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1. Introduction

1.1 Background

1.1.1 This Environmental Statement (ES) has been prepared by AECOM Ltd (AECOM) on behalf of Net Zero Teesside Power Limited (NZT Power) and Net Zero North Sea Storage Limited (NZNS Storage), together the Applicants, to support an application (the Application) to be made to the Secretary of State (SoS) for Business, Energy and Industrial Strategy (BEIS). The Application is seeking Development Consent for the construction, operation, maintenance and decommissioning of the Net Zero Teesside (NZT) Carbon Capture, Utilisation and Storage (CCUS) Project (the Proposed Development) on land at Redcar and Stockton-on-Tees on Teesside (see Figure 1-1: Site Location Plan, ES Volume II, Document Ref. 6.3). Figure 1-1 shows the Site boundary which is the limits of the proposed Development Consent Order (DCO) ("Order Limits").

1.1.2 This Environmental Statement presents:

- a description of the Proposed Development;
- the alternative sites, technologies and layouts considered;
- the likely significant environmental effects of its construction, operation, maintenance and decommissioning; and
- measures to avoid or reduce such effects.

1.1.3 This ES is provided in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'), in order to inform the consideration of the Application and provide the SoS with part of the environmental information that must be taken into account when determining the Application.

1.1.4 The location of the Site is shown in Figure 1-1: Site Location Plan (ES Volume II, Document Ref. 6.3). The Site and its surroundings are described in Chapter 3: Description of the Existing Environment (ES Volume I, Document Ref 6.2). A detailed description of the Proposed Development is provided in Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2).

1.2 The Applicants

1.2.1 NZT is being promoted by Net Zero Teesside Power Limited ('NZT Power') and Net Zero North Sea Storage Limited ('NZNS Storage'). NZT Power and NZNS Storage (together the Applicants for the purposes of the Application) have been incorporated on behalf of bp as operator of the two Partnerships.

1.2.2 NZT Power comprises bp, Eni, Equinor, and Total, with bp leading as operator. NZT Power will be responsible for NZT in so far as it relates to the construction, operation and eventual decommissioning of the electricity generating station together with its carbon capture plant.

1.2.3 NZNS Storage comprises bp, Eni, Equinor, National Grid, Shell and Total, with bp leading as operator. NZNS Storage will be responsible for the

construction, operation and decommissioning of the equipment required for the high-pressure compression of CO₂ from the electricity generating station and local businesses/industries, as well as the CO₂ Gathering Network and the onshore section of the CO₂ Export Pipeline – these are all within the scope of the Application.

- 1.2.4 NZNS Storage will also be responsible for the offshore elements of NZT, comprising the offshore section of the CO₂ Export Pipeline to a suitable offshore geological CO₂ storage site under the North Sea, CO₂ injection wells and associated infrastructure. The offshore elements of NZT (with the exception of the gas and CO₂ pipeline crossings of the River Tees and the water outfall from the electricity generating station) are not included in the Application and will be subject to separate consent applications.
- 1.2.5 More information on NZT Power and NZNS Storage and the project partners can be found in the Funding Statement (Document Ref. 3.3).

1.3 The Proposed Development

- 1.3.1 The Proposed Development comprises the construction, operation, maintenance and decommissioning of a CCUS project. It includes a Low-Carbon Electricity Generating Station with a gross electrical output of up to 860 megawatts (MWe) together with equipment required for the capture and compression of carbon dioxide (CO₂) emissions from the generating station and the installation of a wider industrial CO₂ Gathering Network on Teesside.
- 1.3.2 The Proposed Development also includes equipment for high-pressure compression of CO₂ and the landward section of the proposed offshore CO₂ Export Pipeline, i.e. above Mean Low Water Springs (MLWS). The CO₂ will then to be exported by undersea pipeline to the offshore Endurance geological storage facility under the North Sea, located approximately 145 km to the south-east of Teesside. The transport of CO₂ below MLWS and its storage are not part of the Proposed Development and are not included within the Application but will be the subject of separate consent applications.
- 1.3.3 NZT Power will be responsible for the NZT Project in so far as it relates to the construction, operation, maintenance and decommissioning of the gas-fired power station together with the equipment required for the capture of its CO₂ emissions. This would include a gas pipeline crossing of the tidal River Tees and the water outfall from the Proposed Development which are also below Mean High Water Springs (MHWS¹).
- 1.3.4 NZNS Storage will be responsible for the NEP Project in so far as it relates to the construction, operation, maintenance and decommissioning of the equipment required for the on-site high-pressure compression of CO₂ from the power station and local businesses/industries, as well as the CO₂ Gathering Network (including a crossing of the tidal River Tees) and the onshore section of the CO₂ Export Pipeline (i.e. above MLWS¹)
- 1.3.5 NZNS Storage will also be responsible for the offshore elements of the NEP Project below MLWS, comprising the offshore section of the CO₂ Export

¹ This DCO application covers land above MLWS, whilst a Marine Licence is required for developments below MHWS. There is therefore overlap between the on-shore and off-shore consenting regimes.

Pipeline to the Endurance geological store under the North Sea, CO₂ injection wells and associated infrastructure These elements, do not form part of the Application for development consent and will be consented separately.

- 1.3.6 Whilst the Proposed Development is designed for the future collection and sequestration of CO₂ from third-party industrial emitters on Teesside, the capture of these emissions does not form part of the Application. Third-party connections to the wider carbon capture network installed as part of this development will be the subject of separate consent applications. These future developments are not therefore considered in this ES, other than as part of the cumulative assessment process where sufficient information is available (refer to Chapter 24 in ES Volume I, Document Ref. 6.2).

1.4 The Development Consent Process

- 1.4.1 Part of the Proposed Development falls within the definition of a Nationally Significant Infrastructure Project (NSIP) under Section 14(1)(a) and Sections 15(1) and (2) of the Planning Act 2008 (the Act) as it includes an onshore electricity generating station (i.e. not generating electricity from wind) in England that will have a generating capacity greater than 50 MWe output. As such, a Development Consent Order (DCO) is required to authorise this part of the Proposed Development in accordance with Section 31 of the Act.
- 1.4.2 Section 115 of the Act also states that a DCO can include consent for ‘associated development’, that is, development that is not part of, but is associated with the NSIP. This may be development that supports the construction or operation of the NSIP, which helps to address the impacts of the NSIP or is of a type normally brought forward with the particular type of NSIP (here the generating station).
- 1.4.3 A request for a direction under Section 35 of the Act was sent to the SoS for Business, Energy and Industrial Strategy on the 25th November 2019 to formally request that the following elements (the Specified Elements) of the Proposed Development should be treated as development for which Development Consent under the Act is required:
- the CO₂ Gathering Network;
 - the CO₂ Compressor Station; and
 - the CO₂ Export Pipeline (landward element).
- 1.4.4 The SoS issued a direction on the 17th January 2020 which confirmed that the Specified Elements, together with any matters/development associated with them, are to be treated as development for which Development Consent is required. This is subject to the condition that the Specified Elements form part of the NZT Project which includes a generating station that is an NSIP (which it does).
- 1.4.5 Development Consent is granted by the SoS in the form of an Order (a Development Consent Order or DCO). A DCO has the effect of granting consent for a development in addition to a range of other consents and authorisations, as well as removing the need for some other consents (such as planning permission).



- 1.4.6 An application for Development Consent for the Proposed Development has been submitted to the Planning Inspectorate (PINS) acting on behalf of the SoS. Subject to the Application being accepted (which will be decided within a period of 28 days following receipt of the Application), PINS will then examine it and make a recommendation to the SoS, who will then decide whether to grant a DCO.
- 1.4.7 Those parts the Proposed Development which are below MHWS will require a Marine Licence from the Marine Management Organisation (MMO). The Application includes a request to secure the Marine Licence via a Deemed Marine Licence (DML) (Document Ref. 2.1).

1.5 Environmental Impact Assessment and the Purpose of the Environmental Statement

The EIA Scoping Process

- 1.5.1 The Applicants have notified the SoS in writing under Regulation 8(1)(b) of the EIA Regulations that it intended to provide an ES in respect of the Proposed Development. The Proposed Development is therefore 'EIA development' for the purposes of the EIA Regulations and an ES will form part of the Application.
- 1.5.2 The purpose of the EIA Scoping process is to determine which topics should be included in the EIA, and the level of detail to which they should be assessed. An EIA Scoping Report and a request for an EIA Scoping Opinion pursuant to Regulation 10 of the EIA Regulations was submitted to PINS on the 20th February 2019.
- 1.5.3 The EIA Scoping Report (Appendix 1A in ES Volume III, Document Ref. 6.4) was developed with reference to standard guidance and best practice and was informed by the EIA team's experience of working on a number of similar projects.
- 1.5.4 The EIA Scoping Report sets out:
- details of the Proposed Development and the Site;
 - a summary of alternatives considered;
 - a summary of existing and future baseline conditions;
 - an outline of the likely environmental effects of the Proposed Development;
 - a description of the matters to be scoped in and out of the EIA;
 - the proposed assessment methods; and
 - the proposed structure of the ES.
- 1.5.5 The SoS's Scoping Opinion was received on 2nd April 2019 and is presented within Appendix 1B (ES Volume III, Document Ref. 6.4). The matters raised have been reviewed and have being taken into consideration in the relevant technical assessments, and this ES is based on the Scoping Opinion. Further details on the EIA Scoping Opinion are set out in Chapter 2: Assessment Methodology (ES Volume I, Document Ref. 6.2).

The Environmental Statement

- 1.5.6 Following the completion of an EIA Scoping Report and publication of the SoS's Scoping Opinion, the EIA for a DCO is reported in two stages:
- a Preliminary Environmental Information (PEI) Report is prepared to inform consultation with the public and other stakeholders about the Proposed Development, based on the preliminary environmental information available at the time of consultation; and
 - an ES is prepared to accompany the Application.
- 1.5.7 A PEI Report was prepared to satisfy the requirements of Regulation 12(2) of the EIA Regulations. In accordance with Regulation 12(2)(b), the PEI Report presents “*the information referred to in Regulation 14(2) which... is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development).*” Regulation 14(2) describes the requirements of an ES.
- 1.5.8 The PEI Report was published for consultation on 30th June 2020 and the consultation period ended on 18th September 2020. Consultation responses have been reviewed and have informed the preparation of the ES.
- 1.5.9 This ES has been prepared to satisfy the requirements of Regulation 14(1) of the EIA Regulations. The information to be included in an ES is set out in Regulation 14(2).
- 1.5.10 Table 1-1 identifies where the information defined by Regulation 14(2) can be found within this ES (Document Refs. 6.1 - 6.4).

Table 1-1: Location of information required by Regulation 14(2) within this ES

Specified Information	Location Within the ES
a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development.	ES Volume I Chapter 3: Description of the Existing Environment, Chapter 4: Proposed Development, Chapter 5: Construction and Programme Management, and Chapter 6: Alternatives and Design Evolution (Document Ref. 6.2), and supporting figures and appendices to these chapters in ES Volumes II and III (Document Ref. 6.3 and 6.4, respectively).
b) a description of the likely significant effects of the proposed development on the environment.	ES Volume I Chapters 8 to 24 (Document Ref. 6.2), ‘Likely Impacts and Effects’ sections.
c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment.	ES Volume I Chapter 4: Proposed Development and Chapters 8 to 24 (Document Ref. 6.2), ‘Development Design and Impact Avoidance’ and ‘Mitigation and Enhancement Measures’ sections.
d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its	ES Volume I Chapter 6: Alternatives and Design Evolution (Document Ref. 6.2).

Specified Information

Location Within the ES

specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.

e) a non-technical summary of the information referred to in subparagraphs (a) to (d).

ES Non-Technical Summary (Document Ref. 6.1).

f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

Baseline conditions relevant to each assessment are described in ES Volume I Chapters 8 to 23 (Document Ref. 6.2), 'Baseline Conditions' sections.

Assessment methods are described in ES Volume I Chapter 2: Assessment Methodology and Chapters 8 to 24 (Document Ref. 6.2), 'Assessment Methodology and Significance Criteria' sections

Any limitations and/or difficulties with the assessments are described in ES Volume I Chapters 8 to 24 (Document Ref. 6.2), 'Limitations or Difficulties' sections.

- 1.5.11 PINS Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements (PINS, 2020) at Section 8.4 states: *"A good PEI document is one that enables consultees (both specialist and non-specialist) to understand the likely environmental effects of the Proposed Development and helps to inform their consultation responses on the Proposed Development during the pre-application stage."*
- 1.5.12 In order to enable consultees to understand the likely environmental effects of the Proposed Development, the PEI Report presented preliminary findings of the environmental assessments undertaken at the time of writing. This allowed consultees the opportunity to provide informed comment on the Proposed Development, the assessment process and preliminary findings prior to the finalisation of the Application and this ES.

1.6 Structure of this Environmental Statement

1.6.1 This ES presents:

- a description of the Proposed Development including information on the Site and the development design, size and other relevant features;
- baseline data gathered during the impact assessment process;
- information on the reasonable alternative sites, technologies and layouts that have been considered and the main reasons for the options chosen;
- an assessment of the likely significant environmental effects of the construction, operation (including maintenance) and eventual decommissioning of the Proposed Development; and

- measures that are proposed to avoid, prevent or reduce, or if possible, offset, such likely significant adverse effects
- 1.6.2 The format of this ES reflects that proposed at the EIA scoping stage and set out within the PEI Report. It covers the assessment topics agreed through the EIA Scoping process.
- 1.6.3 Volume I of the ES is structured into chapters, as follows:
- Chapters 1 and 2 – an introduction to the ES and EIA approach;
 - Chapters 3 to 6 – a description of the Site and Proposed Development including information on construction timescales and alternatives;
 - Chapter 7 – a summary of legislation and policy;
 - Chapters 8 to 22 –assessment of the likely significant effects of the Proposed Development in relation to the environmental topics scoped into the EIA;
 - Chapter 23 – a summary of the likely significant effects on population and human health as identified in Chapters 8 to 22;
 - Chapter 24 –potential inter-relationships between the topics covered in Chapters 8 to 22 (combined effects), and between the Proposed Development and other planned developments in the surrounding area (cumulative effects); and
 - Chapter 25 – a summary of the assessment of likely significant environmental effects.
- 1.6.4 Volumes II and III of the ES (Document Refs. 6.3 and 6.4) comprise the figures and technical appendices that accompany each chapter of Volume I respectively.
- 1.6.5 A separate document has also been prepared to provide a non-technical summary (NTS) of this ES (Document Ref. 6.1).

1.7 Consultation

- 1.7.1 Consultation is integral to the preparation of DCO applications and to the EIA process. The views of consultation bodies and the local community serve to focus the environmental studies and to identify specific issues that require further investigation, as well as to inform aspects of the design of the Proposed Development. Consultation is an on-going process and the publication of the PEI Report formed an important part of that process.
- 1.7.2 The Act requires applicants for development consent to undertake formal (statutory) pre-application consultation on their proposals. There are a number of requirements as to how this consultation must be undertaken that are set out in the Act and related regulations, including:
- Section 42 requires the applicant to consult with ‘prescribed persons,’ which includes certain consultation bodies such as the Environment Agency, MMO and Natural England, relevant statutory undertakers, relevant local authorities, those with an interest in the land, as well as those who may be affected by the development;

- Section 47 requires the applicant to consult with the local community on the development. Prior to this, the applicant must agree a Statement of Community Consultation (SoCC) with the relevant local authorities. The SoCC must set out the proposed community consultation and, once agreed with the relevant local authorities, a SoCC notice must be published in local newspapers circulating within the vicinity of the land in question. The consultation must then be undertaken in accordance with the final SoCC;
 - Section 48 places a duty on the applicant to publicise the proposed application in the 'prescribed manner' in a national newspaper, The London Gazette, local newspapers circulating within the vicinity of the land and certain marine publications; and
 - Section 49 places a duty on the applicant to take account of any relevant responses received to the consultation and publicity that is required by Sections 42, 47 and 48.
- 1.7.3 At the Pre- Application stage the Applicants informally consulted the local authorities in which the Proposed Development sits, namely Redcar and Cleveland and Stockton on Tees Borough Councils, and PINS prior to the submission of the EIA Scoping Report.
- 1.7.4 The Applicants undertook a formal Section 42 and Section 47 consultation (and issuing Section 48 notices), which commenced at the same time as the publication of the PEI Report on 30th June 2020 and ended on 18th September 2020. Subsequent consultation associated with changes to the Site boundary were undertaken on the following dates:
- S.42 update consultation: 7th December 2020 to 25th January 2021
 - Community update consultation: 25th January to 23rd February 2021
 - Further S.42 consultation: 12th February to 16th March and 26th March to 3rd May 2021
 - Targeted S.42 consultation: 26th March to 3rd May 2021
 - HSE Consultation Distance Consultation: 23rd March to 29th April 2021.
- 1.7.5 The issues that have been raised through consultation and how these have been considered and addressed within the design evolution of the Proposed Development and the EIA, is set out where relevant, within each of the topic chapters in the ES and in Chapter 6: Alternatives and Design Evolution (ES Volume I, Document Ref. 6.2).
- 1.7.6 The pre-application consultation undertaken by the Applicants is documented within the Consultation Report (Document Ref. 5.1). This report includes a separate section on EIA related consultation as recommended within PINS Advice Note Fourteen: Compiling the Consultation Report (PINS, 2021).
- 1.7.7 A statement of the relevant expertise and qualification of each of the contributors to the ES is required by Regulation 14(4)(b) of the EIA Regulations. This is provided in Appendix 1C (ES Volume III, Document Ref. 6.4).



1.8 References

Planning Inspectorate (2021). *Advice Note Fourteen: Compiling the Consultation Report*, Version 3, February 2021. Bristol: The Planning Inspectorate.

Planning Inspectorate (2020). *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements*, Version 7, June 2020. Bristol: The Planning Inspectorate.