify and require suitable mitigating actions to record and advance understanding of the significance of the heritage asset before it is lost. Requirements should be based on advice from the relevant regulator and advisors[11].	
2.6.7 Climate change adaptation and mitigation	2.6.7.1 Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is a likelihood of increased drought, heatwaves, changes in seasonal precipitation and the intensity of weather events such as rainfall leading to flooding. 2.6.7.2 For the UK's marine environment, the impacts of climate change include relative sea level rise, increased seawater temperatures, ocean acidification and changes in ocean circulation. 2.6.7.3 Understanding the impacts and effects of climate change is key to maintaining a healthy environment. This will influence how we use and value our coasts and seas both now and in the future. Adaptation, including in the marine environment, is necessary to deal with the potential impacts of these changes which are already in train. Sea level rises, increased flooding and coastal erosion will lead to increased vulnerability for development[12] and significant change along parts of the UK coast. 2.6.7.4 Adapting to the impacts of climate change will also be a priority for terrestrial planning on the coast. Marine planning will need to be compatible with these impacts. This will include ensuring inappropriate types of development are not permitted in those areas most vulnerable to coastal change, or to flooding from coastal waters, while also improving resilience of existing developments to long term climate change. 2.6.7.5 Marine planning will provide an important tool for meeting the long term challenges posed by climate change. To aid planning decisions in taking account of the impacts of climate change, UK	The climate change resilience of the Proposed Development is assessed in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)**. No significant effects from the impacts of climate change and coastal change are anticipated through the lifetime of the Proposed Development. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding climate change resilience within the North East Inshore Marine Plan.

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	Administrations produced a set of UK climate change projections and will be undertaking a UK Climate Change Risk Assessment by 2012 (to be updated every 5 years). The UK has also established the Marine Climate Change Impacts Partnership (MCCIP) which can provide advice to marine plan authorities. 2.6.7.6 Marine planning also has an important role to play in facilitating climate change mitigation, through actions such as offshore renewables and carbon capture and storage; this is described further in section 3.3. **Issues for consideration** 2.6.7.7 In marine planning and decision making consideration will need to be given to how the marine environment can adapt to the impacts of climate change. When developing Marine Plans, marine plan authorities should make an assessment of likely and potential impacts from climate change and their implications for the location or timing of development and activities over the plan period and beyond. 2.6.7.8 Marine plan authorities should take account of the findings of the latest UK Climate Change Risk Assessment, relevant national adaptation programmes and the latest set of UK Climate Projections, as well as any other relevant research. Marine plan authorities should also consider the opportunities to increase the resilience of the marine environment to adapt to the impacts of climate change including by: • Building in sufficient flexibility to take account of climate change impacts, for example by introducing appropriate criteria for selection or de-selection of protected marine areas, seeking the advice of statutory advisors, changing or moving current uses/spatial allocations, or safeguarding areas for future uses; • Encouraging development/projects to take account of the impacts of climate change over their estimated lifetime, in particular taking account of risks such as increased land and sea temperatures and sea level rise and possible increase in risk from extreme events such as flooding and coastal erosion; • Being in a position to take advantage of the opportunities that climate change may bring to certain marine areas, for example, increase in leisure activities and the aquaculture of acceptable and commercially desirable species; • Considering the opportunities for synergies with, and recognising the benefits of, climate change mitigation actions in the marine environment	

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	which may include, but are not limited to, offshore renewable energy, carbon capture and storage and certain types of shipping. 2.6.7.9 The assessment should be made in consultation with the relevant statutory agencies. If any adaptation measures give rise to consequential or additional impacts, such as on coastal change, as a result of protecting a development against flood risk or coastal change for example, the marine plan authority should consider their impacts in relation to the Marine Plan as a whole.	
2.6.8 Coastal change and flooding	2.6.8.1 Coastal change[13] and coastal flooding are likely to be exacerbated by climate change, with implications for activities and development on the coast. These risks are a major consideration in ensuring that proposed new developments are resilient to climate change over their lifetime. 2.6.8.2 Activities on the coast which may be relevant to marine planning include, for example, dredging, dredged material deposition, cooling water culvert construction, marine landing facility construction, land reclamation and flood and coastal erosion risk management. Any of these could, if not managed properly, result in direct effects on the coastline, seabed marine ecology, heritage assets and biodiversity. 2.6.8.3 Indirect changes to the coastline and seabed might also arise as a result in response to some of these direct changes. This could lead to localised or more widespread coastal erosion or accretion and changes to offshore features such as submerged banks and ridges. Interruption or changes to the supply of sediment due to infrastructure has the potential to affect physical habitats along the coast or in estuaries. **Issues for consideration** 2.6.8.4 When developing Marine Plans marine plan authorities should liaise with terrestrial planning authorities, drawing on Shoreline Management Plans[14] and equivalent plans where available, any relevant Flood Directive Flood Risk Management Plan or supplementary plan[15] once developed and any other relevant evidence and coastal policies[16] or strategies. Marine plan authorities should be satisfied that activities and developments will themselves be resilient to risks of coastal change	The climate change resilience of the Proposed Development is assessed in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)**. No significant effects from the impacts of climate change and coastal change are anticipated through the lifetime of the Proposed Development. **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on coastal erosion and flood risk. A Hydraulic Modelling Method Statement has been produced to determine the hydrodynamic impact of the construction of a quay in the River Tees. A **Flood Risk Assessment (Application Document Ref. 5.7)** has been produced and demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding coastal change and flooding within the North East Inshore Marine Plan.

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	and flooding and will not have an unacceptable impact on coastal change. A precautionary and risk-based approach, in accordance with the sustainable development policies of the UK Administrations, should be taken in terms of understanding emerging evidence on coastal processes. 2.6.8.5 Marine plan authorities should consider existing terrestrial planning and management policies for coastal development under which inappropriate development should be avoided in areas of highest vulnerability to coastal change and flooding. Development will need to be safe over its planned lifetime and not cause or exacerbate flood and coastal erosion risk elsewhere. When developing Marine Plans, marine plan authorities should take into account any areas identified as Coastal Change Management Areas by terrestrial planning authorities and consult with them to ensure no significant adverse impacts will arise in those areas. 2.6.8.6 Account should be taken of the impacts of climate change (consistent with the approach to adaptation outlined in section 2.6.7) throughout the operational life of a development including any de-commissioning period. Marine plan authorities should not consider development which may affect areas at high risk and probability of coastal change unless the impacts upon it can be managed. Marine plan authorities should seek to minimise and mitigate any geomorphological changes that an activity or development will have on coastal processes, including sediment movement.	
3.1 Marine Protected Areas	3.1.1 As explained in Chapter 2, the UK marine environment contains very rich and varied habitats which support a wide variety and abundance of living organisms. The UK Administrations recognise the economic, social and intrinsic value of a healthy marine environment and are committed to halting the loss of biodiversity and restoring it so far as is feasible – this means a no net loss to biodiversity[17]. However, many habitats and species are subject to pressure from human activities. Some important habitats and species are declining and a number of commercial fish stocks are under pressure. The UK Administrations are committed to allowing damaged ecosystems to recover in order to realise the benefits from the marine environment. This will be achieved through integrating conservation objectives as set	A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding MPAs and marine ecology within the North East Inshore Marine Plan.

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	out in Chapter 2 into marine planning and decision making and incorporating the requirements for specific designated conservation areas. ***Network of Marine Protected Areas (MPAs)*** 3.1.2 The UK Administrations are also committed to substantially completing an ecologically coherent network of MPAs by 2012 as part of a broad based approach to nature conservation. The MPA network will comprise existing MPAs as well as new sites. It will be made up of both national (in particular Marine Conservation Zones (MCZs) and MPAs under legislation applying to Scottish waters and Sites of Special Scientific Interest) as well as European designations such as Special Areas of Conservation (as designated) and Special Protection Areas (as classified under the Wild Birds Directive) and sites of international importance (Ramsar sites). This network of MPAs will be a key tool in contributing to achieving good environmental status as required by the Marine Strategy Framework Directive (MSFD) and particularly in ensuring biodiversity is protected, conserved and where appropriate recovered, and loss of biodiversity halted. It will also contribute to other objectives of good environmental status, such as the protection of seafloor ecosystems. ***International Sites*** 3.1.3 These are sites identified and designated under Directives and include Special Areas of Conservation (SACs) designated under the Habitats Directive, and Special Protection Areas (SPAs) classified under the Wild Birds Directive for rare, vulnerable and migratory bird populations. The Conservation of Habitats and Species Regulations 2010, the Conservation (Natural Habitats &c) Regulations 1994 (for Scotland only), the Conservation (Natural Habitats&c) Regulations (Northern Ireland) 1995 and the Offshore Marine Conservation (Natural Habitats&c) Regulations 2007, among others, provide statutory protection for these sites[18], but do not provide statutory protection for potential Special Protection Areas (pSPAs) before they have been classified as SPAs. For the purpose of considering development proposals affecting them, as a matter of policy, UK Administrations wish pSPAs to be considered in the same way as if they had already been classified. Listed Ramsar sites also receive the same protection.	

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	Marine Conservation Zones/Marine Protected Areas in Scotland 3.1.4 MCZs – (called Marine Protected Areas in the seas around Scotland) – are areas that have been designated for the purpose of conserving marine flora or fauna, marine habitats or types of marine habitats or features of geological or geomorphological interest[19]. The protected feature or features and the conservation objectives for the site are stated in the designation order. International protected sites – alongside national MCZs and MPAs – will also meet the MSFD requirement for spatial protection measures contributing to a coherent and representative network of marine protected areas. In deciding to designate MCZs and MPAs, the appropriate authority[20] will be required under the Marine and Coastal Access Act 2009[21] to have regard to this MPS. ***Sites of Special Scientific Interest (SSSIs)[22]*** 3.1.5 A number of SSSIs extend into the marine environment, primarily the inter-tidal zone[23]. The statutory protection afforded to SSSIs, and the procedures to be followed with regard to development proposals that may affect them, are detailed in Wildlife and Countryside legislation. **Issues for consideration** 3.1.7 Marine plan authorities and decision makers should take account of how developments will impact on the aim to halt biodiversity loss and the legal obligations relating to all MPAs, their conservation objectives, and their management arrangements. Through the process of developing Marine Plans, and their subsequent implementation and monitoring, marine plan authorities may identify that amendments or additions should be made to these spatial designations and this information should be provided to the relevant administration for consideration. 3.1.8 Marine plan authorities and decision-makers should take account of the regime for MPAs and comply with obligations imposed in respect of them. This includes the obligation to ensure that the exercise of certain functions contribute to, or at least do not hinder, the achievement of the objectives of a MCZ or MPA (in Scotland). This would also include	

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	the obligations in relevant legislation relating to SSSIs and sites designated under the Wild Birds and Habitats Directives.	
3.3 Energy production and infrastructure development	3.3.1 A secure, sustainable and affordable supply of energy is of central importance to the economic and social well being of the UK. The marine environment will make an increasingly major contribution to the provision of the UK's energy supply and distribution. This contribution includes the oil and gas sectors which supply the major part of our current energy needs, and a growing contribution from renewable energy and from other forms of low carbon energy supply in response to the challenges of tackling climate change and energy security. Contributing to securing the UK's energy objectives, while protecting the environment, will be a priority for marine planning. 3.3.2 The UK faces a significant challenge in achieving a secure, affordable low carbon energy supply. The Climate Change Act 2008 and Climate Change (Scotland) Act 2009 established a long-term framework to cut greenhouse gas emissions by at least 80% below 1990 levels by 2050, and the Climate Change Committee recommended that the electricity sector needed to be largely decarbonised by 2030. As part of our move to a low carbon energy economy, the UK must meet a legally binding EU target for 15% of energy consumption to come from renewable sources by 2020. There are specific targets in different parts of the UK[24]. 3.3.3 A significant part of the renewable energy required to meet these targets and objectives will come from marine sources. Offshore wind is expected to provide the largest single renewable electricity contribution as we move towards 2020 and beyond. Wave and tidal stream technologies also have significant potential in the medium to long-term. In some parts of the UK nuclear and other power stations may be sited in coastal locations[25] and will have a significant role to play within the UK's energy mix as we move towards low carbon energy supply. In addition to mitigating the impacts of climate change, contributing to securing the UK's energy objectives will bring substantial socio-economic benefits such as employment and income opportunities, transferable technology and skills development. ***Issues for consideration for all energy infrastructure***	The Proposed Development consists of a SAF Production Facility and a biomass and waste wood fired CHP plant with a capacity of up to 200Mwe to provide low carbon electricity and steam to the SAF Production Facility. The purpose of the Proposed Development is to produce SAF which would be used to support the decarbonisation of the aviation industry, consistent with the Government's objective to decarbonise the UK economy and achieve its legally binding target of net zero greenhouse gas emissions by 2050. The **Environmental Statement (ES Volume I, Application Document Ref. 6.1)** assesses the potential impact of the Proposed Development on the marine environment, including the impact of the construction and operation of a quay for the import of feedstock for SAF production. The **Planning Statement (Application Document Ref. 5.2.1)** assesses the need for the Proposed Development against planning policy within the relevant NPS, the NPFF, local policy and marine plans. It also assesses the beneficial and adverse effects of the Proposed Development. Within this document, Table 2.1 and Table 3.1 outline how the Proposed Development will comply with policies within NPS EN-1 and EN-3 respectively. Table 9.1 outlines how the Proposed Development will accord with policies within the NPPF. Table 7.1 outlines how the Proposed Development will comply or be in accordance with the policies within the North East Inshore Marine Plan.

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	3.3.4 When decision makers are examining and determining applications for energy infrastructure and marine plan authorities are developing Marine Plans they should take into account: • The national level of need for energy infrastructure, as set out in the Overarching National Policy Statement for Energy (EN-1)[26] which applies in England and Wales, the National Planning Framework which applies in Scotland and the Strategic Energy Framework[27] in Northern Ireland; • The UK's policy objective to maximise economic development of the UK's oil and gas resources reflecting their importance to the UK's economic prosperity and security of energy supply; • The positive wider environmental, societal and economic benefits of low carbon electricity generation and carbon capture and storage as key technologies for reducing carbon dioxide emissions; • That the physical resources and features that form oil and gas fields or suitable sites for gas or carbon dioxide storage occur in relatively few locations and need first of all to be explored for and can then only be exploited where they are found. Similarly, renewable energy resources can only be developed where the resource exists and where economically feasible; • The potential impact of inward investment in offshore wind, wave, tidal stream and tidal range energy related manufacturing and deployment activity; as well as the impact of associated employment opportunities on the regeneration of local and national economies. All of these activities support the objective of developing the UK's low carbon manufacturing capability; • The UK's programme to support the development and deployment of Carbon Capture and Storage (CCS) and in particular the need for suitable locations that provide for the permanent storage of carbon dioxide[28]. 3.3.6 In some parts of the UK power stations may be sited in coastal locations and will have an important contribution to play in the UK's energy mix. The construction, operation or decommissioning of a coastal power station may have impacts on the local marine environment through for example the construction of the plants and associated	

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	development and marine offloading facilities, such as jetties and marinas, for heavy plant items. There may also be impacts from abstraction and discharge of cooling water during operation. More detail on impacts and specific measures and actions to avoid or minimise adverse impacts including on marine ecology is contained in the National Policy Statements for Nuclear Power Generation (EN-6)[29] and Fossil Fuel Electricity Generating Infrastructure (EN- 2)[30]. Any discharges into water will be controlled in accordance with the permits issued by the relevant licensing authority.	
3.3 Energy production and infrastructure development – Renewable Energy	**Renewable energy** 3.3.16 The low-carbon energy industry is developing rapidly in response to strategic Government policy and financial mechanisms. The UK is currently the leading country for offshore wind deployment and the potential sites identified for offshore renewables (including offshore wind, wave and tidal) show the huge exploitable renewable energy resource in UK waters which would keep the UK as a global leader in renewable energy production from these technologies. Increasing the generation of energy from low carbon sources will mitigate against climate change, lessen the UK's dependence on fossil fuels and improve energy security by increasing the diversity of electricity supply. 3.3.17 The UK Administrations have undertaken a large number of studies to assess the environmental implications and spatial interactions of increasing renewable energy deployment in UK waters. From these studies, it was concluded that there are no overriding environmental reasons to prevent the achievement of our assessed plans for offshore wind and sub-sea grid development up to 2020, if mitigation measures are implemented to prevent, reduce and offset any significant adverse effects. Further studies and a rolling programme of Environmental Assessments[31] are underway to strategically assess the implications of draft plans/ programmes to enable further leasing for offshore energy, including CCS and marine renewables. ***Potential impacts*** 3.3.22 It should be recognised that the potential benefits and adverse effects of renewable energy developments will vary greatly, depending	The primary purpose of the Proposed Development is to produce low-carbon SAF fuelled by a biomass and waste wood-fired CHP plant (**Work No. 2**). The Proposed Development thereby contributes to the strategic objective identified at paragraph 3.3.16. **Chapter 14: Greenhouse Gases (Document Ref. 6.1.14)** demonstrates that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its operational life through the displacement of conventional jet fuel, consistent with the UK MPS objective of mitigating greenhouse gas emissions from energy production referenced at paragraph 3.3.23. The potential adverse impacts of the Proposed Development's marine elements including construction noise from quay construction and dredging, effects on marine ecology and biodiversity, and impacts on other users of the Tees Estuary, have been assessed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** and **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)**, with mitigation measures identified and secured through the **draft DCO (Document Ref. 3.1)** and the Deemed Marine Licence within Schedule 10 of the draft DCO. The assessment concludes that after proposed mitigation measure have been implemented, no significant adverse effects on marine ecology, biodiversity or navigation would result from the Proposed Development's marine elements, consistent with the UK MPS requirement that mitigation measures be implemented to prevent, reduce and offset any significant adverse effects.

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	for example on the technology type and their size, structure and geographical location. 3.3.23 Renewable energy offers the potential for significant broad-scale environmental benefits through mitigating greenhouse gas emissions from energy production. In addition there are a number of potentially significant socio-economic benefits from the sector including employment opportunities, export business and energy security. As yet, the potential for benefits such as introduction of artificial reef structures, which can yield biodiversity benefits and fishing opportunities around wind farm sites, have not been fully explored. These should be considered further in the context of marine planning, and for individual developments. 3.3.24 Renewable energy developments can potentially have adverse impacts on marine fish and mammals, primarily through construction noise and may displace fishing activity and have direct or indirect impacts on other users of the sea, including mariners. Certain bird species may be displaced by offshore wind turbines, which also have the potential to form barriers to migration or present a collision risk for birds. Their foundation designs are likely to have an effect on hydrodynamics and consequent sediment movement. This includes potential scouring of sediments around the bases of turbines. These and other potential adverse impacts, together with potential mitigation measures, are considered in the National Policy Statement for Renewable Energy Infrastructure (EN-3)[32]. 3.3.25 Marine energy deployments, that is wave and tidal deployments, may pose potential risks to the environment if inappropriately sited. However, the level of risk and ecological significance is largely unknown since, in particular, tidal stream and wave technologies are at a relatively early stage of development. Studies of tidal range technologies, including barrages, have indicated that these structures can have adverse impacts on migratory fish and bird species and on the hydrodynamics of the estuarine environments in which they are situated. To underpin the marine planning process further research is needed to develop a better understanding of the potential impacts that marine technologies might have on potentially sensitive environmental features. For example, adaptation and mitigation methods for such impacts may	

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	be supported by detailed monitoring programmes and co-ordinated research initiatives, including post deployment of devices.	
3.3 Energy production and infrastructure development – Carbon Dioxide Capture and Storage	**Carbon Dioxide Capture and Storage** 3.3.31 Fossil fuels will remain an important source of electricity generation for the foreseeable future. To comply with the UK's legally binding carbon reduction commitments virtually all fossil fuel generation will eventually need to be fitted with technology that captures carbon dioxide and permanently stores it deep underground. All new fossil fuel power stations must now be constructed Carbon Capture Ready (CCR). This programme will generate considerable volumes of carbon dioxide to be permanently stored. The UK offshore area is thought to be one of the most promising hub locations in Europe for permanent storage of carbon dioxide. The expectation is that storage in the UK will take place almost exclusively offshore, which in turn will require the necessary infrastructure (such as pipelines and offshore structures) to be installed to transport carbon dioxide from the mainland and inject it deep below the seabed. 3.3.32 Carbon Capture and Storage is a three step process which includes: capturing carbon dioxide from power plants and other industrial sources; transporting it, usually via pipelines (although shipping is also a possibility), to storage points; and storing it safely in deep (at least 800m) offshore geological sites such as saline formations or depleted oil and gas fields. CCS is not yet a commercially proven technology and the UK Government has announced its intention to support four full-chain commercial scale demonstration projects. Other demonstration projects may also be supported through European funding. It is possible that R&D scale storage projects may also be proposed. Under the Carbon Storage Directive (Directive 2009/31/EC) a person who intends to operate a geological site for the storage of carbon dioxide will require a permit issued in accordance with the requirements of the Directive. The purpose of the Directive is to ensure environmentally safe geological storage defined as the permanent containment of carbon dioxide in such a way as to prevent or, where prevention is not possible, eliminate as far as possible negative effects and any risk to the environment and human health. 3.3.33 While storage sites themselves will be well below the seabed, for storage to take place it will be necessary to install associated infrastructure such as pipelines and well-heads (though there are also possibilities to re-use existing infrastructure). Facilities for long term	As outlined in **Chapter 4; Proposed Development (ES Volume I: Application Document Ref. 6.1.4),** in future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be captured in a Post-Combustion Carbon Capture Unit (PCCU) and directed via the selected CO_2 export pipeline route (either **Work No. 11B** or **11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. This would result in the Proposed Development achieving even greater negative carbon emissions and further reducing the carbon intensity of the final SAF product. Development of a PCCU does not form part of the Proposed Development, is not considered in the EIA and would be developed under separate consent.

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	monitoring will also be required. There is likely to be preliminary exploration of storage sites with the first commercial scale storage site intended to be operational from 2014. Initially, attention is likely to focus on depleted oil and gas fields but other structures such as saline aquifers could also be used. It may also be possible to combine permanent storage of carbon dioxide with the enhanced production of hydrocarbons. ***Potential impacts*** 3.3.34 The deployment of carbon capture and storage technologies will bring significant benefits for the UK in enabling fossil fuel energy generation to be part of the UK's low carbon, secure energy future. It has been estimated that for CCS alone, the sector could be worth up to £3bn a year by 2030, sustaining up to 100,000 jobs[33]. The CCS Demonstration Programme also allows the UK to demonstrate leadership in deploying greenhouse gas emission mitigation techniques that will be vital in addressing the burgeoning energy requirements of developing economies. Removing carbon dioxide emissions from worldwide electricity generation will considerably reduce the potential for further acidification of the marine environment. 3.3.35 Leakage from a properly selected storage site is extremely unlikely. Once injected into a formation, a number of physical and chemical trapping mechanisms will retain carbon dioxide within the formation. It is possible that leakage of carbon dioxide from the injection process could take place, for example through failure of infrastructure, such as pipelines and wellheads. This could have some localised impact on benthic marine communities and possibly cause minor localised seawater acidification. However, such impacts are unlikely to be either widespread or long-term, taking into account the dilution and buffering capacity of our oceans.	
3.4 Ports and shipping	3.4.1 Ports and shipping play an important role in the activities taking place within the marine environment. They are an essential part of the UK economy, providing the major conduit for the country's imports and exports. Ports also provide key transport infrastructure between land and sea. Ports and shipping are critical to the effective movement of cargo and people, both within the UK and in the context of the global economy.	**Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on introducing or spreading marine invasive and non-native species. It is anticipated that with the implementation of good practice mitigation measures, the adverse impact of invasive or non-native species is not significant.

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	3.4.2 Some 95% of international trade by volume passes through ports. This includes vital raw materials such as coal, ores, oil and petrochemical products; timber; trade vehicles and finished and intermediate goods in containers and ro-ro vehicles, essentially spanning the full range of trade. Ports also play a significant role in domestic freight transport through coastal shipping (including transhipment), and links with Northern Ireland; and they enable important international passenger services. Our ports, particularly in Scotland, provide infrastructure and facilities to support lifeline ferry services to island communities. Their role is crucial not only in supporting the projected future growth of freight traffic, but also supporting more fragile and remote communities. 3.4.3 Despite continuing advances in efficiency, ports remain substantial employers in their own right and they generate and facilitate economic activity in trade-related sectors. In addition, they are essential to support emerging industries such as renewable energy development and to mitigate the effects of climate change by facilitating the increased movement of freight by sea rather than road. 3.4.4 The operation of our ports and marinas is enabled through the creation, maintenance and development of channels, berths and docks. This requires dredging and the disposal of the dredged marine sediment. This needs to be facilitated in line with the objective to prevent, reduce and eliminate where practicable pollution caused by dredging operations and the disposal of dredged sediments. Current safeguards have significantly improved the chemical status of the sediments around our coasts. This is due to reductions in the tonnage of contaminants which have been permitted to be disposed of at sea. 3.4.5 Shipping is an essential and valuable economic activity for the UK. There are significant movements of ships around the UK coast and into and out of UK ports serving the UK's economic interests. There are also significant levels of legitimate passing traffic, for example through the English Channel and other ships freely using the navigable seas adjacent to the UK. Transport by ship includes the transport of both freight and passengers, whether it is for commercial or recreational purposes. Water transport is supported by a diverse range of ancillary activities including shipbuilding and repair, the construction of ports and marinas and activities associated with navigation including dredging and the production of charts.	**Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)** assesses the impact of the Proposed Development on marine navigation. No significant adverse effects are anticipated. A **Preliminary Navigation Risk Assessment (ES Volume II, Application Document Ref. 6.3.28)** has been produced and no significant risks to marine navigation were identified, and four risk control measures were recommended. These are deconfliction, relocation of existing aids to navigation, approval of mooring configuration and berthing plans. A deemed marine licence is included in Schedule 10 of the **draft DCO (Application Document Ref. 3.1)** which includes standard conditions relating to marine navigation. In addition, all users of the marine area must comply with the SHA's General Directions for the Safety of Navigation, Persons and Property in the Harbour (2020). The cumulative effects of the Proposed Development with other Sites have been assessed in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1).** Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding marine navigation and marine ecology within the North East Inshore Marine Plan.

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	Potential impacts 3.4.6 Environmental impacts can be through accidental pollution from ships in the course of navigation or lawful operations, pollution caused by unlawful operational discharges by ships, such as oil, waste or sewage, or physical damage caused by groundings or collisions. Other pressures on the environment from shipping and ports relate to noise, airborne emissions and the introduction and spread of non-indigenous species (transported on the hulls of ships or in ballast water). **Issues for consideration** 3.4.7 Increased competition for marine resources may affect the sea space available for the safe navigation of ships. Marine plan authorities and decision makers should take into account and seek to minimise any negative impacts on shipping activity, freedom of navigation and navigational safety and ensure that their decisions are in compliance with international maritime law. Marine Plan development and individual decisions should also take account of environmental, social and economic effects and be in compliance with international maritime law. Marine plan authorities will also need to take account of the need to protect the efficiency and resilience of continuing port operations, as well as further port development. ***Potential impacts*** 3.4.9 Positive impacts from port development include job creation and benefits to local fishermen, as well as wider benefits to national, regional or local economies. Adverse effects from the development of new ports are similar to those from any coastal development and will primarily result from the construction phase, although associated impacts such as increases in shipping traffic and maintenance dredging can cause impacts during the operational phase. The precise nature of the impacts will vary depending on the local conditions, ecosystems and other factors. However, as port developments are generally located in estuarine environments, particular impacts might include: impacts to the local hydrodynamic and sedimentary regime; loss of intertidal habitats; disturbance of historical contamination during capital works; impacts on migratory and juvenile fish; impacts on important bird populations and impacts on heritage assets[34]. In addition, projects may be subject to the Environmental	

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	Permitting (EP) regime[35], which also incorporates operational waste management requirements for certain activities. 3.4.10 Port development may also result in an increase in shipping. When considering any potential increase in shipping activity marine plan authorities and decision makers should ensure that the social and economic benefits and environmental impacts are taken into account and that impacts are considered in line with sustainable development principles. **Issues for consideration** 3.4.11 When decision makers are advising on or determining an application for an order granting development consent in relation to ports, or when marine plan authorities are developing Marine Plans, they should take into account the contribution that the development would make to the national, regional or more local need for the infrastructure, against expected adverse effects including cumulative impacts. In considering the need for port developments in England and Wales, reference should be made to interpretations of need as set out in the Ports National Policy Statement. In Scotland, reference should be made to the second National Planning Framework which identifies known large-scale port developments.	
3.6 Marine dredging and disposal	3.6.1 Most marine dredging and disposal is for the purposes of navigation and existing and future port development, though other works can take place to facilitate the construction of pipelines, outfalls and tunnels. Since 1998, in compliance with international obligations, the UK Administrations have – with some minor exceptions – only licensed the disposal at sea of capital and maintenance dredgings and small amounts of fish waste. 3.6.2 The amount of dredged material disposed of at sea each year from the UK has been relatively consistent since 1985, the variation in annual tonnage being most marked in the quantities of capital dredgings associated with port expansion and channel deepenings; the fluctuations in dredgings reflecting a combination of economics and weather. ***Potential impacts*** 3.6.3 Dredging is an enabling activity which is essential to the functioning of ports and marinas (see section 3.4) and the social and	The impacts of capital and maintenance dredging are assessed in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11), Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12), Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** and **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20).** **Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** details how dredged materials will be disposed. It is assumed that uncontaminated dredge spoil will be most likely deposited at a licensed marine disposal site e.g Tees Bay C or at a site approved and agreed with the MMO. Around It is conservatively estimated that one third of the dredge spoil is anticipated to be contaminated. It is assumed that the uncontaminated dredge soil will be deposited at licensed marine disposal site. The contaminated

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	economic benefits which derive from these. It can also allow specific construction activities to be taken forward. 3.6.4 Appropriately targeted disposal of dredged sediment can have an ancillary benefit in maintaining sedimentary systems and, where the sediment is constituted appropriately, can have social and economic benefit in providing material for alternative uses such as construction, beach nourishment or salt marsh restoration. 3.6.5 The primary environmental considerations include the potential risk to fish and other marine life from the release of sediments, chemical pollution and morphological changes including burial of seabed flora and fauna; hydrological effects; interference with other marine activities; increases in turbidity; increases in marine noise; possible adverse effects for designated nature conservation areas and potential destruction or destabilisation of known or unknown heritage assets. Removal of dredged material can also cause adverse impacts to the natural sedimentary systems. 3.6.6 When sediments are contaminated, dredging has the potential to cause significant environmental and health effects through exposure to contaminants in the dredging plume. These contaminants arise from diverse sources such as the legacy of industrial pollution, for example metals and poly chlorinated biphenyls, or historical and current use of antifoulants including tributyltin and heavy metals and new contaminants which are now finding their way into the marine environment, such as flame retardants including poly brominated diphenyl ethers. **Issues for consideration** 3.6.7 In considering an application, decision makers should undertake a detailed evaluation of the potential adverse effects of any dredging activity or deposit on the marine ecosystem and others using the sea. This should have full regard to any accompanying environmental statement or additional data that may be requested in support of the application and international obligations under the OSPAR Convention 1992 and London Protocol 1996, as well as any other available guidance. Account should also be taken of the views expressed by other consultees before a decision is taken whether to grant approval. 3.6.8 Applications to dispose of wastes must demonstrate that appropriate consideration has been given to the internationally agreed hierarchy of waste management options for sea disposal. Wastes should not be accepted for disposal where appropriate opportunities exist to re-	dredge spoil will be analysed, and appropriate management and disposal methods will be identified. After proposed mitigation measures are implemented, it is anticipated that there will be no significant adverse effects as a result of dredging activities or disposal of dredged material. No significant adverse effects on marine navigation are identified in **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)**. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding dredging, marine navigation and marine ecology within the North East Inshore Marine Plan.

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	use, recycle or treat the waste without undue risks to either human health or the environment, or disproportionate costs[36]. The decision maker should give appropriate consideration to alternative uses of the sediment.[37] 3.6.9 Decision makers should consider the potential adverse effects on the marine environment, habitats and wildlife from dredging activity. Particular recognition should be given to the implementation and use of the maintenance dredge protocol[38] to minimise impacts on habitats and wildlife and help meet statutory obligations in relation to European Sites. There also needs to be compliance with requirements of the WFD and other EU Directives.	
3.10 Surface water management and waste water treatment and disposal	3.10.1 The objective shared by the UK Administrations is to contribute to sustainable development including the health and well being of the community and the protection of the environment by maintaining and developing a policy and regulatory system which provides modern, high quality management and treatment of surface and waste water. The collection, treatment and disposal of waste water from housing and industry, the effective drainage of storm water and runoff to the sea, mitigating the effects of diffuse pollution from urban areas and agriculture by improved management and improvements to drainage design are key activities to achieve this. An important aim is ensuring that infrastructure is in place and maintained for necessary disposal activity to be carried out in compliance with EU legislative requirements. Sewerage infrastructure and drainage is also essential in supporting economic and social development, and for reducing the risk of flooding in urban areas. 3.10.2 For example, allocating sufficient space to facilitate future growth of current sewerage services is essential to the integration of land-use plans with Marine Plans. In developing Marine Plans, or considering individual applications for new marine activities, the marine plan authority should balance the benefits of the new activities against any consequential costs. **Potential impacts** 3.10.3 The construction and development of new facilities will have an impact but well managed these can be minimised so that the benefits	Industrial waste water will be exported for any required treatment and discharge via a pipeline to Bran Sands Wastewater Treatment Works. Currently, Bran Sands WwTW discharges treated waste water to the Dabholm Gut, which in turn discharges to the Tees Estuary. NWL is proposing to construct a long sea outfall (LSO) underground northward from Bran Sands to Tees Bay. Chapter **4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** outlines industrial waste water treatment in more detail. The **Framework Drainage Strategy (Application Document Ref. 5.7.1)** outlines the approach to managing operational surface water for the Proposed Development. The strategy identifies how surface water will be managed safely, sustainably and in accordance with national and local policy requirements. Construction drainage is covered in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3.4)**. The final drainage design will be submitted for approval post-consent in accordance with Requirement 3 of the **draft DCO (Application Document Ref. 3.1)**. Table 7.1 of this document outlines how the Proposed Development will comply or be in accordance with policies regarding surface water management and waste water treatment and disposal within the North East Inshore Marine Plan.

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	outweigh impacts. The location of existing facilities associated with waste water discharge will impact upon and shape future terrestrial and marine planning decisions. 3.10.4 There are significant environmental, social and economic benefits in the provision of appropriate infrastructure for waste water collection, treatment, discharge and surface water drainage in coastal areas. These include: protection and improvement of water quality, improvements in public health, local amenity value and the provision of essential infrastructure in support of national priorities for growth and economic development. 3.10.5 Waste water collection, treatment and discharge is governed by requirements in European legislation including the Urban Waste Water Treatment Directive, Shellfish Waters Directive, Bathing Water Directives and Water Framework Directive. These requirements aim to protect and where necessary improve the quality of water in the aquatic environment. Proposals for new or extended waste water collection and treatment facilities are bound by these requirements ensuring minimal impact and a sustainable co-existence with other existing marine activities such as aquaculture, fishing and bathing. **Issues for consideration** 3.10.6 Marine plan authorities should take account of the benefits that waste water infrastructure can provide in enabling wider socio-economic development on land, and maximise opportunities for co-existence with other activities in the marine environment. 3.10.7 The majority of developments will be subject to an appropriate permitting regime[39], which may also incorporate operational waste management requirements for certain activities and permit requirements for discharges (water discharge activities, ground water activities). Marine plan authorities should consider the physical aspect of discharging to sea in the form of the location and physical impact of major sea outfalls in the development of Marine Plans. The impact of coastal and estuarine change, and the risk of flooding in such areas, should be taken into account to avoid inappropriate development in vulnerable areas and be in line with the considerations in sections 2.6.4 – 2.6.8.	

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3.11 Tourism and recreation	The sea can provide a variety of tourism and recreational opportunities. These will vary from area to area but will include pleasure boating, sailing, recreational diving (including diving on wrecks), sea angling, kayaking and surfing, as well as exploration of underwater and coastal heritage assets. The coast also provides inspiration for a range of artistic and cultural activities and food-based tourism. There is also growing interest in eco-tourism and wildlife experiences. All these activities can generate a considerable amount of income for the economy and can be a mainstay for many coastal towns, supporting their quality of life, and providing health and well being benefits, with many local businesses relying on the marine environment for their livelihoods. These activities will be enhanced by a well-managed and healthy marine environment, attractive and well-maintained beaches, seashore and clean bathing water. Many seaside towns have developed cultural facilities to attract visitors all year round, although some marine activities will of necessity be restricted by the weather and many family holidays are taken during the summer school holidays. **Potential Impacts** Tourism can provide environmental benefits through helping to enhance understanding and appreciation of the marine environment through activities such as eco-tourism and nature watching. Environmental effects/impacts may include the removal of marine fauna and flora, the physical or visual disturbance of wildlife, pollution from waste water and litter and pressures from increased visitor numbers in environmentally sensitive areas. Socio-economic benefits include positive economic benefits through increased visitor numbers and improved access. Outdoor recreation and enjoyment of the coast can also provide benefits to physical and mental well being. **Issues for consideration** Marine plan authorities and decision makers should consider the potential for tourism and recreation in the marine environment and the benefits that this will bring to the economy and local communities. These activities, especially recreation, are likely to be varied and many will be closely linked to onshore tourism strategies and plans which will need to be taken into account. The provision of slipways, coastal footpaths and ensuring coastal access for example could encourage economic growth and highlights the importance of considering the links between marine	**Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** assesses the impact of the proposed development on tourism. During construction and operation, no significant impacts are anticipated on tourism receptors within 1km. The quay is replacing an existing jetty in an existing statutory harbour and is not expected to displace or directly affect recreational marine activities.

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	and terrestrial plans. There may also be opportunities for raising environmental awareness amongst coastal users. In weighing up these considerations it will be important to ensure that local authorities, local tourism stakeholders, tourism destination management organisations, water-based sports organisations and other marine and coastal users are engaged and consulted before decisions are taken.	

7 Compliance with North East Inshore and North East Offshore Marine Plan

Table 7.1 Compliance with North East Inshore and North East Offshore Marine Plan

NE Marine Plan Section / Topic	Policy Text	Assessment
Objectives of the North East Marine Plan	**Achieving a sustainable marine economy** 1. Infrastructure is in place to support and promote safe, profitable and efficient marine businesses. 2. The marine environment and its resources are used to maximise sustainable activity, prosperity and opportunities for all, now and in the future. 3. Marine businesses are taking long-term strategic decisions and managing risks effectively. They are competitive and operating efficiently. 4. Marine businesses are acting in a way which respects environmental limits and is socially responsible. This is rewarded in the market place. **Ensuring a strong, healthy and just society** 5. People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and can act responsibly. 6. The use of the marine environment is benefiting society as a whole, contributing to resilient and cohesive communities that can adapt to coastal erosion and flood risk, as well as contributing to physical and mental wellbeing. 7. The coast, seas, oceans and their resources are safe to use. 8. The marine environment plays an important role in mitigating climate change. 9. There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets and recognition that for some island and peripheral communities the sea plays a significant role in their community. 10. Use of the marine environment will recognise, and integrate with, defence priorities, including the strengthening of international peace and stability and the defence of the United Kingdom and its interests.	The part of the Proposed Development which falls inside the North East Inshore Plan area comprises the parts of an existing oxygen pipeline which crosses underneath the River Tees and necessary upgrades; the parts of a currently un-used pipeline crossing underneath the River Tees which may be used to supply nitrogen to the Proposed Development; the replacement of a disused waste water pipeline which crosses underneath the River Tees; and a new quay on the River Tees. The purposes of these elements of the Proposed Development are to supply oxygen and nitrogen for the operation of the SAF Production Facility; to carry industrial waste water for discharge; and to import modules and materials during construction and import feedstock for SAF production / processing in the CHP during operation. The pipelines and quay will be operating to the relevant safety standards. The purpose of the Proposed Development is to produce SAF which would be used to support the decarbonisation of the aviation industry, consistent with the Government's objective to decarbonise the UK economy and achieve its legally binding target of net zero greenhouse gas emissions by 2050. The Proposed Development would therefore respect environmental limits by reducing national and global greenhouse gas emissions. The impact of the use of marine resources to construct and operate a quay in the River Tees is assessed in the **Environmental Statement (ES Volume I, Application Document Ref. 6.1)** ('ES'). The ES identifies the environmental impacts and proposed mitigation where necessary to reduce the environmental effects and maximise sustainable activity. As confirmed above, the Proposed Development will support the production of SAF which will contribute to national and global aims to decarbonise the aviation industry. This will have substantial benefits for the local and regional economy in terms of employment, job creation and regional prosperity. The ES for the Proposed Development provides context for the ecology and history of the marine area. The assessments and mitigation of potential impacts to the marine environment are contained within the following chapters: • **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)**

NE Marine Plan Section / Topic	Policy Text	Assessment
	Living within environmental limits 11. Biodiversity is protected, conserved and, where appropriate, recovered, and loss has been halted. 12. Healthy marine and coastal habitats occur across their natural range and are able to support strong, biodiverse biological communities and the functioning of healthy, resilient and adaptable marine ecosystems. 13. Our oceans support viable populations of representative, rare, vulnerable, and valued species.	• **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** • **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** • **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** • **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** • **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** • **Chapter 14: Greenhouse Gas Emissions (ES Volume I, Application Document Ref. 6.1.14)** • **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.15)** • **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** • **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** • **Chapter 19: Major Accidents & Disasters (ES Volume I, Application Document Ref. 6.1.19)** • **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)** • **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21)** • **Chapter 22: Cumulative & Combined Effects (ES Volume I, Application Document Ref. 6.1.22)** • **Chapter 23: Summary of Like Significant Residual Effects (ES Volume I, Application Document Ref. 6.1.23)** **Chapter 12: Water Environment (ES Volume I, Application Document Ref 6.1.12)** assess the impact of the Proposed Development on coastal erosion. There is not anticipated to be any significant adverse effect on coastal erosion as a result of changes in hydrodynamics from new quay structures. **Chapter 19: Major Accidents & Disasters (ES Volume I, Application Document Ref. 6.1.19)** presents an assessment of the risks of Major Accidents and Natural Disasters that have the potential to arise during the construction, operation and decommissioning of the Proposed Development.

NE Marine Plan Section / Topic	Policy Text	Assessment
		The assessment reports that all risks will be managed to be as low as reasonably practicable through embedded mitigation. The Proposed Development does not adversely affect access or enjoyment of marine area assets. The assessment of impacts on public rights of way is presented in **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)**. This includes footpaths along the coastal path adjacent to the Proposed Development where enjoyment of the coast is an important quality. The assessment confirms that there would be no direct impacts on these Public Rights of Way and indirect adverse effect from the presence of the Proposed Development are assessed as being not significant. The Proposed Development will not adversely impact Ministry of Defence activity, assets or infrastructure in the marine area.
Infrastructure NE-INF-1	Proposals for appropriate marine infrastructure which facilitates land-based activities, or land-based infrastructure which facilitates marine activities (including the diversification or regeneration of sustainable marine industries), should be supported.	**Chapter 4 Proposed Development (ES Volume I, Application Document Ref. 6.1)** states the Proposed Development comprises the construction and operation of a quay in order to facilitate land-based infrastructure in the form of a SAF production plant through enabling feedstock to be delivered directly to the site. Therefore, the land-based components of the Proposed Development facilitate the need for marine activities in the form of upgrading and maintaining industrial gas and waste water pipelines below the River Tees.
Infrastructure NE-INF-2	(1) Proposals for alternative development at existing safeguarded landing facilities will not be supported. (2) Proposals adjacent and opposite existing safeguarded landing facilities must demonstrate that they avoid significant adverse impacts on existing safeguarded landing facilities. (3) Proposals for alternative development at existing landing facilities (excluding safeguarded sites) should not be supported unless that facility is no longer viable or capable of being made viable for waterborne transport. (4) Proposals adjacent and opposite existing landing facilities (excluding safeguarded sites) that may have significant adverse impacts on the landing facilities should demonstrate that they will, in order of preference: a) avoid b) minimise	The Proposed Development does not comprise of an alternative development at existing safeguarded landing facilities. The proposed quay is located on an existing landing facility which is not safeguarded in the Tees Valley Minerals and Waste Development Plan. The Proposed Development will use this part of the River Tees as a landing facility for feedstock import during the operation phase and deliveries during the construction phase. **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)** assesses the impact of the Proposed Development on nearby landing facilities. No significant adverse impacts from the construction of the quay (including dredging), the construction of the rest of the Proposed Development and the operation of the Proposed Development are identified for safeguarded and non-safeguarded landing facilities. Mitigation measures that will be implemented to reduce the impact of the Proposed Development are identified in **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)**.

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	c) mitigate -adverse impacts so they are no longer significant.	The gas and waste water pipelines in the Proposed Development already exist underneath the River Tees and therefore will not have any significant adverse impacts on nearby landing facilities.
Co-existence NE-CO-1	Proposals that optimise the use of space and incorporate opportunities for co-existence and cooperation with existing activities will be supported. Proposals that may have significant adverse impacts on, or displace, existing activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate - adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals must state the case for proceeding.	As described above, the identification of impacts from the Proposed Development on existing activities in the River Tees are outlined in **Chapter 20: Marine Navigation (ES Volume I, Application Document Ref. 6.1.20)**. The Proposed Development will not have any significant adverse impacts on existing marine activities. A **Navigation Risk Assessment (ES Volume III, Application Document Ref. 6.3)** has been produced and no significant risks to marine navigation are identified, and four risk control measures are recommended. They are deconfliction, relocation of existing Aids to Navigation, approval of mooring configuration and berthing plans.
Aggregates NE-AGG-1	Proposals in areas where a licence for extraction of aggregates has been granted or formally applied for should not be authorised, unless it is demonstrated that the proposal is compatible with aggregate extraction.	The Proposed Development does not interact with any licensed aggregate extraction areas.
Aggregates NE-AGG-2	Proposals within an area subject to an Exploration and Option Agreement with The Crown Estate should not be supported unless it is demonstrated that the proposal is compatible with aggregate extraction.	The Proposed Development does not interact with any areas subject to an Exploration and Option Agreement with The Crown Estate.
Aggregates NE-AGG-3	Proposals in areas of high potential aggregate resource that may have significant adverse impacts on future aggregate extraction should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -significant adverse impacts on future aggregate extraction so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	The Proposed Development is not within any areas of high potential aggregate resource.

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Dredging and disposal NE-DD-2	Proposals that cause significant adverse impacts on licensed disposal sites should not be supported. Proposals that may have significant adverse impacts on licensed disposal sites must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant. If it is not possible to mitigate the significant adverse impacts, proposals must state the case for proceeding.	The Proposed Development does not interact with any licensed disposal sites.
Dredging and disposal NE-DD-3	Proposals for the disposal of dredged material must demonstrate that they have been assessed against the waste hierarchy. Where there is the need to identify new dredge disposal sites, including for alternative use sites, proposals should be supported if they conform to best practice and guidance.	**Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** details how dredged materials will be disposed. It is assumed that uncontaminated dredge spoil will be most likely deposited at a licensed marine disposal site Tees Bay C or at another site as agreed with the MMO. It is conservatively estimated that one third of the dredge spoil is anticipated to be contaminated. It is assumed that the uncontaminated dredge soil will be deposited at a licensed marine disposal site. The contaminated dredge spoil will be analysed, and appropriate management and disposal methods will be identified.
Ports, harbours and shipping NE-PS-1	In line with the National Policy Statement for Ports, sustainable port and harbour development should be supported. Only proposals demonstrating compatibility with current port and harbour activities will be supported. Proposals within statutory harbour authority areas or their approaches that detrimentally and materially affect safety of navigation, or the compliance by statutory harbour authorities with the Open Port Duty or the Port Marine Safety Code, will not be authorised unless there are exceptional circumstances. Proposals that may have a significant adverse impact upon future opportunity for sustainable expansion of port and harbour activities, must demonstrate that they will, in order of preference: a) avoid b) minimise	The Proposed Development is located within the PD Ports Statutory Harbour Authority. **Chapter 20: Marine Navigation (ES Volume I, Application Ref. 6.1.20)** identifies the potential impacts from the construction, operation and decommissioning of the Proposed Development on marine navigation. It does not identify any significant adverse effects on marine navigation from the construction and operation of the quay (including dredging). The impact of the gas and waste water pipelines are not considered as they are not envisioned to have any impact on port and harbour operation or development due to being sited beneath the River Tees. The Proposed Development will not have any significant adverse impacts upon future opportunity for sustainable expansion of port and harbour activities.

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	c) mitigate -adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	
Ports, harbours and shipping NE-PS-2	Proposals that require static sea surface infrastructure or that significantly reduce under-keel clearance must not be authorised within or encroaching upon International Maritime Organization routeing systems unless there are exceptional circumstances.	The Proposed Development does not require static sea surface infrastructure. The construction of the quay will require capital dredging to excavate a berthing pocket adjacent to the quay and access channel. These works will not reduce under-keel clearance.
Ports, harbours and shipping NE-PS-3	Proposals that require static sea surface infrastructure or that significantly reduce under-keel clearance which encroaches upon high density navigation routes, strategically important navigation routes, or that pose a risk to the viability of passenger services, must not be authorised unless there are exceptional circumstances.	The Proposed Development does not require static sea surface infrastructure. The construction of the quay will require capital dredging to excavate a berthing pocket adjacent to the quay and access channel. These works will not reduce under-keel clearance.
Ports, harbours and shipping NE-PS-4	Proposals promoting or facilitating sustainable coastal and/or short sea shipping as an alternative to road, rail or air transport will be supported where appropriate.	The Proposed Development will construct and operate a quay in the River Tees for the purpose of importing modules and materials during the construction of the SAF production facility and importing feedstock during operation. The Proposed Development would benefit from access to a quay through avoiding double handling of feedstock and the requirement for secondary transport to move that feedstock to the Main Site. This provides an alternative to road transport through the use for shipping via the constructed quay.
Renewables NE-REN-1	Proposals that enable the provision of renewable energy technologies and associated supply chains, will be supported.	The Proposed Development would use sustainably sourced biomass to produce second generation SAF for export and support the decarbonisation of the aviation industry and the UK's net zero pathways as well as utilising a biomass and waste wood fired CHP plant to supply energy and heat to the SAF production process. It is therefore consistent with the policy support for provision of renewables.
Renewables NE-REN-2	Proposals for new activity within areas held under a lease or an agreement for lease for renewable energy generation should not be authorised, unless it is demonstrated that the proposed development or activity will not reduce the ability to construct, operate or decommission the existing or planned energy generation project.	The Proposed Development does not have an element which would interact with the area held under lease or an agreement for lease for any renewable energy installations.

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Heritage assets NE-HER-1	Proposals that demonstrate they will conserve and enhance the significance of heritage assets will be supported. Where proposals may cause harm to the significance of heritage assets, proponents must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -any harm to the significance of heritage assets. If it is not possible to mitigate, then public benefits for proceeding with the proposal must outweigh the harm to the significance of heritage assets.	Heritage assets have been scoped out of the ES, as detailed in **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3.3)**. There are no designated marine heritage assets situated within the Proposed Development site and the Site does not contribute to the significance of any marine or underwater assets situated in the River Tees. The pipelines crossing beneath the River Tees are already existing and above ground installations on the shores will not alter the setting of any assets. Therefore, the Proposed Development will not result in any impact to marine or underwater assets through changes to setting.
Seascape and landscape NE-SCP-1	Proposals should ensure they are compatible with their surroundings and should not have a significant adverse impact on the character and visual resource of the seascape and landscape of the area. The location, scale and design of proposals should take account of the character, quality and distinctiveness of the seascape and landscape. Proposals that may have a significant adverse impact on the seascape and landscape of the area should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant. If it is not possible to mitigate, the public benefits for proceeding with the proposal must outweigh significant adverse impacts to the seascape and landscape of the area. Proposals within or relatively close to nationally designated areas should have regard to the specific statutory purposes of the designated area. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks and Areas of Outstanding Natural Beauty.	**Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** details the assessment of impacts on landscape and visual amenity. The Proposed Development is located within Marine Character Area 22 (MCA 22). The key characteristics of MCA 22 are busy shipping lanes; extensively developed lowland coast, and associated estuaries, rivers and shelving coastal waters; bright lighting as a result to the large industrial area at Middlesbrough; and relatively industrialised character. The Proposed Development is in keeping with this character and no landscape impacts are anticipated during construction or operation. The Proposed Development is not within or close to any National Parks or National Landscapes.
Fisheries NE-FISH-1	Proposals that support a sustainable fishing industry, including the industry's diversification, should be supported.	The Proposed Development will not impact upon any fisheries or the fishing industry.

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Fisheries NE-FISH-3	Proposals that enhance essential fish habitat, including spawning, nursery and feeding grounds, and migratory routes, should be supported. Proposals that may have significant adverse impacts on essential fish habitat, including spawning, nursery and feeding grounds, and migratory routes, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant.	**Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref 6.1.11)** assesses the impact of the Proposed Development on fish habitat. After mitigation measures have been implemented, there are not anticipated to be any significant adverse effects arising from operation or decommissioning of the Proposed Development. Mitigation measures to reduce potential impacts include dredging methods, avoiding dredging during ebb and spring tides and implementing turbidity monitoring. Condition 16 of the deemed marine licence requires submission and approval by the MMO (in consultation with the SHA) of a marine method statement which must include details of dredging methods.
Employment NE-EMP-1	Proposals that result in a net increase in marine-related employment will be supported, particularly where they meet one or more of the following: 1) are aligned with local skills strategies and support the skills available 2) create a diversity of opportunities 3) create employment in locations identified as the most deprived 4) implement new technologies -in, and adjacent to, the north east marine plan areas.	As the Proposed Development comprises the development of a quay and will import feedstock through that quay during operation, it is envisioned that a net-increase in marine-related employment will occur. However, the extent of which is not detailed in **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)**. Most of the employment created as a result of the Proposed Development will be during the construction period where 2,250 FTE job-years are expected to be supported directly, with a further 2,070 FTE job-years supported indirectly through the supply chain. In total across the UK, the total construction employment effect is expected to comprise approximately 8,990 FTE job-years. Around 23% of on-site construction labour would be sources from Teesside with specialist labour sourced from outside the local area This demonstrates that employment will be available which is aligned with skills available in Teesside and a range of opportunities will be available.
Climate change NE-CC-1	Proposals that conserve, restore or enhance habitats that provide flood defence or carbon sequestration will be supported. Proposals that may have significant adverse impacts on habitats that provide a flood defence or carbon sequestration ecosystem service must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate	The Proposed Development is not anticipated to have any impact of habitats that provide a flood defence or carbon sequestration ecosystem service. The **Flood Risk Assessment (Application Document Ref. 5.7)** demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere.

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	-adverse impacts so they are no longer significant d) compensate for significant adverse impacts that cannot be mitigated.	
Climate change NE-CC-2	Proposals in the north east marine plan areas should demonstrate for the lifetime of the project that they are resilient to the impacts of climate change and coastal change.	The climate change resilience of the Proposed Development is assessed in **Chapter 15: Climate Change Resilience (ES Volume I, Application Document Ref. 6.1.1.5)**. No significant effects from the impacts of climate change and coastal change are anticipated through the lifetime of the Proposed Development.
Climate change NE-CC-3	Proposals in the north east marine plan areas, and adjacent marine plan areas, that are likely to have significant adverse impacts on coastal change, or on climate change adaptation measures inside and outside of the proposed project areas, should only be supported if they can demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant.	**Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on coastal erosion. This has been informed by hydraulic modelling to determine the hydrodynamic impact of the construction of a quay in the River Tees. The impact of new quay structures is anticipated to be not significant.
Carbon capture usage and storage NE-CCUS-2	Carbon capture, usage and storage proposals incorporating the re-use of existing oil and gas infrastructure will be supported.	The Proposed Development consists of a biomass and waste wood fired CHP plant with a capacity of up to 200MWe to provide low carbon electricity and steam to the SAF Production Facility. In future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be captured in a PCCU and directed to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. The development of a PCCU does not form part of the Proposed Development and would be developed under a separate consent.
Carbon capture usage and storage NE-CCUS-3	Proposals associated with the deployment of low carbon infrastructure for industrial clusters should be supported.	The Proposed Development consists of a biomass and waste wood fired CHP plant with a capacity of up to 200MWe to provide low carbon electricity and steam to the SAF Production Facility. This will enable the SAF Production Facility to run on its own electricity supply, reducing demand on the grid and reduce the lifecycle carbon emission of SAF.
Air quality and emissions NE-AIR-1	Proposals must assess their direct and indirect impacts upon local air quality and emissions of greenhouse gases. Proposals that are likely to result in increased air pollution or increased emissions of greenhouse gases must demonstrate that they will, in order of preference: a) avoid	**Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** assesses the impact of the Proposed Development upon air quality. Construction dust is assessed to have a **moderate adverse** effect upon human receptors and a **major adverse** effect upon ecological receptors. As a result, mitigation is proposed in the form of measures contained within the Construction Environmental

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	b) minimise c) mitigate -air pollution and/or greenhouse gas emissions in line with current national and local air quality objectives and legal requirements.	Management Plan (CEMP), as secured by Requirement 4 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**, including adhering to best practice detailed in the IAQM Construction Dust Guidance. Once the proposed mitigation measures have been implemented, the residual effects of construction dust are not significant. All other impacts on air quality are not anticipated to be significant. **Chapter 14: Greenhouse Gas Emissions (ES Volume I, Application Document Ref. 6.1.14)** assesses the impact of the Proposed Development upon greenhouse gas emissions (GHG). While the Proposed Development will result in a direct increase in GHG emissions, its role in displacing conventional jet fuel through the production of SAF will lead to a net reduction in atmospheric GHG concentrations. However, the direct effect of the increase in GHG emissions as a result of the construction, operation eventual and decommissioning of the Proposed Development is **minor adverse** and not significant.
Marine litter NE-ML-2	Proposals that facilitate waste re-use or recycling to reduce or remove marine litter will be supported. Proposals that could potentially increase the amount of marine litter in the marine plan areas must include measures to, in order of preference: a) avoid b) minimise c) mitigate -waste entering the marine environment.	In order to manage and monitor waste generated on the Proposed Development Site during the construction, a **Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)** ('SWMP') has been developed which will allow for waste streams to be estimated and monitored. The Framework SWMP sets out how waste will be managed during construction, and opportunities to prevent waste, reuse materials and recycle or recover waste will be explored in accordance with the waste hierarchy. The Final SWMP will require that the construction contractor segregates waste streams on-site, prior to them being taken to a waste facility for recycling, recovery or disposal. All waste removal from the Proposed Development Site will be undertaken by fully licensed waste carriers and taken to permitted waste facilities. A Final SWMP will be prepared by the construction contractor in accordance with the Framework SWMP prior to construction. The submission, approval, and implementation of the Final SWMP will be secured by Requirement 4 of the **draft DCO (Application Document Ref. 3.1)**.
Water quality NE-WQ-1	Proposals that protect, enhance and restore water quality will be supported. Proposals that cause deterioration of water quality must demonstrate that they will, in order of preference: a) avoid	**Chapter 12: Water Environment (Application Document Ref. 6.1.12)** assesses the impact of the Proposed Development on water quality. During construction, there is the potential for changes to the water quality within the River Tees associated with the jetty demolition and quay construction works. It is not anticipated that there will be any

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	b) minimise c) mitigate -deterioration of water quality in the marine environment.	significant adverse effects associated with changes to water quality during construction and operation of the Proposed Development.
Access NE-ACC-1	Proposals demonstrating appropriate enhanced and inclusive public access to and within the marine area, including the provision of services for tourism and recreation activities, will be supported. Proposals that may have significant adverse impacts on public access should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant.	The Proposed Development will not affect access to and within the marine area.
Tourism and recreation NE-TR-1	Proposals that promote or facilitate sustainable tourism and recreation activities, or that create appropriate opportunities to expand or diversify the current use of facilities, should be supported. Proposals that may have significant adverse impacts on tourism and recreation activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant.	**Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** assesses the impact of the Proposed Development on tourism. It is assessed there will be no significant adverse impacts on tourism during construction and operation.
Social benefits NE-SOC-1	Those bringing forward proposals should consider and demonstrate how their development shall enhance public knowledge, understanding, appreciation and enjoyment of the marine environment as part of (the design of) the proposal.	The Proposed Development cannot for space, safety and security reasons host visitor educational infrastructure but is located appropriately at an existing statutory harbour on largely previously developed land and through appropriate design measures set out in the **Design Approach Document (DAD) (Application Document Ref. 5.3.1)** will strengthen the identity of Teesside as a centre of decarbonisation innovation and industry.
Marine protected areas NE-MPA-1	Proposals that support the objectives of marine protected areas and the ecological coherence of the marine protected area network will be supported. Proposals that may have adverse impacts on the objectives	A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref.**

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	of marine protected areas must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts, with due regard given to statutory advice on an ecologically coherent network.	**3.1)**, the Proposed Development will not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects.
Marine protected areas NE-MPA-2	Proposals that enhance a marine protected area's ability to adapt to climate change, enhancing the resilience of the marine protected area network, will be supported. Proposals that may have adverse impacts on an individual marine protected area's ability to adapt to the effects of climate change, and so reduce the resilience of the marine protected area network, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts.	A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects.
Marine protected areas NE-MPA-3	Where statutory advice states that a marine protected area site condition is deteriorating or that features are moving or changing due to climate change, a suitable boundary change to ensure continued protection of the site and coherence of the overall network should be considered.	A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects.
Marine protected areas NE-MPA-4	Proposals that may have significant adverse impacts on designated geodiversity must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant.	A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), either alone or in combination with other plans or projects.

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Biodiversity NE-BIO-1	Proposals that enhance the distribution of priority habitats and priority species will be supported. Proposals that may have significant adverse impacts on the distribution of priority habitats and priority species must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate –adverse impacts so they are no longer significant d) compensate for significant adverse impacts that cannot be mitigated.	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on priority habitats and species. It is anticipated that after mitigation measures have been implemented there will no significant adverse effects on ecological receptors from the construction or operation of the Proposed Development.
Biodiversity NE-BIO-2	Proposals that enhance or facilitate native species or habitat adaptation or connectivity, or native species migration, will be supported. Proposals that may cause significant adverse impacts on native species or habitat adaptation or connectivity, or native species migration, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant d) compensate for significant adverse impacts that cannot be mitigated.	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on priority habitats and species. It is anticipated that after mitigation measures have been implemented there will no significant adverse effects on ecological receptors from the construction or operation of the Proposed Development.
Biodiversity NE-BIO-3	Proposals that conserve, restore or enhance coastal habitats, where important in their own right and/or for ecosystem functioning and provision of ecosystem services, will be supported. Proposals must take account of the space required for coastal habitats, where important in their own right and/or for ecosystem functioning and provision of ecosystem services, and demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate d) compensate for	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on priority habitats and species. It is anticipated that after mitigation measures have been implemented there will no significant adverse effects on ecological receptors from the construction or operation of the Proposed Development. A **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Application Document Ref. 5.8)** has been produced and outlines the Proposed Development's voluntary No Net Loss objective. The mitigation, compensation, monitoring and enhancement measures will be secured through Requirement 6 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1)**.

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	-net habitat loss.	
Invasive non-native species NE-INNS-1	Proposals that reduce the risk of introduction and/or spread of invasive non-native species should be supported. Proposals must put in place appropriate measures to avoid or minimise significant adverse impacts that would arise through the introduction and transport of invasive non-native species, particularly when: 1) moving equipment, boats or livestock (for example fish or shellfish) from one water body to another 2) introducing structures suitable for settlement of invasive non-native species, or the spread of invasive non-native species known to exist in the area.	**Chapter 11; Freshwater and Marine Ecology (ES Volume I, Application Document 6.1.11)** anticipates that with the implementation of good practice mitigation measures, the adverse impact of invasive or non-native species is not significant.
Disturbance NE-DIST-1	Proposals that may have significant adverse impacts on highly mobile species through disturbance or displacement must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts on highly mobile species so they are no longer significant.	**Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assesses the impact of the Proposed Development on highly mobile species. It is anticipated that after mitigation measures have been implemented there will no significant adverse effects on ecological receptors from the construction or operation of the Proposed Development.
Underwater noise NE-UWN-1	Proposals that result in the generation of impulsive sound must contribute data to the UK Marine Noise Registry as per any currently agreed requirements. Public authorities must take account of any currently agreed targets under the Marine Strategy Part One Descriptor 11.	As set out in **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** activities that generate impulsive underwater sound must be carried out in accordance with JNCC Guidelines to minimise impacts on marine mammals and fish are considered indirectly.
Underwater noise NE-UWN-2	Proposals that result in the generation of impulsive or non-impulsive noise must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals must state the case for proceeding.	**Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assesses the impact of underwater noise on ecological receptors. After mitigation and monitoring measures within JNCC Guidelines are applied, it is anticipated that there will be no significant adverse effects arising from underwater noise during construction or operation of the Proposed Development.

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Cumulative effects NE-CE-1	Proposals which may have adverse cumulative effects with other existing, authorised, or reasonably foreseeable proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse cumulative and/or in-combination effects so they are no longer significant.	**Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)** assess cumulative impacts of the Proposed Development with other nearby existing, authorised or reasonably foreseeable proposals. There are not anticipated to be any significant residual adverse cumulative effects as a result of the Proposed Development with other nearby proposals.
Cross-border co-operation NE-CBC-1	Proposals must consider cross-border impacts throughout the lifetime of the proposed activity. Proposals that impact upon one or more marine plan areas or terrestrial environments must show evidence of the relevant public authorities (including other countries) being consulted and responses considered.	The Proposed Development sits entirely in the Inshore North East Marine Plan and is not anticipated to have any cross-border impacts.

8 Accordance with Biomass Policy Statement

Table 8.1 Accordance with Biomass Policy Statement

Biomass Policy Statement Section	Key Policy Text	Assessment
Sustainable Biomass – Page 10	We are committed to using only sustainable biomass, whether derived from international or domestic sources. The UK has stringent sustainability criteria in place for the power, heat and transport sectors, and supports the use of biomass only where it is demonstrated to be sustainable and deliver genuine greenhouse gas (GHG) savings compared to fossil materials. Sustainability requires an understanding of the life-cycle GHG emissions, biodiversity, ecosystem services (e.g., soil and water quality) and social issues (e.g. land tenure, labour rights). Bioenergy generation across the power, heat and transport sectors currently all have strict sustainability criteria that must be followed to prevent unintended consequences of biomass use that could negatively affect biodiversity, GHG savings, the health and vitality of ecosystems, and ecosystem services. We define sustainable biomass as biomass that is cultivated, harvested and processed in line with these sustainability criteria.	**Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** sets out that the SAF Production Facility will use sustainably sourced biomass, which may include agricultural residues, to produce SAF. It goes on to confirm that the biomass to be used in the SAF Production Facility will meet the sustainability criteria specified in the SAF Mandate. The sustainability criteria under the SAF Mandate, administered by the Department for Energy Security and Net Zero and the Civil Aviation Authority, apply to the feedstock and production pathway used to produce SAF. These criteria have similar objectives to the biomass sustainability criteria under the RO and CfD (GHG savings thresholds, land use restrictions, sustainable forest management) but are specifically tailored to the SAF production context. Feedstock be considered a “waste or residue” to qualify under the SAF Mandate. The biomass sourcing will be independently certified and audited. GHG emissions across the full lifecycle of the Proposed Development, including the biomass supply chain, are assessed **in Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)**, which confirms that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its 30-year operational life. While there is potential for CO_2 captured from the CHP plant to be exported via pipeline to the Northern Endurance Partnership infrastructure (**Work Nos. 11B** or **11C**), the necessary compression and capture plant would require a separate consent to be obtained. Carbon capture and transfer to storage is therefore not part of the Proposed Development and has not been assumed or included in the ES
Air Quality – Page 19	It is vital to ensure that any negative impacts on the environment, including on air quality, from the use of biomass are fully understood and mitigated. Certain uses of biomass can impact air quality, for example ammonia emissions from digestate (a by-product of anaerobic digestion) can cause biodiversity loss and negative impacts on human health. The use of biomass for domestic or smaller industrial and commercial burning is also a significant contributor to the UK’s PM2.5 levels. Depending on the type of abatement technology applied and in the absence of appropriate regulation, the expansion of biomass combustion for power generation with carbon capture and storage, could lead to significant emissions of PM2.5. The impacts of using	The Proposed Development represents an efficient and regulated application of biomass combustion (as part of the CHP plant, producing both electricity and steam for immediate use on site) and process usage (as feedstock for SAF production). **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** takes account of the air quality impacts of the combustion of the sustainably-sourced biomass and includes an assessment of PM2.5 and PM10. The biomass and waste wood CHP plant will combust either sustainably-sourced biomass, and waste wood or a combination of the two. Therefore, the Best Available Technique-Associated Emission

Biomass Policy Statement Section	Key Policy Text	Assessment
	biomass in different ways will vary depending on the fuels which are being replaced, the technologies used to clean pollutants, the scale of the plant in question, and the proximity of emissions to areas of population. The UK has statutory ceilings in place for emissions of five of the most damaging air pollutants (including ammonia and PM2.5) and further targets on local concentrations of these pollutants. To ensure that these targets can be met, regulatory requirements that apply to the use of biomass (primarily through environmental permitting and Best Available Techniques) will need to develop over time as the use of biomass expands. Further research and innovation will also be required to ensure that impacts on air quality are better understood and improvements in abatement technologies developed. The Biomass Strategy will provide more detail on the interactions between biomass use and wider environmental commitments, and the actions being taken to ensure co-benefits are maximised.	Levels (BAT-AEL) used in the assessment have been based around this assumption and the approach taken has been to model the emissions at the most stringent BAT-AEL applicable for both biomass and waste wood, as agreed with the EA during pre-application discussions on the Environmental Permit that will be required for the operation of the Proposed Development. This assumes that any mix between 100% biomass and 100% waste wood should be acceptable based on the outcomes of the worst-case assumptions of either 100% biomass or 100% waste wood. The Main Site is located within the established industrial area of Seal Sands, with the surrounding area characterised by existing large-scale industrial plant, port infrastructure and energy facilities. The Proposed Development is therefore sited in a location that minimises the proximity of emissions to areas of population, consistent with the approach encouraged by the Biomass Policy Statement. Regarding the technologies used to clean pollutants, the gasification and Fischer-Tropsch synthesis process for the SAF Production Facility (**Work No. 1**) generates process emissions to air which are controlled through a dedicated thermal oxidiser and associated emissions abatement system, designed to comply with the relevant Environmental Permitting Regulations and BAT-AEL requirements. The SAF process emissions have been included within the operational air quality assessment in **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** and **Appendix 8B: Air Quality – Operational Assessment (ES Volume III, Application Document Ref. 6.3**). Regarding the technologies used to clean pollutants in relation to the CHP plant (**Work No. 2**) and the SAF Production Product Pretreatment stack, emissions of NOx will be controlled through a combination of primary and secondary abatement measures, as set out within **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8).** The requirement for and specification of additional abatement beyond BAT-AELs will be determined through the Environmental Permit process. With additional mitigation in place, all air quality effects are assessed as not significant at all human health and ecological receptors.
Priority Use Framework – Page 20	Recognising that sustainable biomass is a limited resource, it is important to ensure that biomass is prioritised within the economy where it offers the greatest opportunity to reduce greenhouse gas (GHG) emissions in 'hard to abate' sectors where there are fewer options to decarbonise through alternative low carbon technologies. To	The Proposed Development aligns with the priority use principles as follows: • Sustainability – the Proposed Development is compatible with the sustainability criteria as set out in the Biomass Strategy. This

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	enable this and support future government policy development on biomass, it is necessary to set out a priority use framework that defines the best use of biomass across the economy in the short-, medium- and long-term towards our net zero target. The Net Zero Strategy set out that the primary method of achieving net zero is to undertake ambitious decarbonisation across society. Therefore, all biomass use (e.g. as an energy vector, as raw material in products, as part of greenhouse gas removals (GGRs), etc) needs to be alongside ambitious efforts to reduce whole supply chain emissions in line with net zero. Figure 2 provides an outline of this framework, setting out the overarching principles and policy aims for biomass use in the short- (2020s), medium- (to 2035, corresponding to Carbon Budget (CB) 6 timelines) and long-term (to 2050). These have been developed with a key focus on how they can best support the delivery of our net zero target and meet wider environmental targets, including on air quality, to create a flexible framework under which the right biomass decarbonisation pathways can be developed and supported across the economy. In addition, the responses to our recent call for evidence on biomass highlighted some key objectives to be included in the framework, which are as follows: • Protection of the natural environment; • Contributing to net zero, including the potential to generate negative emissions; • Minimising air quality impacts; • Maximising circular economy benefits; and • Consideration of the role of biomass in 'hard to abate' sectors, considering alternative options.	is considered in Section 4 of the **Planning Statement (Application Document Ref. 5.2.1)**. • Air Quality – this is considered in **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8).** • Net Zero – The relationship between the Proposed Development and the Net Zero Strategy is considered within the **Planning Statement (Application Document Ref. 5.2.1).** Furthermore, as set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** in future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be captured in a Post-Combustion Carbon Capture Unit ('PCCU') and directed via the selected CO_2 export pipeline route (either **Work No. 11B** or **11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. This would result in the Proposed Development achieving even greater negative carbon emissions and further reducing the carbon intensity of the final SAF Product. Development of a PCCU does not form part of the Proposed Development. Therefore it is not considered in the EIA and would be developed under separate consent at a later date. • Circular Economy – **Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.6)** considers the potential effects associated with the materials and waste, and sets out how the Proposed Development's design takes into consideration the waste hierarchy or decreases the amount of waste arisings via designing out waste and maximising efficient use of materials ultimately to prevent and minimise waste sent to landfill. Aviation is considered a 'hard to abate' sector as referenced in this section of the Biomass Policy Statement. As set out within the **Planning Statement (Application Document Ref. 5.2.1)**, the use of biomass for the Proposed Development is contributing significantly to decarbonising the aviation section in conformity with the 2022 Jet Zero Strategy.
Electricity – Page 22	Biomass-based electricity generation has been incentivised in the UK under the Renewables Obligations (RO), and in Great Britain under the Contracts for Difference (CfD) scheme and the Feed in Tariff (FIT), while the supplier-led Smart Export Guarantee (SEG) also includes generation from biomass. The RO and the FIT is now closed to new entrants, while the CfD and the SEG are open for new applicants. In 2020 total electricity generation from bioenergy was 39.3 TWh, most of	The CHP plant (**Work No. 2**) will be fuelled by either sustainably sourced biomass, waste wood, or a blend of the two. The Applicant is committed to ensuring that all biomass feedstock used in the CHP plant will meet applicable sustainability criteria. However, the support from CfD scheme is generally based on exporting electricity to the grid. All

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	which was delivered by facilities supported under these schemes. In the upcoming CfD allocation round 4 the following biomass technologies are eligible: landfill gas, energy from waste (EfW) with combined heat and power (CHP), sewage gas, advanced conversion technologies, dedicated biomass with CHP and anaerobic digestion >5MW. These schemes require generators to comply with land and GHG emissions related sustainability criteria. Generating stations report against the sustainability criteria on a monthly or quarterly basis (dependent on the scheme and project scale) and also provide an annual sustainability audit report to verify the sustainability information. Emissions are reported to the relevant parties, with the majority of schemes directly reporting this information to Ofgem, whilst all relevant information under the CFD is submitted to the Low Carbon Contracts Company who currently utilise Ofgem's expertise in this area as a technical advisor. The Government recognises there are parallel emerging priorities for Carbon Capture and Storage (CCS), and we are considering options on where this can be deployed in the energy sector to deliver 'negative' emissions. We acknowledge the Climate Change Committee's (CCC) recommendation on Bioenergy with Carbon Capture and Storage (BECCS) and will be considering this using the priority use framework described above, where we will review the role of biomass in electricity generation, as well as looking at options for deploying BECCS in other industries (see section 2.7 for further detail). In line with the CCC's recommendation, we intend for future large-scale biomass-based electricity generation to not be supported without the addition of CCS, and we are considering routes to support power BECCS. However, we will complete developing the priority use framework before making any decisions, including whether and what changes may need to be made to the CfD scheme beyond allocation round 4. Therefore, there are no current plans to change how we support biomass under the CfD. There is a risk that increased combustion of biomass could have unintended consequences for air quality and human health due to emissions of particulate matter (PM). As set out in the 2019 Clean Air Strategy we are therefore continuing to consider the case for setting tighter emission controls for biomass installations to reduce PM pollution from energy generation.	electricity generated by the CHP plant will be utilised on site by the SAF Production Facility and therefore CfD has limited relevance. The SAF Mandate is the relevant standard for the Proposed Development. The SAF Mandate is the UK's key policy mechanism to secure demand for SAF. It delivers GHG emission savings by encouraging the supply of SAF by setting a legal obligation to blend increasing proportions of SAF into fuel supplied at UK airports, rising to 10% by 2030 and 22% by 2040. This creates a direct, legally mandated market for the Proposed Development's primary output. The sustainability criteria under the SAF Mandate, administered by the Department for Energy Security and Net Zero and the Civil Aviation Authority, apply to the feedstock and production pathway used to produce SAF. These criteria have similar objectives to the biomass sustainability criteria under the RO and CfD (GHG savings thresholds, land use restrictions, sustainable forest management) but are specifically tailored to the SAF production context. The sustainability criteria to be applied include minimum greenhouse gas emissions savings and restrictions on the sourcing of material from land of high carbon or biodiversity value, including requirements for sustainably managed forests in respect of woody biomass. The Proposed Development will use sustainably sourced biomass, which may include agricultural residues (see **Chapter 16: Materials and Waste (Application Document Ref. 6.1.16)**). The GHG emissions associated with the cultivation, processing and transport of the biomass feedstock have been taken into account in **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)**. That assessment concludes that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its 30-year operational life through the displacement of conventional jet fuel, equivalent to a carbon payback ratio of approximately 3:1. **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** assesses the impact to human health of changes in air quality arising from operational plant, including the CHP plant and SAF Production Facility. The impacts are assessed as not significant.

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Heat – Page 23	Developing the market for low carbon heat networks will also be a no-regrets action, in recognition of the Climate Change Committee's (CCC)'s recommendation for around 18% of UK heat to come from heat networks by 2050 as part of a least cost pathway to meeting net zero. Subject to proving safety, feasibility, consumer experience and other costs and benefits, hydrogen could play an important role in helping to decarbonise heating. We will work in partnership with industry and other key stakeholders to test and evaluate the potential of hydrogen as an option for heating our homes and workplaces, ahead of taking strategic decisions on its role in 2026.	Please refer to the Applicant's NPS EN-3 Policy Compliance Table (Table 3.1 above) for the Applicant's review of the Proposed Development against Government policy on combined heat and power.
Sustainable Aviation Fuel – Page 29	Sustainable Aviation Fuels (SAF) are one of the key levers available to government and industry to accelerate the transition to net zero aviation. These advanced fuels, obtained from a wide range of waste feedstocks or electricity, can be easily dropped into existing conventional jet fuel and can achieve life-cycle GHG emissions savings of over 70% compared with conventional jet fuel, when fully replacing kerosene. To accelerate SAF deployment and tackle the barriers faced by developing SAF projects, we have gradually introduced a world-leading, comprehensive programme of interventions aiming to commercialise the domestic SAF industry and deliver carbon savings. On top of competition funding, we have recently consulted on a UK SAF blending mandate. The proposed long- term obligation aims to generate demand for SAF, provide an incentive to SAF producers and signal to investors the vital role the Government believes the technology will play in the UK. The SAF mandate consultation includes proposed requirements for SAF to adhere to strict sustainability criteria. These will ensure significant GHG emissions savings are delivered and will prevent negative environmental consequences. The consultation also proposed that only waste-derived biofuels, renewable fuels of nonbiological origin, SAF from nuclear origin and recycled carbon fuels can contribute towards the SAF mandate obligation, as these fuels can deliver high carbon savings and do not typically present significant direct or indirect land use or wider environmental impacts. It is not envisaged that crop-derived biofuels will be permitted. We are currently reviewing the responses received to	As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**, the Proposed Development comprises the construction, operation (including maintenance) and decommissioning of a SAF Production Facility, with a CHP plant providing power and steam. The Applicant's review of the Proposed Development against the relevant sustainability criteria within EN-1 and EN-3 is presented within the **Tables 2.1** and **3.1** of this document respectively. The contribution of the Proposed Development to the objectives of government in establishing the SAF Mandate is considered in Sections 3.2 and 3.3 of the **Planning Statement (Application Document Ref. 5.2.1)**. GHG emissions are considered within **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)**.

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	the consultation and will continue to refine these proposed criteria in the coming months.	
Bioenergy with Carbon Capture and Storage (BECCS) – Page 34	Both Government and the CCC modelling have found that GGRs will be required to offset residual emissions in sectors that are difficult to decarbonise completely, such as heavy industry, agriculture and aviation. The Government has committed to establishing the role which Bioenergy with Carbon Capture and Storage (BECCS) could play in reducing carbon emissions across the economy and, as part of a wider Biomass Strategy, setting out how the technology could be deployed. If adopted early, GGR technologies could provide an opportunity to help meet our nationally determined contribution (NDC) in 2030, and Carbon Budgets 5 and 6. This timeline is in line with Government commitment to deploy CO2 transport and storage infrastructure at four carbon capture usage and storage (CCUS) clusters by 2030 at the latest, with a minimum of two being established in the mid-2020s. The Government estimates that by 2050 between 75 and 81Mt of CO2 removals delivered by engineered GGRs are needed to meet net zero. The Net Zero Strategy set an ambition of deploying at least 5 MtCO2 per year of engineered removals by 2030, in line with recent CCC and the National Infrastructure Commission's recommendations to set a plan for the deployment of engineered removals, as well as our own internal analysis of our ability to significantly scale-up the sector over the 2020s, of which BECCS could be a major route. The CCC and the National Grid's 2020 Future Energy Scenarios (FES) also indicate that it is not possible to achieve net zero without BECCS. Therefore, where biomass is used, the Government will seek to explore where there are opportunities to support its use in combination with BECCS, in line with the priority use principles outlined in Figure 2. When undertaken sustainably, BECCS can deliver negative emissions because carbon sequestered in biogenic material is captured and stored after combustion, resulting in a net decrease in atmospheric CO2 overall. Some organisations including trade associations, university researchers and NGOs raised concerns over the net negativity of BECCS in the biomass call for evidence and asked how the Government might support BECCS to deliver negative emissions. To ensure that BECCS delivers genuine negative emissions, strict biomass sustainability criteria will be developed for BECCS. These criteria will build on the existing sustainability criteria for biomass that are being reviewed as part of the Biomass Strategy. Research and updated regulation will also be required to understand and address any	The Government's stated position is that where biomass is used, it will seek to explore where there are opportunities to support its use in combination with BECCS, in line with the priority use framework. The CHP plant (**Work No. 2**) uses sustainably sourced biomass and waste wood to generate the electricity and steam required by the SAF Production Facility, and the Proposed Development has been designed from the outset to facilitate the future deployment of BECCS, as set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. The Proposed Development's design does not preclude the future addition of a PCCU to capture CO_2 from the CHP plant and thermal pre-treatment of feedstock, which would be developed under separate consent. Separately, if a connection to the NEP CO_2 Gathering Network becomes available, the option exists for biogenic $CO_2$from the SAF production process to be captured and exported via the CO_2 export pipeline infrastructure included within the Proposed Development (**Work Nos. 11B or 11C**). Until that connection is realised, CO_2 from the SAF production process will be vented to the atmosphere with a portion of it captured and compressed for return to the gasification unit as described in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. GHG emissions across the full lifecycle of the Proposed Development, including the biomass supply chain, are assessed in **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14),** which confirms that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its 30-year operational life through the displacement of conventional jet fuel. The Proposed Development is therefore consistent with the Government's objective that biomass use be targeted at hard-to-decarbonise sectors (in this case aviation) and that BECCS be genuinely and credibly 'net-negative'. The specific application of BECCS to power generation from the CHP plant and to biofuel production from the SAF process are addressed further in the 'Power BECCS' and 'BECCS and Biofuel Production' rows below.

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	air quality impacts from BECCS, including emissions associated with carbon capture solvents. The Government is clear that any BECCS deployment must be genuinely and credibly 'net-negative', meaning it must remove more GHG emissions from the atmosphere than it creates, and store them in long-term geological storage. This assessment would include all GHGs (including methane and nitrous oxide) from the whole BECCS supply chain, including carbon capture at the capture plant and eventual store. For this reason, the Government convened a GGR Monitoring, Reporting and Verification (MRV) Task and Finish Group with the aim of understanding the current position on MRV for negative emissions in the UK, what regulatory frameworks and standards currently exist, identifying the gaps that exist, and the work required to fill them. The Group identified a need for HMG to develop detailed MRV protocols for all non-geological sequestration GGR approaches (e.g. biochar, or enhanced weathering), and by 2024 establish an independent function to sit between project developers and HMG. Alongside this, we will develop a BECCS policy that will ensure that BECCS delivers genuine negative emissions, in parallel with the review of our existing sustainability criteria. Principally, the Government is clear that the purpose of BECCS, and other GGRs is to balance the residual emissions from sectors that are unlikely to achieve full decarbonisation by 2050 and will not be substitutes for ambitious mitigation to achieve net zero. This is consistent with responses to our call for evidence, suggesting the Government targets the use of biomass so that it mitigates emissions released from hard-to-decarbonise sectors.	
Power BECCS – Page 37	Modelling to inform the Net Zero Strategy suggests that by 2050, engineered removals at large scale, between 75 and 81 MtCO2 per year, will be needed to help compensate residual emissions. This will be equivalent to 45-80% of total emissions captured across the UK economy and we expect to see predominantly the scale up of power BECCS alongside DACCS and BECCS with gasification technologies. Based on available evidence, power BECCS could be a major GGR in this period, thanks to opportunities to retrofit existing large-scale biomass plants, providing a long-term future for this capacity. In total, power BECCS is expected to deliver a steady increase of engineered removals between the late 2020s and 2035. This assessment is supported by recent CCC and National Infrastructure Commission (NIC) reports, which both saw a role for power BECCS in contributing	As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** in future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be captured in a Post-Combustion Carbon Capture Unit and directed via the selected CO_2 export pipeline route (either **Work No. 11B** or **11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. This would result in the Proposed Development achieving even greater negative carbon emissions (compared to the Proposed Development and its SAF plant exporting CO_2 from the AGR to the NEP) and further reducing the carbon intensity of the final SAF Product. Development of a PCCU is not precluded by the Proposed Development as space is allowed for it, but does not form part of the

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	to our nearer term 2030 and 2035 targets. Beyond that, the portfolio of BECCS and other GGRs deployed at scale will expand as other technologies mature and demand from end-use sectors increases. A recent BEIS study on GGRs, suggests that power BECCS removals are currently estimated at a TRL of 7, and hydrogen BECCS at TRL of 5. CCUS Business model support is already under development in the industrial and power sectors, however it is recognised that the existing models are not designed to value the negative emissions of BECCS projects in the power sector. The need to define the revenue mechanisms that will be used to reward CO2 removals was also expressed by multiple stakeholders in response to our call for evidence. Therefore, in January 2021 we established an independent investigation into potential commercial frameworks that could meet this need, the final report of which was published recently. Following this, the Government intends to develop a business model for power BECCS that will reward verified negative emissions while delivering value for money. We will also consider options on how we may incentivise operators to continually reduce supply chain carbon intensity. We are clear that any decision to award support would only be made subject to the development of a suitable business model and full value for money and affordability assessment, alongside the requirement for compliance with biomass sustainability criteria.	Proposed Development and therefore it is not considered in the EIA and would be developed under separate consent at a later date. GHG emissions across the full lifecycle of the Proposed Development, including the biomass supply chain, are assessed **in Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)**, which confirms that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its 30-year operational life.
BECCS and Biofuel Production – Page 39	Finally, similar to hydrogen production, the production of liquid and gaseous biofuels can also be combined with CCS. Some biofuel production plants already regularly capture CO_2 that would otherwise have been emitted as part of their production process. At the moment, this stored CO_2 is sold into the market (e.g. foods and drinks or nuclear industry) rather than stored. As the finished fuel will still be burnt in an engine, in contrast to other BECCS technologies, there will still be some biogenic carbon emissions attached to the process. However, by replacing fossil fuels and reducing emissions as far as possible, this technology can still provide a significant contribution to net zero where limited alternatives to liquid and gaseous fuels exist. The CCC, most recently in its advice on the 6th carbon budget, has been clear that CCS will need to be combined with biofuel production in the medium to long-term, including for SAF production.	The SAF Production Facility (**Work No. 1**) produces SAF through a gasification and Fischer-Tropsch synthesis process using sustainably sourced biomass feedstock. The production process generates a stream of biogenic CO_2 as a byproduct of the Acid Gas Removal Unit ('AGRU'), which forms part of the syngas clean-up stage. As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**, this biogenic CO_2 stream from the AGRU is connected, as part of the Proposed Development, to the NEP CO2 Gathering Network via the CO2 export pipeline (**Work No. 11B** or **11C**). This enables the captured biogenic CO_2 to be transported and permanently stored in offshore geological formations. The Proposed Development therefore already incorporates CCS combined with biofuel production as an integral part of its design, consistent with the CCC's position that CCS will need to be combined with SAF production in the medium to long-term. However, this is subject to a connection to the NEP CO_2 Gathering Network becoming available and this connection would be progressed via a separate consent. Until a

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		connection becomes available, CO_2 produced by the CHP plant and thermal pre-treatment of feedstock will either be recycled by the gasification unit or vented into the atmosphere. **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1.14)** concludes that the Proposed Development will deliver an estimated 12.8 MtCO2e of avoided emissions over its 30-year operational life through the displacement of conventional jet fuel, with a carbon payback ratio of approximately 3:1. The lifecycle emissions of the SAF produced are approximately 80% lower than those of conventional jet A-1 fuel. As noted in the BECCS row above, the future addition of a separately consented PCCU would further reduce the carbon intensity of the SAF product and enable the Proposed Development. The Proposed Development therefore directly accords with the Biomass Policy Statement, particularly in the 'hard-to-decarbonise' aviation sector.
Innovation in routes for BECCS – Page 41	The unique position of biomass to deliver negative emissions from Bioenergy with Carbon Capture and Storage (BECCS) has already been addressed in Section 2.7. Innovation needs relating to BECCS include finding opportunities to focus on technologies with the potential for the highest efficiency and carbon savings, such as combined heat and power (CHP) and gasification (pre-combustion), especially where they can be integrated with hard to decarbonise sectors such as aviation fuel production or industry. Gasification has been identified as a key area of innovation, as it could provide a route to gain flexibility in both feedstock use, and useful products. This is the focus of a BEIS NZIP Innovation Programme currently in development, which will provide funding to innovate and improve CAPEX, OPEX and overall performance in feedstock pre-processing for gasification, syngas upgrading and treatment for the generation of biohydrogen with co-deployment of CCS. It is recognised that routes for deploying BECCS should be extended to other non-thermochemical or combustion options, such as fermentation or anaerobic digestion routes, which could be cost competitive with other routes for BECCS. The pending NZIP Innovation Programme, mentioned above, also considers the development of biohydrogen from other sources such as anaerobic digestion. A key challenge to BECCS, and other GHG reduction technologies, is commercialisation, and the pathway to which requires demonstration. The BEIS Direct air capture and GGR Innovation Programme seeks to	The Proposed Development is a first of a kind assemblage of technologies at this scale in the UK. As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** the Proposed Development allows for a connection to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. Alternatively, the CO_2 export pipeline could be utilised to export CO_2 from a PCCU if one is developed at the Main Site under a separate consent. In doing so, this provides an end user for the NEP CO_2 Gathering Network and supports the commercial viability of one of the UK's first regional carbon capture and storage networks.

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	do this by taking a portfolio approach to support a range of different GGR approaches initially, including BECCS, with the aim to take the most promising forward to piloting. So far, a total of 23 projects have been funded for phase 1, of which 11 use biomass as a significant input - comprising four BECCS projects, five biochar projects, and two that use biochar in combination with another technology. The competition looks to have invested c. £70 million by March 2025. Research is also needed to understand the permanency, additionality of GGRs via the use of biochar, and evaluate any unintended consequences via trials, and this is addressed in a UKRI Strategic Priorities Fund for Greenhouse Gas Removals Demonstrator project titled, “A Biochar Demonstration Programme Addressing Uncertainties over Permanency of Storage, Environmental Health and Soil Impacts” run by Nottingham University.	

9 Accordance with National Planning Policy Framework

Table 9.1 Accordance with National Planning Policy Framework

NPPF Section	Policy Text	Assessment
4. Achieving Sustainable Development S3: Presumption in favour of sustainable development	1. Decisions on development proposals should apply a presumption in favour of sustainable development. This means: a. Policy S4 in this Framework should be applied when considering development proposals within settlements; b. Outside settlements, policy S5 should be applied; and c. In all locations, development proposals that accord with both an up-to-date development plan and the decision-making policies in this Framework should be approved without delay. 2. Where a development proposal falls partly within and partly outside a settlement, policies S4 and S5 should be applied to the relevant parts which are inside or outside of the settlement boundary (as appropriate), before coming to an overall view on the proposal.	The **Planning Statement (Application Document Ref. 5.2.1)** and this document outline how the Proposed Development complies and accords with national and local decision-making policy. The Proposed Development is considered to be an acceptable use outside a settlement boundary as it is considered energy infrastructure due to comprising a CHP plant with a capacity of up to 200MWe.
5. Meeting the challenges of climate change CC2: Mitigation of climate change	1. In order to contribute to climate change mitigation and the transition to net zero, development proposals should, where relevant to the proposal: a. Accord with policies TR3 and TR4 so that sustainable patterns of movement are prioritised, opportunities are taken to improve walking, wheeling, cycling and public transport, and infrastructure is provided to support the transition to zero-emission vehicles; b. Support good access to facilities in order to limit the need to travel, whether through the development's location, through development densities which improve catchment populations for local services, or by incorporating community facilities and premises to support local employment opportunities; c. Use design approaches which conserve energy and other resources in accordance with policy DP3(2)(b); d. Take advantage of opportunities to reuse existing structures and materials, including by reusing non-contaminated excavated soil and hardcore within the site; e. Take advantage of opportunities to draw low carbon energy from decentralised networks (such as district heat networks), where these are available, and to co-locate energy and heat generators and users, especially to take advantage of suppliers of surplus heat and energy;	Policy TR3 is accorded to below in this table. Policy TR4 is not addressed in this table, however the Proposed Development is not anticipated to have any significant adverse impacts associated with increases in traffic or on pedestrian amenity. The potential for walking to and from the Main Site is limited and the access to the Proposed Development is from the eastern arm of the Seal Sands roundabout which does not have footways. This arm is only a public highway for a short distance and can only be used to access the private road to Seal Sands. Further information on traffic and transport can be found in **Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18)** and **Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref. 6.3.24)**. The Proposed Development comprises a waste wood and biomass fired CHP plant which will supply low-carbon heat and energy to the SAF Production Facility. This is detailed further in the **Planning Statement (Application Document 5.2.1)** and **Chapter 4: Proposed Development (ES Volume I, Application Document 6.1.4)**.

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	f. Contribute to the creation or restoration of habitats which can act as carbon stores, such as through woodland planting and peatland restoration, while avoiding harm to habitats which can act as important carbon stores, including peatland and salt marsh; and g. Not involve the extraction of fossil fuels unless it is in accordance with policy M5. 2. Substantial weight should be given to the benefits of improving the energy efficiency of existing buildings and/or drawing energy from district heat networks, renewable and low carbon sources (including through the installation of heat pumps and solar panels where these do not already benefit from permitted development rights) where this would be achieved through proposals for development.	
5. Meeting the challenges of climate change CC3: Adaptation to climate change	1. Development proposals should take into account the current and potential impacts of climate change over the lifetime of the scheme, and in order to minimise vulnerability to these impacts should, where relevant to the proposal: a. Be located where the risk of flooding is minimised, or can be managed and the development made safe without increasing risk elsewhere, in accordance with policies F4, F5, F6, F7 and F8; b. Comply with policy F9 where development would be located in an area vulnerable to coastal change, as specified in that policy; c. Incorporate sustainable drainage systems to manage surface water flow rates and reduce volumes of runoff in accordance with policy F8; d. Use design approaches which minimise risks from overheating in accordance with policy DP3(2)(b), and include green infrastructure and suitable tree planting in accordance with policies DP3(2)(c) and N3; and e. Incorporate proportionate measures to mitigate against wildfires, where opportunities to do so exist and wildfires pose a particular risk (for example as a result of the combined effect of topography, prevailing wind direction and being located within or adjacent to heavily vegetated areas). Such measures should be designed to limit fuel loads for fires, and to create defendable spaces, such as by avoiding timber panel fences and incorporating firebreaks into development layouts and planting schemes. 2. Substantial weight should be given to the benefits of improving the resilience of existing buildings and public spaces to anticipated climate	The resilience of the Proposed Development to climate related hazards is considered in **Chapter 15: Climate Change Resilience (Document Ref. 6.1.15)**. This assessment identifies key hazards of warmer winters, extreme heat, storms and high winds, heavy precipitation and flooding, drought and sea level rise, and the consequential risks associated with each of these climate hazards. The CCRA concludes overall that, with embedded mitigation measures successfully implemented into the design and operation of the Proposed Development, there are no likely significant effects arising from any climate change hazard assessed. The Main Site lies predominantly within Flood Zone 1 while some access routes and pipeline corridors within the Wider Site and the proposed quay fall within Flood Zones 2 and 3. A **Flood Risk Assessment (Application Document Ref. 5.7)** has been prepared. Section 9 of the **Flood Risk Assessment (Application Document Ref. 5.7)** sets out how the Proposed Development's location passes the Sequential and Exception tests. The sections of existing pipeline and access routes within Flood Zones 2 and 3 are considered to not be material to the Sequential test. As a suitable site requires quayside facilities, utilities and proximity to a wastewater treatment plant, the number of suitable sites available is limited. The consideration of alternative sites is presented in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6).** No other alternative sites were identified that were both available and suitable. The Proposed Development is therefore in compliance with the Sequential test. As the Proposed Development is considered to have sustainability benefits

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	change impacts where this would be achieved through proposals for development.	through its contribution to SAF production and has incorporated flood resilience and safety measures, it is considered to pass the Exception test. The **Flood Risk Assessment (Application Document Ref. 5.7)** demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere. The **Framework Drainage Strategy (Application Document Ref. 5.7.1)** outlines the approach to managing operational surface water for the Proposed Development. The strategy identifies how surface water will be managed safely, sustainably and in accordance with national and local policy requirements. Construction drainage is covered in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3.4)**. The final drainage design will be submitted for approval post-consent in accordance with Requirement 3 of the **draft DCO (Application Document Ref. 3.1)**. No existing watercourses will be enclosed as part of the Proposed Development.
7. Building a strong, effective economy E2: Meeting the need for business, land and premises	1. To support business growth, substantial weight should be given to: a. The economic benefits of proposals for commercial development which allow businesses to invest, expand and/or adapt; especially where this would support the economic vision and strategy for the area, the implementation of the Industrial Strategy, support improvements in freight and logistics and/or reflect proposals for Industrial Strategy Zones and AI Growth Zones; and b. Benefits for domestic food production, animal welfare and/or the environment which can be demonstrated through proposals for development for farm and agricultural modernisation. 2. Where a development proposal is required to demonstrate whether an unmet need exists (including under policy S5) consideration should be given to whether: a. Market signals indicate an undersupply of specific types of business land or premises, taking into account the anticipated catchment area for	The Proposed Development will contribute toward sustainable economic development through the provision of sustainable aviation fuel, using low carbon electricity, for which there is a confirmed need. Section 4 of the **Planning Statement (Application Document Ref. 5.2.1)** describes how the Proposed Development will contribute toward the security of aviation fuel supplies, and achieving the legal obligations under the UK SAF Mandate to ensure an increasing percentage of jet fuel mix used at UK airports comes from sustainable sources. In 2031 the Proposed Development is expected to produce 0.14 Mtpa, which exceeds 10% of the mandated requirement. The Proposed Development will also create significant employment opportunities during the construction stage and permanent employment opportunities during the operational stage which are outlined in **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)**.

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	the type of development proposed, the changing needs of different sectors and the availability of suitable existing land and buildings; or b. The specific locational requirements of the proposal are met by existing allocations in the development plan. This includes, but is not limited to, situations where: i. Existing businesses plan to expand or improve their premises, or clusters or networks of businesses need to grow (such as clusters of knowledge and data-driven, creative or high technology industries and associated facilities and infrastructure); or ii. The availability of infrastructure (such as electricity network infrastructure to provide adequate grid connections, or water and wastewater capacity) makes certain locations particularly important, including opportunities to co-locate large-scale generators and users of power (such as data centres); or Proposals would meet a local, regional or national need for the provision of new, expanded or upgraded facilities that would result in more efficient, reliable or sustainable handling of goods (whether for their receipt, storage, processing, interchange or distribution).	
10. Securing clean energy and water W3: Renewable and low carbon energy development and electricity network infrastructure	1. In considering proposals for renewable and low-carbon energy development and electricity network infrastructure, substantial weight should be given to: a. The benefits for improving energy security, supporting economic development and/or the transition to a net zero future; b. In the case of applications for the re-powering and life-extension of existing sites, the additional benefit of utilising an established site for this purpose; and c. The contribution that small-scale and community-led renewable and low carbon energy projects can make to reducing greenhouse gas emissions, along with their associated economic and social benefits. 2. Applicants should not be required to demonstrate the need for renewable or low carbon energy development and electricity network infrastructure. Where proposals for this form of development come forward outside areas which have been identified as suitable for them in the development plan, their acceptability should be assessed against the national decision-making policies in this Framework, taken as a whole.	The Proposed Development will contribute to the transition to a net zero future through production SAF which will displace conventional Jet A-1 fuel. This will support the UK's Jet Zero Strategy and SAF Mandate which aim to reduce the impact of the aviation sector on climate change. From 2040 onwards, the Proposed Development's contribution to the UK's mandated SAF requirement is expected to be 5% and will therefore be a substantial producer of SAF in the UK. Over its assumed 30-year operational life, the Proposed Development is expected to produce approximately 180 million litres of low-carbon SAF annually, which equates to a significant reduction in lifecycle GHG emissions when compared to an equivalent volume of traditional jet fuel. The lifecycle emissions of the Proposed Development's low-carbon SAF are approximately 80% lower than those of conventional jet A-1 fuel. This displacement results in avoided emissions that are directly attributable to the Proposed Development. This aligns with the UK's Net Zero Strategy and Jet Zero ambitions and supports UK net zero pathways through the substitution of conventional jet fuel with low-carbon SAF, delivering a strong return on its carbon investment, making it a key enabler of low-carbon aviation. See Section 14.6 to

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	3. Where development is expected to be time-limited, applications should be accompanied by proposals for decommissioning and site restoration, including details of how these measures are expected to be implemented.	14.9 of **Chapter 14: Greenhouse Gases (ES Volume I, Application Document Ref. 6.1).** The Proposed Development consists of a biomass and waste wood-fired CHP plant with an electrical output capacity of up to 200MWe to provide low-carbon energy for the SAF process. The Proposed Development is expected to operate for an assumed 30 years. The most likely scenario is that the Proposed Development will be decommissioned. Proposals for decommissioning are secured by Requirement 19 of the **draft DCO (Application Document Ref. 3.1)**.
14. Achieving well designed place DP3: Key principles for well-designed places	1. Development proposals should respond to their context (the history, character and features of their site and its setting), so that they integrate with and enhance their surroundings; such as through the arrangement of development plots and buildings, the use of materials and architectural features, and the restoration, reuse and integration of heritage assets. This should not preclude innovation or change where appropriate, especially where an increased scale or density of development is justified in accordance with policies L2 and L3. 2. To create well-designed places, development proposals should also reflect relevant aspects of the following principles, as appropriate to the nature of the development and its location45: a. Liveability: support healthy, mixed, vibrant and integrated communities, which will function well over the lifetime of the development, by incorporating a range of uses and tenures, employing features which promote social interaction, and which are robust, durable and easy to look after; b. Climate: contribute to climate change mitigation and adaptation and the transition to net zero by using building layouts, building orientation, massing, landscaping and materials which conserve energy and other resources, and which minimise risks from the impacts of climate change including overheating; c. Nature: incorporate and/or connect to a network of high quality, accessible, multi-functional green infrastructure to provide opportunities for recreation and healthy living, strengthen habitats, improve climate change resilience and improve air and water quality. This should include maintaining and enhancing tree cover and incorporating sustainable drainage systems in accordance with policies N3 and F8; d. Movement: provide transport infrastructure and choices which support the design vision for the site, provide good connections to the wider	The Main Site is located on predominantly brownfield land in a highly industrialised area and the Proposed Development will be consistent with the nature of the local area and improve the appearance of the site. As detailed in the **Design Approach Document (DAD) (Application Document Ref. 5.3.1)**, good design (under the National Policy Statement definitions) has been a fundamental consideration throughout the development of the different parts of the Proposed Development. Engagement between the Applicant and the host local planning authorities and others is set out in **Consultation Report (Application Document Ref. 5.1.1)**. The **DAD (Application Document Ref. 5.3.1)** demonstrates how the Proposed Development will be consistent with local character, add to the quality of the area, and is appropriately laid out and landscaped having regard to the function of the national infrastructure. The **DAD (Application Document Ref. 5.3.1)** sets out the relevant design expectations set out in local and national policy, and these have fed into the Design Objectives. It also describes how challenges were overcome in the design of a first of a kind assemblage of technologies at scale in the UK. The design objectives fed into the design vision, which is secured by the outline design principles, which are set out in the **Outline Design Principles (Application Document Ref. 5.3.2**) and will feed into the final, detailed design of the Proposed Development, to ensure a good design process continues to be followed. The Outline Design Principles is secured by Requirement 3 in Schedule 2 of the **Draft DCO** (**Application Document Ref. 3.1)**.

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	settlement (or those nearby), and prioritise walking, wheeling, cycling and public transport; e. Built Form: use the pattern of buildings to define the arrangement of streets, squares and other spaces, promote compact forms of development to optimise the site's potential, distinguish between public and private areas, create focal points and, where appropriate, enhance views into and out of the scheme; f. Public Space: include spaces that are safe, secure, inclusive, and accessible for all ages and abilities, including for groups such as women and girls; and which facilitate and encourage social interaction, play and healthy lifestyles (for example by providing high quality, clear and legible pedestrian and cycle routes, a variety of recreational spaces and places to meet, integrating lighting and making building entrances and windows face onto streets and other public spaces to provide natural surveillance); and g. Identity: create visually attractive, distinctive and characterful development to establish or maintain a strong sense of place and pride, including through the use of a coherent palette of materials, design features and planting. 3. Development proposals should be refused if, without clear justification, they conflict with paragraph 1 of this policy or relevant aspects of the principles in paragraph 2, or with any explicit design standards set out in the development plan (including those in locally-specific policies, guides, codes or masterplans). Substantial weight should be given to compliance with relevant development plan policies when assessing the design quality of proposals. 4. The principles set out in the Design and Placemaking planning practice guidance should be used to inform how this policy is applied in the absence of locally-produced design policies, guides, codes or masterplans. 5. Substantial weight should also be given to outstanding or innovative designs which promote high levels of sustainability, or which help raise the standard of design more generally in an area, so long as they are consistent with the overall form and layout of their surroundings.	
14. Achieving well designed place DP4: The design process	1. Design quality should be considered throughout the evolution, assessment and delivery of development proposals, including through	The **DAD (Application Document Ref. 5.3.1)** sets out how the design of the Proposed Development has evolved throughout the pre

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	any pre-application engagement; as outlined in Part 2 of the Design and Placemaking planning practice guidance. 2. The local planning authority should: a. Ensure that they have access to, and encourage the appropriate use of design review and other design tools and processes (especially for strategic sites and other significant projects), and take into account their outcomes, including any design recommendations made by design review panels; b. Ensure that relevant planning conditions refer to clear and accurate plans and drawings which provide visual clarity about the design of the development, including the approved use of materials where appropriate; and c. Not allow the quality of approved development to be materially diminished between permission and completion, as a result of changes proposed following its initial approval (for example through changes to approved details).	application stage. The **DAD** also sets out the relevant design expectations as set out in policy. Engagement between the Applicant and the host local planning authorities and others is set out in **Consultation Report (Application Document Ref. 5.1.1)**. The **DAD (Application Document Ref. 5.3.1)** sets out the relevant design expectations set out in local and national policy, and these have fed into the Design Objectives. It also describes how challenges were overcome in the design of a first of a kind assemblage of technologies at scale in the UK. The Design Objectives fed into the design vision, which is secured by the Outline Design Principles, which are set out in the **Outline Design Principles (Application Document Ref. 5.3.2**) and will feed into the final, detailed design of the Proposed Development, to ensure a good design process continues to be followed. The Outline Design Principles is secured by Requirement 3 in Schedule 2 of the **draft DCO** (**Application Document Ref. 3.1)**.
15. Promoting sustainable transport TR3: Locating development in sustainable locations	1. So that development is located where it can support sustainable patterns of movement, enable good accessibility for different users and make the most of existing and proposed transport infrastructure, development proposals should reflect the following principles, taking into account the vision for the site, the type of development and its location: a. Development proposals which could generate a significant amount of movement, in the context of the area within which they would be situated, should be in locations that are sustainable (or which can be made so, taking into account planned improvements, including any provided for as part of the development itself). This means the location should limit the need to travel, particularly by private car, and offer a genuine choice of transport modes for residents and users, unless the nature of the development would make this impractical; b. Opportunities should be taken to utilise existing or proposed transport infrastructure in optimising the amount or density of development which can be accommodated in different locations, especially where this can support more walking, wheeling, cycling and public transport use; c. Any significant adverse impacts from the development on the transport network (in terms of capacity and congestion), or on highway	The main potential impact of the Proposed Development on transport will be during the construction stage (see **Chapter 18: Traffic and Transport (Application Document Ref. 6.1.18)** and **Transport Assessment** (**Appendix 18A, Application Document Ref. 6.3)**). The assessment of traffic and transport in the ES is based on a worst-case scenario (all transport by road apart from AILs and major process modules where this would not be physically feasible) but demonstrates traffic and transport effects during construction will be acceptable and will not adversely impact on the highway network. The transport effects during operation would be limited. In practice, the proposed quay will be utilised during construction and operation. Some construction materials, including AILs, will be delivered via ship as well as all feedstock for SAF production and some feedstock for the CHP plant. The following embedded mitigation measures have been incorporated into the design of the Proposed Development and are taken into account within **Chapter 18: Traffic and Transport (Application Document Ref. 6.1.18)**: • Implementation of a Construction Worker Travel Plan (CWTP) including measures to encourage construction workers to reduce reliance on single occupancy private car use, such as construction worker minibuses and car sharing options, as per

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	safety, should be mitigated to an acceptable degree using a vision-led approach; d. The environmental impacts of traffic and transport infrastructure should be identified, assessed and taken into account – including taking opportunities to avoid or mitigate any adverse environmental effects, and to secure net environmental gains such as reductions in air pollution; and e. In rural areas, opportunities to improve walking, wheeling, cycling and public transport and enhance the connectivity of an area should be taken where they exist and can be supported by the development proposed. 2. The Connectivity Tool (Connectivity Tool - GOV.UK) should be used alongside other relevant quantitative or qualitative evidence in assessing the connectivity of particular locations proposed for development.	Appendix C of the **Framework CWTP** (**Appendix 18A: Transport Assessment (ES Volume III, Application Document Ref 6.3)**); • Implementation of a Construction Traffic Management Plan (CTMP) to control the impact of HGVs on the local road network during construction, as per the Framework CTMP **(Appendix 18D (ES Volume III, Application Document Ref 6.3)**); • Working with suppliers to ensure that all relevant materials (including chemicals) brought to the Site that are classified as hazardous are transported in compliance with applicable regulations including the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG Regs) (as amended), during construction, commissioning and operational stages; • Implementation of a CEMP in accordance with the **Framework Construction Environmental Management Plan (Appendix 5A (ES Volume III, Application Document Ref. 6.3)**, which deals with matters which will influence traffic flows (e.g. efficient waste management); and • Implementation of a Decommissioning Environmental Management Plan (DEMP) to control the impact of HGVs during decommissioning, as secured by Requirement 19 to the **Draft DCO** (**Application Document Ref. 3.1**). The SAF Production Facility will use sustainably sourced biomass delivered primarily by ship. Waste wood feedstock for the CHP plant will be delivered to the Main Site by road or by ship, as set out within **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**. Having direct access to a quay to enable deliveries of the feedstock is beneficial since it will avoid double handling of that feedstock and secondary transport prior to use. It will also be used during the construction phase for the shipborne import of prefabricated plant modules (abnormal indivisible loads (AILs)), fill material and other construction materials required for construction (see **Chapter 5: Construction Programme and Management, ES Volume I, Application Document Ref 6.1)**.

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		No additional mitigation measures beyond those embedded in the design have been identified as necessary. Requirement 8 and Requirement 9 of the **Draft DCO (Document Ref. 3.1)** secure the CTMP and CWTP respectively.
15. Promoting sustainable transport TR6: Assessing transport impacts	1. Development proposals that are likely to generate significant amounts of movement should be supported by: a. A transport statement or transport assessment (depending on the extent and significance of the transport issues involved), which is proportionate to the nature and scale of the development, so that the likely impacts of the proposal for transport can be assessed and monitored; and b. A travel plan, which indicates how sustainable transport objectives will be delivered, monitored and managed over time. 2. Transport assessments and statements, and travel plans, should reflect the transport vision for the development and the transport strategy for the area in which it is located, and how these are intended to be achieved (including, in the case of travel plans, identifying fallback options if initial measures do not deliver the expected outcomes). 3. In assessing movement patterns and potential impacts, including whether they are considered to be severe, reasonable future scenarios should be considered, taking into account impacts at relevant times of the day, potential cumulative impacts, multimodal trip generation and the promotion of sustainable modes of travel, and realising the transport vision for the development itself. Development proposals should be considered having regard to these potential impacts and the other policies in this Framework which are relevant (including TR3, TR4 and DP3(2)(d)). 4. Development proposals should be refused if they would have a severe adverse impact on the transport network (in terms of capacity and congestion, including cumulative impacts), or an unacceptable impact on highway safety; taking into account any mitigation measures proposed as well as any wider network improvements, including measures to support sustainable patterns of movement. This applies both during the construction phase and following completion.	The Applicant has submitted a vision-led **Transport Assessment (Appendix 18A, Document Ref. 6.3)** which includes a Framework **Construction Workers Travel Plan (Annex C** to **ES Appendix 18A, Document Ref. 6.3)**, as well as a **Framework Construction Traffic Management Plan (ES Appendix 18D, Document Ref. 6.3)** with the Application. These documents take into account impacts at relevant times of the day, potential cumulative impacts, multimodal trip generation and the promotion of sustainable modes of travel, and realising the transport vision for the development itself. The provision of a dedicated quay for most operational transport makes a significant contribution towards sustainable transport. Conservative assumptions are used in relation to road transport for the Transport Assessment. The **Transport Assessment (Appendix 18A, ES Volume III, Application Document Ref. 6.3)** concludes that the Proposed Development would not result in severe residual impacts on the highway network and would not have a detrimental impact on highway safety. The residual traffic and transport effects of the Proposed Development across all stages are assessed as **negligible** or **minor adverse** and **not significant**.
15. Promoting sustainable transport	1. Development proposals involving the provision, expansion or alteration of port, airport, advanced air mobility and aviation facilities (and development ancillary to them) should:	The Proposed Development comprises the construction of a new quay on the River Tees. This will be used for the delivery of some construction materials, including some AILs, biomass to be used as

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TR7: Marine ports, airports and other aviation facilities	a. Facilitate the modernisation, diversification and improvement of facilities, including through innovation in the handling of goods and passengers, and the transition to zero emission vehicles and the use of low and zero carbon fuels; or b. Be for a freight and logistics use which accords with policy E3; or c. Help to maintain a national network of aviation airfields, and support an airfield's economic or public service role (for example in serving business, leisure, training and emergency service needs). 2. All development proposals to which this policy applies should have an acceptable environmental effect in terms of noise, air quality, greenhouse gas emissions, the transport network, landscape, visual and marine impacts, taking into account any applicable standards and relevant national decision-making policies in this Framework.	SAF and CHP feedstock and waste wood to be used as CHP feedstock. The proposed new quay's environmental impacts have been assessed in **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8), Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9), Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11), Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12), Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13), Chapter 14: Greenhouse Gas Emissions (ES Volume I, Application Document Ref. 6.1.14)** and **Chapter 18: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18).** After embedded and proposed mitigation measures have been considered, there not expected to be any unacceptable impacts of the proposed new quay on the environment.
17. Pollution, public protection and security P2: Ground conditions	1. Sites proposed for development should be suitable for their proposed use taking into account: a. Ground conditions, including any risks arising from land instability or contamination (whether due to natural hazards or current and former activities such as mining or fuel storage); and b. The extent to which any such risks can be mitigated, and the potential impacts on the natural environment arising from remediation. 2. Where land is remediated it should, as a minimum, not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990. 3. Adequate site assessment information, prepared by a competent person, should be available to inform these considerations. 4. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.	The Proposed Development will be located on brownfield land and the Application proposes proportionate measures in respect of contaminated land. A Geoenvironmental Preliminary Risk Assessment has been undertaken within **Appendix 21A: Ground Conditions – Phase 1 Preliminary Risk Assessment Report (ES Volume III, Application Document Ref. 6.3.29)** and ground investigation will be carried out ahead of construction to inform a remediation strategy to be implemented during construction works, as controlled by Requirement 18 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**. This data will be used to inform refinement of risk assessments and produce a remediation strategy which will be implemented during the construction works. As concluded within **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21)** no potential significant effects associated with the construction and operation of the Proposed Development in relation to Geology and Soils have been identified.
17. Pollution, public protection and security P3: Living conditions and pollution	1. Development proposals should be appropriate for their location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, whether these effects are on or off-site; and whether this is as a result of the development itself or the product of preexisting conditions in its vicinity. In assessing the potential effects of pollution, consideration should be given to the potential sensitivity of the site, and its intended	The effects of the Proposed Development on the natural and local environment are considered within **Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1)**. Nuisance from noise, artificial light, odours, smoke, dust arising on premises and fumes is considered in the **Statutory Nuisance Statement (Application Document Ref. 5.5)**, which identifies the measures, where relevant, that prevent and mitigate such nuisance occurring. The siting of the Proposed

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	occupiers and users, as well as that of the environment and population in the surrounding area (including where certain groups could be particularly vulnerable to its effects, such as children and older people). 2. Within this context development proposals should: a. Provide healthy living conditions for occupiers and users in terms of adequate access to light and avoiding exposure to levels of air, noise, artificial light or other sources of pollution which could have an unacceptable adverse effect on health and the quality of life. Where necessary suitable mitigation measures should be incorporated to secure acceptable living conditions; b. Not give rise to, or contribute to, an unacceptable level of access to daylight and sunlight for neighbouring residents and occupiers, or unacceptable levels of air, noise, artificial light, water, soil or other forms of pollution on or beyond the site. Adverse impacts of this nature should be avoided where possible, or else mitigated to an acceptable degree. Where possible, opportunities should be taken to reduce pollution affecting the wider area (such as through traffic and travel management or improved external lighting); c. Sustain and contribute to compliance with relevant limit values or national objectives and targets for air pollutants including PM2.5. Development proposals should take account of Air Quality Management Areas and be consistent with the objectives of relevant Air Quality Action Plans, Clean Air Plans and Local Air Quality Strategies; d. Mitigate and reduce to a minimum potential adverse impacts resulting from noise, not result in levels of noise exposure which would have a significant observed adverse effect, and maintain the character of tranquil areas (those areas that have remained relatively undisturbed by noise from human sources and are prized for their recreational and amenity value for this reason); e. Limit any adverse impact from artificial light on local amenity, intrinsically dark landscapes (those areas entirely, or largely, uninterrupted by artificial light) and nature; and f. Assess and mitigate impacts where the development could have an unacceptable adverse effect on water quality, especially in relation to sensitive water bodies such as chalk streams. 3. In applying this policy, it should be assumed, unless there is clear evidence to the contrary, that separate regulatory regimes for the control	Development inherently avoids and minimises such impacts, with the Main Site being well separated from residential areas. Detailed assessments, including the type, quantity and timing, of these potential statutory nuisances and where necessary, mitigation measures are provided in **ES Volume I Chapter 8: Air Quality, Chapter 9: Noise and Vibration, Chapter 13 Landscape and Visual Amenity and Chapter 18: Traffic and Transport (Application Document Ref. 6.1)** and their associated appendices in **(ES Volume II Application Document Ref. 6.2)**. No new adverse or beneficial significant effects are anticipated whether directly or cumulatively with other developments on air quality, noise, light or nature conservation after mitigation measures have been implemented as outlined in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1.22)**. The Proposed Development is not located near any Air Quality Management Areas or covered by any Air Quality Action Plan, Clean Air Plans, Local Air Quality Strategies and would not lead to a breach of any relevant statutory air quality thresholds or affect the ability of a noncompliant area to achieve compliance. **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)** describes the relevant air quality legislation, guidance and policy context and presents the methodology used in the assessment for the Proposed Development. It assesses the existing air quality conditions in the vicinity of the Proposed Development and the likely changes that would arise as a result of the construction and operational phases. Chapter 8 concludes that there are no anticipated significant residual effects on air quality during all stages as a result of the Proposed Development.

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	of pollution will operate effectively, as set out in policy DM7. This means that it will be appropriate to take into account emissions limits set through those other regimes.	
18. Managing flood risk and coastal change F4: Assessing flood risk for decision-making	1. To inform the assessment of flood risk and, where relevant, appropriate mitigation, a site-specific flood risk assessment should accompany all development proposals in Flood Zones 2, 3a, and 3b as defined in Annex F, table 1. 2. In Flood Zone 1, a site-specific flood risk assessment should inform and accompany all development proposals involving: a. Sites of one hectare or more; b. Land which has been identified by the Environment Agency as having critical drainage problems; and c. Land identified in a strategic flood risk assessment or the Flood Map for Planning as being at risk of flooding from any source, whether now or in the future. 3. Site-specific flood risk assessments should be appropriate to the scale, nature, and location of development and should, where relevant, support an assessment of whether a development proposal satisfies the sequential and exception tests set out in policies F5 and F6.	The Main Site lies predominantly within Flood Zone 1 while some access routes and pipeline corridors within the Wider Site and the proposed quay fall within Flood Zones 2 and 3. A **Flood Risk Assessment (Application Document Ref. 5.7)** has been prepared. Section 9 of the **Flood Risk Assessment (Application Document Ref. 5.7)** sets out how the Proposed Development's location passes the Sequential and Exception tests. The sections of existing pipeline and access routes within Flood Zones 2 and 3 are considered to not be material to the Sequential test. As a suitable site requires quayside facilities, utilities and proximity to a wastewater treatment plant, the number of suitable sites available is limited. The consideration of alternative sites is presented in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6).** No other alternative sites were identified that were both available and suitable. The Proposed Development is therefore in compliance with the Sequential test. As the Proposed Development is considered to have sustainability benefits through its contribution to SAF production and has incorporated flood resilience and safety measures, it is considered to pass the Exception test. This further discussed in Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)**.
18. Managing flood risk and coastal change F7: Ensuring development is safe from flooding	1. Development proposals should not present a risk from flooding to potential occupiers, users, or visitors, and should not increase flood risk elsewhere. 2. Where development is proposed in a location known to be at risk from any form of flooding, now or in the future, it should be refused unless: a. Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons which justify a different arrangement; b. The development will be safe throughout its lifetime taking account of the vulnerability of its users; c. Any residual risk can be safely managed, and safe access and escape routes are included where appropriate, as part of an agreed emergency plan;	The **Flood Risk Assessment (Application Document Ref. 5.7)** assesses the risk of flooding on the Proposed Development. The Main Site will predominantly be within Flood Zone 1 with some access routes, pipeline corridors and the proposed quay falling within Flood Zones 2 and 3. The **Flood Risk Assessment (Application Document Ref. 5.7)** demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere.

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	d. The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment; and e. It can be demonstrated that flood risk will not be increased elsewhere.	
18. Managing flood risk and coastal change F8: Sustainable drainage systems and watercourses	1. Development proposals which could affect drainage on or around the development site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, in ways which are proportionate to the nature and scale of the proposal. The systems employed should provide multifunctional benefits where possible, facilitating improvements in water quality, biodiversity and amenity. 2. Sustainable Drainage Systems should: a. Be designed in accordance with the National Standards for Sustainable Drainage Systems; b. Have maintenance arrangements in place to ensure an acceptable standard of operation for the anticipated lifetime of the development; and c. In the case of proposals for major development, take account of advice from the Lead Local Flood Authority. 3. Development proposals should not enclose existing watercourses where this is not already the case, unless there are compelling reasons to do so; and should where possible remove existing culverts and renaturalise existing river channels, unless to do so would increase flood risk, result in other environmental harm or cause harm to heritage assets.	The **Framework Drainage Strategy (Application Document Ref. 5.7.1)** outlines the approach to managing operational surface water for the Proposed Development. The strategy identifies how surface water will be managed safely, sustainably and in accordance with national and local policy requirements. Construction drainage is covered in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3.4)**. The final drainage design will be submitted for approval post-consent in accordance with Requirement 3 of the **Draft DCO (Application Document Ref. 3.1)**. No existing watercourses will be enclosed as part of the Proposed Development.
19. Conserving and enhancing the natural environment N2: Improving the natural environment	1. To contribute positively to the natural environment, and support nature's recovery, development proposals should: a. Consider the environmental qualities of land proposed for development, including habitats, landscape character and the natural beauty of the countryside, and identify opportunities for those qualities to be conserved or enhanced (including through requirements for biodiversity net gain where these apply); b. Take into account the quality of agricultural land (including that classified as best and most versatile agricultural land, and its grade), and if significant development of agricultural land is necessary, use areas of poorer quality land where possible;	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on ecological receptors, including habitats. It is anticipated that after proposed mitigation measures are implemented, there will be no significant adverse effects of the Proposed Development on ecological receptors or habitats. A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the

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	c. Take suitable opportunities to connect to and strengthen ecological networks that extend beyond the site, drawing on the measures proposed by Local Nature Recovery Strategies, National Forest Strategies and Community Forest Plans, where present, and other relevant assessments; d. Conserve and enhance existing natural features of visual, historic or nature conservation value (such as established trees and hedgerows) where possible; and use appropriate landscaping to help create a well-designed place and integrate the development into its surroundings; e. Use green infrastructure provided as part of the scheme and nature-based solutions to secure multiple benefits: such as for biodiversity; surface water and pollution management (including maintaining flow rates and water quality); climate change mitigation and adaptation, and recreation; f. Minimise any adverse impacts on biodiversity and include features which support priority or threatened species such as swifts, bats and hedgehogs. Development proposals should incorporate integrated nest boxes (commonly known as swift bricks) into their construction unless there are compelling technical reasons which prevent their use, or would make them ineffective; and g. Ensure that green infrastructure and other features to support nature are located and designed to minimise risk of future failure, and that appropriate measures are in place for any necessary long-term management. 2. If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated or, as a last resort, compensated for, then the development should be refused. 3. Development proposals may incorporate biodiversity enhancements which exceed the statutory objective for biodiversity net gain, but this should only be a requirement where it is set out in up-to-date development plan policies for specific site allocations. Decision-makers should not give weight to other development plan policies which require biodiversity gains which go beyond the statutory framework, including where a policy requires gains for development proposals which are exempt.	integrity of any nationally or internationally designated sites, either alone or in combination with other plans or projects. **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** assesses the landscape and visual impacts of the Proposed Development. There are no significant adverse landscape effects during the construction nor operation of the Proposed Development. The Proposed Development is anticipated to impart a **moderate (significant) adverse** visual effect on two receptors and there are no appropriate mitigation measures to reduce this. A **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Application Document Ref. 5.8)** has been produced and outlines the Proposed Development's approach to biodiversity net gain and how it will minimise adverse impacts on biodiversity by applying the mitigation hierarchy. Although Biodiversity Net Gain is not mandatory for the Proposed Development, the Applicant is committed to a voluntary No Net Loss objective in line with the minimum current policy expectation. The mitigation, compensation, monitoring and enhancement measures will be secured through Requirement 6 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**.

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19. Conserving and enhancing the natural environment N6: Areas of particular importance for biodiversity and geodiversity	1. To support the conservation of important habitats, species and sites of geodiversity value, development proposals affecting: a. A site of international importance, which for the purpose of this policy is a habitats site, should be refused unless: i. An appropriate assessment has concluded that the proposal will not adversely affect the integrity of the site (either individually or in combination with other developments), or the proposal can satisfy the derogation tests; and/or ii. The impact of development on the relevant protected features of the protected site is being addressed through an Environmental Delivery Plan which has been made and the developer has committed to paying the nature restoration levy. b. A site of national importance, which for the purpose of this policy is one designated as a Site of Special Scientific Interest, should only be supported if: i. There would be no adverse effect (either individually or in combination with other developments) on the site's features of special scientific interest; or ii. The benefits of the development in the location proposed clearly outweigh both the likely impact on the features of special scientific interest, and any broader impact on the national network of Sites of Special Scientific Interest; or iii. The impact of development on the relevant protected feature of the protected site is being addressed through an Environmental Delivery Plan which has been made and the developer has committed to paying the nature restoration levy. c. A site of local importance, which for the purpose of this policy is one designated as a Local Nature Reserve or identified as a local wildlife site, local geological site or equivalent in the development plan, should only be supported if: i. There would not be a significant adverse effect on the integrity of the site; or ii. The benefits of development in the location proposed clearly outweigh the likely impact on the features which make the site valuable for nature conservation.	The **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** identified a credible source-pathway-receptor linkages between the Proposed Development and Teesmouth and Cleveland Coast SPA and Ramsar, North York Moors SPA and SAC, Northumbria Coast SPA and Ramsar, Durham Coast SAC and Castle Eden Dene SAC. A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of any nationally or internationally designated sites, either alone or in combination with other plans or projects.

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	2. Irrespective of a site's status in nature conservation terms, development proposals which would entail the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons62 and a suitable compensation strategy exists. 3. This policy applies to development on land inside or outside a designated area, if it would have an impact on the identified biodiversity or geodiversity value of the area concerned.	
20. Conserving and enhancing the historic environment HE5: Assessing effects of heritage assets	1. Development proposals affecting heritage assets should be accompanied by an assessment of the significance of the assets affected (including any contribution made by their setting) and of the potential effect of the proposal on their significance. The level of detail should be proportionate to the assets' importance and no more than is necessary to understand the potential effect of the proposal on their significance. The relevant historic environment record should be referred to in making this assessment, and appropriate expertise employed where necessary. 2. Assessments of the potential effects of development proposals on the significance of heritage assets (including through effects on their setting) should identify whether proposals would be likely to: a. Have a positive effect, which is where the significance of a heritage asset would be enhanced, or better revealed; or b. Have no effect on the significance of a heritage asset; or c. Result in harm to the significance of a heritage asset, either from work affecting the asset itself or from development within its setting. The degree of harm should be identified: substantial harm would occur where the development proposal would seriously affect a key element of the asset's significance; or d. Cause the total loss of the significance of a heritage asset. 3. In making this assessment it is the effect on a heritage asset's significance rather than the scale of the development which should be considered. 4. Decision-makers should be satisfied that assessments accurately reflect the effects on heritage assets caused by development proposals. 5. Where a development proposal involves, or has the potential to involve, a heritage asset with archaeological interest, an appropriate	The potential impact of the Proposed Development upon the historic environment is not considered in its own chapter within the ES and was largely scoped out, save for Eston Nab which was assessed in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1)**. Due to the extent of previous development and the location of the Order Limits on land reclaimed in modern times, it is unlikely that there are any archaeological remains of interest in the deposits of made ground found across the Site. The Applicant proposed to scope out 'Buried Heritage assets within the Site' and 'Designated and non-designated heritage assets outside of the Site'. See Table 11.2 of **Appendix 2A: Scoping Report (ES Volume III Application Document Ref. 6.3.2)**. With regards to designated heritage assets located outside of the Site, none are present within the 1km study area and the nearest listed buildings and conservation areas are located approximately 1.5km away. Due to the existing industrial character of the Site and surroundings, no significant effects are anticipated for both the construction and operation stages. The Planning Inspectorate's response to the Scoping Opinion (**Appendix 2B: Scoping Opinion Responses (ES Volume III Application Document Ref. 6.3.3)**) request referenced two heritage assets located outside the study area. Eston Nab, a Scheduled Monument located 12km comprising a hill fort, palisaded settlement and beacon and the Grade 2 listed Middlesbrough Transport Bridge located 7km south west of the Main Site. In **Appendix 2B: Scoping Opinion Responses (ES Volume III Application Document Ref. 6.1)**, the Planning Inspectorate response noted the potential views to the Site from Eston Nab scheduled monument and the setting of the listed Middlesbrough Transporter

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	desk-based assessment should be undertaken and, where necessary, a field evaluation. These should be used to help understand the asset's significance and the potential effect of the proposal on this, which should inform the design, mitigation and implementation of the development.	Bridge which were identified by RCBC and Historic England in their respective consultation responses. The Planning Inspectorate also noted that Eston Nab should be considered in the visual impact assessment with a reference to its value as a heritage receptor. The Planning Inspectorate agreed with the Applicant's assessment and stated that significant effects are not likely and impacts on the setting of heritage assets can be scoped out of the ES. The Applicant's response to Section 5.10 NPS EN-1(Table 2.1 above) sets out how the Proposed Development does not harm any heritage assets.

10 Accordance with Stockton-on-Tees Borough Council Local Plan

Table 10.1 Accordance with Stockton-on-Tees Borough Council Local Plan

STBC Local Plan Policy	Policy Text	Assessment
Policy SD1 – Sustainable Development	1. In accordance with the Government's National Planning Policy Framework (NPPF), when the Council considers development proposals it will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. It will always work proactively with applicants jointly to find solutions which mean that proposals for sustainable development can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area. 2. Planning applications that accord with the policies in this Local Plan (and, where relevant, with polices in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise. 3. Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise - taking into account whether: • Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or, • Specific policies in that Framework indicate that development should be restricted.	The Proposed Development accords with the presumption in favour of sustainable development, as set out in more detail in the assessment of Policy S3 of the NPPF in Table 9.1 of this document. Paragraph 4.1.11 of NPS EN-1 confirms that Local Development Plan documents are a matter that is "important and relevant" to decision making on energy NSIPs, but that in the event of a conflict between the Local Plan and NPSs, the NPS prevails. Table 10.1 demonstrates that the Proposed Development accords with the STBC Local Plan. The **Planning Statement (Application Document Ref. 5.2.1)** confirms that the Proposed Development has a number of very clear and substantial benefits such as its substantial contribution towards the fuel supply obligations of the SAF Mandate from 2031 to support the achievement of the SAF Mandate and the government's aviation decarbonisation objectives through the supply of SAF. These benefits clearly outweigh the Proposed Development's limited significant adverse effects, as assessed in Sections 5 and 6 of the **Planning Statement (Application Document Ref. 5.2.1)** and tables within this document.
Policy SD2 – Strategic Development Needs	1. The following strategic growth needs have been identified for the period 2017/18 to 2031/32, which will be met through new sustainable development and infrastructure provision that integrates positively with the natural, built and historic environment of the Borough. Economic Growth 5. In order to provide sufficient employment sites to meet the needs of existing businesses, new start-ups and major inward investment there is a requirement to allocate sufficient land for specialist industries, business, general industry and warehousing, as follows: a. 120 hectares of land for specialist uses including, the chemical and process industry, energy generation, waste processing, port related uses	The Proposed Development comprises several of the specialist uses specified in 5a through comprising a SAF Production Facility, a CHP plant and a new quay on the River Tees. The Proposed Development will create significant employment opportunities during the construction stage and permanent employment opportunities during the operational stage which are outlined in **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)**.

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	and other uses, which demonstrate operational benefits to the North and South Tees Cluster. Other Development Needs 7. Where other needs are identified, new developments will be encouraged to meet that need in the most sustainable locations having regard to relevant policies within the Local Plan	
Policy SD4 – Economic Growth Strategy	**Economic Growth Strategy** 1. Economic development needs will be directed to appropriate locations within the Borough to ensure the delivery of sustainable economic growth. 2. Proposals for the redevelopment of previously developed land, in particular prominent sites which have been derelict for a significant period of time, will be supported. **Specialist Uses** 3. The Seal Sands, North Tees and Billingham Chemical Complex areas are the main growth locations for hazardous installations including liquid and gas processing; bio-fuels and bio- refineries; chemical processing; resource recovery and waste treatment; energy generation; carbon capture and storage; and other activities, which have operational benefits for the cluster. To safeguard the specialist nature of this area general employment development, which is unrelated to the main cluster, will not be encouraged. 4. Port related development and other suitable economic growth uses, will be encouraged at Billingham Riverside. 5. Economic growth proposals which attract significant numbers of people will be permitted in the vicinity of a hazardous installation only where there is no significant threat to public safety. **Durham Tees Valley Airport** 6. Land at Durham Tees Valley Airport is safeguarded for the continued operation of a regional airport. Alongside expansion for airport related uses, 20 hectares of land is identified for general employment use. **General Employment** 7. The following sites are identified as principal office locations where new office development will be directed:	The Main Site of the Proposed Development is located on the former INEOS Nitriles plant and associated brownfield land in Seal Sands, which ceased operations in 2020 and cleared to ground slab level by 2023 (See **Chapter 3: Site and Surrounding Area (ES Volume I, Application Document Ref. 6.1.3)**. The landfill is not capped and is covered by a thin layer of soil and has naturally revegetated with grass and scrub. This makes the Main Site predominantly but not entirely previously developed land in planning terms. A large part of the Main Site, including the northern parcel of not previously developed land, is covered by the Specialist Employment Allocation in Policy SD4 of the STBC Local Plan. The Proposed Development is a SAF production facility with an integrated CHP plant, which constitutes the type of specialist use in accordance with Policy SD4. The remainder of the Main Site was in active use as the INEOS Nitriles plant at the time the Local Plan was adopted and is not separately designated. Given it is adjacent to the Specialist Employment Allocation in the STBC Local Plan and the similarity of use, the Proposed Development is an appropriate use of the former INEOS Nitriles site in its entirety. In relation to specialist uses, the Proposed Development will hold quantities of hazardous substances (criteria 3) including biomass feedstock and process gases, and an application for Hazardous Substances Consent is to be submitted to the local planning authority in advance of construction as confirmed in the **Other Consents and Licences Statement (Document Ref. 5.4)**. The Proposed Development includes a new quay on the River Tees (**Work No. 6**), which accords with Policy SD4 criteria 4 in supporting port-related development. Regarding criteria 5, st Proposed Development has been sited and designed to ensure no significant threat to public safety, as assessed in

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	a. Stockton Town Centre and the District Centres. b. North Shore. c. Teesdale and Thornaby Place. 8. Employment land at Wynyard Park provides high quality strategic inward investment opportunities for major employers to locate in the Tees Valley. 9. Belasis, Cowpen Lane, Durham Lane, Preston Farm, Portrack Lane and Teesside Industrial Estate are the main locations for new light industrial, general industrial and logistics related development. **Employment and Training Opportunities** 19. Support will be given to the creation of employment and training opportunities for residents. Major development proposals will demonstrate how opportunities arising from the proposal will be made accessible to the Borough's residents, particularly those in the most deprived areas and priority groups.	**Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 6.1.19)**. In relation to employment and training, Requirement 16 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1)** secures an Employment and Skills Plan to maximise local employment and training opportunities throughout construction and operation.
Policy SD5 – Natural, Built and Historic Environment	To ensure the conservation and enhancement of the environment alongside meeting the challenge of climate change the Council will: 1. Conserve and enhance the natural, built and historic environment through a variety of methods including: a. Ensuring that development proposals adhere to the sustainable design principles identified within Policy SD8. b. Protecting and enhancing designated sites (including the Teesmouth and Cleveland Coast Special Protection Area and Ramsar) and other existing resources alongside the provision of new resources. c. Protecting and enhancing green infrastructure networks and assets, alongside the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species. d. Enhancing woodlands and supporting the increase of tree cover where appropriate. e. Supporting development of an appropriate scale within the countryside where it does not harm its character and appearance and	An assessment of the Proposed Development's accordance with Policy SD3 and SD4 is undertaken above, and SD8 below. The effects of the Proposed Development on the natural and local environment are considered within **Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1).** The pipeline connection corridors cross the Teesmouth and Cleveland Coast SPA and Ramsar site. The potential effects on these designated sites are addressed in **Chapter 11: Freshwater and Marine Ecology (Document Ref. 6.1.11)** and the **Report to Inform the Habitat Regulations Assessment (Document Ref. 5.11.1)**, which concludes that concludes through Appropriate Assessment that, with embedded mitigation measures, the Proposed Development will not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA or Ramsar nor other nearby designated sites, either alone or in combination with other plans or projects. The Proposed Development is not located in the countryside and is not located in the Green Belt. The resilience of the Proposed Development to the climate related hazards specified in paragraphs 2.4.5 to 2.4.7 is accordingly considered in **Chapter 15: Climate Change Resilience (Document Ref. 6.1.15)**. The climate change resilience assessment concludes that, with

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	provides for sport and recreation or development identified within Policies SD3 and SD4. f. Ensuring any new development within the countryside retains the physical identity and character of individual settlements. g. Directing appropriate new development within the countryside towards existing underused buildings on a site for re-use or conversion in the first instance. Only where it has been demonstrated to the satisfaction of the local planning authority that existing underused buildings would not be appropriate for the intended use should new buildings be considered. h. Supporting the conversion and re-use of buildings in the countryside where it provides development identified within Policies SD3 and SD4, and meets the following criteria: i. The proposed use can largely be accommodated within the existing building, without significant demolition and rebuilding; ii. Any alterations or extensions are limited in scale; iii. The proposed use does not result in the fragmentation and/or severance of an agricultural land holding creating a non-viable agricultural unit; and iv. Any associated outbuildings/structures are of an appropriate design and scale. j. Ensuring development proposals are responsive to the landscape, mitigating their visual impact where necessary. Developments will not be permitted where they would lead to unacceptable impacts on the character and distinctiveness of the Borough's landscape unless the benefits of the development clearly outweigh any harm. Wherever possible, developments should include measures to enhance, restore and create special features of the landscape. l. Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of ground, air, water, light or noise pollution or land instability. Wherever possible proposals should seek to improve ground, air and water quality.	embedded mitigation measures successfully implemented into the design and operation of the Proposed Development, there are no likely significant effects arising from any climate change hazard assessed, including those in relation to flooding, drought or coastal change. With regards to historic environment, the Planning Inspectorate agreed with the Applicant's assessment and stated that due to the previous development of the site, significant effects are not likely and this matter can be scoped out of the assessment, as confirmed in **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3)**.

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	m. Encouraging the reduction, reuse and recycling of waste, and the use of locally sourced materials. 2. Meet the challenge of climate change, flooding and coastal change through a variety of methods including: a. Directing development in accordance with Policies SD3 and SD4. b. Delivering an effective and efficient sustainable transport network to deliver genuine alternatives to the private car. c. Supporting sustainable water management within development proposals. d. Directing new development towards areas of low flood risk (Flood Zone 1), ensuring flood risk is not increased elsewhere, and working with developers and partners to reduce flood risk. e. Ensuring development takes into account the risks and opportunities associated with future changes to the climate and are adaptable to changing social, technological and economic conditions such as incorporating suitable and effective climate change adaptation principles. f. Ensuring development minimises the effects of climate change and encourage new development to meet the highest feasible environmental standards. g. Supporting and encouraging sensitive energy efficiency improvements to existing buildings. h. Supporting proposals for renewable and low carbon energy schemes including the generation and supply of decentralised energy. 3. Conserve and enhance the historic environment through a variety of methods including: a. Celebrating, promoting and enabling access, where appropriate, to the historic environment. b. Ensuring monitoring of the historic environment is regularly undertaken.	

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	c. Intervening to enhance the historic environment especially where heritage assets are identified as being at risk. d. Supporting proposals which positively respond to and enhance heritage assets. e. Recognising the area's industrial heritage, including early history, railway and engineering heritage and the area's World War II contribution. 4. Priorities for interventions to conserve and enhance the historic environment include the conservation areas of Stockton and Yarm, assets associated with the route of the Stockton & Darlington railway of 1825, the branch line to Yarm and associated structures, and assets identified as being at risk. These assets, along with Preston Park, are also the priorities for celebrating the historic environment.	
Policy SD7 – Infrastructure Delivery and Viability	1. The Council will ensure appropriate infrastructure is delivered when it is required so it can support new development. Where appropriate and through a range of means, the Council will seek to improve any deficiencies in the current level of infrastructure provision. The Council will also work together with other public sector organisations, within and beyond the Borough, to achieve funding for other necessary items of infrastructure. 2. New development will be required to contribute to infrastructure provision to meet the impact of that growth through the use of planning obligations and other means including the Community Infrastructure Levy (CIL). Planning obligations will be sought where: a. It is not possible to address unacceptable impacts through the use of a condition; and, b. The contributions are: i Necessary to make the development acceptable in planning terms; ii Directly related to the development; and iii Fairly and reasonably related in scale and kind to the development. 3. Where the economic viability of a new development is such that it is not reasonably possible to make payments to fund all or part of the	As outlined in **Chapter 23: Summary of Significant Effects (ES Volume I, Application Document Ref. 6.1.23)** the Proposed Development is not anticipated to have any impacts that are not acceptable or not possible to mitigate via the use of a requirement to the DCO. Therefore, it is not considered that any development contributions are required.

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	infrastructure required to support it, applicants will need to provide robust evidence of the viability of the proposal to demonstrate this. In these circumstances, the Council may: a. Enter negotiations with the applicant over a suitable contribution towards the infrastructure costs of the proposed development, whilst continuing to enable viable and sustainable development; and/or b. Consider alternative phasing, through the development period, of any contributions where to do so would sufficiently improve the economic viability of the scheme to enable payment.	
Policy SD8 – Sustainable Design Principles	1. The Council will seek new development to be designed to the highest possible standard, taking into consideration the context of the surrounding area and the need to respond positively to the: a. Quality, character and sensitivity of the surrounding public realm, heritage assets, and nearby buildings, in particular at prominent junctions, main roads and town centre gateways; b. Landscape character of the area, including the contribution made by existing trees and landscaping; c. Need to protect and enhance ecological and green infrastructure networks and assets; d. Need to ensure that new development is appropriately laid out to ensure adequate separation between buildings and an attractive environment; e. Privacy and amenity of all existing and future occupants of land and buildings; f. Existing transport network and the need to provide safe and satisfactory access and parking for all modes of transport; g. Need to reinforce local distinctiveness and provide high quality and inclusive design solutions, and h. Need for all development to be designed inclusively to ensure that buildings and spaces are accessible for all, including people with disabilities. 2. New development should contribute positively to making places better for people. They should be inclusive and establish a strong sense of	The **Design Approach Document (DAD) (Application Document Ref. 5.3.1)** demonstrates how good design has been a fundamental consideration throughout the development of the different parts of the Proposed Development. The DAD sets out the design objectives and demonstrates how each part of the Proposed Development has been developed in accordance with good design policy, including the criteria in Policy SD8. Design objectives consider impacts on the local area, ecology and transport, while also taking account of the need for the Proposed Development to be functional. This includes, for example, minimising adverse landscape and visual impacts through appropriate siting. The **Outline Design Principles (Application Document Ref. 5.3.2),** which will guide detailed design to ensure good design outcomes are maintained, are secured by Requirement 3 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1).**

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	place, using streetscapes and buildings to create attractive and comfortable places to live, work and visit. 3. All proposals will be designed with public safety and the desire to reduce crime in mind, incorporating, where appropriate, advice from the Health and Safety Executive, Secured by Design, or any other appropriate design standards. 4. New development will seek provision of adequate waste recycling, storage and collection facilities, which are appropriately sited and designed. 5. New commercial development will be expected to provide appropriately designed signage and shop fronts.	
Policy EG4 – Seal Sands, North Tees and Billingham	1. Development proposals for hazardous installations, uses related to the process industries, or emerging specialist sectors will be directed to available sites and expansion land in the following locations: a. Billingham Chemical Complex including 45 ha of available land. b. North Tees including 46 ha of available land. c. Seal Sands including 144 ha of available land. 2. Development proposals in the North Tees and Seal Sands area will recognise the cumulative importance for bird species associated with the Teesmouth and Cleveland Coast SPA and Ramsar site. Appropriate development proposals will be encouraged at locations within the limits to development where: a. If necessary, land has been identified to provide appropriate strategic mitigation; or b. The applicant can demonstrate that the proposed development, in-combination with other proposals, will not adversely impact the Teesmouth & Cleveland Coast SPA and Ramsar site. 3. Should it become apparent that proposals for strategic mitigation cannot be identified, the Council will work with the Tees Estuary Partnership and relevant stakeholders to take appropriate action. 4. Proposals for port and river based uses will be directed to sites and premises at Billingham Riverside, which includes approximately 38	**Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)** confirms the Proposed Development comprises the construction, operation (including maintenance) and decommissioning of a SAF Production Facility in Teesside along with the pipeline infrastructure within the connection corridors to allow the export of SAF Product and renewable naphtha and the necessary utility connections. A CHP plant will provide power and steam to the SAF Production Facility, and a new quay will be developed on the River Tees. The Main Site of the Proposed Development which includes the SAF Production Facility is located in Seal Sands. This is one of the locations identified in Policy EG4 criteria 1 for development proposals for hazardous installations, bio-fuels and bio-refineries, energy generation and other specialist uses. The Proposed Development accords with part 1 of Policy EG4 as it is a first of its kind advanced SAF manufacturing facility proposed in Seal Sands. Moreover, the Proposed Development includes a new quay for the import of modules and materials during construction and the import of feedstock during operation. Having direct access to a quay to enable deliveries of the feedstock is beneficial since it will avoid double handling of that feedstock and secondary transport prior to use. It will also be used during the construction phase for the shipborne import of prefabricated plant module AILs, fill material and other construction materials required for construction (see **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**). The potential effects on the SPA and Ramsar site, including in-combination effects with other plans and projects, are assessed in

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	hectares of available land. The following uses are considered to be suitable at port and riverside locations: a. Operational facilities, including wharves, jetties, slipways; b. River based logistics, warehousing, hard standing, and storage; c. Storage of hazardous substances awaiting import or export; d. Fabrication, maintenance or decommissioning of marine vessels, oil rigs and other large structures requiring transportation by sea; and e. Energy generation plants and infrastructure that are reliant on a port/riverside location. 7. Development proposals in the North Tees and Seal Sands area are required, as appropriate, to be supported by a site-specific Flood Risk Assessment which considers, amongst other matters, emergency access/egress in the event of tidal flooding. 8. Proposals which require hazardous substance consent will be designed and located to prevent an unacceptable increase in the level of risk to human health and the environment from an industrial accident or prejudice adjacent operational facilities or allocated sites.	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)**, **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** and the **Report to Inform the Habitat Regulations Assessment (Document Ref. 5.11.1)**. The HRA concludes through Appropriate Assessment that, with embedded mitigation measures, the Proposed Development will not adversely affect the integrity of the SPA or Ramsar site, either alone or in combination with other plans or projects. In relation to criteria 4, the Proposed Development includes a new quay (**Work No. 6**) on the River Tees at the eastern boundary of the Main Site for the import of biomass feedstock during operation and materials during construction. The quay accords with Policy EG4 criterion 4(a) as an operational wharf, criterion 4(c) as storage and handling infrastructure, and criterion 4(e) as an energy generation plant and infrastructure that is reliant on a port/riverside location. In relation to flood risk (criteria 6 and 7), the Main Site is partly within Flood Zones 2 and 3. A site-specific **Flood Risk Assessment (Application Document Ref. 5.7)** has been prepared. The Sequential Test and Exception Test have been applied and are met, as set out within the **Planning Statement (Application Document Ref. 5.2.1)**. The FRA demonstrates that the Proposed Development will be designed and constructed to remain safe and operational in times of flood. In relation to hazardous substance consent (criteria 8), the Proposed Development has been designed and located to prevent an unacceptable increase in risk to human health and the environment from an industrial accident, as assessed in **Chapter 19: Major Accidents and Disasters (ES Volume I, Application Document Ref. 6.1.19)**. An application for Hazardous Substances Consent is to be submitted in advance of construction.
Policy ENV 1 – Energy Efficiency	1. The Council will encourage all development to minimise the effects of climate change through meeting the highest possible environmental standards during construction and occupation. The Council will: a. Promote zero carbon development and require all development to reduce carbon dioxide emissions by following the steps in the energy hierarchy, in the following sequence:	As detailed in Section 4 of the **Planning Statement (Application Document Ref. 5.2.1)** the Proposed Development includes the construction, operation, maintenance and decommissioning of a commercial-scale facility that will produce approximately 180 million litres of advanced SAF and approximately 30 million litres of renewable naphtha each year. This will support the UK Government's Jet Zero Strategy to decarbonise the aviation sector which would see up to 19.3 MtCO2e of residual emissions offset or removed.

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	i. Energy reduction through 'smart' heating and lighting, behavioural changes, and use of passive design measures; then, ii. Energy efficiency through better insulation and efficient appliances; then, iii. Renewable energy of heat and electricity from solar, wind, biomass, hydro and geothermal sources; then iv. Low carbon energy including the use of heat pumps, Combined Heat and Power and Combined Cooling Heat and Power systems; then v. Conventional energy. b. Require all major development to demonstrate how they contribute to the greenhouse gas emissions reduction targets set out in Stockton-on-Tees' Climate Change Strategy 2016; and c. Support and encourage sensitive energy efficiency improvements to existing buildings. 2. Proposals are encouraged where development: a. Incorporates passive design measures to improve the efficiency of heating, cooling and ventilation; and b. Includes design measures to minimise the reliance on artificial lighting through siting, design, layout and building orientation that maximises sunlight and daylight, passive ventilation and avoids overshadowing. Non domestic 4. All new non-residential developments up to and including 499 sq m of gross floor space will be completed to a Building Research Establishment Environmental Assessment Method (BREEAM) minimum rating of 'very good' (or any future national equivalent). 5. All new non-residential developments of 500 sq m and above of gross floor space will be required to: a. Submit an energy statement demonstrating how the energy hierarchy has been applied to make the fullest contribution to CO2 reduction; and b. Be completed to a Building Research Establishment Environmental Assessment Method (BREEAM) minimum rating of 'very good' (or any future national equivalent).	The SAF Production Facility will be supplied heat and energy by a waste wood and biomass fired CHP plant. This provides a low-carbon energy and heat supply for the SAF process. As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** in future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be captured in a Post-Combustion Carbon Capture Unit ('PCCU') and directed via the selected CO_2 export pipeline route (either **Work No. 11B** or **11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. This would result in the Proposed Development achieving even greater negative carbon emissions and further reducing the carbon intensity of the final SAF Product. Development of a PCCU does not form part of the Proposed Development. **Chapter 14: Greenhouse Gas Emissions (ES Volume I, Application Document Ref. 6.1.14)** estimates that the Proposed Development will deliver 12.8 $MtCO_2e$ of avoided emissions over its assumed 30-year operational life.

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Policy ENV 2 – Renewable and Low Carbon Energy Generation	1. Development proposals will be supported where renewable energy measures are considered from the outset, including incorporating small-scale renewable and low carbon energy generation into the design of new developments where appropriate, feasible and viable, and where there would be no unacceptable adverse effects on landscape, ecology, heritage assets and amenity. The Council encourages and supports: a. The local production of energy from renewable and low carbon sources to help to reduce carbon emissions and contribute towards the achievement of renewable energy targets; and b. Community energy schemes that reduce, manage and generate energy to bring benefits to the local community 3. Planning applications for energy generation from renewable and low carbon sources, other than wind energy generation, will be considered against the principles in Policy SD8. Proposals should be supported by a comprehensive assessment of the landscape, visual and any other impacts of the proposal. 4. Developers should, where appropriate, provide details alongside a planning application of a satisfactory scheme to restore a site to at least its original condition when the scheme has reached the end of its operational life.	The Proposed Development comprises a waste wood and biomass fired CHP plant. This provides a low-carbon energy and heat supply for the SAF process and was developed as part of the overall design of the Proposed Development as outlined in the **Design Approach Document (Application Document Ref. 5.3.1)**. An assessment of the Proposed Development's accordance with Policy SD8 is undertaken above. An assessment of the landscape and visual effects of the Proposed Development has been undertaken and is reported in **Chapter 13: Landscape and Visual Amenity (Application Document Ref. 6.1.13)**. The findings of that assessment, and the Applicant's compliance with Section 5.10 of EN-1, are addressed at Table 2.1 of this document. A Decommissioning Environmental Management Plan (DEMP) will be produced and submitted to the LPA for approval prior to the commencement of any decommissioning activities. The DEMP will ensure that all decommissioning works are undertaken in accordance with industry best practice as the time of decommissioning and the site will be appropriately restored. The DEMP is secured through Requirement 19 of Schedule 2 in the **Draft DCO (Application Document Ref. 3.1)**.
Policy ENV 3 – Decentralised Energy Generation and Supply	1. The Council will promote and support decentralised energy such as District Heat and Power Networks by: a. Working with local partner organisations and developers to implement decentralised energy networks in Stockton-on-Tees Borough in line with the District Energy Masterplan; b. Requiring any developments with the potential to produce waste heat (such as power generation, energy from waste or chemical processing) to be CHP ready so that heat can be supplied into new or existing networks; c. Identifying and safeguarding potential network routes; and d. Requiring all major developments to assess the feasibility of connecting to an existing decentralised energy network, or where this is not possible, assess the feasibility of establishing a new network or future proofing energy infrastructure to make future connection feasible.	The CHP plant (**Work No. 2**) is an integral component of the Proposed Development, designed from to meet the electricity and steam demands of the SAF production process. As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)**, extracted steam from the boilers also let down in pressure separately and are exported to the SAF Production Facility for use in the process. The heat from the flue gas can also be recovered for further utilisation. In this way, over 90% of the available energy in the feedstock will be converted into beneficial electricity and heat, as per criteria 1(b) of ENV3. In relation to criteria 1(d), the CHP plant itself constitutes the decentralised energy source for the Proposed Development. Compliance with paragraph 4.8 of NPS EN-1 in respect of CHP is addressed in detail in the **Planning Statement (Application Document Ref. 5.2.1)**.

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	2. The Council will require all major development to investigate the use of decentralised energy networks for heat and power as part of the feasibility assessment and energy statement.	
Policy ENV4 – Reducing and Mitigating Flood Risk	1. All new development will be directed towards areas of the lowest flood risk to minimise the risk of flooding from all sources and will mitigate any such risk through design and implementing sustainable drainage (SuDS) principles. 2. Development on land in Flood Zones 2 or 3 will only be permitted following: a. The successful completion of the Sequential and Exception Tests (where required); and b. A site specific flood risk assessment, demonstrating development will be safe over the lifetime of the development, including access and egress, without increasing flood risk elsewhere and where possible reducing flood risk overall. 3. Site specific flood risk assessments will be required in accordance with national policy. 4. All development proposals will be designed to ensure that: a. Opportunities are taken to mitigate the risk of flooding elsewhere; b. Foul and surface water flows are separated; c. Appropriate surface water drainage mitigation measures are incorporated and Sustainable Drainage Systems (SuDS) are prioritised; and d. SuDS have regard to Tees Valley Authorities Local Standards for Sustainable Drainage (2015) or successor document. 5. Surface water run-off should be managed at source wherever possible and disposed of in the following hierarchy of preference sequence: a. To an infiltration or soak away system; then, b. To a watercourse open or closed; then,	The Main Site lies predominantly within Flood Zone 1 while some access routes and pipeline corridors within the Wider Site and the proposed quay fall within Flood Zones 2 and 3. A **Flood Risk Assessment (Application Document Ref. 5.7)** has been prepared. Section 9 of the **Flood Risk Assessment (Application Document Ref. 5.7)** sets out how the Proposed Development's location passes the Sequential and Exception tests. The sections of existing pipeline and access routes within Flood Zones 2 and 3 are considered to not be material to the Sequential test. As a suitable site requires quayside facilities, utilities and proximity to a wastewater treatment plant, the number of suitable sites available is limited. The consideration of alternative sites is presented in **Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1.6).** No other alternative sites were identified that were both available and suitable. The Proposed Development is therefore in compliance with the Sequential test. As the Proposed Development is considered to have sustainability benefits through its contribution to SAF production and has incorporated flood resilience and safety measures, it is considered to pass the Exception test. The **Flood Risk Assessment (Application Document Ref. 5.7)** demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere. The **Framework Drainage Strategy (Application Document Ref. 5.7.1)** outlines the approach to managing operational surface water for the Proposed Development. The strategy identifies how surface water will be managed safely, sustainably and in accordance with national and local policy requirements. Construction drainage is covered in **Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3.4)**. The final drainage design will be submitted for approval post-consent in accordance with Requirement 3 of the **draft DCO (Application Document Ref. 3.1)**. Section 5 of the **Framework Drainage Strategy (Application Document Ref. 5.7.1)** outlines the operational drainage strategy for the

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	c. To a sewer. 6. Disposal to combined sewers should be the last resort once all other methods have been explored. 7. For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1-in-1 year rainfall event and the 1-in-100 year rainfall event should be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event. For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1-in-1 year rainfall event and the 1-in-100 year rainfall event should never exceed the peak greenfield runoff rate for the same event. 8. Within critical drainage areas or other areas identified as having particular flood risk issues the Council may: a. Support reduced run-off rates. b. Seek contributions, where appropriate, towards off-site enhancements directly related to flow paths from the development, to provide increased flood risk benefits to the site and surrounding areas. 9. Sustainable Drainage Systems (SuDS) should be provided on major development (residential development comprising 10 dwellings or more and other equivalent commercial development) unless demonstrated to be inappropriate. The incorporation of SuDS should be integral to the design process and be integrated with green infrastructure. Where SuDS are provided, arrangements must be put in place for their whole life management and maintenance. 10. Through partnership working the Council will work to achieve the goals of the Stockton-on-Tees Local Flood Risk Management Strategy and the Northumbria Catchment Flood Management Plan. This will include the implementation of schemes to reduce the risk of flooding to existing properties and infrastructure. Proposals which seek to mitigate flooding, create natural flood plains or seek to enhance and/or expand flood plains in appropriate locations will be permitted.	Proposed Development. Surface water will be discharged according to the hierarchy within the National Standards for SuDS Guidance. The Proposed Development will collect surface water for non-potable uses. Infiltration is not considered a suitable option for the disposal of surface water in order to prevent the mobilisation of contaminants, therefore, discharge into the River Tees is the next preferred discharge location.

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	11. To reduce the risk of flooding the Council is working in partnership with the Environment Agency to deliver a Flood Alleviation Scheme on Lustrum Beck.	
Policy ENV5 – Preserve, Protect and Enhance Ecological Networks, Biodiversity and Geodiversity	1. The Council will protect and enhance the biodiversity and geological resources within the Borough. Development proposals will be supported where they enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation particularly in or adjacent to Biodiversity Opportunity Areas in the River Tees Corridor, Teesmouth and Central Farmland Landscape Areas. 2. The Council will preserve, restore and re-create priority habitats alongside the protection and recovery of priority species. 3. Ecological networks and wildlife corridors will be protected, enhanced and extended. A principal aim will be to link sites of biodiversity importance by avoiding or repairing the fragmentation and isolation of natural habitats. 4. Sites designated for nature or geological conservation will be protected and, where appropriate enhanced, taking into account the following hierarchy and considerations: a. Internationally designated sites – Development that is not directly connected with or necessary to the management of the site, but which is likely to have a significant effect on any internationally designated site, irrespective of its location and when considered both alone and in combination with other plans and projects, will be subject to an Appropriate Assessment. Development requiring Appropriate Assessment will only be allowed where: i. It can be determined through Appropriate Assessment, taking into account mitigation, the proposal would not result in adverse effects on the site's integrity, either alone or in combination with other plans or projects; or ii. as a last resort, where, in light of negative Appropriate Assessment there are no alternatives and the development is of overriding public interest, appropriate compensatory measures must be secured. b. Nationally designated sites - Development that is likely to have an adverse effect on a site, including broader impacts on the national	**Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on ecological receptors, including habitats. It is anticipated that after proposed mitigation measures are implemented, there will be no significant adverse effects of the Proposed Development on ecological receptors or habitats. A **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **Draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of any nationally or internationally designated sites, either alone or in combination with other plans or projects. A **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Application Document Ref. 5.8)** has been produced and outlines the Proposed Development's approach to biodiversity net gain and how it will minimise adverse impacts on biodiversity by applying the mitigation hierarchy. Although Biodiversity Net Gain is not mandatory for the Proposed Development, the Applicant is committed to a voluntary No Net Loss objective. The mitigation, compensation, monitoring and enhancement measures will be secured through Requirement 6 in Schedule 2 of the **draft DCO (Application Document Ref. 3.1)**.

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	network of Sites of Special Scientific Interest (SSSI) and combined effects with other development, will not normally be allowed. Where an adverse effect on the site's notified interest features is likely, a development will only be allowed where: i. the benefits of the development, at this site, clearly outweigh both any adverse impact on the sites notified interest features, and any broader impacts on the national network of SSSI's; ii. no reasonable alternatives are available; and iii. mitigation, or where necessary compensation, is provided for the impact. c. Locally designated sites: Development that would have an adverse effect on a site(s) will not be permitted unless the benefits of the development clearly outweigh the harm to the conservation interest of the site and no reasonable alternatives are available. All options should be explored for retaining the most valuable parts of the sites interest as part of the development proposal with particular consideration given to conserving irreplaceable features or habitats, and those that cannot readily be recreated within a reasonably short timescale, for example ancient woodland and geological formations. Where development on a site is approved, mitigation or where necessary, compensatory measures, will be required in order to make development acceptable in planning terms. 5. Development proposals should seek to achieve net gains in biodiversity wherever possible. It will be important for biodiversity and geodiversity to be considered at an early stage in the design process so that harm can be avoided and wherever possible enhancement achieved (this will be of particular importance in the redevelopment of previously developed land where areas of biodiversity should be retained and recreated alongside any remediation of any identified contamination). Detrimental impacts of development on biodiversity and geodiversity, whether individual or cumulative should be avoided. Where this is not possible, mitigation and lastly compensation, must be provided as appropriate. The Council will consider the potential for a strategic approach to biodiversity offsetting in conjunction with the Tees Valley Local Nature Partnership and in line with the above hierarchy.	

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	6. When proposing habitat creation, it will be important to consider existing habitats and species as well as opportunities identified in the relevant Biodiversity Opportunity Areas. This will assist in ensuring proposals accord with the 'landscape scale' approach and support ecological networks. 7. Existing trees, woodlands and hedgerows which are important to the character and appearance of the local area or are of nature conservation value will be protected wherever possible. Where loss is unavoidable, replacement of appropriate scale and species will be sought on site, where practicable.	
Policy ENV6 – Green Infrastructure, Open Space, Green Wedges and Agricultural Land	1. Through partnership working, the Council will protect and support the enhancement, creation and management of all green infrastructure to improve its quality, value, multi-functionality and accessibility in accordance with the Stockton-on-Tees Green Infrastructure Strategy and Delivery Plan. 2. Where appropriate, development proposals will be required to make contributions towards green infrastructure having regard to standards and guidance provided within the Open Space, Recreation and Landscaping SPD or any successor. Green infrastructure should be integrated, where practicable, into new developments. This includes new hard and soft landscaping, and other types of green infrastructure. Proposals should illustrate how the proposed development will be satisfactorily integrated into the surrounding area in a manner appropriate to the surrounding townscape and landscape setting and enhances the wider green infrastructure network. 3. The Council will protect and enhance open space throughout the Borough to meet community needs and enable healthy lifestyles. The loss of open space as shown on the Policies Map, and any amenity open space, will not be supported unless: a. it has been demonstrated to be surplus to requirements; or b. the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or c. the proposal is for another sports or recreational provision, the needs for which, clearly outweigh the loss; or d. the proposal is ancillary to the use of the open space; and	The Proposed Development will not result in the loss of any green infrastructure, open space or green wedge as identified on the STBC Local Plan Policies Map. As detailed above and confirmed in **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** and the **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Document Ref. 5.8)**, the Proposed Development will be satisfactorily integrated into the surrounding area and will include no net loss to biodiversity. As confirmed by **ES Figure 17.4 Land Use (ES Volume II, Application Document Ref. 6.2)**, the Proposed Development does not impact best and most versatile agricultural land.

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	e. in all cases there would be no significant harm to the character and appearance of the area or nature conservation interests. 4. Development within green wedges will only be supported where: a. it would not result in physical or visual coalescence of built-up areas; b. it would not adversely impact on local character or the separate identity of communities; c. it would not adversely impact on recreational opportunities; and d. it would not adversely impact on biodiversity. 5. Development proposals will be expected to demonstrate that they avoid the 'best and most versatile' agricultural land unless the benefits of the proposal outweigh the need to protect such land for agricultural purposes. Where significant development of agricultural land is demonstrated to be necessary, proposals will be expected to demonstrate that they have sought to use areas of lower quality land in preference to that of a higher quality.	
Policy ENV7 – Ground, Air, Water, Noise and Light Pollution	1. All development proposals that may cause groundwater, surface water, air (including odour), noise or light pollution either individually or cumulatively will be required to incorporate measures as appropriate to prevent or reduce their pollution so as not to cause unacceptable impacts on the living conditions of all existing and potential future occupants of land and buildings, the character and appearance of the surrounding area and the environment. 2. Development that may be sensitive to existing or potentially polluting sources will not be sited in proximity to such sources. Potentially polluting development will not be sited near to sensitive developments or areas unless satisfactory mitigation measures can be demonstrated. 3. Where development has the potential to lead to significant pollution either individually or cumulatively, proposals should be accompanied by a full and detailed assessment of the likely impacts. Development will not be permitted when it is considered that unacceptable effects will be imposed on human health, or the environment, taking into account the cumulative effects of other proposed or existing sources of pollution in	The effects of the Proposed Development on the natural and local environment are considered within **Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1).** Nuisance from noise, artificial light, odours, smoke, dust arising on premises and fumes is considered in the **Statutory Nuisance Statement (Application Document Ref. 5.5)**, which identifies the matters set out at Section 79(1) of the Environmental Protection Act (EPA) 1990 in respect of statutory nuisance and considers if the Proposed Development could result in a nuisance and the measures, where relevant, to prevent and mitigate such nuisance occurring. Detailed assessments, including the type, quantity and timing, of these potential statutory nuisances and where necessary, mitigation measures are provided in **ES Volume I Chapter 8: Air Quality, Chapter 9: Noise and Vibration, Chapter 13 Landscape and Visual Amenity and Chapter 18: Traffic and Transport (Application Document Ref. 6.1)** and their associated appendices in **ES Volume II (Application Document Ref. 6.2)**.

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	the vicinity. Development will only be approved where suitable mitigation can be achieved that would bring pollution within acceptable levels. 4. Where future users or occupiers of a development would be affected by contamination or stability issues, or where contamination may present a risk to the water environment, proposals must demonstrate via site investigation/assessment that: a. Any issues will be satisfactorily addressed by appropriate mitigation measures to ensure that the site is suitable for the proposed use, and does not result in unacceptable risks which would adversely impact upon human health and the environment; and b. Demonstrate that development will not cause the site or the surrounding environment to become contaminated and/or unstable. 5. Groundwater and surface water quality will be improved in line with the requirements of the European Water Framework Directive and its associated legislation and the Northumbria River Basin Management Plan. Development that would adversely affect the quality or quantity of surface or groundwater, flow of groundwater or ability to abstract water will not be permitted unless it can be demonstrated that no significant adverse impact would occur or mitigation can be put in place to minimise this impact within acceptable levels. 6. To improve the quality of the water environment the Council will: a. Support ecological improvements along riparian corridors including the retention and creation of river frontage habitats; b. Avoid net loss of sensitive inter-tidal or sub-tidal habitats and support the creation of new habitats; and c. Protect natural water bodies from modification, and support the improvement and naturalisation of heavily modified water bodies (including de-culverting and the removal of barriers to fish migration).	In relation to air quality, **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** concludes that all air quality effects during construction, operation and decommissioning are not significant for human health receptors. In relation to ecological receptors, at BAT emission levels a potentially significant effect has been identified at the Teesmouth and Cleveland Coast for annual mean NOx and nutrient nitrogen deposition. The chapter confirms that with additional mitigation, effects at all ecological receptors would be reduced with residual effects classified as not significant. The requirement for this additional mitigation will be confirmed through the Environmental Permit process for the Proposed Development. Cumulative air quality effects are not significant. In relation to noise and vibration, **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** concludes that no potential significant effects associated with the construction, operation or decommissioning of the Proposed Development have been identified for human receptors. Operational stationary source noise is assessed as a Low Impact at all assessed noise sensitive, and road traffic noise during operation is assessed as negligible (not significant). In relation to the water environment, **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** concludes that construction phase water environment and flood risk effects are **minor adverse (not significant)** or negligible (not significant) across all receptors. During operation, the majority of water environment effects are similarly **minor adverse (not significant)** or negligible (not significant). One **moderate (significant)** operational effect has been identified in relation to changes in hydrodynamics on the River Tees, with potential to increase erosion upstream or downstream. Best practice mitigation measures will be implemented to minimise hydrodynamic impacts. A **Flood Risk Assessment (Application Document Ref. 5.7)**, a **Water Environment Regulations Assessment (Application Document Ref. 5.10)** and a **Nutrient Neutrality Assessment (Application Document Ref. 5.9)** have been submitted with the Application, addressing the potential for increased nitrogen loading to the Tees Estuary Transitional Waterbody. With mitigation in place, the Proposed Development is not anticipated to cause deterioration or prevent achievement of Water Framework Directive objectives.

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		The Proposed Development will be located on brownfield land and the Application proposes proportionate measures in respect of contaminated land. A Geoenvironmental Preliminary Risk Assessment **Appendix 21A: Ground Conditions – Phase 1 Preliminary Risk Assessment Report (ES Volume III, Application Document Ref. 6.3.27)**) has been undertaken and ground investigation will be carried out ahead of construction to inform a remediation strategy to be implemented during construction works. This data will be used to inform refinement of risk assessments and produce a remediation strategy which will be implemented during the construction works. As concluded within **Chapter 21: Geology and Soils (ES Volume I, Application Document Ref. 6.1.21)** no potential significant effects associated with the construction and operation of the Proposed Development in relation to Geology and Soils have been identified.
Policy HE1 – Conservation and Enjoyment of the Historic Environment	1. To ensure the conservation and enjoyment of the Borough's historic environment the Council will: a. Maintain and promote the use of Historic Environment Records; b. Review and regularly update the SPD4 Conservation and Historic Environment Folder or any successor. This will include review and regular update of: i. Conservation Area Appraisals and Management Plans; ii. Article 4 directions, and; iii. Local List. c. Produce and maintain a Heritage Asset at Risk Register, and pro-actively seek to reduce the number of heritage assets on the register by: i. Exploring innovative ways to bring assets into viable uses consistent with their conservation; and ii. Appropriate enforcement. d. Actively explore opportunities to secure funding and partnership opportunities to deliver schemes that improve the historic environment including the removal of heritage assets from the at risk register; and	The Planning Inspectorate agreed with the Applicant's assessment and confirmed that, due to the extent of previous development of the site and its location on reclaimed land, significant heritage effects are not likely and impacts on heritage assets and their settings can be scoped out of the ES assessment, this is confirmed in **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3)**. No designated heritage assets are present within the 1km study area, and the nearest listed buildings and conservation areas are located approximately 1.5km from the Site. The LVIA considers Eston Nab Scheduled Monument as a visual receptor (Viewpoint 10) and concludes that visual effects would be **Minor adverse (not significant)** during both construction and operation, given the existing heavy industrial character of the Site's surroundings. The Proposed Development will not result in the loss of any heritage asset.

STBC Local Plan Policy	Policy Text	Assessment
	e. Deliver and implement the Council's Heritage Strategy Action Plan.	
Policy HE2 – Conserving and Enhancing Stockton's Heritage Assets	1. In order to promote and enhance local distinctiveness, the Council will support proposals which positively respond to and enhance heritage assets. 2. Where development has the potential to affect heritage asset(s) the Council require applicants to undertake an assessment that describes the significance of the asset(s) affected, including any contribution made by their setting. Appropriate desk-based assessment and, where necessary, field evaluation will also be required where development on a site which includes or has the potential to include heritage assets with archaeological interest. Applicants are required to detail how the proposal has been informed by assessments undertaken. 3. Development proposals should conserve and enhance heritage assets, including their setting, in a manner appropriate to their significance. Where development will lead to harm to or loss of significance of a designated or non-designated heritage asset the proposal will be considered in accordance with Policy SD8, other relevant Development Plan policies and prevailing national planning policy. 4. The loss of a heritage asset, in whole or part, will not be permitted unless the Council are satisfied that reasonable steps to ensure new development will proceed after loss has occurred. 5. Where the significance of a heritage asset is lost (wholly or in part) the Council will require developers to record and advance the understanding of the significance of the heritage asset in a manner proportionate to the importance of the asset and impact of the proposal. Recording will be required before development commences. 6. The following are designated heritage assets: a. Scheduled Monuments - Castle Hill; St. Thomas a Becket's Church, Grindon; Barwick Medieval Village; Round Hill Castle Mound and Bailey; Larberry Pastures Settlement Site; Newsham Deserted Medieval Village; Stockton Market Cross and Yarm Bridge b. Registered Parks and Gardens - Ropner Park and Wynyard Park c. Conservation Areas - Billingham Green; Bute Street; Cowpen Bewley; Eaglescliffe with Preston; Egglescliffe, Hartburn; Norton; Stockton Town Centre; Thornaby Green; Wolviston and Yarm	As per the assessment above in relation to Policy HE1, no heritage assets are present within the 1km study area and the nearest listed buildings and conservation areas are located approximately 1.5km away. Due to the existing industrial character of the Site and surroundings, no significant effects are anticipated for both the construction and operation phases.

STBC Local Plan Policy	Policy Text	Assessment
	d. Listed Buildings 7. The Council has identified assets on a Local List, which are considered as having local heritage significance. 8. The route of the Stockton & Darlington Railway of 1825, the branch line to Yarm, and associated structures should be considered for their international interest. 9. Where the Council identifies a building, monument, ruin, site, place, area or landscape as having significance because of its heritage interest, it will be considered a heritage asset. 10. Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to policies for designated heritage assets. 11. Where archaeological remains survive, whether designated or not, there will be a presumption in favour of their preservation in-situ. The more significant the remains, the greater the presumption will be in favour of this. The necessity for preservation in-situ will result from desk-based assessment and, where necessary, field evaluation. Where in-situ preservation is not essential or feasible, a programme of archaeological works aimed at achieving preservation by record will be required. 12. Any reports prepared as part of a development scheme will be submitted for inclusion on the Historic Environment Record.	

11 Accordance with Redcar & Cleveland Local Plan

Table 11.1 Accordance with Redcar & Cleveland Local Plan

RCBC Local Plan Policy	Policy Text	Assessment
Policy SD 3 - Development Limits	Development limits have been identified on the Policies Map around the urban and coastal areas, and certain towns and villages in the rural area. Within development limits, development will be supported, subject to meeting other policies in the Local Plan. Development beyond development limits, as defined on the Policies Map, will be restricted to: a. an appropriate diversification or expansion of an existing agricultural or forestry activity; b. a recreation or tourism proposal requiring a countryside location; c. facilities essential to social and community needs; d. housing essential for farming, forestry or the operation of a rural based enterprise; e. housing meeting the rural exceptions policy, as set out in Policy H4: f. isolated single dwellings that are of exceptional quality and incorporate innovative design features, reflecting the highest standards in architecture and sustainability; g. a suitably scaled extension to an existing building; h. development required to ensure the conservation and, where appropriate, enhancement of assets of historical significance; i. other development requiring a countryside location due to technical or operational reasons; and j. redevelopment of previously developed land, provided that the site is not of high environmental value and is, or can, be made accessible by sustainable modes of transport. Proposals for the conversion or reuse of existing buildings outside of development limits will be supported where the following criteria are met: k. the building is of a form, character and general design in keeping with its rural surroundings;	The elements of the Proposed Development which are within RCBC are within the development limits set out in Policy SD3 of the RCBC Local Plan The elements within RCBC consist of pipeline and utility connection corridors (**Work Nos. 9, 10 and 11**), and construction laydown areas and access roads (**Work Nos. 13A and 14**).

RCBC Local Plan Policy	Policy Text	Assessment
	l. the building is structurally sound and capable of re-use without fundamental rebuilding; and m. the building is large enough to be converted without the need for additional buildings, substantial new extensions or significant alteration.	
Policy SD 4 - General Development Principles	In assessing the suitability of a site or location, development will be permitted where it: a. meets the requirements of the Locational Policy and accords with other Local Plan policies and designations; b. will not have a significant adverse impact on the amenities of occupiers of existing or proposed nearby land and buildings; c. will not result in the unacceptable loss or significant adverse impact on important open spaces or environmental, built or heritage assets which are considered important to the quality of the local environment; d. minimises the loss of best and most versatile agricultural land; e. avoids locations that would put the environment, or human health or safety, at unacceptable risk; f. will not increase flood risk either on site or downstream of the development; g. will have access to adequate infrastructure, services and community facilities to serve the development; and h. will not result in an adverse effect on the integrity of a Natura 2000 site, either alone or in combination with other plans or projects. All development must be designed to a high standard. Development proposals will be expected to: i. where necessary make the most effective and efficient use of available land, create and sustain an appropriate mix of uses, including (where appropriate) incorporation of green space and landscaping as part of development, and support local facilities and transport networks; j. respect or enhance the character of the site and its surroundings in terms of its proportion, form, massing, density, height, size, scale, materials and detailed design features;	The elements of the Proposed Development within RCBC comprise underground pipeline and utility connection corridors, construction laydown areas and access roads, located on land already used for or associated with industrial purposes within an established industrial area (see **Chapter 3: Site and Surroundings (Application Document Ref. 6.1.3)**). The connection corridors utilise existing pipeline infrastructure and corridors where possible, including the existing tunnel under the River Tees used by the industrial wastewater pipeline (**Work No. 10**), minimising ground disturbance on undisturbed land. **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8), Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9), Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** and **Chapter 22: Cumulative & Combined Effects (ES Volume I, Application Document Ref. 6.1.22)** assess the impact of the Proposed Development on occupier amenity. Few significant adverse effects are anticipated after proposed mitigation measures are implemented and accounted for. The only significant adverse residual effects are in relation to landscape and visual amenity. The Proposed Development will not result in the loss of or a significant impact upon important open spaces or any environmental, built or heritage assets. The Proposed Development intersects Teesmouth and Cleveland Coast SSSI and SPA but is not anticipated to have a significant adverse effect upon it after proposed mitigation measures are accounted for as identified in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)**. The connection corridors do not impact best and most versatile agricultural land, as confirmed by **ES Figure 17.4: Land Use (ES Volume II, Application Document Ref. 6.2)**. **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** assesses the impact of the Proposed

RCBC Local Plan Policy	Policy Text	Assessment
	k. take opportunities available to improve the character and quality of the surrounding area and the way it functions by establishing a strong sense of place, responding to local character and history and using streetscapes and buildings to create attractive places to live, work and visit; l. be sustainable in design and construction, incorporating best practice in resource management, energy efficiency and climate change adaptation; m. create a healthy, active, safe and secure environment; n. minimise pollution including light and noise and vibration levels to meet or exceed acceptable limits; o. respect or enhance the landscape, biodiversity, geological features, the historic environment and both designated and non-designated heritage designations that contribute positively to the site and the surrounding area; p. provide suitable and safe vehicular access and parking suitable for its use and location; q. be designed, constructed and managed in ways that improve health and promote healthy lifestyles to help to reduce health inequalities; and r. consider the needs of people with disabilities by encouraging inclusive design and accessible environments through site layout and design, including the needs of the elderly.	Development on changes to flood risk, including for the connection corridor elements within RCBC which cross the River Tees. **Chapter 15: Climate Change Resilience (Application Document Ref. 6.1.15)** considers this risk in the context of climate change resilience. The **Flood Risk Assessment (Application Document Ref. 5.7)** concludes that the Proposed Development will be designed and constructed to remain safe and operational in times of flood. **Chapter 3: Site and Surrounding Area (ES Volume I, Application Document Ref. 6.1.3), Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** and **Chapter 6: Alternatives (ES Volume I, Document Ref. 6.1.6)** describe the Site and why it was chosen for the Proposed Development. That assessment considered access to infrastructure to serve the Proposed Development. The pipeline connection corridors cross the Teesmouth and Cleveland Coast SPA and Ramsar site. The potential effects on these designated sites are assessed in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** which find that there are no significant adverse effects arising from the Proposed Development on these sites after mitigation measures are accounted for. The **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1**) concludes that through Appropriate Assessment that, with embedded mitigation measures, the Proposed Development will not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA or Ramsar nor other nearby designated sites, either alone or in combination with other plans or projects.
Policy SD5 – Developer Contributions	Subject to economic viability, the Council may secure developer contributions in order to fund necessary infrastructure and other community benefits required as a consequence of development. Developer contributions will normally be secured through planning obligations. In the event that the Council adopts a Community Infrastructure Levy (CIL), certain developer contributions will be payable through that mechanism. Planning obligations will be sought where: a. it is not possible to mitigate the impacts of development through the use of a condition; and	As outlined in **Chapter 23: Summary of Significant Effects (ES Volume I, Application Document Ref. 6.1.23)** the Proposed Development is not anticipated to have any impacts that are not acceptable or not possible to mitigate via the use of a requirement to the DCO. Therefore, it is not considered that any development contributions are required.

RCBC Local Plan Policy	Policy Text	Assessment
	b. the contributions are fair, reasonable, directly related to the development and necessary to make the development acceptable in planning terms. The Council will have regard to the Developer Contributions SPD and the Affordable Housing SPD when considering the need for Section 106 agreements. Examples of matters for which contributions relevant to the nature and scale of the development will be sought will include: c. affordable housing; d. community buildings, facilities and services; e. open space, sport and recreation; f. drainage and flood prevention measures; g. education facilities; h. highway and rail improvements; i. public transport provision or improvements including bus and rail passenger facilities; j. pedestrian and cycling facilities; k. improvements to landscape, water environments, biodiversity (including habitat creation and management) and heritage assets (including repair or restoration of historic buildings and structures); l. sustainable design and construction; m. local employment and training; n. healthcare; and o. public realm. If the economic viability of a new development is such that it is not reasonably possible to make payments to fund all or part of the infrastructure required to support it, applicants will need to provide robust evidence of the viability of the proposal to demonstrate this. In these circumstances the Council may: p. enter negotiations with the applicant over a suitable contribution towards the infrastructure costs of the proposed development, whilst continuing to enable viable and sustainable development; or	

RCBC Local Plan Policy	Policy Text	Assessment
	q. consider alternative phasing, through the development period, of any contributions where to do so would sufficiently improve the economic viability of the scheme to enable payment. When determining the level of contributions required, consideration will be given to a proposal's overall conformity with the development plan and its contribution towards sustainable patterns of development.	
Policy SD6 - Renewable and Low Carbon Energy	Renewable and low carbon energy schemes will be supported and encouraged, and will be approved where their impact is, or can be made, acceptable. The incorporation of renewable energy into developments will be encouraged, particularly as part of major schemes. The retrofit of renewable energy and use of micro-renewables will also be supported in appropriate buildings and locations. We will support appropriate schemes for wind and solar energy where they are located within the South Tees and Wilton industrial area and other potentially suitable areas as identified on the Policies Map. We will actively support community-led renewable energy schemes which are led by, or meet the needs of, local communities. Development of district heating schemes will also be supported. In determining applications for renewable and low carbon energy, and associated infrastructure, the following issues will be considered: a. impact on residential amenity; b. environmental impacts; c. sensitivity and capacity of the landscape, as detailed in the Renewable and Low Carbon Study; d. impact on heritage assets and their settings; e. impact on recreation; f. scale of proposal; g. local topography and siting of proposal to minimise harm, including through reasonable mitigation; h. aeronautical and other military considerations; i. operational and other relevant constraints;	The elements of the Proposed Development within RCBC are pipeline and utility connection corridors, construction laydown areas and access roads, rather than energy generation plant. Policy SD6 is therefore of limited direct relevance to those elements. However, in the context of the Proposed Development as a whole, the CHP plant (**Work No. 2**) is located within STBC and is a biomass and waste wood-fired combined heat and power plant, which constitutes a form of low carbon energy generation consistent with the objectives of Policy SD6. The **Environmental Statement (Application Document Ref. 6.1)** assesses the potential impacts of the Proposed Development across the relevant environmental topics, including those listed in Policy SD6 criteria (a) to (k). The assessment within the connection corridors in RCBC includes consideration of impacts on the Teesmouth and Cleveland Coast SPA and Ramsar site (criteria b, e and k), and the conclusions are summarised above under Policy SD4.

RCBC Local Plan Policy	Policy Text	Assessment
	j. impact on the North York Moors National Park and its setting; and k. cumulative impacts of proposals. Renewable energy developments will not be allowed within, or where they are likely to have an adverse effect - alone, or in combination with other plans or projects - on designated ecological sites or on priority species, unless they meet the exceptions criteria set out in Policy N4. Sites being brought forward for wind turbine deployment should be subject to survey to assess their use by the bird species that are qualifying interests of the North York Moors SPA and the Teesmouth and Cleveland SPA and Ramsar Site. Where the presence of the relevant species is confirmed, an assessment of the impacts of the development on the relevant bird species, including assessment of the risk of mortality from turbine blade strikes, shall be undertaken. Development proposals for the generation of renewable energy will not be granted if there would be any adverse impacts on airport radar, unless mitigation is possible and a scheme for its provision is agreed with the airport affected.	
Policy SD 7 - Flood and Water Management	Flood risk will be taken into account at all stages in the planning process to avoid inappropriate development in areas at current or future risk. Development in areas at risk of flooding, as identified by the Environment Agency flood risk maps, will only be granted where all of the following criteria are met: a. the proposal meets the sequential and exception tests (where required) in relation to the National Planning Policy Framework; b. a site specific flood risk assessment demonstrates that the development will be safe, including the access and egress, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall; and c. new site drainage systems are well designed, taking account of events that exceed the normal design standard (e.g. consideration of flood flow routing and utilising temporary storage areas). All development proposals will be expected to be designed to mitigate and adapt to climate change, taking account of flood risk by: d. ensuring opportunities to contribute to the mitigation of flooding elsewhere are taken;	Parts of the connection corridors within RCBC are located within Flood Zone 3, including the crossings of the River Tees. **A Flood Risk Assessment (FRA) (Application Document Ref. 5.7)** has been prepared in accordance with Policy SD7 and national policy. The Sequential Test is set out in Section 5 of the **Planning Statement (Application Document Ref. 5.2.1)** and demonstrates that the connection corridors require a crossing of the River Tees and associated floodplain for operational reasons and cannot be relocated to areas of lower flood risk. As set out within the **Planning Statement (Application Document Ref. 5.2.1)**, the Exception Test is met as the Proposed Development will provide significant wider sustainability benefits through the production of low-carbon SAF, and the FRA demonstrates that the connection infrastructure will remain safe and not increase flood risk elsewhere. The RCBC elements of the Proposed Development will incorporate SuDs measures and manage surface water drainage in accordance with the drainage hierarchy, in line with Policy SD7 criteria (d) to (g). The **Flood Risk Assessment (Application Document Ref. 5.7)** and **Chapter 12: Water Environment (ES Volume I, Application Document Ref. 6.1.12)** confirm accordance with Policy SD7.

RCBC Local Plan Policy	Policy Text	Assessment
	e. prioritising the use of sustainable drainage systems (SuDs); f. ensuring the full separation of foul and surface water flows; and g. ensuring development is in accordance with the Redcar and Cleveland Strategic Flood Risk Assessment. A site-specific flood risk assessment will be required to be carried out to demonstrate that development is not at risk from flooding and that it does not increase flood risk elsewhere in the following circumstances: h. proposals of 1 hectare in size or greater in Flood Zone 1; or i. proposals for new development (including minor development and change of use) in Flood Zones 3a or Flood Zone 2; or j. proposals for new development in areas susceptible to surface water flooding; or k. proposals situated in an area currently benefiting from defences; or l. proposals situated within 20m of a bank top of a main river; or m. proposals over a culverted watercourse or where development will be required to control or influence the flow of any watercourse; or n. where the proposed development may be subject to other sources of flooding. Surface water runoff not collected for use must be discharged to one or more of the following, listed in order of priority: o. discharge into the ground (infiltration); or where not reasonably practicable p. discharge to a surface water body; or where not reasonably practicable q. discharge to a surface water sewer, highway drain, or another drainage system; or where not reasonably practicable r. discharge to a combined sewer. For previously developed sites, the peak runoff rate from the development to any drain, sewer or surface water body for the 1-in-1 year rainfall event and the 1-in-100 year rainfall event, must be as close as reasonably practicable to the greenfield runoff rate from the site for the same rainfall event but should never exceed the rate of discharge from the development prior to redevelopment for that event. Discharge	

RCBC Local Plan Policy	Policy Text	Assessment
	rates into surface water and combined sewers resulting from the redevelopment of brownfield sites will be limited to a maximum of 50% of flows consented for previous uses. For greenfield sites, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1-in-1 year rainfall event and the 1-in-100 year rainfall event, must not exceed the peak greenfield runoff rate from the site same event. Where the drainage system discharges to a surface water body that can accommodate uncontrolled surface water discharges without any impact on flood risk from that surface water body (e.g. the sea or River Tees) the peak flow control standards and volume control standards need not apply. Major developments will be required to submit a drainage plan to show the site drainage can be adequately dealt with. The proposed drainage scheme should incorporate SuDS unless it can be demonstrated that they would be inappropriate. The drainage system must be designed and constructed so surface water discharged does not adversely impact the water quality of receiving water bodies, both during construction and when operational. New development should seek to improve water quality where possible, as well maintaining and enhancing the biodiversity and habitat of watercourses. For the purpose of this policy, major development includes residential developments comprising 10 or more dwellings and other developments with a floor space of 1,000m^2 or more.	
Policy LS4 - South Tees Spatial Strategy	The South Tees Spatial Strategy includes: • Wilton International • Teesport • South Tees Development Corporation area, as illustrated on the Policies Map (including current and former steelworks Parks at South Tees and Redcar) • South Tees Industrial Estates and Business The Council and its partners will aim to: **Economy** a. delivers significant economic growth and job opportunities through the South Tees Development Corporation and Tees Valley Enterprise Zone at Wilton International and South Bank Wharf;	The elements of the Proposed Development comprising gas and wastewater pipelines and access roads are within the South Tees Development Corporation Area. The Proposed Development would contribute to the decarbonisation of the local economy as it would support the transition to Net Zero through the production of SAF and contribute to encouraging clean and efficient industry through using low-carbon energy. The Proposed Development comprises the construction of a new quay (**Work No. 6**) in STBC, connected to the RCBC elements via the utility corridors, supporting the expansion of the ports and logistics sector in Teesside. **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)** assess the impact of the Proposed Development on ecological receptors and

RCBC Local Plan Policy	Policy Text	Assessment
	b. supports the regeneration of the South Tees Development Corporation area through implementing the South Tees Area Supplementary Planning Document; c. grows the environmental and recycling sector; d. investigates opportunities to create a new energy hub to support the offshore wind and sub-sea engineering sectors; e. supports the expansion and protection of the port and logistics sector; f. improves existing employment areas and provide a range of modern commercial premises that meet contemporary business requirements including the target sectors of the South Tees Area Supplementary Planning Document; g. continue development on general industrial and business estates; h. gives the area an identity and make it attractive to inward investment; i. develops the chemical, technology and energy production industries at Wilton International; j. supports the existing steel industries and take a lead role in supporting the future regeneration of former steel sites as part of the South Tees Development Corporation; k. enhances the quality and range of services and facilities that serve the needs of those working in the South Tees employment area; l. encourages clean and more efficient industry in the South Tees area to help reduce carbon dioxide emissions and risk of environmental pollution; m. support development related to Sirius Minerals' North Yorkshire Polyhalite project; and n. supports the extension of the road network to unlock the development potential of South Tees. **Connectivity** o. improves and maintain access links between South Tees and the strategic road network;	conclude that after proposed mitigation measures have been accounted for, there are no significant adverse effects on ecology. A **Report to Inform Habitat Regulations Assessment (Application Document Ref. 5.11)** has been produced and concludes that that through Appropriate Assessment that, with embedded mitigation measures, the Proposed Development will not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA or Ramsar nor other nearby designated sites, either alone or in combination with other plans or projects. **Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17)** assesses the impact of the Proposed Development as a whole on employment and economic growth. Over the four-year construction period, construction is expected to support approximately 4,460 FTE job-years within Teesside and generate approximately £700 million in total GVA within Teesside. During operation, approximately 310 FTE direct jobs will be created. These benefits relate to the whole Proposed Development, with the principal employment and economic activity associated with the Main Site in STBC. The Main Site is located in the established industrial area of Seal Sands, with direct access via Seaton Carew Road (A178), which links to the A1185, which connects to the trunk road network via the A689 and the A19 north of Billingham. Access and highway improvements are included within the Proposed Development (**Work No. 14**). As set out in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1.4)** in future, CO_2 from the CHP plant and thermal pre-treatment of feedstock may be sent to a Post-Combustion Carbon Capture Unit ('PCCU') and directed via the selected CO_2 export pipeline route (either **Work No. 11B** or **11C**) to the NEP CO_2 Gathering Network pipeline for transport and permanent storage. This would result in the Proposed Development achieving even greater negative carbon emissions and further reducing the carbon intensity of the final SAF Product. Development of a PCCU does not form part of the Proposed Development. Therefore, it is not considered in the ES and would be developed under separate consent at a later date.

RCBC Local Plan Policy	Policy Text	Assessment
	p. support improvements to the strategic and local road networks to support economic growth; q. delivers rail infrastructure improvements to support an increased movement of rail freight; r. investigates the feasibility for providing a new rail halt at Wilton International; s. maintains and improves public transport connectivity with settlements in the borough and beyond; t. supports the extension of the road network to unlock the development potential of South Tees; u. maintains and enhances walking and cycling routes from nearby towns to the South Tees employment areas; v. improve access to, and the quality of, broadband internet; **Environment** w. enhances the environmental quality of employment through well planned boundary treatments; x. secure decontamination and redevelopment of potentially contaminated land; y. protects European sites, and safeguard and improve sites of biodiversity interest particularly along the River Tees and the estuary and encourage integrated habitat creation and management; z. enhances the environmental quality of the River Tees and coastline; aa. safeguard and enhance the significance of buildings, sites, settings and areas of heritage and cultural importance including the 'Dorman Long' tower at South Bank Coke Ovens supporting its adaptation to enable alternative uses; ab. encourages improvements to access, interpretation and wildlife conservation and biodiversity across the area; ac. supports the development of the South Tees District Heating System; and ad. supports the development Carbon Capture and Storage to de-carbonise the local economy.	

<table>
<tr><th>RCBC Local Plan Policy</th><th>Policy Text</th><th>Assessment</th></tr>
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<td>Policy ED6 - Promoting Economic Growth</td>
<td>
Land and buildings within existing industrial estates and business parks, as shown on the Policies Map, will continue to be developed and safeguarded for employment uses.

Specialist uses, such as heavy processing industries and port logistics, will be focused in the following areas, with 405ha of additional land available over the plan period. In these areas proposals falling within Use Classes B1, B2, B8 and suitable employment related sui-generis uses will be supported.

<table>
<tr><th>Ref.</th><th>Site</th><th>Location</th><th>Additional available land (net ha)</th></tr>
<tr><td>ED 6.1</td><td>Wilton International[40]</td><td>South Tees</td><td>221</td></tr>
<tr><td>ED 6.2</td><td>Land at South Tees[41]</td><td>South Tees</td><td>184</td></tr>
<tr><td>ED 6.3</td><td>Skinningrove</td><td>East Cleveland</td><td>0</td></tr>
</table>

General employment uses will be focused in the following sites with 32ha of additional land available over the plan period. Proposals for development within Use Classes B1, B2 and B8 will be supported.

<table>
<tr><th>Ref.</th><th>Site</th><th>Location</th><th>Additional available land (net ha)</th></tr>
<tr><td>ED 6.4</td><td>South Tees Industrial Estates and Business Parks[42]</td><td>South Tees</td><td>3.5</td></tr>
<tr><td>ED 6.5</td><td>Skippers Lane Industrial Estate</td><td>South Tees</td><td>0.8</td></tr>
<tr><td>ED 6.6</td><td>Kirkleatham Business Park</td><td>Redcar</td><td>22.2</td></tr>
</table>
</td>
<td>
The elements of the Proposed Development consisting of gas and wastewater pipelines and access roads are within or adjacent to the Policy ED6 allocated employment areas in South Tees, including the South Tees Development Corporation Area. The Proposed Development is considered to be of a Sui Generis use related to heavy processing industries and therefore is acceptable development within the Policy ED6 area.

Chapter 17: Socioeconomics (ES Volume I, Application Document Ref. 6.1.17) assesses the impact of the Proposed Development as a whole on employment. The primary job creation is associated with the Main Site in STBC. The RCBC elements support the operation of the wider facility and the employment and GVA benefits associated with it.
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</table>

[40] Includes Main Complex and land to the West of A1053.
[41] Includes Teesport Estate, Teesport Commerce Park and land along the River Tees.
[42] Includes South Tees Freight Park, South Tees Imperial Park, Nelson Street Industrial Estate and Bolckow Industrial Estate.

RCBC Local Plan Policy	Policy Text	Assessment

ED 6.7	Warrenby Industrial Estate	Redcar	0.3
ED 6.8	Trunk Road Industrial Estate	Redcar	2.5
ED 6.9	Longbeck Industrial Estate	Marske	0
ED 6.10	North Liverton Industrial Estate	Liverton Mines, East Cleveland	1.9
ED 6.11	Barmet Industrial Estate	Lingdale, East Cleveland	0.8

Proposals at South Tees, South Tees Freight Park and Bolckow Industrial Estate (collectively referred to as the South Tees Development Corporation area) should have regard to the South Tees Area Supplementary Planning Document (SPD). Proposals which positively contribute towards growth and regeneration will be supported.

High tech and knowledge driven development should be focused within the South Tees Development Corporation area, at Kirkleatham

Business Park and Cleveland Gate Business Park, as defined on the Policies Map.

The mixed-use site at Skelton, allocated under Policy REG3, and mixed-use commercial site at Cleveland Gate and Morgan Drive, allocated under Policy ED7, will also contribute towards meeting employment needs over the plan period.

Some of the above employment sites lie adjacent to, or are within, the proximity of protected landscapes and nature conservations sites. Where appropriate, proposals will need to demonstrate that there will be no adverse effects on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar site, or other European designated nature conservation sites either alone or in combination with other plans and

RCBC Local Plan Policy	Policy Text	Assessment
	programmes. Any proposals for development within the Warrenby Industrial Estate adjacent to Coatham Marsh should include a buffer of undeveloped land and a suitable boundary treatment during both construction and operation, such that direct effects on land within and immediately adjacent to the proposed extension to the Teesmouth and Cleveland Coast SPA are avoided. Any necessary mitigation measures must be secured in advance of the development in order to meet the requirements of the Habitat Regulations. Proposals will be encouraged to improve the quality of the environment, signage, security and accessibility of the sites. ***Employment proposals on non-allocated sites*** Proposals for new employment uses outside of allocated employment land or involving buildings already within B1, B2 and B8 uses, will be permitted where it can be demonstrated that they: a. cannot be accommodated on land allocated for employment uses; b. would make a contribution to job creation and diversification of the economy; c. can be provided with appropriate vehicular access, and supports access to sustainable transport connections; and, d. will not result in an adverse impact upon the character and appearance of the surrounding area, or residential amenity. ***Alternative uses of employment land and buildings*** Proposals for alternative uses on the sites listed above, or other buildings in Use-class B1, B2 or B8, will only be acceptable where they: e. would not adversely affect the economic growth and employment opportunities in the area; f. demonstrate that the location of the site is no longer appropriate or viable for alternative employment uses following an active and exhaustive marketing process for a minimum of 12 months; g. would not result in an inappropriate reduction in the supply of land or buildings for employment uses, taking into account the overall amount, range and choice available for the remainder of the plan period and supply of employment land in the future;	

RCBC Local Plan Policy	Policy Text	Assessment
	h. would result in a good standard of amenity for existing and future occupants of land and buildings; and i. would not prejudice the operation of neighbouring properties and businesses.	
Policy N2 - Green Infrastructure	We will aim to protect and enhance the green infrastructure network. Opportunities to incorporate green infrastructure into developments should be sought, in accordance with the Tees Valley Green Infrastructure Strategy. Green infrastructure should be fundamental to the planning of major new development and re-development schemes and should help to integrate development with surrounding townscape and landscape, and with adjoining communities. Green infrastructure should be designed to high standards of quality and sustainability and aim to be multi-functional, link to the wider green infrastructure network, improve visual amenity, enhance community activity, support the provision of priority natural habitats and species, and seek opportunities to improve the water environment. We will protect and support the enhancement, creation and management of our green infrastructure network, to improve its quality, value, multi-functionality and accessibility, particularly in the following locations: a. strategic green infrastructure corridors within the borough and linking to neighbouring areas, in accordance with the Tees Valley Green Infrastructure Strategy; b. strategic gaps, as defined on the Policies Map, between: i. Marske and New Marske; and ii. Marske and Saltburn; Strategic gaps are areas identified to maintain the separate identity and character of individual settlements and to prevent their coalescence. Development within strategic gaps will only be allowed where: i. it would not adversely affect the separate identity and character of settlements or their surrounding landscape; ii. it would not result in visual or physical coalescence of the settlements; and	The Proposed Development within RCBC will not adversely impact the green infrastructure network. The Site does not intersect any strategic green infrastructure corridors, any strategic gaps or any green wedges. The Proposed Development will not result in the loss of any open space. The connection corridors intercept the Strategic Landscape Area along the A1085, as noted in the **Planning Statement (Application Document Ref. 5.2.1)**. However, these works will have minimal long-term landscape impacts (see **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)**). Embedded mitigation measures secured through the **Framework Construction Environmental Management Plan (Appendix 5A, Application Document Ref. 6.3)** and Requirement 4 in Schedule 2 of the **Draft DCO (Application Document Ref. 3.1)**.

RCBC Local Plan Policy	Policy Text	Assessment
	iii. proposals are in accordance with Policy SD3. c. green wedges, as defined on the Policies Map, within the urban and coastal areas: i. the open area between Marske and Redcar; ii. the open area between Wilton Works and Redcar, extending North to the coast; iii. west of A1053, Greystones Road, between Grangetown and Wilton; iv. the Spencer Beck Valley between East Middlesbrough and Eston, and Ormesby and Normanby; and v. the Hambleton Hill area between Nunthorpe and Ormesby. Green wedges are open areas within the main built-up area, but outside of development limits, which provide buffers between different uses and delineate distinct communities; and are valuable for local amenity, recreation and wildlife. Development within green wedges will only be allowed where: i. it would not result in physical or visual coalescence of built-up areas; ii. it would not adversely impact on local character or the separate identity of communities; iii. it would not adversely impact on recreational opportunities; iv. it would not adversely impact on biodiversity; and v. proposals are in accordance with Policy SD3. d. open spaces in accordance with Policy N3; e. heritage assets or green infrastructure which contributes to their setting; f. strategic landscape areas, particularly along key transport corridors, between residential and employment areas and on the edge of settlements; g. public rights of way, and other walking and cycling routes; and h. beck valleys and other watercourses. Where appropriate, and economically viable, the Council will seek developer contributions towards the provision and maintenance of green	

RCBC Local Plan Policy	Policy Text	Assessment
	infrastructure. Where there is a loss of green infrastructure resource a principle of 'net gain' should apply where possible. Proposals affecting open space provision will also be assessed against Policy N3, and heritage assets against Policy HE2.	
Policy N4 - Biodiversity and Geological Conservation	We will protect and enhance the borough's biodiversity and geological resources. Support will be given to high quality schemes that enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation, particularly in or adjacent to, Biodiversity Opportunity Areas in the wider Tees Corridor, Teesmouth, East Cleveland and Middlesbrough Beck Valleys areas. We will protect and preserve local, national and international priority species and habitats and promote their restoration, re-creation and recovery. Biodiversity and geodiversity should be considered at an early stage in the development process, with appropriate protection and enhancement measures incorporated into the design of development proposals, recognising wider ecosystem services and providing net gains wherever possible. Detrimental impacts of development on biodiversity and geodiversity, whether individual or cumulative, should be avoided. Where this is not possible mitigation, or lastly compensation, must be provided as appropriate. Proposals will be considered in accordance with the status of biodiversity and geodiversity sites within the hierarchy. ***Internationally important sites*** Priority will be given to protecting our internationally important sites, including the Teesmouth and Cleveland Coast Special Protection Area/Ramsar and European Marine Site, and the North York Moors Special Protection Area and Special Area of Conservation. Development that is not directly related to the management of the site, but which is likely to have a significant effect on any internationally designated site, irrespective of its location and when considered both alone and in combination with other plans and projects, will be subject to an Appropriate Assessment. Development requiring Appropriate Assessment will only be allowed where: a. it can be determined through Appropriate Assessment at the design stage that, taking into account mitigation, the proposal would not result	The pipeline connection corridors within RCBC cross the Teesmouth and Cleveland Coast SPA and Ramsar site and the Eston Pumping Station Local Wildlife Site (LWS). The potential effects on internationally and locally designated sites are assessed in **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** and **Chapter 11: Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1.11)**. A **Report to Inform the Habitat Regulations Assessment (Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017, which concludes through Appropriate Assessment that, with the application of embedded mitigation measures, the Proposed Development will not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA or Ramsar site, either alone or in combination with other plans or projects. In relation to the Eston Pumping Station LWS, **Chapter 10: Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1.10)** concludes that with after proposed mitigation measures have been implemented the Proposed Development will not result in significant adverse effects on the site. Further detail on the Applicant's 'no net loss' approach is included within the **Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Document Ref. 5.8)**.

RCBC Local Plan Policy	Policy Text	Assessment
	in adverse effects on the site's integrity, either alone or in combination with other plans or projects. Within 6km of the Teesmouth and Cleveland Coast SPA and Ramsar Site, as illustrated on the Policies Map, proposals that would result in a net increase in residential units, or other development that would lead to increased recreational disturbance of the site's interest features, will be expected to contribute towards strategic mitigation measures identified in the Recreation Management Plan. This is to ensure that adverse effects on the site's integrity can be avoided. Any alternative suitable mitigation would need to be proven effective and agreed with the Council, in consultation with relevant statutory consultees or b. as a last resort, Appropriate Assessment proves that there are no alternatives and that the development is of overriding public interest and appropriate compensatory measures are provided. ***Nationally important sites*** Development that is likely to have an adverse impact on nationally important SSSI sites, including broader impacts on the national network and combined effects with other development, will not normally be allowed. Where an adverse effect on the site's notified interest features is likely, an exception will only be made where: c. the benefits of the development, at this site, clearly outweigh both any adverse impact on the features of the site that makes it of special scientific interest, and any broader impacts on the network of SSSIs; d. no reasonable alternatives are available; and e. mitigation, or where necessary compensation, is provided for the impact. ***Locally important sites*** Development that is likely to have an adverse impact on Local Sites (Local Wildlife Sites and Local Geological Sites) or Local Nature Reserves will only be approved where: f. the benefits clearly outweigh any adverse impact on the site; g. no reasonable alternatives are available; and	

RCBC Local Plan Policy	Policy Text	Assessment
	h. mitigation, or where necessary compensation, is provided for the impact. Wildlife corridors and other habitat networks will be protected and enhanced, particularly hedgerows, watercourses and linking habitat features. Opportunities to deculvert watercourses will be encouraged. We will continue to protect our ancient woodland and ancient and veteran trees, including our tree-lined becks. Development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and aged or veteran trees, will only be allowed in very exceptional circumstances where the need for, and benefits of, the development in that location clearly outweigh the loss and the development cannot be located elsewhere.	
Policy TA1 - Transport and New Development	The Council and its partners will ensure that the transport requirements of new development, commensurate to the scale and type of development, are taken into account and seek to promote sustainable travel to minimise environmental impacts and support residents' health and wellbeing. Accessibility will be improved and transport choice widened, by ensuring that all new development is served by sustainable transport modes including public transport, footways and cycle routes. Applicants will need to demonstrate that existing or proposed public transport services can accommodate development proposals, or, where appropriate, demonstrate how public transport improvements will be delivered. Connections will be integrated into existing networks with opportunities to improve connectivity identified. In order to support the Redcar and Cleveland Local Transport Plan (and any relevant successor strategies), proposals will be supported that: a. improve transport choice and encourage travel to work and school by public transport, cycling and walking; b. minimise the distance people need to travel; c. where appropriate, contribute positively to wider demand management measures to address congestion, environmental and safety issues; and d. have regard to the number of cycle and car parking spaces as set out within the Tees Valley Design Guide and Specification for Residential and Industrial Estates.	**Chapter 18: Traffic and Transport (Application Document Ref. 6.1.18)** assesses the impact of the Proposed Development on traffic and transport, including effects on the road network within RCBC arising from construction HGV movements along the connection corridor routes. Cumulative traffic effects are scoped out of this assessment due to a lack of available information available for other nearby developments. The Applicant has submitted a **Transport Assessment (Appendix 18A, Document Ref. 6.3)** which includes a **Framework Construction Workers Travel Plan (Annex C** to **ES Appendix 18A, Document Ref. 6.3)**, as well as a **Framework Construction Traffic Management Plan (ES Appendix 18D**, **Document Ref. 6.3)** with the Application. After impact avoidance measures within these documents are implemented, no significant adverse traffic and transport effects are anticipated. The impact avoidance measures will be secured by Requirements 8 and 9 in Schedule 2 to the **Draft Development Consent Order (Application Document Ref. 3.1)**. The **Transport Assessment** states that around 2,200 workers will be travelling to the Main Site during the peak construction period and assumes as a worst-case scenario that every worker will arrive by car as a driver or passenger. The Proposed Development will provide on-site parking to accommodate construction traffic at the Main Site.

RCBC Local Plan Policy	Policy Text	Assessment
	Future transport provision should take into account traffic forecasts. This should reflect existing demand and take account of other developments as well as trip reductions predicted as a result of the implementation of demand management measures identified in the LTP. The Council will support the preparation and implementation of travel plans, travel assessments and other mechanisms to encourage the use of sustainable transport modes.	

12 Accordance with Tees Valley Joint Minerals and Waste Core Strategy Development Plan Documents

Table 12.1 Accordance with Tees Valley Joint Minerals and Waste Core Strategy Development Plan Documents

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
Core Strategy DPD Policy MWC4: Safeguarding of Minerals Resources from Sterilisation	Within the minerals safeguarding areas, non-minerals development will only be permitted in the following circumstances: a) the development would not sterilise or prejudice the future extraction of the mineral resource because there is evidence that the resource occurs at depth and can be extracted in an alternative way or there is evidence that the resource has been sufficiently depleted by previous extraction; or b) the mineral will be extracted prior to development and this will not significantly adversely affect the timing and viability of the non-minerals development; or c) the need for the non-mineral development can be demonstrated to outweigh the need for the mineral resource.	The Proposed Development is within mineral safeguarding areas for salt, gypsum and marine dredged sand and gravel. However, the need for the Proposed Development outweighs the need for the mineral resource as detailed below and further in section 4 of the **Planning Statement (Application Document Ref. 5.2.1)**. With regards to part a of Policy MWC4, salt and gypsum deposits within bedrock are encountered at significant depth beneath the Proposed Development. The British Geological Society GeoIndex online mapping indicates that both the salt and gypsum deposits cover a significant area along the east coast area of England from Teesmouth to the Humber Estuary. Salt is understood to be mined to the west of Seal Sands by controlled brine pumping within deposits at depths greater than 300m. Cavities of controlled size and shape are created to maintain the stability of the overlying strata. Gypsum is mined using the pillar and stall method, with a 75% extraction rate. The pillar and stall method does not give rise to surface subsidence as the pillars support the overlying strata. Both minerals are present at depth and have historically been worked by mining rather than surface exploitation. The spatial extent, scale and methods of mining these deep resources are such that they afford a wide range of opportunities for extraction, should this be viable in the future. It is not therefore considered that the Proposed Development would have any material impact on the future extraction of these mineral resources. With regards to part c of Policy MWC4, the Proposed Development would be a first of its kind second generation SAF production facility in the UK which would make a substantial contribution towards the fuel supply obligations of the SAF Mandate from 2031 of which there is an increasingly urgent need. Section 4 of the **Planning Statement (Application Document Ref. 5.2.1)** outlines the need for the Proposed Development. The Proposed Development will use sustainably sourced biomass to produce 180million litres of second-generation SAF each year for export. The Proposed Development is scheduled to be operational from 2031 and contribute to that year's SAF Mandate which is estimated to exceed 1.47

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
		billion litres. The HEFA Cap is estimated to be lower than 71% in 2031 which results in a non-HEFA SAF requirement of circa 426 million litres. The Proposed Development would make a substantial contribution to achieving the SAF Mandate, accounting for over 10% of the total requirement and over 40% of the non-HEFA component. Moreover, the Proposed Development would provide domestic supply of advanced SAF which the provisional 2025 data shows does not exist. The alignment of the Proposed Development with the SAF Mandate demonstrates the urgent need for the Proposed Development. The Proposed Development is the only recipient of funding in all three rounds of the Advanced Fuels Fund. This demonstrates the Government's confidence and reinforces the substantial need for the Proposed Development to meet aviation decarbonisation objectives. The established need is consistent with and amplifies that set out in NPS EN-1 and EN-3 which confirms that there is a need for significant amounts of new large-scale energy infrastructure to meet the Government's energy objectives and the need for such infrastructure is urgent. This does not just apply to the SAF production facility but also the biomass and waste wood fired CHP plant which is necessary to minimise the carbon intensity of the SAF. The Proposed Development therefore accords with policy MWC4.
Core Strategy DPD Policy MWC6: Waste Strategy	The sustainable management of waste arisings in the Tees Valley will be delivered through: a) making provision for sufficient annual waste management capacity to allow: i) 40% of household waste from the Tees Valley to be recycled or composted from 2010, rising to 46% from 2016; ii) to recover value from 53% of municipal solid waste from the Tees Valley from 2010, rising to 72% from 2016; and iii) to increase the recovery of value from commercial and industrial waste from the Tees Valley to 73% from 2016; b) promoting facilities and development that drives waste management up the waste hierarchy;	The Proposed Development comprises a CHP plant which will use waste wood as a feedstock to supply energy and steam for the SAF processing plant. The waste wood feedstock will be Grade C waste wood (predominantly coming from construction / demolition sites, household waste recycling centres and bulky waste collections). The Proposed Development will move Grade C waste wood up the waste hierarchy by diverting it from landfill and using it as a fuel source. The Proposed Development is a first-of-a-kind facility and comprises a CHP plant that can be fired with waste wood, therefore it is able to contribute to the sustainable waste management aims in Policy MWC6. The Proposed Development is able to recover value from municipal solid waste and commercial and industrial waste and drives waste up the waste hierarchy through using Grade C waste wood as CHP plant feedstock instead of directing such waste to disposal.

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
	c) the distribution of waste management sites across the Tees Valley so that facilities are well related to the sources of waste arisings, related industries or the markets for any products created; d) safeguarding the necessary infrastructure to enable the sustainable transport of waste, in particular the use of the existing rail and port facilities in the Tees Valley; and e) developing the regional and national role of the Tees Valley for the management of specialist waste streams. In taking forward waste development in the plan area, and particularly along the river corridor and the Tees Estuary, proposals will need to demonstrate that there will be no adverse impact on the integrity of the Teesmouth and Cleveland Coast Special Protection Area and Ramsar site, and other European sites, either alone or in combination with other plans and programmes. Any proposed mitigation measures must meet the requirements of the Habitat Regulations. All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.	The **Environmental Statement (Application Document Ref. 6.1)** presents the impacts from the Proposed Development. After proposed mitigation measures are implemented, no unacceptable significant effects will remain. In relation to the requirement for proposals to demonstrate no adverse impact on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar site, a **Report to Inform the Habitat Regulations Assessment (Application Document Ref. 5.11.1)** has been prepared in accordance with the Conservation of Habitats and Species Regulations 2017. The Appropriate Assessment concludes that, with embedded mitigation measures secured through the **draft DCO (Application Document Ref. 3.1)**, the Proposed Development will not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA or Ramsar site, either alone or in combination with other plans or projects. In relation to compatibility with setting and public amenity, **Chapter 9: Noise and Vibration (ES Volume I, Application Document Ref. 6.1.9)** and **Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1.8)** conclude that no significant effects are predicted at any human receptor during construction, operation or decommissioning. **Chapter 13: Landscape and Visual Amenity (ES Volume I, Application Document Ref. 6.1.13)** concludes that no significant landscape effects are identified, and residual significant visual effects are limited to two recreational viewpoints in the immediate vicinity of the Site. The Proposed Development does not affect any historic or cultural assets, as confirmed by agreement with the Planning Inspectorate to scope heritage out of the **Environmental Statement (Appendix 2B: Scoping Opinion Responses, ES Volume III, Application Document Ref. 6.3)**.
Core Strategy DPD Policy MWC7: Waste Management Requirements	Land will be provided for the development of waste management facilities to meet the identified requirements of the Tees Valley, as follows: a) for the composting of at least 16,000 tonnes of municipal solid waste per year from 2010, rising to at least 24,000 tonnes per year in 2016 and 31,000 tonnes per year by 2021; b) for the recovery of value from at least 103,000 tonnes of municipal solid waste and commercial and industrial waste per year from 2010, falling to 83,000 tonnes per year by 2021;	The Proposed Development comprises a CHP plant which will use waste wood as feedstock to supply energy and steam for the SAF processing plant. The waste wood feedstock will be Grade C waste wood (predominantly coming from construction / demolition sites, household waste recycling centres and bulky waste collections). The Proposed Development would be the only facility in the UK capable of converting waste wood feedstock into advanced SAF at this scale, and its location within Teesside is justified by the co-location with the

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
	c) for the recycling of at least 700,000 tonnes of construction and demolition waste per year from 2016, rising to 791,000 tonnes per year by 2021; and d) to provide additional treatment and management facilities to reduce the amount of hazardous waste that is sent for landfill or disposal each year from the 2007 level of around 130,000 tonnes. Land for one household waste recycling centre within the south of Stockton-on-Tees Borough, and one household waste recycling centre in the South Tees area will be provided to address a spatial imbalance of service provision. Proposals for facilities to meet capacity to deal with waste imported from outside the Tees Valley must be supported by evidence of the need for these facilities and justification for their location within the Tees Valley.	NEP CO_2 Gathering Network, the availability of suitable industrial land at Seal Sands, and access to the River Tees for feedstock import. The Proposed Development is therefore consistent with Policy MWC7(e) in developing the regional and national role of the Tees Valley for the management of specialist waste streams.
Cores Strategy DPD Policy MWC8: General locations for Waste Management Sites	General Locations for Waste Management Sites Sustainable waste management will be delivered through a combination of large sites, which include clusters of waste management and processing facilities, and small sites for individual waste facilities. Allocations and proposals for large waste management facilities should be located in the following general areas: a) to the south of the River Tees - the land located around Teesport, Smiths Dock Road and the eastern end of Dockside Road (Middlesbrough and Redcar and Cleveland); b) to the north of the River Tees - the land located around the Graythorp and Haverton Hill Road areas (Hartlepool and Stockton-on-Tees); and c) to the north of the River Tees - the land located around the Port Clarence, Cowpen Marsh and Seal Sands areas (Hartlepool and Stockton-on-Tees). In determining the suitability of a site within these areas, consideration will be given to the potential impact on the protected European species associated with the Teesmouth and Cleveland Coast Special Protection Area and Ramsar Site and any functional land required to support them. Where likely adverse impacts are identified, avoidance or appropriate mitigation measures may be required.	The Main Site is located in the Seal Sands area, to the north of the River Tees, which is one of the general locations for large waste management facilities identified in Policy MWC8(c). In relation to the requirement to consider potential impacts on the Teesmouth and Cleveland Coast SPA and Ramsar site, the Report to Inform the **Habitat Regulations Assessment (Application Document Ref. 5.11.1)** confirms that adverse effects on the integrity of the SPA and Ramsar site can be avoided with the mitigation measures embedded in the design and secured through the **Draft DCO (Application Document Ref. 3.1)**. In relation to flood risk, **the Flood Risk Assessment (Application Document Ref. 5.7)** demonstrates that the Proposed Development will remain safe and operational throughout its lifetime and will not increase flood risk elsewhere.

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
	Allocations and proposals will be directed away from areas at risk of flooding. In considering sites, the approach set out in Planning Policy Statement 25 will be applied. Small waste management sites and any landfill sites required will be provided throughout the plan area and be well-related to the source of waste arisings, or the markets for any materials produced.	
Core Strategy DPD Policy MWC10: Sustainable Transport	Proposals for minerals and waste development should prioritise the use of non-road based transport for the movement of minerals and waste resources. Proposals for minerals and waste development should be designed and located in order to: a) allow easy access to the development by means of walking, cycling and public transport for employees, and if relevant users, of the facilities; and b) minimise the need to travel by road, and reduce the length of those road journeys which are created. Where transportation cannot be provided by non-road means, evidence must be provided that the proposed traffic movements can be accommodated on the strategic road network and that the site can be accessed in a safe manner.	The main potential impact of the Proposed Development on transport will be during the construction stage. The assessment of traffic and transport in the **Chapter 17: Traffic and Transport (ES Volume I, Application Document Ref. 6.1.18)** is based on a worst-case scenario (all transport by road, apart from AILs and major process modules where this would not be physically feasible) but demonstrates traffic and transport effects during construction will be acceptable and will not adversely impact on the highway network. The transport effects during operation would be limited. In practice, the construction of the Proposed Development will utilise the proposed quay for the delivery of construction materials, including AILs. The Applicant has submitted a **Transport Assessment (Appendix 18A, Document Ref. 6.3)** which includes a **Framework Construction Workers Travel Plan** (**Annex C** to **ES Appendix 18A, Document Ref. 6.3**), as well as a **Framework Construction Traffic Management Plan (ES Appendix 18D, ES Volume III, Application Document Ref. 6.3)** with the Application. These framework plans include measures to ensure sustainable transport modes are prioritised, and the need to travel by road is minimised. The Proposed Development has been designed to prioritise non-road transport for the import of feedstock during operation. Biomass feedstock is envisaged to be imported to the Main Site by ship via the new quay on the River Tees (**Work No. 6**), Waste wood feedstock will be delivered to the Main Site by road or by ship offloaded at the quay. This will significantly reduce the volume of HGV movements that would otherwise be required and directly satisfying the policy objective of prioritising non-road transport for the movement of waste resources.

13 Accordance with Tees Valley Joint Minerals and Waste Policies and Sites Development Plan Documents

Table 13.1 Accordance with Tees Valley Joint Minerals and Waste Policies and Sites Development Plan Documents

Tees Valley Minerals and Waste DPD Policy	Policy Text	Assessment
Policies and Sites DPD Policy MWP1: Waste Audits	A waste audit will be required for all major development proposals. The audit should identify the amount and type of waste which is expected to be produced by the development, both during the construction phase and once it is in use. The audit should set out how this waste will be minimised and where it will be managed, in order to meet the strategic objective of driving waste management up the waste hierarchy. Waste audits should consider the following management options in their recommendations: a) Residential Developments Sufficient storage space should be provided, both internally and externally, for household waste disposal, recycling and composting bins, ensuring that appropriate access is provided to move these bins from their storage positions to their collection points. Adequate access and turning facilities must be provided for refuse collection vehicles. b) Retail, Employment and Industrial Development Sufficient space should be provided, for either individual organisations or groups of organisations located close together, to separate and store their waste so it is ready for collection. For proposals involving groups of buildings or developments, such as industrial estates, business parks or retail parks, consideration should also be given to on-site waste processing or treatment facilities of a suitable scale. Appropriate access should be provided for the collection of materials.	**Chapter 16: Materials and Waste (ES Volume I, Application Document Ref. 6.1.16)** outlines how the Proposed Development will utilise construction materials and waste. **Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5),** which is secured through Requirement 4 of Schedule 2 in the **Draft DCO (Document Ref; 3.1)**, sets out how waste will be minimised and where it will be managed, in order to meet the strategic objective of driving waste management up the waste hierarchy. The Proposed Development will adopt Designing out Waste principles, listed in 2.3.3 of **Appendix 5B: Framework Site Waste Management Plan (ES Volume III, Application Document Ref. 6.3.5)**. Materials will be used efficiently to reduce quantity of materials sent to landfill and good practice and sustainable procurement will be implemented. The Proposed Development's design will, where possible, include use of sustainable materials to construct the plant and facilitate recycling of materials following decommissioning. A large proportion of the Proposed Development will be of modular construction which will reduce material consumption and waste. It is estimated that in a worst-case scenario that 90% of construction waste will be diverted from landfill via re-use, recycling and recovery. The Proposed Development's design will take into consideration the waste hierarchy to reduce waste arisings via designing out waste and maximising efficient use of materials.

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