



ENVIRONMENTAL STATEMENT – VOLUME 4 – NON-TECHNICAL SUMMARY

Drax Bioenergy with Carbon Capture and Storage

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

Document Reference Number: 6.4

Applicant: Drax Power Limited

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1. INTRODUCTION

The Applicant owns and manages the Existing Drax Power Station in Selby, North Yorkshire, which has been generating electricity since 1974. The Applicant proposes to install Bioenergy with Carbon Capture and Storage (BECCS) infrastructure on up to two of the existing biomass power generating units at the Existing Drax Power Station. This is considered a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008 (as amended) and therefore the Applicant is applying for a Development Consent Order (DCO) to enable the technology to be installed.

As part of the DCO application the findings of the Environmental Impact Assessment (EIA) are presented in an Environmental Statement to enable the community and other stakeholders to understand the likely significant environmental effects for the BECCS facilities. Where significant adverse effects are likely, measures to avoid, reduce or manage those effects where practicable are presented.

This Non-Technical Summary (NTS) presents a summary of the environmental assessment undertaken to date, as set out in the more technically detailed **Environmental Statement (ES)** (document reference 6.1).

This NTS provides a simplified description of the Proposed Scheme and the ES in non-technical language to ensure that the outcomes of the EIA are clearly communicated and understood by the general public, stakeholders and decision makers.

Table 1.1 provides a summary to help the reader navigate each of the sections of this NTS.

Table 1.1 - Structure of this NTS

Chapter	What is Included
1 Introduction	Provides an overview of the ES NTS and the Proposed Scheme.
2 Scheme Description	Describes the land which the Proposed Scheme is located on ("the Site"), what is proposed to be built, and information around the construction, operation and decommissioning phases.
3 Alternatives	Discusses the alternatives that have been considered in the context of the Proposed Scheme.
4 Approach to EIA	Explains how the Environmental Impact Assessment has been undertaken and how it has been informed by consultation and stakeholder engagement.

Chapter	What is Included
5 Environmental Effects	Provides an overview of the assessment for each of the environmental topics and details the effects that have been identified and measures suggested to avoid or reduce these.
6 The DCO Application Documents	Explains where this document sits in relation to the rest of the ES and how the ES can be viewed.
7 What Happens Next?	Sets out the next steps in the DCO Application process.

1.1. THE CONSENTING PROCESS

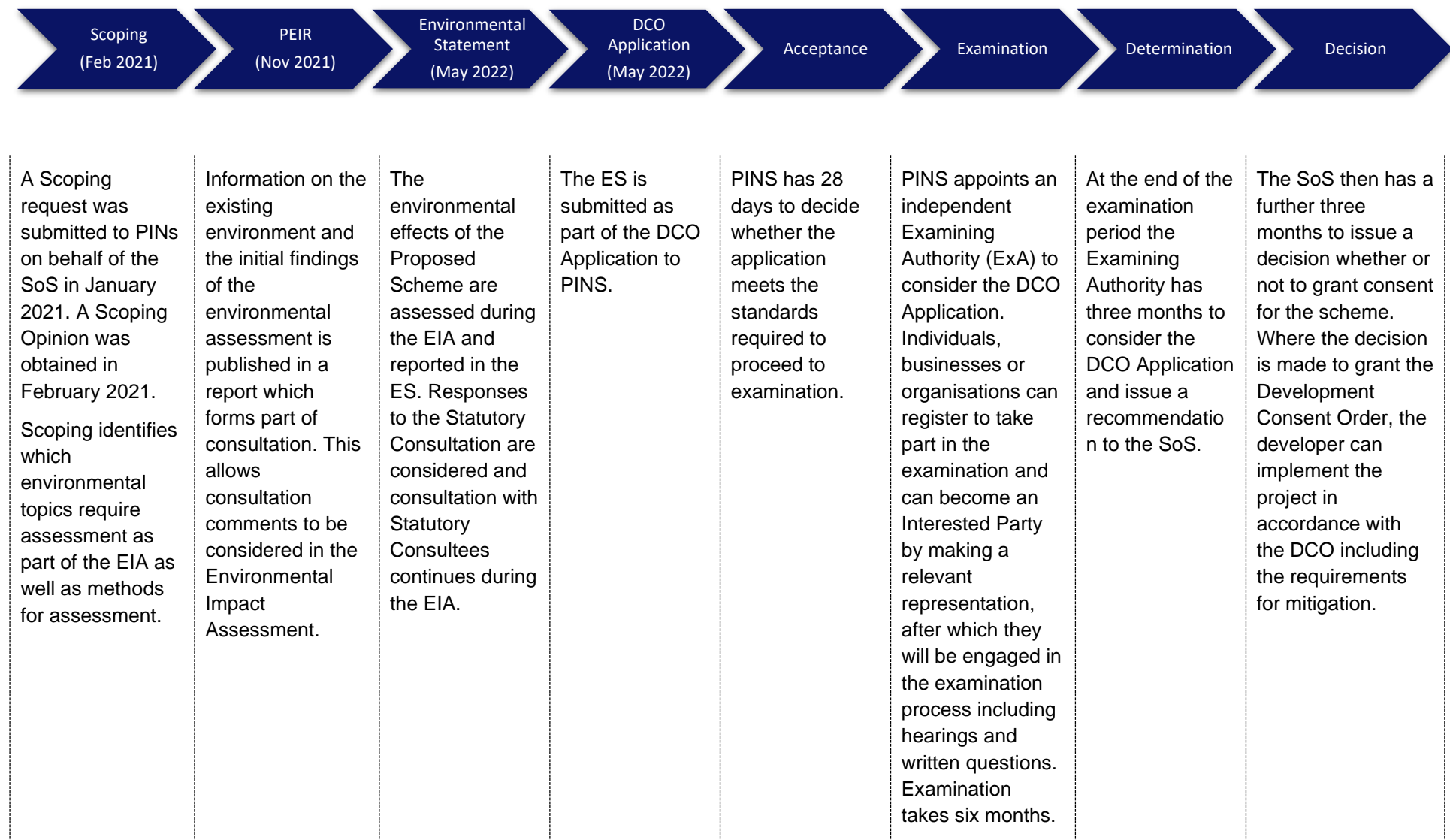
Because of the nature and scale of the Proposed Scheme, it is what is called “EIA Development” and an EIA must therefore be undertaken in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, (the ‘EIA Regulations’). A Scoping Opinion which determined the topics to be addressed in detail within the EIA, was obtained in February 2021 from the Planning Inspectorate (PINS) on behalf of the Secretary of State (SoS) for Business, Energy and Industrial Strategy (BEIS). Responses to the Scoping Opinion can be found in the **Scoping Opinion Tracker** (document reference 6.3.4.2)

Public and stakeholder feedback is an essential component of the EIA process. Therefore, a Preliminary Environmental Impact Report (PEIR) was developed in October 2021 to present the preliminary findings of this consultation, including baseline data and an evaluation of potential significant effects of the Proposed Scheme. The **Consultation Report** (document reference 5.2) sets out the Applicant’s responses provided to any questions raised on the PEIR.

Following feedback received from this consultation and ongoing assessment work, the EIA has now been completed and is reported in the **ES** (document reference 6.1) and supporting reports. The ES aims to identify the likely environmental effects of the Proposed Scheme, both positive (beneficial) and negative (adverse). Where significant adverse effects are likely, measures to avoid, reduce or manage those effects where practicable are presented.

This document forms part of the formal submission of the ES to PINS as part of the DCO Application. **Plate 1.1** below provides a flowchart showing the consenting process for NSIPs, with additional detail to show the progress of the proposed BECCS DCO Application to date.

Plate 1.1 - Consenting process for NSIPs



2. SCHEME DESCRIPTION

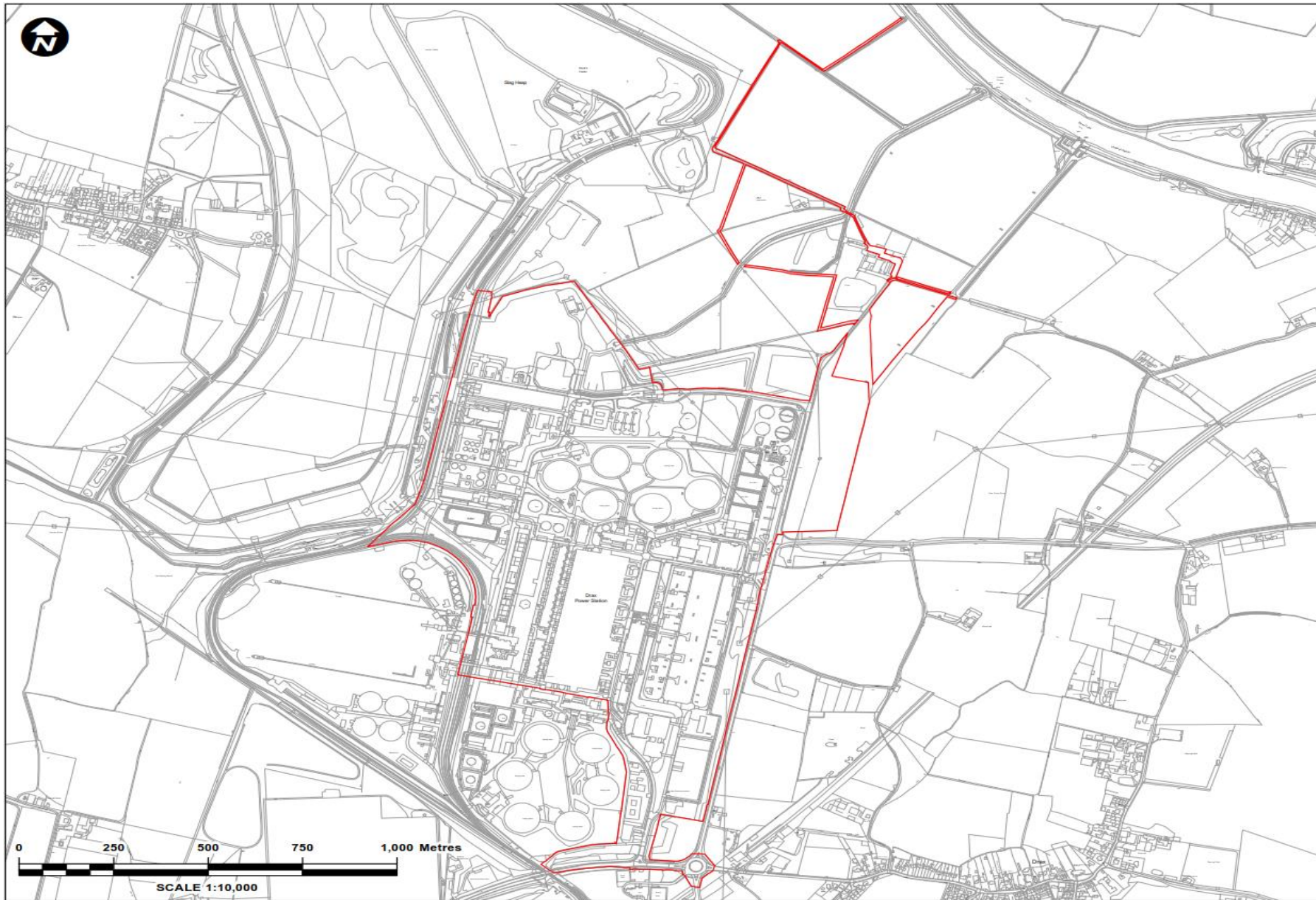
2.1. SITE DESCRIPTION

The Site refers to the land where the Proposed Scheme will be located, and the boundary of this area is referred to as the “Order Limits” as shown by the red line on **Plate 2.1** below. The construction of the Proposed Scheme will require some areas of land temporarily for storage of materials and vehicles, these are termed ‘Construction Laydown Areas’. The Site is approximately 125 ha and is split into the following areas:

- Drax Power Station Site – the land occupied by the Drax Power Station. The BECCS Plant and Drax Power Station Site Construction Laydown Areas (these are parcels of land within the Drax Power Station Site which would be used for construction laydown) will be located here;
- East Construction Laydown Area – the land situated to the east of the Drax Power Station across New Road that is required temporarily during construction. It is currently arable land which will be reinstated post-construction;
- Habitat Provision Area – areas within the Order Limits identified for environmental mitigation. These areas are located to the north and north east of the Drax Power Station and are currently arable in nature; and
- Surrounding road network – included to allow for any road modification works relating to the delivery of abnormal indivisible loads (AILs) along the A645.

Together these land areas are referred to as the “Site”.

Plate 2.1 - Order Limits



OFF-SITE HABITAT PROVISION AREA

In addition to these areas, some land outside the Order Limits has been identified to provide ecological mitigation and to help achieve a target of 10% Biodiversity Net Gain (BNG). This area of land is referred to as the “Off-Site Habitat Provision Area” and does not form part of the Site. The delivery of the ecological mitigation and BNG on this land will be secured outside of the DCO, via a legal agreement with the local planning authority, called a section 106 agreement. The Off-Site Habitat Provision Area for BECCS is made up of marshy grassland, arable farmland, waterbodies, ditches and woodland. BNG is an approach to development that aims to leave the natural environment in a better state than it was when development started.

DRAX POWER STATION

The Existing Drax Power Station is characterised by a number of large structures, including the main generating station buildings which house the four biomass units and two coal units, a main emissions stack of 259 m in height, 12 cooling towers each of 116.5 m in height (six to the north and six to the south), offices, storage buildings and ash handling facilities, as well as overhead electricity cables and rail infrastructure.

Plate 2.2 - Existing Drax Power Station



The Power Station has been using compressed wood pellets (a form of biomass) since 2003, when it began research and development work co-firing it with coal, fully converting its first full generating unit to run only on compressed wood pellets in 2013. All coal supplies to Drax Power Station ended in 2021. The two remaining coal generating power units will cease operations entirely before works to construct the Proposed Scheme begin. Some of this area will be where the proposed BECCS infrastructure will be installed.

THE SURROUNDING AREA

Drax Power Station is surrounded by the villages of Drax, approximately 700 m to the south east, Long Drax approximately 1.3 km north east, Hemingbrough approximately 1.2 km north and Camblesforth approximately 1.5 km south west.

Larger towns in the vicinity of the Drax Power Station are Selby approximately 6 km north west and Goole approximately 8 km south east of the Drax Power Station Site.

The surrounding area supports farmland and industrial development. Nearby is the Drax Skylark Centre and Nature Reserve, which supports nature trails and picnic areas. The actual nature reserve is on Barlow Mound, a site where un-recycled waste products from the power station were sent. The area has been reclaimed and transformed into a nature reserve which now supports a variety of species. It is open to the public and is used by schools to help children to learn about nature. These constraints are shown in **Plate 2.3**.

The River Ouse lies adjacent to the Site, which further downstream forms part of the Humber Estuary Ramsar Site, Special Conservation Area (SAC), Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). The River Derwent is the closest SAC located north of the Power Station.

Plate 2.3 - Aerial Photo of the Area Surrounding the Existing Drax Power Station (Google, 2021)



2.2. PROJECT DESCRIPTION – THE PROPOSED SCHEME

The Proposed Scheme will involve the installation of technology which is designed to remove carbon dioxide from the flue gas produced from the electricity generating process. The technology will be fitted to Units 1 and 2 of Drax Power Station, these Units are fired on biomass. It is designed to remove approximately 95% of the carbon dioxide from the flue gas that is currently emitted from these existing Units.

The carbon dioxide captured will undergo processing and compression before being transported via a proposed new pipeline for storage under the southern North Sea where it will be injected into geological formations below the seabed. The transport and storage infrastructure will be developed as a separate project by National Grid Carbon Limited.

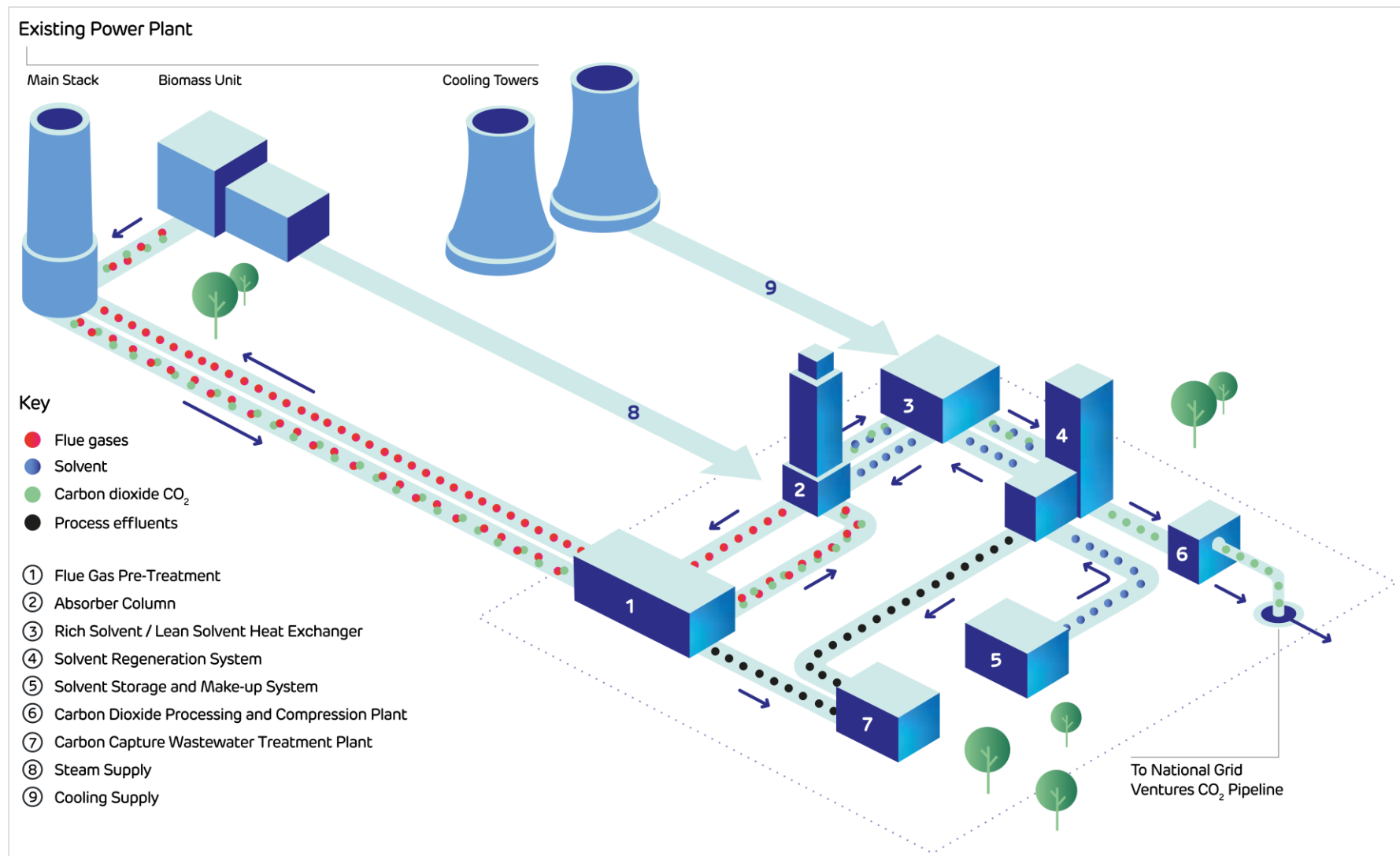
To support the above processes, the Proposed Scheme is made up of the following components:

- Up to two Carbon Capture Plants (one associated with Unit 1 and one associated with Unit 2), each made up of:
 - ~ Flue gas pre-treatment section;
 - ~ One Absorber Column;
 - ~ Solvent Regeneration System; and
 - ~ Solvent Heat Exchangers.
- Additional Common Plant infrastructure and modification works to the Drax Power Station that are required to support and integrate with one or both Carbon Capture Plants including:
 - ~ Solvent Storage and Make-up System;
 - ~ Carbon Capture Wastewater Treatment Plant;
 - ~ Carbon Dioxide Processing and Compression Plant;
 - ~ Modification to the existing water pre-treatment plant;
 - ~ Modification, upgrade and extension of the existing cooling system and distribution of cooling water to the Proposed Scheme;
 - ~ Modifications to existing electrostatic precipitators;
 - ~ Modifications, upgrade and extension to existing power generating units, boilers and turbines for steam extraction and new steam processing infrastructure for distribution of process steam and electricity supply to the Proposed Scheme; and
 - ~ Integral electrical connections within the existing generating station and Carbon Capture Plant including upgrades to the existing electrical infrastructure and new electrical infrastructure for the secondary electrical supply to the Proposed Scheme.
- Infrastructure to transport compressed carbon dioxide to storage and transport infrastructure operated by National Grid Carbon Limited;
- Minor vegetation and street furniture management and other works to facilitate access during construction;
- Additional supporting infrastructure;
- Temporary construction laydown areas; and
- Habitat Provision Area.

Core items of the existing infrastructure at the Drax Power Station would be utilised by installing and integrating the Carbon Capture Plant onto existing infrastructure including existing power generating units for extraction of steam, re-using the cooling water systems, water treatment plan and wastewater treatment plant, compression plant, a solvent system, the Main Stack and electrical connections.

All of the Carbon Capture infrastructure elements described above are shown in **Plate 2.4** below. The **BECCS 3D Model Flyover Video** (document reference 7.2) also visually illustrates the Proposed Scheme.

Plate 2.4 - Carbon Capture Infrastructure



The process for a single unit would take place as follows:

1. A flue gas pre-treatment section will remove pollutants from the gas which is emitted from the biomass unit as part of the energy generation process before the carbon dioxide is extracted;
2. An Absorber Column will then extract the carbon dioxide from the flue gas using an amine solvent;
3. Solvent heat exchangers will heat the carbon dioxide-rich solvent prior to separation whilst cooling the carbon dioxide-lean solvent in preparation for another capture cycle in the Absorber Column;
4. A Solvent Regeneration System will separate the carbon dioxide from the amine solvent through the addition of heat in the form of steam;
5. The Solvent Storage and Make-up System ensures that the amine solvent remains in a good condition and continues to be available for the process by topping up any degraded quantities with new solvent;
6. Carbon dioxide is then transferred to a processing and compression plant where the carbon dioxide is processed for transport by pipeline for storage in safe underground deposits;
7. A Carbon Capture Wastewater Treatment Plant treats the used process water to recover all wastewater effluents;
8. Steam is required for several of the Carbon Capture processes, the infrastructure will therefore include steam extraction from the existing biomass units as well as new steam processing infrastructure; and
9. Cooling is also required for several of the Carbon Capture processes. Cooling water will be provided using the existing northern cooling towers, following modification works to the existing cooling water pumps and reconfiguration of the cooling water discharge manifold.

For further information on the above, refer to **Chapter 2 (Site and Project Description)** of the ES (document reference 6.1.2).

HABITAT PROVISION AREA

Land has been identified to the north and north-east of the Drax Power Station Site for environmental mitigation (the Habitat Provision Area). No new infrastructure is proposed in these areas and the existing productive agricultural land will not be affected. The Habitat Provision Area includes mitigation for biodiversity and landscape and visual effects, as explained further in **Table 3.1** below.

Table 2.1 – Habitat Provision by Sensitive Receptor

Sensitive Receptor	Habitat provided
Bats	Woodland, hedgerows and ponds
Otters	Ditches and watercourses

Sensitive Receptor	Habitat provided
Water vole	Waterbodies, ditches and grasslands
Birds	Hedgerows
Reptiles	Grassland, ponds and woodland

The Habitat Provision Area is likely to become more suitable for species as grassland, scrub and woodland develop over time. Details of the environmental mitigation and compensation to be provided within the Habitat Provision Area, including the creation and enhancement of habitats, have been developed alongside the assessments of landscape and visual and biodiversity impacts, including a Biodiversity Net Gain assessment.

OFF-SITE HABITAT PROVISION AREA

Land has been identified to the west of the Drax Power Station Site, which sits outside of the Order Limits, for further ecological mitigation, compensation and enhancement. This aspect is being dealt with through a s106 agreement. The area will include woodland enhancement, habitat enhancement and hedgerow creation.

PRIMARY DESIGN MITIGATION

A number of mitigation measures have been integrated into the design of the Proposed Scheme to mitigate environmental impacts. These measures include a colour palette for exterior buildings and structures, the incorporation of the Habitat Provision Area and Off-site Habitat Provision Area and design measures to mitigate noise impacts. An exhaustive list of primary design mitigation measures is provided in **Chapter 2 (Site and Project Description)**.

2.3. CONSTRUCTION

The construction activities are likely to include site preparation works, installation of pipework, piling and creating foundations, the use of cranes for lifting heavy parts of the Carbon Capture Plant, delivery of materials and removal of waste, and the installation of the Carbon Capture Plant and supporting infrastructure.

The installation of the Carbon Capture Plant and supporting infrastructure would include:

- Temporary and permanent supports;
- Heat exchangers and the connecting elements;
- Supporting columns;
- Chemical storage areas;
- Power turbines;

- Wastewater treatment plant;
- Carbon dioxide compression;
- Sedimentation and water tanks;
- Pipes; and
- Switchrooms.

There are two possible programmes that are being considered for construction:

- Option 1: The Carbon Capture Plant for Unit 2 and the supporting infrastructure to be constructed first, with the Carbon Capture Plant for Unit 1 to be built afterwards.
- Option 2: The Carbon Capture Plant for Unit 1 and Unit 2 and the supporting infrastructure to be constructed at the same time.

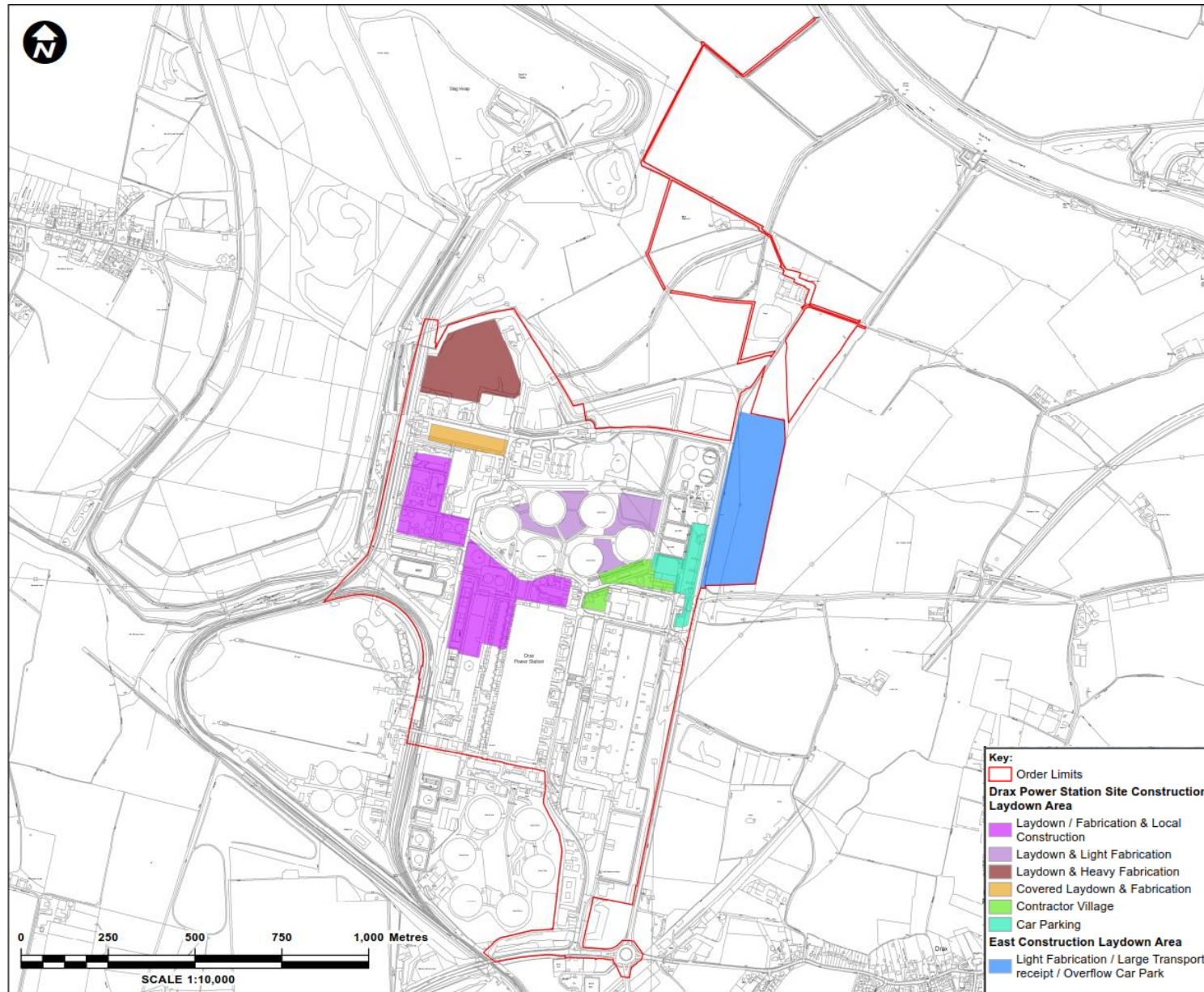
For both options, construction is expected to start in early 2024 and the first Unit would be operational by the end of 2027, with the second unit operational by the end of 2029. It is anticipated that up to 1,000 workers could be required during the peak construction period.

CONSTRUCTION LAYDOWN AREAS

A construction laydown area is land which will be required temporarily, for the construction phase of the Proposed Scheme. These areas are shown on **Plate 2.5 below**.

More specifically, the East Construction Laydown Area will be used to store plant, equipment and materials, small on-site construction works, topsoil from the area and as an overflow car park during construction. The Drax Power Station Site Construction Laydown Areas will be used for car parking, the contractor village (for offices and welfare facilities), material storage and on-site construction. Due to the temporary requirement for these areas of land, both laydown areas, with the exception of the Woodyard, will be reinstated to their previous use following completion of construction.

Plate 2.5 - Construction Laydown Areas



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LIGHTING

Temporary lighting during the hours of darkness is needed to enable safe construction and for security purposes. Lighting will be required within the Drax Power Station Site and the East Construction Laydown Area only. Directional lighting will be used to avoid light spill and to minimise nuisance to sensitive receptors.

WORKING HOURS

During the construction phases, working hours are planned to be Mondays to Friday 07:00 to 19:00 and on Saturdays, working hours will be 07:00 and 14:30. Start-up and shutdown activities would take place on the Drax Power Station Site during a one-hour window either side of these hours. Activities may also be required outside these core hours as a result of emergency conditions. No construction work would take place on Sundays.

Any noisy activities required outside working hours, including on bank holidays, will be agreed in advance with the local planning authority (LPA). There may be some quiet activities that can be carried out outside working hours, for example within buildings or buildings constructed as part of the authorised development.

TRANSPORT

Construction materials will be transported by the road network, with heavy goods vehicles routing from J36 of the M62. The construction works will also include delivery of up to 15 AILs, this does not include transformers. It is anticipated that AILs will be delivered to the Port of Goole (Boothferry Terminal) where they would then be transported by road to the Site.

2.4. OPERATION AND MAINTENANCE

Following construction, the Proposed Scheme for Unit 2 is expected to be running by 2027 and the Proposed Scheme for Unit 1 by 2029. These dates are the same for both of the programmes shown above.

The Proposed Scheme will require maintenance. Major maintenance would be undertaken in line with inspection requirements.

During operation the Proposed Scheme will require chemical deliveries and removal of waste effluent. These activities are already undertaken for the Existing Drax Power Station. Lighting arrangements are already in place at the Existing Drax Power Station and therefore any new lighting will be of the same standard.

The Proposed Scheme would operate 24 hours per day, seven days per week with planned and unplanned periods of maintenance. A workforce of 50 full time staff for all operation and maintenance activities is expected.

2.5. DECOMMISSIONING

The Proposed Scheme is anticipated to operate for at least 25 years. At the end of the 25-year period, the facility may have some residual life remaining and at this

point an investment decision would be made as to whether the operational life could be extended. If it is not appropriate to continue operation, the Proposed Scheme would be decommissioned, and it is expected that all above ground plant structures would be removed.

3. ALTERNATIVES

The EIA Regulations 2017 include a requirement for an Environmental Statement (ES) to include a description of the reasonable alternatives that have been considered to the Proposed Scheme and to provide the main reasons for choosing the proposed option, taking into account environmental effects.

The Proposed Scheme has gone through several reviews and evolution in its design. A summary of the key findings for the alternatives which were considered is provided in **Table 4.1** below.

Table 3.1 - Key Findings of Alternatives for BECCS

Alternatives	Explanation
Do nothing scenario	This would involve biomass units 1 to 4 continuing their current operation to generate electricity from sustainable biomass without the addition of post combustion Carbon Capture technology which would therefore not produce net negative emissions. In the “do nothing” scenario the Applicant would not be able to contribute to the shift to a net zero society in the UK.
Alternative Development Sites	The Proposed Scheme involves installing technology to capture carbon from the existing biomass generating units. As such, carrying out this operation away from the Drax Power Station Site was not considered viable as this would involve additional land take and additional infrastructure which would result in greater environmental effects, and it would be much more difficult to operate and maintain.
Alternative BECCS Plant Layouts	Two options were considered for the layout for the BECCS plant. These were the “northern solution” and the “southern solution”. The “southern solution” is at the south end of the site and would require / involve disruption to the operation of the power station, more infrastructure and space to connect to the Proposed Scheme and would not be able to use existing infrastructure. The “northern solution” does not affect the operation of the other parts of the power station, allows the reuse of existing infrastructure and minimises new infrastructure needed. The northern solution was therefore taken forward.
Alternative Land Requirements	A number of refinements have been made during the environmental impact assessment to reduce impacts to land required for the Proposed Scheme. This included making the East Construction Laydown Area smaller, removing areas

Alternatives	Explanation
	within Drax Power Station Site and removing the proposed Jetty works. This enables the reuse of existing infrastructure, removal of areas that have ecological value and making the area within the Habitat Provision Area smaller in order to reduce impacts to farming practices, the East Construction Laydown Area and the Drax Power Station Site. The areas have been removed to reduce impacts on habitats, the River Ouse and public rights of way (PRoW) and to remove areas no longer needed.
Alternative Technologies	Several alternative technologies have been considered for the Proposed Scheme include the solvent type, steam source, cooling options and carbon dioxide compression. Options have been selected on the basis of the outcome of feasibility studies, the reliability and efficiencies of certain technologies and their reduced environmental impacts.
Alternative Construction Transport Routes	Following consultation with East Riding of Yorkshire and National Highways and assessment work the transport of AILs and construction materials by road from the Port of Goole was selected ('the Road Option') instead of the alternative use of the Drax Jetty ('the Water Option'), which would have resulted in greater environmental impacts and higher costs. Furthermore, the use of the existing Drax railway was discounted based on the size the AILs which makes them unsuitable to transport by rail and because the line often already operates at full capacity for the delivery of biomass.

4. APPROACH TO EIA

The over-arching objective of the EIA process is to assess the impacts of the Proposed Scheme on the environment, categorise the effects and identify mitigation and monitoring measures to avoid and / or reduce those effects where possible.

The key steps of the EIA process followed by the Applicant are presented below:

- **Scoping:** An EIA Scoping Report was submitted to PINS on 15 January 2021. An EIA Scoping Opinion was received from PINS on 26 February 2021;
- **Preliminary Environmental Information Report ('PEIR'):** The PEIR was produced to inform public consultation which took place between 1 November and 12 December 2021. The PEIR was intended to assist consultees (both specialist and non-specialist) to understand the likely environmental effects of the Proposed Scheme and to inform their consultation responses on the Proposed Scheme during the pre-application stage. It included a preliminary assessment of the environmental impacts of the Proposed Scheme based on the design and other information available at the time; and
- **Preparation of the ES and Submission of the Application:** Detailed assessment of the likely significant effects and mitigation measures for the Proposed Development are reported in the ES. The ES is formally submitted as part of the Application (this is the current stage of the EIA process).

4.1. EIA METHODOLOGY

STUDY AREA

The assessment of each topic is carried out for a 'study area' and will usually be different for each topic. The study area is based on the geographical scope of the potential effects of that topic, and its interactions with other topics, as appropriate. The study area is also informed by topic specific guidance and consultation with stakeholders.

BASELINE

In order to make an assessment of the likely significant environmental effects, information on the existing (baseline) environment along with how the environment might look in years to come without the Proposed Scheme being built (future baseline) is required. The assessment then looks at the differences in how the environment will be without the Proposed Scheme compared to the environment with the Proposed Scheme in place. For Drax operations, the baseline considered for the assessment includes four Drax units running on biomass.

To inform the baseline, specialists have collated information in relation to their topic from, for example, existing studies and on-line information, and conducted surveys, such as ecology walkover surveys or species surveys.

Assessment of Environmental Effects

The environmental assessment considers all relevant topics or ‘aspects’ that may be impacted. These aspects were agreed with the Planning Inspectorate and other stakeholders through the Scoping Process.

A summary of the findings for each topic is provided in **Section 5** of this NTS. Further detail of the findings are presented in separate chapters of the **ES (Chapters 5 to 18)**.

The impacts from construction, operation and decommissioning of the Proposed Scheme have been assessed.

The design life of the Proposed Scheme is 25 years, although if the facility has some residual life at this point a decision would be made as to whether this would be extended. As a result, it is difficult to predict the potential decommissioning impacts of the Proposed Scheme due to, for example, likely technological advancements and climate change. For the purposes of the EIA, decommissioning impacts are anticipated to be no worse than those associated with the construction phase following the implementation of a Decommissioning Environmental Management Plan, which will be required for the works.

The design of the Proposed Scheme has been developed and updated regularly in response to, for example, the environmental assessment work completed and consultation responses from stakeholders and the public.

The method for assessing the significance of effects varies between topics but considers how something might change from the baseline conditions as a result of the Proposed Scheme. This will include consideration of how sensitive that environmental component is to change, but also the duration of the effect and whether it is reversible.

Likely Significant Effects

When assessing environmental effects, we consider how significant that change might be and how sensitive, or how important, the environment is, in combination with the scale or magnitude of the potential impact (how big it is). The significance of effect is usually described as either neutral, slight, moderate, large or very large. Moderate, large or very large effects are usually considered “significant” in the topic chapters.

The assessment also considers whether those effects are direct or indirect; short, medium or long-term; permanent or temporary; and beneficial or adverse effects.

Where a significant adverse effect is predicted, mitigation measures have been identified to avoid or reduce the effect identified, or to reduce the likelihood of the impact occurring. Mitigation is identified throughout the EIA process, and this can lead to changes to the design (“primary mitigation”) (refer to **Chapter 2 (Site and**

Project Description)) or can be included as mitigation that is needed for the Proposed Scheme to reduce environmental effects (“secondary mitigation”) which is detailed within the topic chapters. This mitigation is collated within in the **Register of Environmental Actions and Commitments (REAC)** (document reference 6.5) which also identifies how the mitigation measures within it have been secured in the application documentation, including the **dDCO** (document reference 3.1) itself.

CUMULATIVE EFFECTS

The potential for cumulative effects has also been considered. The assessment of cumulative effects considers the combined effects from the Proposed Scheme on a single receptor from different environmental factors (“intra-project” effects). It also considers the effects of the Proposed Scheme combined with other proposed developments close by (“inter-project” effects). Further detail is provided in Section 5.14, with the full assessment provided in Chapter 18 (Cumulative Effects) of the ES (document reference 6.1.18).

THE “ROCHDALE ENVELOPE”

The EIA assesses a “reasonable worst case” in terms of potential environmental impacts. As part of this a maximum built ‘envelope’ (also referred to as the ‘Rochdale envelope’) for the Proposed Scheme has been defined which includes the maximum size of the infrastructure that could be needed for the Proposed Scheme. These parameters are defined within **Chapter 2 (Site and Project Description)** and the **draft DCO** (document reference 3.1). An example of how this works within the chapters, is that the landscape and visual impact assessment has assessed the largest buildings that could be required for the Proposed Scheme.

The worst case construction programme for each topic can also differ and the construction programme option which has been assessed is also set out in each individual topic chapter of the ES.

Assumptions that have been made for the environmental assessments in relation to a “reasonable worst case” are detailed within the individual topic chapters.

5. ENVIRONMENTAL EFFECTS

This section aims to provide a non-technical summary of the environmental topic ES Chapters to enable the community and other stakeholders to understand the findings of the environmental assessment for BECCS. This section includes the following details for each of the topics.

- How the potential environmental effects for the topics have been assessed;
- The current, and where appropriate, future environmental “baseline”. The current baseline describes the environmental conditions on the Site, and its surrounds, where appropriate, now. The future baseline, considers how the environmental conditions might evolve in the future without the Proposed Scheme;
- Likely significant effects of the Proposed Scheme identified in the ES; and
- A summary of the findings.

5.1. TRAFFIC AND TRANSPORT

OVERVIEW

The Transport assessment has considered the impacts of construction and operation of the Proposed Scheme and their effects on both motorised and non-motorised users of the highway network. The potential temporary effects during construction and decommissioning are anticipated to be similar but goods will be taken away from the Site rather than to the Site for decommissioning.

HOW HAVE EFFECTS BEEN ASSESSED?

The study area for the assessment considers the junctions, the highway links between the junctions and the PRow that could potentially be affected by the Proposed Scheme.

Traffic levels and highway safety issues used in the assessment have been compiled from traffic surveys (conducted in 2018) and traffic collision data. Growth factors have been applied to base traffic levels, and traffic from other developments that are planned to be built in the area have been taken into account for the assessment.

The assessment compares the traffic levels on the local road network with and without the Proposed Scheme. Traffic levels were projected up to 2026 to assess the effect of construction traffic and to 2029 for operation. Sensitive receptors considered in the assessment included motorised and non-motorised users of the surrounding highway network, including drivers, pedestrians, cyclists and horse riders, users of the Public Rights of Way (PRow), as well as residents within Camblesforth, Drax and Carlton.

The effects considered in the assessment included:

- Severance, where the road provides a physical barrier reducing access to the community or other facilities;

- Changes to pedestrian amenity such as exposure to greater noise and vehicle emissions; and
- Fear and intimidation as a result of the increased volume of traffic and Heavy-Duty Vehicle (HDV) composition, as well as highway safety and travel delays.

BASELINE

Currently the Drax Power Station is serviced by road via three secure gated points of vehicular access, South Gate, North Gate and the Materials Handling Gatehouse. Construction traffic will access the site through the North Gate and Material Handling Gatehouse. The A1041 and the A645 connect the Drax Power Station to the wider road network. Staff and visitors access the Drax Site via the 'South Gate' on the A645, whereas, site contractors, deliveries and HDV traffic make use of the site entrances on New Road to the east of the Site. The Strategic Road Network is accessed at Junction 36 of the M62 (via A645 and A614), approximately 6.0 km to the south east of the Site. It is considered that there are no inherent highway safety issues at the junctions within the study area. Fuel for the existing biomass boilers is also transported to the Drax Power Station via its own rail hub infrastructure. There are also other roads, bus networks and Public Rights of Way (PRoW) which allow connectivity to the Drax Power Station.

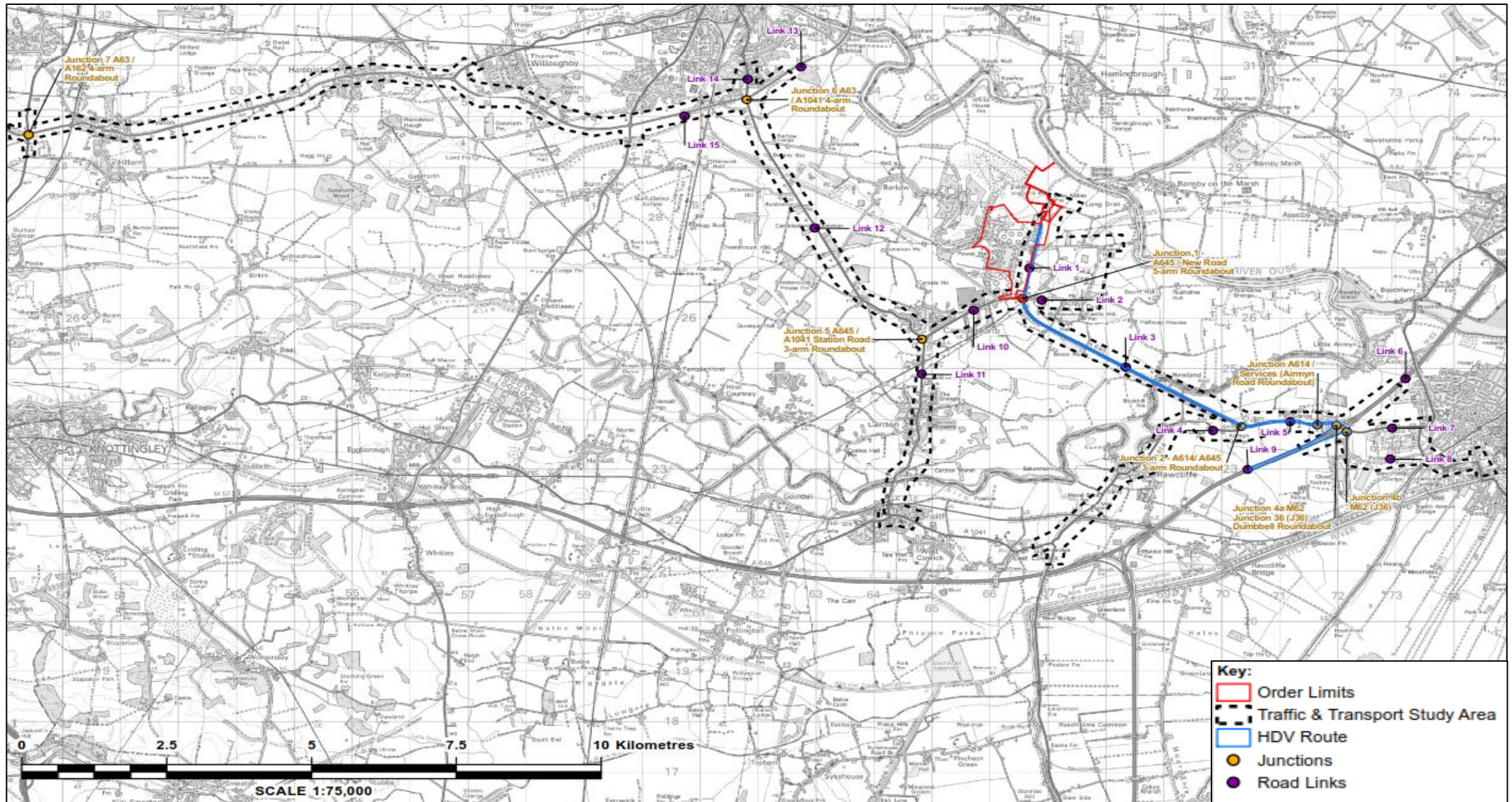
LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

Decommissioning impacts are anticipated to be no worse than those during the construction phase following the implementation of a Demolition Traffic Management Plan (DTMP) for the works. Construction and decommissioning have therefore been assessed together.

A Construction Traffic Management Plan will be produced for the Proposed Scheme to manage the impact of construction traffic including HDV movements and Abnormal Indivisible Loads (AILs) and a Construction Worker Travel Plan will be produced to manage movements of construction workers to and from the site during construction. An **Outline Construction Traffic Management Plan (CTMP) (Appendix 5.1 of Volume 3)** and a **Framework Construction Worker Travel Plan (CWTP) (Appendix 5.2 of Volume 3)** have been produced and submitted with the DCO Application. This also sets out the routes that HDVs will take to site, as shown in **Plate 5.1** below.

Plate 5.1 - HDV Routing



Whilst there will be an increase in HDVs during construction of the Proposed Scheme, it is not anticipated that there will be significant effects as a result of severance, pedestrian amenity or fear and intimidation as result of the Proposed Scheme.

Analysis of all junctions and links within the study area was carried out to understand impacts in relation to driver delay and highway safety. Without the Proposed Scheme, it was identified that Junction 4 (M62 Junction 36 Dumbbell roundabout) would operate over capacity in 2026. It is understood that National Highways are implementing highway improvement works to address this issue. The Proposed Scheme, in combination with other proposed developments, could contribute to an increase in driver delay and queuing which could lead to a significant effect on highway safety at this junction. All other junctions would not experience driver delay as a result of the Proposed Scheme.

There will be some temporary disruption to the highway network associated with the movement of AIL, the largest being the four Regenerators which will be transported between the Port of Goole and the Site using the A161, M62, and A645. With the inclusion of a strategy to manage AILs within the CTMP, including following the necessary consultation and notification process, it is considered there will be no traffic and transport significant adverse effects associated with the movement of AIL due to the temporary nature of the moves.

During construction the presence of construction plant and equipment in works areas adjacent to the PRoW network may temporarily reduce the amenity value of the paths, however, the effects will be temporary and short-term. With the appropriate mitigation including the use of solid fencing / barriers in areas where dust-generating construction activities occur adjacent to a PRoW, along with the provision of regular visual inspections, it is considered that there will be no significant adverse effects on PRoW users. It is also proposed to temporarily stop up public footpath 35.6/6/1 in the Fallow Field to allow for ecological enhancement planting. It is considered that there would be no significant effects on PRoW users.

Operation

Once the Proposed Scheme is operational there will not be a significant increase in the number of workers travelling to the Drax Power Station Site. As such changes to the operational traffic flows on the road network are not expected to vary significantly as a result of operation of the Proposed Scheme. No significant adverse operational effects for Traffic and Transport are therefore expected.

SUMMARY

With the implementation of the CWTP and CTMP (including the strategy for AILs), no significant adverse environmental effects are expected during construction, operation and decommissioning with the exception of driver delay and highway safety at Junction 4. Junction 4 will be over capacity by 2026 without the Proposed Scheme, and traffic as a result of construction of the Proposed Scheme, and other proposed

developments will add to this issue. Further discussions are ongoing with ERO and National Highways to understand the timescales and mechanism to upgrade Junction 4 to accommodate planned growth and if this would result in a reduced impact at the junction.

5.2. AIR QUALITY

OVERVIEW

The Air Quality assessment has considered the impacts of construction, operation and decommissioning of the Proposed Scheme and their effects on sensitive receptors.

For the purposes of the assessment, it has been assumed that emissions sources associated with decommissioning are equivalent to those assessed for the construction phase. Construction and decommissioning are therefore considered together.

The non-technical summary of the assessment of air quality on biodiversity receptors is presented in **Section 5.4 (Ecology)** below.

HOW HAVE EFFECTS BEEN ASSESSED

The air quality assessment considers potential effects of the Proposed Scheme on human receptors, relevant Air Quality Management Areas within Selby and neighbouring authorities and designated ecological sites which are of importance at European, national, and local levels.

For the construction and decommissioning phase assessments, a study area of 350 m from the Order Limits or within 50 m of routes used by construction vehicles up to 500 m from the Order Limits has been used. A qualitative assessment of air emissions and dust has been conducted using guidance published by Institute of Air Quality Management - *Guidance on the Assessment of Dust from Demolition and Construction*, for the construction and decommissioning phases in relation to sensitive receptors within the vicinity. This considers proposed potential combustion plant and road vehicles, in addition to the type and scale of construction/decommissioning activities within the Site.

A quantitative assessment of air emissions has been undertaken for the operation phase using a computer model, which considered emissions of oxides of nitrogen, ammonia, particulate matter, hydrogen chloride, sulphur dioxide and amine and nitrosamine compounds associated with the operation of the biomass units and proposed carbon capture plant. Emissions sources from other proposed projects have also been included to identify cumulative impacts, these include Eggborough Combined Cycle Gas Turbine (CCGT) Power Station, Keadby 2 CCGT Power Station, Keadby 3 CCGT with Carbon Capture Power Station and Energy from Waste Plant (Kirk Sandall). For the assessment of amines and nitrosamines, an amine chemistry module has been used to model specific atmospheric reactions. The assessment of significance looks at the change in the concentration of a pollutant

between the future baseline and the Proposed Scheme operation, within the context of relevant air quality standards. This change is then examined taking into account baseline levels, exposure to the impacts at both human and ecological receptors, and assumptions made, in order to determine significance.

During operation, the assessment considers the dispersion of pollutant emissions to air within a radius of up to 15 km from the Proposed Scheme (the 'study area'). The Proposed Scheme emissions scenario has taken a worst-case approach (used for the purposes of ensuring the effects of the Proposed Scheme are not underestimated). This assumes that the biomass units which will not be subject to carbon capture will operate at baseload for up to 4,000 hours per year whilst the two units that will be fitted with carbon capture for the Proposed Scheme are assumed to operate continuously at baseload for all hours of the year. In order to check that the effects would not be worse if the biomass units were operated differently, another scenario, whereby the units without carbon capture also operate continuously at baseload for all hours of the year, was also assessed. These scenarios are compared against a baseline scenario of all four units operating at 4,000 hours per year.

BASELINE

Air quality within the study area is mainly influenced by emissions from the existing Drax Power Station and other power plants (e.g. Ferrybridge waste to energy plant), emissions from traffic on local roads, including the M62 motorway, and agricultural practices. Whilst air quality is influenced by these sources, local pollutant concentrations are well below relevant national air quality pollution thresholds.

Background concentrations of oxides of nitrogen and sulphur dioxide are within critical levels across all ecological receptor sites within the study area. The relevant background nitrogen and acid deposition levels within the operational phase study area exceed critical loads for all identified designated sites with the exception of Eskamhorn Meadows SSSI (nitrogen and acid deposition) and Went Ings Meadows SSSI (acid deposition only).

In the future it is expected that baseline local air quality conditions within the study would likely remain unchanged or would slightly improve (i.e. ambient pollutant concentrations would reduce). Any improvement would be predominantly related to the expected reduction in vehicle emissions as older, more polluting vehicles are replaced by cleaner vehicles.

Sensitive receptors during construction and operation include human and ecological receptors.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

With the implementation of mitigation including the control of dust, management and maintenance of plant and machinery, and the preparation of a Construction Traffic

Management Plan and Construction Worker Travel Plan, there would be no significant effects on local air quality during the construction or decommissioning phases of the Proposed Scheme.

Operation

The assessment of impacts associated with operational emissions in the Proposed Scheme modelled scenario on human receptors, both alone and cumulatively with other projects, has concluded that there would be no significant effects throughout the study area.

Furthermore, the operational phase in the Proposed Scheme modelled scenario alone will have no significant effect on air quality at all international, national, and local designated sites with respect to oxides of nitrogen, ammonia and sulphur dioxide concentrations, and nitrogen deposition rates. The exception to this relates to impacts from acid deposition where, following the implementation of mitigation, the assessment significance criteria are marginally exceeded at Lower Derwent Valley SAC, Brighton Meadows SSSI and Barn Hill Meadows SSSI. The potential for significant effects on these sites has been considered in the assessment of Ecology (see **Chapter 8 (Ecology)** for further detail).

When the Proposed Scheme is assessed cumulatively with other proposed projects at all designated sites, there are no significant effects in relation to oxides of nitrogen and sulphur dioxide concentration impacts. However, the assessment significance criteria are marginally exceeded at Thorne Moor SAC / SPA / SSSI in relation to ammonia concentration impacts, and at Thorne Moor SAC / SSSI and a number of locally designated sites in relation to nitrogen deposition. Similarly, the criteria are exceeded in relation to acid deposition impacts at Thorne Moor SAC / SSSI, Lower Derwent Valley SAC, Brighton Meadows SSSI, Derwent Ings SSSI, and Barn Hill Meadows SSSI. The potential for significant cumulative effects on these sites has been considered in the assessment of cumulative effects (see **Chapter 18 (Cumulative Effects)** for further detail).

SUMMARY

Notwithstanding the potential for significant effects identified at relevant designated sites (which are later considered to not be significant, see **Section 5.4 (Ecology)** and **Section 5.14 (Cumulative Effects)**), the conclusion of the assessment is that there are no significant air quality effects anticipated as a result of the Proposed Scheme.

5.3. NOISE AND VIBRATION

OVERVIEW

The Noise and Vibration assessment has considered the potential effects of construction, operation and decommissioning of the Proposed Scheme and their effects on sensitive receptors. Operational vibration has been scoped out from further assessment as the operation of the new equipment is not expected to give rise to a significant effect at the nearest sensitive receptor. For the purposes of the

assessment, it has been assumed that noise and vibration sources associated with decommissioning are equivalent to those assessed for the construction phase. Construction and decommissioning are therefore considered together.

The non technical summary of the assessment of noise on biodiversity receptors is presented in **section 5.4 (Ecology)** below.

HOW HAVE EFFECTS BEEN ASSESSED

The study area for construction noise and vibration assessment considers sensitive receptors within 1 km of the Order Limits, and the operational noise and vibration assessment within 2 km of the Order Limits. Baseline noise monitoring locations were agreed with Selby District Council and a noise survey was carried out to inform the assessment. A combination of long-term (LT) and short-term (ST) noise measurements were taken across 13 locations surrounding the Proposed Scheme.

An assessment of construction noise and vibration has been carried out following BS 5228, Parts 1&2 (2009) + A1 (2014): Noise and Vibration Control on Construction and Open Sites and the Design Manual for Roads and Bridges (DMRB) (2020): LA111 Noise and Vibration for guidance on significance and BS 7385-2 'Evaluation and measurement for vibration in buildings. A noise model using CadnaA was prepared to predict the likely construction noise associated with the Proposed Scheme. Noise levels have been predicted based on the items of plant assumed to be used for each construction activity and were assessed over the daytime, evening and night-time periods. Vibration levels from piling and compacting, which are assumed to be the activities associated with the Proposed Scheme that could result in vibration, were predicted and assessed at the nearest sensitive receptors.

Sound levels from plant during operation were assessed against British Standard BS4142:2014 +A1:2019: Methods for rating and assessing industrial and commercial sound, which compares noise from operation of equipment against existing background noise levels. An increase of 10 dB above background levels is considered likely to indicate a significant adverse effect on sensitive receptors, depending on the context. For residential receptors, indoor ambient noise criteria for dwellings BS8233:2014: Guidance on sound insulation and noise reduction for buildings has been used to provide absolute sound level context as a part of the assessment. A noise model using CadnaA was prepared to determine the likely noise levels arising during the operation of the Proposed Scheme. It is anticipated that noise sources from the Proposed Scheme are likely to include flue gas blowers, steam turbines, pumps, low pressure and high-pressure compressors.

A Scoping assessment was also carried out to understand if there would be likely significant effects as a result of road traffic noise during construction and operation following the Design Manual for Roads and Bridges (DMRB) (2020): LA111 Noise and Vibration.

Decibel (dB(A)) - The decibel (dB) scale is used in relation to sound because it is a logarithmic rather than a linear scale. The decibel scale compares the level of a sound relative to another. The human ear is more sensitive to some frequencies than others. The A-weighting represented as dB(A) is a filter that can be applied to measured sound pressure level at varying frequencies, to mimic the sensitivity of the human ear, and therefore better represent the likely perceived loudness of the sound.

Sensitive receptors considered in the assessment include residential and biodiversity receptors in the area surrounding the Proposed Scheme.

BASELINE

Noise monitoring was carried out between 19 May 2021 and 16 June 2021 at thirteen locations near the Proposed Scheme. These locations were agreed with the Selby District Council Environmental Health Officer to understand the baseline noise environment. Additional data collected by the Applicant in 2020 and 2021 at permanent noise monitoring locations in the surrounding areas were also used to inform the assessment. Monitoring results showed that the baseline noise environment is dominated by noise from the Drax Power Station, traffic using the wider road network, as well as farm machinery. The future baseline noise levels without the Proposed Scheme are not expected to change significantly.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

The predicted construction noise levels at the nearest noise sensitive receptors are expected to be below the baseline ambient noise levels. The predicted construction vibration levels at the nearest noise sensitive receptors are expected to be below the vibration criteria for humans and building damage. There would be a small increase in noise in relation to traffic generated during construction and decommissioning but this would not be significant.

The assessment therefore concluded that there would not be significant effects in relation to noise, including from construction traffic, or vibration during the construction or decommissioning of the Proposed Scheme.

Operation

The assessment of daytime and night-time ambient noise levels, which takes into account the context of the existing noise environment, when the Proposed Scheme is in operation shows that there would no change in ambient noise levels at any sensitive receptor. Similarly, the noise assessment also shows that traffic noise levels are unlikely to change as a result of the Proposed Scheme. It is therefore anticipated that there would not be any significant effects as a result of noise from the Proposed Scheme

SUMMARY

It is not anticipated that there would be significant effects as a result of noise and vibration for the Proposed Scheme.

5.4. ECOLOGY

OVERVIEW

The Ecology assessment has considered the impacts of construction, operation and decommissioning and their effects on the natural environment. The effects of decommissioning are assumed to be no worse than those of construction, given they would take place in areas that had, at least partly, been cleared of semi-natural habitats to facilitate construction. The assessment has considered the impacts as a result of the permanent and temporary removal, disturbance, including as a result of noise, vibration, lighting and visual disturbance, and/or degradation, of habitats affected by the Proposed Scheme.

Alteration and degradation of habitats within statutory and non-statutory sites as a result of construction and decommissioning air quality impacts (dust generation) has been scoped out of the assessment. The delivery of abnormal indivisible loads to the Site via road transport during construction and decommissioning has not been assessed. In each instance, this is because these aspects of the Proposed Scheme are not considered to have the potential to give rise to significant effects on important ecological features.

A **Biodiversity Net Gain Assessment** (document reference 6.10) and a **Habitats Regulations Assessment** (document reference 6.8), which are not part of the EIA but are useful to read alongside it, have also been carried out and the associated reports have been submitted as part of the DCO Application.

An **Outline Landscape and Biodiversity Strategy** (document reference 6.6) has also been produced for the Proposed Scheme. This details the key measures being undertaken by Drax to mitigate and compensate the effects of the Proposed Scheme on habitats and the species they support, and landscape receptors.

HOW HAVE EFFECTS BEEN ASSESSED

Significant effects have been assessed as either positive or negative. Where an effect is neither positive nor negative, this is assessed as not significant or negligible. Each significant effect is assessed based on a number of factors including the magnitude of impact (incorporating how much, how often and how far (spatially)) and how sensitive habitats and species are to change. The importance and value of an ecological feature is determined on a geographical scale. The ecological impact assessment has been carried out in accordance with guidance from the Chartered Institute of Ecology and Environmental Management, relevant legislation, planning policy and guidance.

A number of ecological surveys were conducted for the Proposed Scheme in 2020 and 2021 to inform the assessment. These included:

- An extended Phase 1 habitat survey;
- Terrestrial invertebrate surveys;
- Amphibian surveys; and
- Wintering bird surveys.

The extended Phase 1 habitat survey identified the habitats present on and adjacent to the Site and also recorded the evident plant species they support. In addition, the extended Phase 1 habitat survey identified the suitability of the habitats present to support protected and notable species and gathered condition assessment data. This supported subsequent completion of the Biodiversity Net Gain assessment.

The following sensitive receptors have been assessed: statutory designated sites of international and national importance, statutory designated sites of national importance, non-statutory designated sites, Habitats of Principal Importance, bats, badger, otter, water vole, amphibians, breeding and wintering birds, terrestrial invertebrates, vascular plants, invasive non-native species (INNS), and fish.

Different study areas have been used for different ecological features, informed by guidance and consultation comments received. The maximum study area for International and Nationally designated sites comprises a 15 km radius around the Main Stack of the existing Drax Power Station Site. The study area for non-statutory designated sites and Habitats of Principal Importance (HPI) comprises a 2 km buffer around the Order Limits. The study area for protected and notable species including INNS comprises a 2 km buffer around the Order Limits.

BASELINE

The natural environment around the Proposed Scheme includes ten international and 12 national statutory designated sites within 15 km and nine non-statutory designated sites of county importance within 2 km of the Proposed Scheme.

Statutory Designated Sites are sites that are protected by legislation and include, for example, Sites of Special Scientific Interest (SSSI); Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, and National Nature Reserves (NNR).

Some species of wildlife are protected by UK and also sometimes European legislation because of their rarity or historical persecution. These species are called 'protected species'. Species with conservation designations, but no legal protection are called 'notable species'.

Much of the Drax Power Station Site is dominated by areas of hard standing, existing buildings and other related power station infrastructure. It also comprises natural habitats such as amenity and semi-improved grassland located in the north of the Site, pockets of broadleaved woodland and scrub in the south and north of the Site and landscaped areas in the east and north west of the Site. An area in the north west of the Drax Power Station referred to as the Woodyard comprises semi-improved grassland, scrub, swamp and woodland. The Habitat Provision Area located to the north of the Drax Power Station Site, within the Order Limits, comprises primarily arable farmland and pasture grassland with some hedgerows and fence lines.

Land within the East Construction Laydown Area comprises arable farmland with bordering intact species-rich hedgerows and tree lines.

There is an area outside of the Order Limits, the “Off-site Habitat Provision Area”, made up of Arthur’s Wood and Fallow Field, that has been identified for the provision of ecological mitigation and enhancement, including delivery of Biodiversity Net Gain. Arthur’s Wood is made up of broadleaved woodland and Fallow Field is made up of grassland, scrub, hedgerow and young woodland scrub.

A range of protected and notable species have been identified within 2 km of the Order Limits, these include bats, badger, otter, water vole, breeding and wintering birds, reptiles, amphibians, fish, terrestrial invertebrates, vascular plants and invasive non-native species. Several habitat types within and in proximity to the Order Limits have been identified as suitable to support protected and notable species. A colony of green-winged orchids is present within the Drax Power Station site; this is the only known colony of this plant in Selby District.

It is anticipated that the future ecological baseline will remain similar to the existing baseline for at least the next five to 10 years.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

Likely effects from construction and decommissioning include disturbance and clearance of habitats, disturbance of protected species, and the risk of release of water-borne pollutants from plant and other machinery. Mitigation would be carried out to reinstate, create or enhance habitats within the Order Limits and the Off-site Habitat Provision Area in line with the **Outline Landscape and Biodiversity Strategy**. Measures would also be put in place to manage and mitigate effects on protected and notable species during site clearance, construction and decommissioning activities. Work would be carried out in accordance with suitable method statements, including use of sensitive construction methodologies. As the colony of green-winged orchids is located in part of the Power Station Site that would be subject to construction activities, the colony and its supporting habitat / soils would be translocated to a receptor site in the Off-Site Habitat Provision Area. Following implementation of this mitigation it is considered that there would be no

significant negative effects on statutory designated and non-statutory designated sites, otters, reptiles or amphibians.

Effects on habitats, bats and terrestrial invertebrates would be significant adverse at a Local Scale. Effects on breeding and wintering birds would be significant adverse at the District Scale. These effects are anticipated to be in the short term until compensation measures have reached their target condition. Effects on vascular plants are also anticipated to be significant adverse at a County Scale in the short term until successful establishment of the green-winged orchid receptor site is complete.

Operation

Likely effects from operation include emissions from the Power Station Main Stack (combustion by-products) when the operating scenario for Units 1 and 4 of the Power station are taken into account with BECCS installed and the end of the existing subsidy regime; and the risk of accidental releases of chemicals associated with the carbon capture and storage process entering local watercourses (Carr Dyke and the River Ouse).

Mitigation has been developed for the Proposed Scheme to address these effects. The emissions from the Main Stack will be adjusted to increase the temperature of gases existing the flume, and to decrease the concentration of sulphur dioxide (SO₂) contained in the exhaust gasses. A Surface Water Drainage Strategy will be delivered to manage the risk of incidental pollution releases. This will include measures such as drip trays, and bunding to capture any accidental releases from chemical stores. On-site water treatment facilities will be installed, and facilities will be included in the Proposed Scheme for storage, on-site treatment, and where necessary off-site treatment of waste chemicals.

Following the implementation of mitigation, it is anticipated that there will be no significant adverse effects on statutory designated and non-statutory designated sites, habitats, otter, vascular plants and fish during operation.

With the implementation of a sensitive lighting strategy (pursuant to the principles set out in the lighting strategy submitted with the application) during operation and once reinstated habitats and planting have matured, there will be a significant beneficial effect on bats at the Local Scale. Once reinstated habitats and planting have matured there will also be significant beneficial effects at a Local Scale on breeding and wintering birds and terrestrial invertebrates. With the implementation of mitigation measures, including use of the Selby great crested newt District Level Licence (DLL), significant beneficial effects are predicted for great crested newt and other amphibians at the Local Scale. For terrestrial invertebrates, the effects would be significant beneficial at a District Scale.

SUMMARY

During construction it is considered that there would not be significant effects on statutory designated and non-statutory designated sites, habitats, otter, reptiles or

amphibians. Effects on bats, breeding and wintering birds and terrestrial invertebrates and vascular plants are anticipated to be significant adverse in the short term until enhanced and restored habitat measures have reached their target condition.

No significant effects on statutory designated and non-statutory designated sites, habitats, otter, vascular plants and fish are predicted during operation. Once mitigation has taken effect it is anticipated that there will be significant beneficial effects on bats, breeding and wintering birds, terrestrial invertebrates and amphibians during operation.

5.5. LANDSCAPE AND VISUAL IMPACT

OVERVIEW

The landscape and visual assessment has considered the impacts of construction, operation and decommissioning and their effects on local landscape character and visual amenity.

In the context of the existing operational Drax Power Station, various receptors were scoped out of the assessment including National Character Areas, some county and local Landscape Character Areas Landscape Character Types, some local properties and PRoW and visitors and workers to local facilities as it is anticipated that they would not experience significant effects as a result of the Proposed Scheme.

HOW HAVE EFFECTS BEEN ASSESSED?

A “Zone of Theoretical Visibility” (ZTV) is first identified to give the a ‘maximum visual impression’ or over-estimate of the potential visibility of the Proposed Scheme. The ZTV provides a starting point for the assessment of landscape and visual impacts which is subsequently refined / reduced, in agreement with consultees, as the assessment progresses and impacts are understood. Through this process a study area of 3 km from the Proposed Scheme was identified.

The assessment has been completed in accordance with the ‘Guidelines for Landscape and Visual Impact Assessment’ 3rd Edition (2013) and the visualisations have been prepared in accordance with guidance set out within “Visual Representation of development proposals”, Technical Guidance Note 06/19 produced by the Landscape Institute in 2019.

The assessment process includes the consideration of both tangible (e.g. physical form) and intangible (e.g. a “sense of place” within a landscape due to its inherent qualities) aspects of the environment. Following establishment of baseline landscape character and visual context for the Proposed Scheme the assessment looks at the sensitivity of landscape resource and visual receptors in combination with the magnitude of change. The effect considers whether the change is adverse (negative) or beneficial (positive); direct (e.g. actual physical change and close perceptual changes) or indirect (e.g. the resulting change on the landscape or visual amenity further afield); short, medium or long term and permanent or reversible. The

assessment considers the present-day and future baseline conditions, and the potential effects arising from the Proposed Scheme during construction, at completion (operation year 0), year 15 thereafter and on decommissioning.

BASELINE

Drax Power Station is a large-scale industrial site, comprising a range of tall structures which are highly visible and influential upon the surrounding landscape.

Plate 5.2 Aerial Photograph of Drax Power Station



Plate 5.3 - Viewpoint 2 showing Drax Power Station



The area surrounding the Proposed Scheme is characterised by small woodland blocks with intermittent hedgerow and hedgerow trees along the majority of local road network and PRowS. The topography is relatively flat with small, isolated pockets of higher ground. Barlow Mound to the west of Drax Power Station is a distinct local feature, formed in the 1970's using residual materials from Drax. The wider area includes small to medium settlements and isolated residential properties and farmsteads. Settlements close to Drax Power Station include Drax village, Camblesforth, Newland, Long Drax, Barmby on the Marsh and Barlow.

Plate 5.4 - View from Drax village towards Drax Power Station



A number of motorways and A roads connect the larger settlements whilst several local roads and tracks link smaller settlements, farmsteads and isolated properties within the study area. Several railway lines bisect the study area connecting Selby with Leeds, York, Goole and Hull. A number of Public Rights of Way (PRoWs) are located within the study area linking settlements and connecting with watercourses and canals. Several PRoWs run in close proximity to the Drax Power Station. It is not anticipated that the future baseline would be significantly different to that described above.

Plate 5.5 - View from the Trans Pennine Trail towards Drax Power Station



LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

Visual effects on some residents and users of some PRow with views of the Site will be affected by a change within views due to visible construction activities within the East Construction Laydown Area, the movement of materials along New Road, views of vehicles, tall plant and construction activities and the gradual emergence of the Proposed Scheme. A lot of these activities will be screened by existing infrastructure at Drax Power Station Site. In addition, mitigation, including the use of hoardings, landscape mitigation planting, retention of existing vegetation good maintenance of construction access roads will be implemented, meaning the magnitude of change will generally be small. However residential receptors and PRow users are of high or medium sensitivity and some of the resulting effects would therefore be significant in the short term, following the implementation of mitigation.

Operation

Plate 5.6 - Viewpoint 2 Showing Drax BECCS and Maximum Parameters



The Proposed Scheme is not anticipated to create significant landscape or visual effects during operation.

SUMMARY

During construction there will be visual effects on some residents and users of some PRow as a result of visible construction activities and views of the emerging Proposed Scheme, however these would be temporary. There would be no significant landscape or visual effects during operation.

5.6. HERITAGE

OVERVIEW

The heritage assessment has considered the impacts of construction of the Proposed Scheme and their effects on unknown buried heritage assets. All impacts on buried heritage assets would have taken place during the construction of the Proposed Scheme and significant effects are therefore not anticipated during

decommissioning or operation. Impacts on buried heritage assets during operation were scoped out of the assessment as it was considered that there would not be significant effects on these as a result of the Proposed Scheme.

HOW HAVE EFFECTS BEEN ASSESSED?

A study area of 10 km for medium to high value heritage assets, 1 km for low value designation heritage assets and 500 m for non-designated heritage assets was used for the assessment.

The assessment has been carried out in accordance with the requirements of the National Planning Policy Framework, the Overarching National Policy Statement for Energy and to standards and guidance specified by the Chartered Institute for Archaeologists, Historic England and National Highways Design Manual for Roads and Bridges.

The assessment is based on both desk-based research and a site visit which was undertaken in March 2021 to assess any potential for buried archaeology and to look at any nearby above ground heritage assets. The desk-based research included reviewing heritage lists from local councils, reports of previous investigations including geophysical survey, historic maps, geological data, and records from Historic England and carrying out a historic environment desk-based assessment (HEDBA).

There have been investigations in relation to heritage in the Habitat Provision Area and East Construction Laydown Area including Geophysical surveys and trial trenching conducted prior to this assessment. Therefore, the heritage assets below the ground are well understood.

The assessment of effects on heritage assets is determined by combining the value of the asset with the magnitude of the impact. The value of heritage assets is determined based on statutory designation and professional judgement in relation to historic interest, archaeological interest and architectural and artistic interest. The magnitude of impact is the extent to which the development would affect the heritage asset, including its setting.

The assessment considers the physical surroundings of the asset, including topography and intervening development and vegetation. It also considers how the asset is currently experienced and understood through its setting, in particular the visual aspect of the asset along with any changes to the noise, air quality and light surrounding the asset. These attributes all contribute to the overall setting.

BASELINE

There are three scheduled monuments within 1 km of the Site, including Drax Augustinian Priory to the north of Drax Power Station Site which was founded in the 1130s and occupied until 1535. There is one Grade I Listed Building (12th Century Church of St Peter and St Paul) and two Grade II Listed Buildings within 1 km of the Site. There are eight non-designated Heritage Assets within 500 m. Other non-

designated heritage assets include features relating to Drax Augustinian Priory, Barlow Airfield and a Second World War Army Camp. There are 20 scheduled monuments, 15 Grade I Listed Buildings and 18 Grade II* Listed Buildings within 10 km of the Site.

Non-designated heritage assets are **buildings, monuments, sites, places, areas or landscapes identified** as having a degree of heritage significance meriting consideration in planning decisions but which do not meet the criteria for designated heritage assets and as such are not protected at a local or national level.

The future baseline for the Proposed Scheme is expected to be largely the same as the present.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

The Proposed Scheme has been designed in such a way as to avoid known below ground heritage assets. Planting within the Habitat Provision Area will avoid known heritage assets such as the Drax Augustinian Priory.

There could be potential impacts to buried archaeological remains during construction as a result of construction activities that disturb the ground including landscape planting and habitat provision. There is potential for unknown below ground heritage assets within both the Habitat Provision Area and the East Construction Laydown Area but given that they are below ground, the value of these assets is unknown.

To prevent any damage to buried heritage assets during the construction mitigation, which could be in the form of an archaeological watching brief, will be agreed with the local planning authority and any archaeological work will be undertaken in consultation with the relevant Archaeological Advisor (North Yorkshire), and in accordance with an archaeological Written Scheme of Investigation. The Written Scheme of Investigation is required to be approved by the local planning authority, in consultation with North Yorkshire County Council, and that scheme will include details of the monitoring (archaeological watching brief), areas where further archaeological investigations are required and measures to be taken to protect, record or preserve any significant archaeological features found.

With regards to unknown heritage assets, it is difficult to predict significance because the value of any found asset will not be clear until it is found and researched. Therefore, the significance of effect with archaeological supervision on-site ranges from not significant to significant adverse.

Operation

As detailed above it is not anticipated that there would be significant effects for heritage during operation.

SUMMARY

The only impacts to heritage as a result of the Proposed Scheme could be on unknown buried heritage assets. As the value of this resource is unknown, it is difficult to predict how significant these effects could be, but it could range from negligible (not significant) to moderate adverse (significant).

5.7. GROUND CONDITIONS

OVERVIEW

The Ground Conditions assessment has considered the impacts of construction, operation and decommissioning of the Proposed Scheme and their effects in relation to potential contamination within the underlying soils / groundwater, controlled waters and groundwater dependent terrestrial ecosystems and agricultural land.

HOW HAVE THE EFFECTS BEEN ASSESSED?

A study area of 250 m for ground conditions and 1 km for controlled water receptors and groundwater dependent terrestrial ecosystems were used. The assessment of agricultural land looks at the land affected within the Order Limits and the Off-Site Habitat Provision Area only.

Ground conditions refer to below ground features and include geology, soils, mineral resources and groundwater. The assessment evaluates these ground conditions and the likely significant effects that the Proposed Scheme may have on sensitive receptors in relation to ground conditions during construction, operation and decommissioning.

A preliminary risk assessment was carried out in line with the Environment Agency's Guidance - Land Contamination Risk Management - that looked at potential sources of contamination, pathways by which they could move and come into contact with a receptor such as the water environment, including potable water supply, humans, buildings or flora and fauna from contamination from underlying soils and groundwater. Contaminants can travel from the ground during construction through surface water or through air. The level of risk was determined using CIRIA C552: Contaminated Land Risk Assessment: A guide to good practice.

Details of the ground conditions has been taken from geological maps, flood mapping, Coal Authority maps and Agricultural Land Classification maps as well as data from previous ground investigations and a site visit in September 2021. Historical maps and past and present land uses on and around the Site have been reviewed to determine whether there is likely to be any contamination present. Further investigations and sampling and chemical testing of soil will occur before construction begins.

An assessment of agricultural land was also carried out, following National Highways Design Manual of Roads and Bridges guidance in LA 109 Geology and soils, to assess the effects of the Proposed Scheme on agricultural land. An agricultural land survey was carried out in February 2022 to inform this assessment.

BASELINE

The major feature of the Site is the Drax Power Station, which is classified as “lower tier” under the control of major accidental hazards, based on the quantity of hazardous substances held on the Site. Otherwise, the Site is predominantly rural and agricultural. A historic landfill site is located to the north of Drax Power Station. There is the potential for contamination to be present on the Site as a result of the activities associated with the operation of Drax Power Station, landfilling and agricultural activities.

The Drax Power Station Site includes cooling towers, a boiler house and turbine hall, large heavy fuel oil (HFO) storage tanks, a former coal storage area, a railway line, the flue gas desulphurisation plant, ash storage tanks, electricity infrastructure and access roads.

There are no regionally important geological sites located within the 250 m study area. It is highly likely that the study area contains artificial (made) ground associated with current and historical developments including the Drax Power Station Site.

The majority of the study area is underlain by silty clay, fluvial and wind-deposited sands. The areas north of the Drax Power Station Site are underlain by clay, silt, sand and gravel. Sherwood Sandstone bedrock (a Principal Aquifer) lies below the surface sediment of the Site. Beneath this bedrock there are layers of sandstone and mudstone. Four aquifers are present within 1 km of the Site. The Applicant has a licence to abstract groundwater. There are two further active groundwater abstractions to the north west of the Order Limits and one active surface water abstraction at Lendall Drain at Drax Abbey Farm, that are used for agricultural purposes.

The nearest major water feature is the River Ouse located 30 m north of the Site which flows eastwards into the Humber Estuary. There are a number of field drains and ditches within the Site, including the Carr Dyke in the centre of the Site and the Lendall Drain in the North of the Habitat Provision Area. As a result of the Site being located close to the River Ouse there are areas which are considered to be at high risk of flooding within the northern and southern parts of Drax Power Station. The closest groundwater dependent terrestrial ecosystem is the River Derwent SSSI which lies 450 m to the east of the Order Limits.

The Habitat Provision Areas are predominantly used for agriculture including some areas of best and most versatile agricultural land. The Off-site Habitat Provision Area includes an area (Fallow Field) that was formerly used for agriculture.

It is not anticipated that the future baseline would differ from the above.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

It is not anticipated that there would be any significant effects during decommissioning of the Proposed Scheme.

There is potential for impacts during construction as a result of disturbance of artificial (made) ground and through the disturbance of or creation of new contamination during construction but following the implementation of mitigation including dust control measures, controlling the use and storage of polluting substances and appropriate working practices for construction workers, the effects would not be significant. During construction, agricultural land will be used temporarily for the East Construction Laydown Area but will be returned back to agricultural use after the Proposed Scheme is built and effects would therefore not be significant. There would be some beneficial effects (not significant) to soil health as a result of the creation of the Habitat Provision Area within an area currently used for agriculture, to the north of the East Construction Laydown Area.

There are not anticipated to be any significant impacts in relation to decommissioning.

Operation

All impacts on ground conditions would take place during the construction of the Proposed Scheme and therefore there would be no significant effects during operation.

SUMMARY

There would be no significant environmental effects on ground conditions as a result of the Proposed Scheme.

5.8. WATER ENVIRONMENT

OVERVIEW

The assessment considers the effects of the Proposed Scheme on the water environment during construction, operation and decommissioning. This includes features on the surface such as rivers and ponds as well as below the ground, which includes groundwater, areas where groundwater is used to supply public drinking water referred to as Source Protection Zones (SPZ) and abstractions (private and non-licenced).

A flood risk assessment, Water Framework Directive (WFD) screening and scoping assessment and surface water drainage strategy have been produced to support the assessment. The WFD screening exercise identified that there would not be significant impacts to waterbodies assessed against the WFD objectives. Effects on the River Derwent SSSI / SAC were not assessed as the distance from the Proposed Scheme is too far for it to be affected with regards to effects to the water

environment. Some other water features were not assessed as it is not anticipated that the Proposed Scheme would have an impact on them.

HOW HAVE THE EFFECTS BEEN ASSESSED?

A study area of up to 0.5 km from the Proposed Scheme has been used for surface water features. Features that are further than 0.5 km from the Proposed Scheme but are in hydraulic connectivity with the study area are also included. Features located up to approximately 1 km from the Proposed Scheme are included for indirect impacts.

A study area of 1 km from the Proposed Scheme has been used for groundwater and for waterbodies assessed against the WFD objectives.

The assessment of significance has been undertaken in general accordance with the principles as set out within Design Manual for Roads and Bridges LA 113 - Road Drainage and the Water Environment and LA104 - Environmental Assessment and Monitoring.

The assessment of the water environment considers the potential changes to the quantity of water within the environment, for example due to climate change, and how the Proposed Scheme could alter the floodplain and associated flood risk of these both now and in the future. The assessment also considers changes to water quality in terms of possible pollution of surface water and groundwater resources.

The assessment combines how sensitive a receptor is to changes in surface water or groundwater conditions, including flow and water quality, with how large (the magnitude) the impact is to the receptor.

Ordnance Survey and other maps including the Environment Agency Flood Map for Planning have been used to identify flood zones, water features and sensitive receptors within the study area.

BASELINE

The River Ouse, which is a main river, is located approximately 30 m to the north of the Order Limits, with Carr Dyke, an ordinary watercourse, culverted within the Drax Power Station Site. There are multiple ordinary watercourses including Carr Dyke and ponds within 500 metres of the Site and within the Site itself. The Humber Estuary is located approximately 7.5 km downstream of the Site and has a number of ecological designations. There are also a number of field drains and ditches within the Site.

Rivers in England are either “main rivers” or “ordinary watercourses”. Main rivers are shown on the EA’s Main River map. The EA are responsible for overseeing maintenance, improvement or construction work on main rivers to manage flood risk. Lead Local Flood Authorities, district councils and internal drainage boards are responsible for overseeing flood risk management work on ordinary watercourses.

There are areas which are considered to be at high risk of flooding, particularly within the northern parts of Drax Power Station Site. Flood defences along the River Ouse currently protect the Drax Power Station Site from flooding. There is, however, a risk that water could go through, or over, the existing flood defences, which could lead to flooding of the Proposed Scheme. The Site is also at low risk of groundwater flooding.

EA records show the River Ouse and Carr Dyke are designated under the Water Framework Directive (WFD).

The Water Framework Directive (WFD) originates from the EU but has been retained in UK law following the UK's exit from Europe. At its core it aims to prevent deterioration of the water environment and improve water quality by managing water in natural river basin districts, rather than by administrative boundaries. It looks at ecological, physico-chemical, quantitative and morphological aspects of the water environment and requires that improvements take account of economic aspects, including costs and benefits. Plans to improve the status of water bodies are set out in River Basin Management Plans (RBMPs).

Surface water runoff generated within Drax Power Station Site is managed by a complex drainage system and water containing contaminants e.g., oil or sewage, undergoes treatment. Both surface water and treated water are discharged under consent to Carr Dyke and / or the River Ouse. There are a number of other discharges and surface and groundwater abstractions, not related to the operation of Drax Power Station in and around the Site.

High groundwater levels are likely to occur in the area. Underlying hydrogeology includes a Principal and Secondary Aquifer, which relates to the ability of the underlying rocks to store water which can be used for water supply and may form an important source of base flow for rivers. The Site is located within a groundwater Source Protection Zone.

Future baseline conditions are likely to change due to climate change which would result in increased rainfall intensity and increased peak river flows. Hydraulic modelling of the future baseline suggests that the risk of flooding of the Site in the future would increase. In accordance with WFD targets, the ecological quality of water in the River Ouse would improve, and would be maintained, by 2027.

Sensitive receptors for the Proposed Scheme in relation to the water environment include various watercourses, drains, ponds, aquifers, abstractions and people.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

Carr Dyke and the unnamed drain along the eastern side of New Road and Carr Lane Drain could be temporarily affected by increased sediment load. There could

also be impacts to these watercourses and to various drains, the River Ouse, aquifers, groundwater and abstractions as a result of accidental spillage and leakage of fuels or hazardous substances during construction and decommissioning. With the implementation of mitigation including a piling risk assessment, and good practice measures to control silt and potentially polluting substances, these effects would not be significant.

Operation

With the implementation of the proposed surface water drainage strategy for the Proposed Scheme there could be a beneficial effect in relation to flood risk to Drax Power Station and people and properties elsewhere as the rate and volume of surface water runoff discharged from the Site would be reduced by utilising some or all of the runoff in the cooling water process.

The flood risk to the Site will be mitigated by raising sensitive infrastructure that is located within the future floodplain, above the predicted flood water levels. The construction of the proposed footprint in the floodplain would be greater than the existing built footprint area, and that would result in an increased risk of flooding for the Proposed Scheme, people and properties elsewhere. To mitigate this potential impact, the difference between the existing and the proposed built footprint would be offset by land lowering to create additional floodplain in land under the control of the Applicant.

SUMMARY OF EFFECTS

Whilst there could be impacts on the water environment (in terms of both water quality and quantity – i.e., flood risk) during construction these would be controlled and would not be significant.

During the operational phase, no impacts to the quality of water features are anticipated. Implementation of the proposed surface water drainage strategy would provide a betterment to the existing situation. The proposed provision of additional floodplain storage will ensure that there is no change to the existing situation in terms of flood risk. Implementation of the proposed surface water drainage strategy will have a beneficial effect on the water environment.

5.9. MATERIALS AND WASTE

OVERVIEW

The Materials and Waste assessment has considered the impacts of the construction and operation of the Proposed Scheme and their effects on the use of natural and non-renewable resources (during construction) and on the reduction in landfill capacity (during construction and operation) across the region (or, if appropriate, nationally). Impacts and effects associated with decommissioning of the Proposed Scheme have been scoped out from further assessment.

HOW HAVE EFFECTS BEEN ASSESSED?

The study area for the site comprises the following:

- The '**Development Study Area**' which includes the scheme footprint and any areas required for temporary access, site compounds, working platforms and site activities within the Order Limits; and
- The '**Expansive Study Area**' which looks at the availability of the construction materials and waste capacity facilities within the UK and the Yorkshire and Humber region of England (Humberside, North Yorkshire, South Yorkshire and West Yorkshire).

The assessment was undertaken in accordance with the Institute of Environmental Management and Assessment (IEMA) Guide to Materials and Waste in EIA (IEMA, 2020), which outlines how to assess the potential impacts and effects of the Proposed Scheme.

In accordance with the guidance, the assessment identified the:

- Type and volume of materials to be consumed by the Proposed Scheme, including details of any recycled materials used;
- Type and volume of waste to be generated by the Proposed Scheme, with details of recovery and / or disposal method (for example on-site reuse, off-site recycling, disposal to landfill);
- Cut and fill balance; and
- Details of any materials used during construction, including those where sustainability credentials have been awarded.

The assessment also considered the sensitivity of waste, including landfill capacity at both a regional and national level.

The magnitude of impacts from the Proposed Scheme that have been considered in the assessment include:

- Predicted reductions in availability (stocks, production and / or sales) of materials regionally and nationally;
- Predicted reductions in the landfill capacity of regional and national infrastructure; and
- The likely types and estimated quantities of material resources required (including site arisings generated) for the Proposed Scheme have been assessed. Impacts and effects have been evaluated at a regional (and where justified, national) level, in accordance with available information.

The likely types and estimated quantities of waste to be generated by the Proposed Scheme have been assessed. Impacts are evaluated against the capacity of regional (or, if appropriate, national) landfill infrastructure

BASELINE

Currently, minimal quantities of material resources are consumed during the operation of Drax Power Station. Similarly, minimal volumes of site arisings are generated, and these are limited to surplus materials produced during minor repair works on existing power plant infrastructure and site access roads.

Current operational (non-ash) waste from the power generation process at the Drax Power Station Site is minimal when taking account of the current available regional capacity of waste disposal facilities (i.e., landfills, waste processing and transfer facilities). Drax has existing measures in place for the treatment and disposal of waste through the current operation of the plant in line with a current corporate commitment to divert 95% of waste from landfill.

The Yorkshire and Humber region generally has a higher-than-average availability of construction materials in comparison to other UK regions. For example, stocks of concrete block and sales of recycled and secondary aggregate are amongst the highest in the UK.

The majority of the Drax Power Station Site and the surrounding area overlie both a brick clay Mineral Safeguarding Area (MSA) and a sand and gravel MSA. However, the mineral resources within the Order Limits are already constrained by existing infrastructure.

Waste capacity in the Yorkshire and the Humber region is forecast to reduce by as much as 100% (inert waste), 100% (non-inert waste), and 59% (total waste) from 2020 to 2029, in the absence of future provision. The North Yorkshire Minerals and Waste Joint Plan has identified the future shortfall in capacity in the region and policies include proposals to develop additional non-inert landfill sites to counter this.

Landfill capacity is likely to reduce prior to and during the construction and operation of the Proposed Scheme. Indeed, in the absence of future provision, landfill capacity in the region is unlikely to be available after 2027. However, there are waste reuse and recovery facilities available in the region to divert waste arisings generated by the Proposed Scheme from landfill and there are plans to expand existing landfill capacity in the region, as stated in the Minerals and Waste Joint Plan document produced by North Yorkshire County Council, City of York Council and North York Moors National Park Authority.

Baseline data indicates therefore that there is likely to be sufficient infrastructure and capacity for managing construction, demolition and excavation wastes from the Proposed Scheme.

LIKELY SIGNIFICANT EFFECTS

Construction

The construction of the Proposed Scheme will require approximately 422,473 tonnes of materials including aggregate, asphalt, concrete, earthworks (imported), steel, plastics (excluding packaging), woven geotextile filter fabric and approximately

59,115 m of cabling. Based on the available data for the UK and the Yorkshire and the Humber region, there are currently no significant issues regarding material supply and stock.

With regards to natural resources, the Proposed Scheme will use approximately 0.6% primary aggregate (sand, gravel, crushed stone and recycled concrete), 4% ready-mix concrete, 0.4% asphalt and 0.1% steel of available regional material and it is considered that there would be no significant effects in relation to material resource consumption.

The Proposed Scheme will manage and reuse approximately 77% of the excess material from earthworks on site as backfill for piling, drainage and cabling and will also reuse approximately 55,600 tonnes of aggregate as structural backfill.

The construction of the Proposed Scheme is expected to generate waste comprising aggregate, earthworks cut, hazardous waste, contaminated waste and general construction waste such as packaging, surplus materials / off-cuts. The Applicant is currently committed to divert 95% of waste from landfill, reuse arisings and imported materials and will also develop and implement measures to minimise the amount of waste disposed of to landfill, in line with the Site Waste Management Plan and Materials Management Plan. However, when materials cannot be reused on site or are not suitable for reuse, such as contaminated waste, these will be disposed of to an appropriate landfill. During construction, it is not expected that any inert waste arisings generated will be disposed of to landfill. It is not anticipated that the generation of waste in relation to the Proposed Scheme would result in significant effects.

Operation

The volume of non-hazardous generated during operation is estimated to be 1,380 m³ per annum and will not reduce regional landfill void by more than 1% of the remaining capacity. The availability of remaining landfill capacity for non-hazardous waste within the Yorkshire and Humber region is expected to reduce considerably (by >10%) by 2029 but the development of additional landfill sites is proposed with their capacity to be determined in the future. The volume of hazardous waste generated by the Proposed Scheme during operation is estimated to be 11,213 m³ per annum and will not reduce regional landfill void by more than 0.1% of the remaining capacity. Overall, it is not anticipated that there would be significant effects in relation to operational waste generation (for both non-hazardous and hazardous waste).

SUMMARY

The assessment concludes there are no significant effects during the construction and operation of the scheme in the type and volume of materials used and waste disposed of to landfill (both non-hazardous and hazardous).

5.10. CLIMATE RESILIENCE

OVERVIEW

The climate resilience assessment considers the vulnerability of the Proposed Scheme to climate change, in particular from extreme weather events and long-term climate change during the operational phase. The potential effects of climate change during construction were not assessed as it was considered that, given that construction would take place by the end of 2029, and that measures in a construction environmental management plan could address risks in relation to climate, it was unlikely that there would be significant environmental effects. It was considered that decommissioning effects would be similar to construction and could be controlled via measures in a decommissioning environmental management plan (which would account for the prevailing climate situation at that time) and this phase of the Proposed Scheme was therefore also not assessed.

HOW HAVE EFFECTS BEEN ASSESSED?

The focus of the climate resilience assessment is the impact of climate on the Proposed Scheme (rather than the impact of the Proposed Scheme on the environment). The study area for the assessment is therefore the Proposed Scheme's Order Limits.

Baseline conditions (both current and future) are assessed following the Institute of Environmental Management and Assessment 'Environmental Assessment guide to Climate Change Resilience and Adaptation'. Likelihood and consequence are assessed using guidance in National Highways Design Manual for Roads and Bridges Climate guidance (LA114).

The assessment identifies climate variables that have the potential to impact upon the Proposed Scheme operational phase including extreme precipitation events, wetter winters and flooding, hotter summers and extreme temperature events, increased levels of humidity, extreme wind / storm events and sea level rise. The likelihood and consequence of these events are then assessed.

The operation phase of the Proposed Scheme has the potential to be significantly affected by climate change, namely through the following variables: rainfall, temperatures, wind, humidity and sea level rises. Therefore, the change in these five variables have been assessed for the 2020s and the 2050s.

Sensitive receptors that have been identified for the Proposed Scheme include the Carbon Capture Plants (including the additional infrastructure associated with the Carbon Capture Plants), existing infrastructure, ancillary works and both the Habitat Provision Area and the Off-site Habitat Provision Area.

BASELINE

Based on Met Office records the existing climatic baseline for the Proposed Scheme area (North East England) consists of a lower than average monthly rainfall of 50 mm compared to the average North East rainfall of 80 mm however the region does

experience some extreme rainfall events. The heaviest rainfall events in the UK are often associated with thunderstorms, which are most likely to occur May to September with a peak in July to August.

The environment is influenced by the altitude of the Pennines and the North Sea which creates a cool, dull and wet environment. Wind speed in North East England is heavily influenced by the local terrain and associated passage of depressions close to or across the UK, the period November to March has the highest mean speeds and the peak gusts follow a similar pattern.

The North East of England region is cooler than the UK average with an annual temperature averaging 8°C, compared to 9°C for the UK however the region does experience extreme temperatures. This includes a short but exceptional heatwave in late July with temperatures of 30°C recorded through much of northern England, and up to 33°C at Church Fenton weather station. Over most of the North East of England region, snowfall is normally confined to the months from November to April, but upland areas such as the Pennines may have brief falls in October and May.

The average humidity for region is recorded as averaging approximately 76-78% in the summer and 84-86% in the winter. The northern and southern part of site is located in an area that is indicated to be at high risk of flooding but also benefits from the existing flood defences on the River Ouse.

In the future climate change is expected to lead to wetter, warmer winters and drier, hotter summers with more extreme events such as storms and heatwaves. Humidity is anticipated to increase but it is difficult to predict changes to wind in the future although it is anticipated that they could become more extreme. By 2050 there could be increases in river flows and sea level which could lead to flooding at the Proposed Scheme.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

As explained above, construction and decommissioning activities were not scoped into the Climate Resilience assessment.

Operation

As a result of changes to climate during operation it is anticipated that impacts could include increased flooding, vigorous vegetation growth but also die back due to higher temperatures, damage to structures and equipment including paved surfaces, drainage infrastructure, water cooling systems, security infrastructure and power supply, and soil structure. Higher temperatures could also lead to an increase of risk fires on site.

However, mitigation including, provision of additional floodplain storage, raising sensitive equipment above predicted flood levels, using heat resistant materials in pavements and designing buildings to cope with higher wind speeds means that these effects would not be significant.

SUMMARY

The likelihood of flooding, deterioration in structures and the effects of wind loading on the Proposed Scheme are all considered to be not significant.

5.11. GREENHOUSE GASES

OVERVIEW

The Greenhouse Gas (GHG) assessment has considered the impacts of construction and operation and their effects on climate, specifically GHG emissions.

Decommissioning has been excluded due to the design life of the Proposed Scheme being 25 years meaning that there are uncertainties around deconstruction techniques and the associated GHG emissions that would arise. As biomass units 1 and 2 are part of the Proposed Scheme and biomass units 3 and 4 are not, the assessment only considers units 1 and 2.

For construction the assessment has considered “embodied” GHG emissions linked to manufacture and use of construction materials, transport of construction materials and waste, use of plant and equipment and land use change. For operation replacement and refurbishment of materials, the biomass supply chain, energy and solvent use and land use change has been assessed.

HOW HAVE EFFECTS BEEN ASSESSED?

The assessment has been carried out following the guidance provided by the Institute of Environmental Management and Assessment and PAS 2080 - carbon management in infrastructure - which aims to reduce carbon through the lifetime of a project. There isn't a specific study area for the assessment but rather the assessment focuses on any increase or decrease of GHG emissions as a result of the Proposed Scheme, wherever they may be.

The assessment focusses on those GHG emissions sources that would change between the baseline “do nothing” scenario and those emissions as a result of the Proposed Scheme only. In the ‘do nothing’ scenario GHG Emissions occur constantly and widely as a result of human and natural activity. This includes GHG Emissions related to energy consumption (fuel, power), industrial processes, land use and land use change.

The emissions from the two biomass units that are not subject to carbon capture (units 3 and 4) would not be impacted for the Proposed Scheme so the baseline for these units would remain unchanged in a with Proposed Scheme scenario.

The GHG baseline for the Proposed Scheme is calculated by identifying GHG emissions in relation to the current operation of Units 1 and 2. This comprises: the combustion of biomass and energy needed to operate Units 1 and 2; the biomass supply chain (e.g., for production and transport of biomass); and carbon stored in vegetation and soils at the Drax Power Station which will be disturbed as part of the

Proposed Scheme. The baseline scenario involves no construction activities and therefore the construction baseline is zero GHG emissions.

The assessment of significance of effects associated with GHG emissions is based on the Proposed Scheme net impacts in addition to whether the project contributes to reducing GHG emissions in comparison to the baseline. The GHG emissions associated with the Proposed Scheme are also compared to UK carbon budgets.

BASELINE

GHG Emissions in the current baseline scenario include biomass combustion from two biomass units and the biomass supply chain (e.g. for production, processing and transport) and carbon stored in the organic matter (i.e. vegetation and soils) at the Drax Power Station which will be disturbed as part of the Proposed Scheme.

In the baseline scenario, an “optimistic yet realistic” view has been taken for the operation of Units 1 and 2. It has been assumed that each unit will operate under a “mid-merit” scenario where each of Units 1 and 2 operate at full load for 4000 hours per annum.

Carbon dioxide equivalent or “CO₂e” is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of CO₂ which would have the equivalent global warming impact.

The total baseline GHG emissions have been calculated to be 547,915 tCO₂e per annum. Under the Intergovernmental Panel on Climate Change (IPCC) guidelines GHG Emissions from the combustion of biomass is considered as ‘zero’ however the Proposed Scheme is expected to be carbon negative during operation inclusive of supply chain emissions.

The impacts of GHG emissions relate to their contribution to global warming and climate change which are global and cumulative in nature. GHG emissions result in the same global effects wherever and whenever they occur and, therefore, the receptor is the global atmosphere which has a high sensitivity given the consequences of global climate change.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

The overall construction phase GHG emissions for the Proposed Scheme are 104,700 tCO₂e. The construction phase would result in an increase in GHG emissions compared to the baseline ‘do-nothing’ scenario. Mitigation during construction will include using low carbon technologies and implementing a site waste management plan and materials management plan to maximise the reuse of material resources and site arisings. The impacts of this mitigation are not however quantifiable at this stage of the project and, based on the current design information,

the effects of the Proposed Scheme on GHG emissions during construction would be significant.

Operation

In the operational phase, it has been assumed that Units 1 and 2 would operate continuously at baseload for all hours of the year (8,760 hours per annum). This assumption represents a reasonable worst-case operating profile.

Overall, the operation of the Proposed Scheme would result in a reduction of 7,975,620 tCO₂e per year compared to the baseline 'do-nothing' scenario. This Plate includes GHG emissions from the biomass supply chain and removal (sequestration) of CO₂ from the atmosphere from the Carbon Capture Plant (which outweighs the biomass supply chain emissions). Based on the current design information the operation phase GHG emissions for the Proposed Scheme would therefore result in a significant beneficial effect.

Looking at the whole life of the Proposed Scheme including the construction phase and the anticipated operating period of 25 years there would be a total reduction of GHG emissions per year of 7,972,111 tCO₂e per year which represents a significant beneficial effect.

SUMMARY

Whilst there would be significant adverse effects in relation to GHG emissions during construction, over the whole life of the Proposed Scheme there would be a significant beneficial effect due to carbon captured resulting in a net reduction in emissions in comparison to the baseline scenario.

5.12. POPULATION, HEALTH AND SOCIOECONOMICS

OVERVIEW

Population, health and socio-economics considers the potential impacts of the Proposed Scheme on the local population, human health and socio-economics at a local and regional scale. The assessment evaluates the likely significant effects that the Proposed Scheme may have on the local community and businesses as well as the local and wider economy during construction, operation and decommissioning.

The assessment of population, health and socio-economics focuses on the potential impacts associated with the generation of employment opportunities during construction, operation and decommissioning; disruption to local commercial businesses (including shops and other services) during construction; and increased demand for accommodation and local facilities due to an influx of workers during construction.

HOW HAVE EFFECTS BEEN ASSESSED?

A study area of 500 m from the Order Limits has been used for land use and accessibility, and development and land use elements of the assessment. For

impacts to accommodation and community facilities, the study area looks at the local towns in close proximity to the Proposed Scheme, such as Selby, Goole and Camblesforth, with a catchment of 2 km. The study area for employment generation focuses on the Yorkshire and the Humber region; this is because much of the construction and operational phase workforce would be drawn from the region.

For land use elements of the Proposed Scheme National Highways design manual for roads and bridges guidance – Population and Human Health (LA112) has been used. There is formal guidance in relation to the socio-economics assessment, and the assessment has been guided by the Government's planning policy and guidance (particularly the NPPF, NYCC's Economic Recovery and Growth Plan and SDC's Selby Local Plan as detailed above), as well as past experience and professional judgement.

A qualitative assessment has been carried out in relation to the demand for accommodation and community facilities from construction workers which looks at the magnitude of change due to workers coming into the area during the construction of the Proposed Scheme. In relation to the generation of employment opportunities, the anticipated number of jobs generated during construction of the Proposed Scheme is evaluated against the total number of employees in the regional construction industry to determine the magnitude of change. For changes in access to development land and businesses a qualitative approach is taken in relation to disruption caused during the construction of the Proposed Scheme.

Significance is assessed by combining the magnitude of change and the sensitivity of the receptor. Effects can be short, medium or long term, permanent or temporary and adverse or beneficial.

Baseline information has been informed by data on population, labour market profiles and indices of deprivation. Public Health England data on health indicators as well as relevant local authority reports have also been used to inform the baseline.

Sensitive receptors include working age individuals, local businesses and community receptors (e.g. community land and assets).

BASELINE

The Proposed Scheme is located within the NYCC area, in the local authority of Selby in the Yorkshire and the Humber region. In 2020, the population of Selby district was 91,700 and was the fourth most populous of the seven local authority areas in NYCC. Selby District Council has an older population when compared to the national average, indicated by a lower-than-average proportion of the 15-24 age group and a higher than average proportion of the over 65 age group. The proportion of those within the working age group who are employed is in line with the national average at 78%. Selby District Council SDC is in the 30% least deprived local authorities in England. It has a slightly lower job density than the national average with most employment within the services and manufacturing sectors and has a lower skilled workforce in comparison to the national average.

There are a number of businesses situated within 500 m of the Order Limits and a number of facilities within the towns of Selby and Goole, including shops, parks and open spaces, medical facilities, and restaurants. In terms of local accommodation there are 202 bedrooms within the local area which could provide temporary and short-term accommodation for construction workers.

LIKELY SIGNIFICANT EFFECTS

Construction / Decommissioning

The Proposed Scheme will generate an estimated 4,500 total net construction jobs per annum throughout the construction period, 3,825 of which will be in the local (SDC and ERoY) area and therefore there would be a significant beneficial effect.

The influx of construction workers could place additional pressure on local temporary accommodation facilities particularly within the local towns of Selby and Goole. However, the cities of York, Doncaster, and Leeds are all situated approximately 20-minutes away by road and offer a considerable range of accommodation options. Therefore, the effects on increased demand for accommodation due to influx of construction workers not considered to be significant.

The main access routes for the development land and businesses surrounding the Site are likely to be the same as the main access route for construction of the Proposed Scheme. Employees travelling to and from the Site would also use Main Road for access. It is likely that the primary mode of transport used by construction employees would be private vehicles due to the Site's location. It is anticipated that the only time access to development land or local businesses would be restricted is during the movement of Abnormal Indivisible Loads (AIL) from Goole to the Site and the effect of the Proposed Scheme on development land and business is not anticipated to be significant.

Operation

No significant effects are anticipated on Population, Health and Socio-economics during the operation phase.

SUMMARY

The generation of employment opportunities during construction and the fact the employees and contractors will be staying close to site will bring benefits to local businesses through increased spend. Therefore, there is likely to be a beneficial significant effect on the local economy. There could be increased demand for local accommodation due to influx of construction workers, but this is not anticipated to be significant. Furthermore, effects to development land and businesses are not anticipated to be significant.

5.13. MAJOR ACCIDENTS AND DISASTERS

OVERVIEW

The major accidents and disasters assessment reports on the potential vulnerability of the Proposed Scheme to major accidents and / or disasters.

A *major accident* is defined as ‘an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment. Serious damage includes the loss of life or permanent injury, or permanent, long lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts’.

A *disaster* is defined as a ‘naturally occurring phenomenon such as an extreme weather event (for example a storm, flood, temperature) or ground related hazard event (for example subsidence, landslide and earthquake) that has the potential to cause an event or situation’ that meets the definition of a major accident (described above).

The assessment outlines the potential major accidents and / or disasters to which the Proposed Scheme may be vulnerable during construction, operation and decommissioning.

HOW HAVE EFFECTS BEEN ASSESSED?

There is no specific guidance on how to consider major accidents and disasters in EIA, however relevant good practice methodologies have been used to inform the assessment methodology as well as professional experience. A review of available documentation and regulatory requirements has been carried out to inform the assessment.

The potential for identified relevant major accidents and / or disasters to result in a significant adverse environmental effect has been evaluated using a risk based approach. The approach has considered the environmental consequences of a ‘major accident and / or disaster’, the likelihood of these consequences occurring, taking into account planned design and embedded mitigation, and the acceptability of the subsequent risk to the environment.

Key external influencing factors (such as flooding, flood risk from reservoirs, major accident hazard sites, road transport accidents, flood defence failure) that may have high adverse consequences were identified to be within 100 m of the Proposed Scheme.

The events considered within the assessment are all low likelihood (no more than once in 10 year occurrence during construction and no more than once in 100 year occurrence during operation) but could potentially be high consequence events (events that will lead to significant adverse effects).

BASELINE

The baseline for major accident(s) and disaster(s) looks at the baseline and sensitive receptors identified in other technical chapters within the ES including transport, air quality, biodiversity, ground conditions, water and climate, and the interaction between them.

LIKELY SIGNIFICANT EFFECTS

Construction and Decommissioning

Two major accident and / or disaster events have been identified to which the Proposed Scheme may be vulnerable during the construction and decommissioning phase. These are in relation to earthworks and construction activities causing damage to existing structures which could harm workers and road users; and increased road accidents due to additional traffic associated with construction / decommissioning. With the implementation of mitigation that has been put in place in the technical chapters including Traffic and Transport, Air Quality and the Water Environment, it is considered that these risks would be managed to be as low as reasonably practicable (ALARP).

Operation

Three major accident and / or disaster events have been identified to which the Proposed Scheme may be vulnerable during the operational phase. These are in relation to a major fire on the BECCS plant effecting other installations on site and two scenarios leading to the loss of containment of carbon dioxide causing a cloud of gas with potential off-site toxicity and fogging effects. With the implementation of mitigation that has been put in place in the technical chapters including Traffic and Transport, Air Quality and the Water Environment, it is considered that these risks would be managed to be as low as reasonably practicable (ALARP).

SUMMARY

For the potential major accident and / or disaster events identified, the assessment has concluded there is no likely requirement for further mitigation measures, as based on the information currently available in the other technical chapters, it is deemed that the risks are anticipated to be ALARP.

5.14. CUMULATIVE EFFECTS

OVERVIEW

The assessment of cumulative effects considers two forms of cumulative impacts:

- **Intra-project combined effects** – the interaction and combination of different residual (post-mitigation) environmental effects of the Proposed Scheme affecting the same receptor (for example, a residential property could be exposed to changes in noise levels and air quality as a result of the construction of the Proposed Scheme); and

- **Inter-project Cumulative Effects** – the combined residual (post-mitigation) environmental effects of the Proposed Scheme with a committed project (or projects) affecting the same receptor.

For intra-project combined effects, it is considered that cumulative effects from decommissioning would be similar to, and no worse than, effects experienced during construction. For inter-project effects, the assessment is undertaken on known developments that are in the process of being developed e.g. designed (pre-planning), in –planning (planning application submitted) or in construction. As the Proposed Scheme has a design life of 25 years, it is considered that there is too much uncertainty about other projects that would act cumulatively at that time in the future to be able to carry out an assessment for the decommissioning phase.

HOW HAVE EFFECTS BEEN ASSESSED

The study areas for intra-project effects are those detailed in each individual assessment. The study areas for the assessment for inter-project cumulative effects uses the Zone of Influence, or the area within which environmental impacts could occur, for each topic.

Intra-Project Combined Effects

The approach to the assessment of intra-project combined effects considers the changes in baseline conditions at common sensitive receptors as a result of the Proposed Scheme.

The potential intra-project combined effects have been identified by reviewing the conclusions of the technical topics and their effects on common sensitive receptors identified in the ES. These effects are then assessed using professional judgement and the conclusions of the technical topics and technical specialists.

Inter-Project Cumulative Effects

A four step approach to the assessment of cumulative effects following the Planning Inspectorate Advice Note 17 – cumulative effects assessment, has been broadly followed as explained below.

Stage 1: Establish the Zone of Influence (ZOI) and long list of ‘other developments’

The long list was developed by carrying out a desk study using publicly available online information and was produced in consultation with Selby District Council.

Stage 2: Identify short list of ‘other development’ for cumulative effects assessment.

The short list was developed by filtering the long list using the following criteria:

- Residential developments must comprise of 10 + dwellings and lie within 15 km of the Proposed Scheme;

- Nationally Significant Infrastructure Projects (NSIPs) must lie within 15 km of the Proposed Scheme, with the exception of projects proposed as part of Zero Carbon Humber;
- Retail or commercial developments over 500 sqm and within 15 km of the Proposed Scheme;
- Mineral and waste developments within 15 km of the Proposed Scheme;
- Transport and infrastructure developments that were within 15 km of the Proposed Scheme;
- Developments which are within 15 km of the Proposed Scheme for air quality including potentially large emitting plant outside of this distance, specifically associated with Keadby 2 and Keadby 3 (22 km from Site) and, following statutory consultation responses from Doncaster Council, an energy from waste plant in Kirk Sandall (21 km from Site);
- The temporal scope of developments, e.g. overlap of construction and operation phases with the Proposed Scheme; and
- Available documentation, i.e. whether there is sufficient environmental information available on a committed development to make an appropriate assessment.

It was considered that planning applications that did not fit this criteria were of a scale (in terms of potential magnitude of impact) or type that would not result in cumulative effects.

Stage 3: Information gathering for ‘other developments’

This stage involves collating and reviewing the available information relating to the ‘other developments’ on the short list in order to inform the Stage 4 assessment. This includes location, design information, programme for construction, operation and decommissioning, and likely potential environmental effects. Information gathered at this stage was primarily from the public domain (including the LPA planning portals and the Planning Inspectorate website).

Stage 4: Assessment of cumulative effects.

The assessment of the inter-project cumulative effects is based upon the residual effects identified in the technical topics of the ES as well as available information for the committed developments.

LIKELY SIGNIFICANT EFFECTS

Construction

Intra-project Effects

Potential significant effects have been identified for residents with east and north east facing views living in Camblesforth, Camela Lane and Clay Lane and residents with western facing views living along Pear Tree Avenue, Wren Hall Lane, Carr Lane and Main Road but these would be temporary. The effects would be in relation to a

combination of a disruption to views and potentially increased noise and dust during construction. These effects would, however, be no greater than those already identified in the Air Quality, Noise and Landscape and Visual Amenity assessment.

Inter-project Effects

During construction it is anticipated that there could be significant effects on common landscape and visual receptors (residents and footpath users) in combination with other developments. These effects would be temporary and would result in a change in views for residents and footpath users within Drax, Camblesforth and Carlton villages and footpath users and recreation users of the River Ouse. Significant effects are also anticipated in combination with one 'other development' - Barlow Mound Ash Recovery (Short List ID6) for breeding and wintering birds. These would be temporary adverse effects significant at the District Level and are no greater than for the Proposed Scheme on its own. No additional mitigation measures are therefore proposed.

There is likely to be a beneficial socio-economic effect associated with temporary construction employment generated, both directly to the development and indirectly across wider supply chain.

Operation

No significant intra-project or inter-project effects have been identified for the Proposed Scheme during operation.

Summary

Significant *intra-project* effects have been identified on receptors living near the Order Limits in relation to a combination of a disruption to views and potentially increased noise and dust during construction. These effects are anticipated to be no worse than the effects already described in the relevant topics. There would be no significant intra-project effects during operation.

The assessment of *inter-project* effects during construction has identified the potential for significant effects in relation to a change in views for residents and footpath users but these would be no worse than those described the landscape and visual impact assessment. There are likely to be beneficial socio-economic inter-project cumulative effects associated with employment generated in the local area during construction and operation.

6. THE DCO APPLICATION DOCUMENTS

On acceptance of the Application, all application documents will be available on the Drax BECCS project page of the PINS website via the following link:

<https://infrastructure.planninginspectorate.gov.uk/projects/yorkshire-and-the-humber/drax-bioenergy-with-carbon-capture-and-storage-project/?ipcsection=docs>

In addition, the Applicant will, via the section 56 Notification procedure, confirm where electronic versions of the application documents can be inspected at a location (or locations) in the vicinity of the project upon confirmation of acceptance of the Application.

7. WHAT HAPPENS NEXT?

An application for a DCO has been submitted to the Planning Inspectorate, who will determine the application on behalf of the SoS. If granted the DCO will give the Applicant the legal power to construct the Proposed Scheme.

Once the Inspectorate confirms that the application has been accepted for examination, the pre-examination phase will begin. During this phase interested parties can register their interest and make a relevant representation to the Planning Inspectorate. The pre-examination phase ends following the Preliminary Meeting (which deals with procedural issues), which interested parties will be invited to attend. The Planning Inspectorate will appoint an Inspector(s) (the Examining Authority) on behalf of the SoS.

The examination period is held over a period of up to six months, during which time a series of hearings are held to help address the key issues and interested parties are also able to make a series of written submissions. Interested parties may attend the hearings, make statements and ask questions. Following the conclusion of the examination the Examining Authority has three months to provide a recommendation to the SoS on whether the DCO should be granted. The SoS then has a further three months to come to a decision. Once the decision is published, there is a six-week High Court Challenge period. If there are no challenges to the decision, it becomes final.