



Humber Low Carbon Pipelines

Preliminary Environmental Information Report
Volume II Chapter 1 Introduction
October 2022

nationalgrid

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1. Introduction

1.1 Background

- 1.1.1 This Preliminary Environmental Information Report (PEIR) has been prepared by Arcadis UK Ltd ('Arcadis') on behalf of National Grid Carbon Limited (NGCL) ('the Applicant') (NGCL is part of National Grid Ventures (NGV), the competitive division of National Grid plc, responsible for both developing and operating a portfolio of low carbon renewable businesses in the United Kingdom (UK) and United States (US)).
- 1.1.2 The Humber Low Carbon Pipelines (HLCP) project (the 'Project') comprises of the construction of dual pipelines to transport carbon dioxide (to facilitate carbon capture, usage and storage (CCUS)) and hydrogen, along with associated Above Ground Installations (AGIs).
- 1.1.3 For further information, please refer to Chapter 2: Project Description (Volume II).
- 1.1.4 The pipelines would be underground and would extend between Drax in North Yorkshire to a landfall point at Easington (see the Project location in Figure 1.1 (Volume IV)). The Project is initially seeking to connect the following Connected Projects:
- Drax's bioenergy with carbon capture and storage (BECCS) project;
 - SSE Thermal's and Equinor's Keadby Clean Power Hub;
 - British Steel's Zero Carbon Humber scheme;
 - Uniper's blue and green hydrogen hub;
 - Equinor's Hydrogen to Humber Saltend (H2H Saltend) project; and
 - The offshore carbon dioxide pipeline being promoted by the Northern Endurance Partnership.
- 1.1.5 It is anticipated that further developments could connect at a later date. More detail on the Connected Projects is provided in Chapter 2: Project Description (Volume II), Table 2.1.
- 1.1.6 At the landfall point at Easington, the carbon dioxide pipeline only would connect to an offshore pipeline for onward transportation of carbon dioxide to the Endurance saline aquifer under the North Sea. This carbon dioxide offshore pipeline, store and associated work forms part of a separate consent for which bp is the project proponent. This Project would include works within the intertidal zone down to Mean Low Water Springs (MLWS) to facilitate the connection to the offshore pipeline. Therefore, potential impacts and necessary consents for the intertidal zone have been considered within this PEIR.
- 1.1.7 The Humber region has a high concentration of energy intensive industries concentrated in a 'cluster' and is also the UK's most carbon intensive region. The aim of this Project is to aid in the transition to a zero-carbon economy through the deployment of CCUS and hydrogen technology. This would allow the Humber region to make a significant contribution to meeting the Government's climate targets.
- 1.1.8 A full description of the Project along with a figure setting out the location of the Project is provided in Chapter 2: Project Description (Volume II).

1.2 Requirement for a Development Consent Order (DCO)

- 1.2.1 The Project is defined as two Nationally Significant Infrastructure Projects (NSIP) as set out in the Planning Act 2008 ('PA2008'), Section 14 (1)(g) and Section 21 (Ref 1.1). As NGCL is not a gas transporter and the carbon dioxide and hydrogen pipelines would each be (considerably) more than 16.093 km long, they would require consent under the Pipe-Lines Act 1962 were it not for section 33(1) of the PA2008 and both ends of each are in England. As such, the Applicant is required to obtain a DCO to construct and operate the Project.
- 1.2.2 The Department for Energy and Climate Change (now the Department for Business, Energy and Industrial Strategy) published a number of National Policy Statements (NPS) in relation to energy infrastructure, which were designated by the Secretary of State for Energy and Climate Change in July 2011.
- 1.2.3 For the Project, none of the energy NPSs directly apply, since the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) only applies to pipelines carrying natural gas (i.e., methane) and oil (see EN-4 paragraph 1.8.2). Where this is the case, section 105 of the PA2008 applies, and the Secretary of State must have regard to:
- “(a) any local impact report (within the meaning given by section 60(3)) submitted to the Secretary of State before the deadline specified in a notice under section 60(2),*
- (b) any matters prescribed in relation to development of the description to which the application relates, and*
- (c) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.”*
- 1.2.4 On this basis the following NPSs may still be relevant considerations in assessing the Project:
- Overarching National Policy Statement for Energy (EN-1) (Ref 1.2); and
 - National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 1.3).
- 1.2.5 On the 6 September 2021, the Department for Business, Energy and Industrial Strategy released drafts of revised NPSs including EN-1 (Ref 1.4) and EN-4 (Ref 1.5). This is to ensure that the energy NPSs reflect the policies and broader strategic approach as outlined in the Energy White Paper (published in December 2020 (Ref 1.6)) and to ensure that the UK planning policy framework supports the infrastructure required for the transition to net zero. Whilst the revised NPSs are yet to be designated as adopted national policy, the draft policy they contain in relation to the Project merits appropriate consideration.
- 1.2.6 The draft EN-1 (Ref 1.4) sets out the need case for hydrogen in paragraph 3.4.11 to 3.4.16. It states that developing low carbon hydrogen will be critical for meeting the UK's legally binding commitment to achieve net zero by 2050. Low carbon hydrogen has the potential to *“help decarbonise vital UK industry sectors and provide flexible deployment across heat, power and transport”*. Draft EN-1 also sets out the need case for carbon capture and storage infrastructure in paragraphs 3.5.1 to 3.5.7. It states that carbon capture and storage is required to reduce emissions associated with generating electricity from natural gas and to capture and store carbon dioxide emissions from

hydrogen production. It states at paragraph 3.5.5 that it is fundamental to the deep decarbonisation of energy intensive industries.

- 1.2.7 Draft EN-4 (Ref 1.5) has the same text as the existing EN-4 in terms of its applicability to s21 pipelines at paragraph 1.6.2 and continues only to cover pipelines carrying natural gas or oil. Paragraph 1.3.3 of the draft revised EN-1 explicitly states that EN-4 does not have effect for hydrogen or carbon capture and storage infrastructure whereas EN-1 does; EN-4 may nonetheless contain information that is important and relevant to the Secretary of State's decisions on applications for both hydrogen and carbon capture and storage infrastructure.
- 1.2.8 The Marine and Coastal Access Act (MCAA) 2009 (Ref 1.7) provides the statutory framework and the Marine Policy Statement (Ref 1.8) and the East Inshore Marine Plan (Ref 1.9) provide the policy context and be given appropriate consideration in relation to the intertidal area at the Easington landfall and associated marine licence requirements under part 4 of the MCAA. The Project will continue to engage with and consult the Marine Management Organisation (MMO) as part of the section 42 consultation requirements and seek to agree the draft (deemed) marine licence with the MMO prior to submitting the DCO application.
- 1.2.9 Elements of the Project may be consented through additional Town and Country Planning Act 1990 (as amended) (Ref 1.10) planning applications to potentially support the delivery of early construction works. If needed, further detail will be provided in subsequent stages of the application. However, for the purposes of this PEIR, it is assumed that all works are consented under the DCO and will be considered as part of the Environmental Impact Assessment (EIA).

1.3 Requirement for an EIA and the Purpose of the PEIR

The EIA Process

- 1.3.1 The term EIA describes a procedure that must be followed for certain types of projects before they can be granted consent. The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the anticipated effects and proposed mitigation for avoiding, preventing, reducing or compensating for them, are properly understood by the public and the authority before granting consent.
- 1.3.2 The Levelling-up and Regeneration Bill, introduced in Parliament on 11 May 2022 and proposes to replace the regime of EIA with a regime based on 'Environmental Outcomes Reports', however this is not expected to be in force by the time that the application for the Project is made and so this PEIR assumes that the existing EIA regime will apply.
- 1.3.3 The Project falls under Schedule 1, paragraph 16 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations') (Ref 1.11):
- "16. Pipelines with a diameter of more than 800 millimetres and a length of more than 40 km for the transport of–*
- (a) Gas, oil or chemicals;*
- (b) Carbon dioxide streams for the purposes of geological storage, including associated booster stations."*

- 1.3.4 The Applicant has notified the Planning Inspectorate (PINS) in writing under Regulation 8(1)(b) of the EIA Regulations 2017 that it intends to provide an Environmental Statement (ES) in respect of the Project. The Project is therefore ‘EIA development’ for the purposes of the EIA Regulations 2017 and an ES will form part of the DCO Application.

The EIA Scoping Process

- 1.3.5 The purpose of the EIA Scoping Report was to ensure that the EIA is focused on the key impacts likely to give rise to significant effects, and to obtain agreement on the EIA approach and scope. As well as identifying elements to be considered in the EIA, the report also identified those elements that are not considered necessary to assess further. This approach is in line with the general aim to undertake proportionate EIA, as advocated by industry best practice and as set out in paragraph 5.10 of the PINS’ Advice Note Seven (Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements) (Ref 1.12).
- 1.3.6 The EIA Scoping Report and associated request for an EIA Scoping Opinion pursuant to Regulation 10 of the EIA Regulations 2017 was submitted to PINS on 11 April 2022, please refer to Appendix 1.1: EIA Scoping Report (Volume III).
- 1.3.7 An EIA Scoping Opinion was received from PINS (on behalf of the SoS) on 20 May 2022, please refer to Appendix 1.2: EIA Scoping Opinion (Volume III). The matters raised have been reviewed and have been taken into consideration in the relevant technical assessments within Chapters 5-20 (Volume II). Further details on the EIA Scoping Opinion are set out in Chapter 4: EIA Methodology (Volume II).

Purpose of the Preliminary Environmental Information Report

- 1.3.8 Subsequent to the EIA Scoping Report and the publication of the EIA Scoping Opinion, the EIA to support a DCO application is reported in two stages:
- A PEIR – prepared to inform engagement with the public and other stakeholders about the Project, based on the preliminary environmental and design information available at the time; and
 - An ES – prepared to accompany the DCO Application.
- 1.3.9 This PEIR has been prepared to satisfy the requirements of Regulation 12(2) of the EIA Regulations 2017, In accordance with Regulation 12(2)(b), the PEIR 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).”*
- 1.3.10 PINS Advice Note 7 states: *“A good PEIR 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”*. With this in mind, this document is intended to give consultees an understanding of the potential likely significant effects to enable them to prepare well-informed responses to consultation. It presents preliminary findings of the environmental assessment work undertaken to date including environmental baseline data, stakeholder engagement completed, anticipated likely significant effects and preliminary mitigation proposals.

1.3.11 Regulation 14(2) of the EIA Regulations 2017 specifies what environmental information must be included (subject to it being reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects). Table 1.1 identifies where the information defined by Regulation 14(2) can be found within this PEIR.

Table 1.1: Location of Information Required by Regulation 14(2) within this PEIR

Specified Information	Location within this PEIR
a) <i>A description of the proposed development comprising information on the Site, design, size, and other relevant features of the development.</i>	Chapter 2: Project Description (Volume II) and Chapter 3: Consideration of Alternatives (Volume II). Supporting figures and appendices to these chapters in Volume III and Volume IV.
b) <i>A description of the likely significant effects of the proposed development on the environment.</i>	Chapters 5-20 (Volume II).
c) <i>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</i>	Chapter 2: Project Description (Volume II), Chapter 3: Consideration of Alternatives (Volume II) and Chapters 5-20 (Volume II).
d) <i>A description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, considering the effects of the development on the environment.</i>	Chapter 3: Consideration of Alternatives (Volume II). Supporting figures to this Chapter in Volume IV .
e) <i>A non-technical summary of the information referred to in subparagraphs (a) to (d).</i>	Volume I: Non-Technical Summary
f) <i>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.</i>	The baseline conditions, assessment methods, and limitations/assumptions of each environmental topic are presented in Chapters 5-20 (Volume II).

1.3.12 When reading this PEIR, it is important to understand that the information presented is preliminary. The design may be subject to refinement following further technical engineering work, influence from the results of the EIA and from having regard to the comments received through the consultation and engagement process, where

appropriate. The EIA will assess the final design and the results will be presented in the ES.

1.4 Structure and Content of this PEIR

1.4.1 The structure of this PEIR reflects the proposed structure of the ES and covers the assessment topics agreed through the scoping process. The ES – and therefore the PEIR - will be broken down into four volumes:

- Volume I: Non-Technical Summary;
- Volume II: Main Text;
 - Chapter 1: Introduction;
 - Chapter 2: Project Description;
 - Chapter 3: Consideration of Alternatives;
 - Chapter 4: EIA Methodology;
 - Chapter 5: Agriculture and Soils;
 - Chapter 6: Air Quality;
 - Chapter 7: Ecology and Biodiversity;
 - Chapter 8: Climate Resilience;
 - Chapter 9: Geology and Hydrogeology;
 - Chapter 10: Cultural Heritage;
 - Chapter 11: Landscape and Visual;
 - Chapter 12: Noise and Vibration;
 - Chapter 13: Socio-economics, Tourism and Recreation;
 - Chapter 14: Human Health and Wellbeing;
 - Chapter 15: Traffic and Transport;
 - Chapter 16: Waste and Materials;
 - Chapter 17: Hydrology and Land Drainage;
 - Chapter 18: Major Accidents and Disasters;
 - Chapter 19: Greenhouse Gases; and
 - Chapter 20: Assessment of Cumulative Effects.
- Volume III: Technical Appendices; and
- Volume IV: Supporting Figures.

1.5 Consultation and Engagement

1.5.1 Consultation and technical engagement is integral 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 Project.

- 1.5.2 For applicants seeking development consent, the PA2008 sets out the requirement for formal (statutory) pre-application consultation. In accordance with the PA2008, the Applicant is undertaking a formal Section 42 and Section 47 consultation (and issuing Section 48 notices), which will commence at the same time as the publication of this PEIR.
- 1.5.3 The issues that have been raised through consultation and how these have been considered and addressed within the design evolution of the Project and the EIA will be set out in the ES.

1.6 References

- Ref 1.1 HM Government (2008) *The Planning Act 2008*. Available at: <https://www.legislation.gov.uk/ukpga/2008/29/section/14> (Accessed: 28 May 2022)
- Ref 1.2 Department of Energy and Climate Change (2011) *Overarching National Policy Statement for Energy (EN-1)*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (Accessed: 28 May 2022).
- Ref 1.3 Department of Energy and Climate Change (2011) *National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47857/1941-nps-gas-supply-oil-en4.pdf (Accessed: 29 May 2022).
- Ref 1.4 Ministry of Business, Energy and Industrial Strategy (2021) *Draft Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (Accessed: 29 May 2022).
- Ref 1.5 Department of Energy and Climate Change (2021) *Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (Accessed: 29 May 2022).
- Ref 1.6 Department for Business, Energy and Industrial Strategy (2020) *Energy White Paper: Powering our Net Zero Future*. Available at: <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future> (Accessed: 30 May 2022).
- Ref 1.7 HM Government (2009) *Marine and Coastal Access Act 2009*. Available at https://www.legislation.gov.uk/ukpga/2009/23/pdfs/ukpga_20090023_en.pdf (Accessed: 30 May 2022).
- Ref 1.8 HM Government (2011) *UK Marine Policy Statement*. Available at: <https://www.gov.uk/government/publications/uk-marine-policy-statement> (Accessed: 30 May 2022).
- Ref 1.9 HM Government (2014) *East Inshore and East Offshore Marine Plan 2014*. Available at: <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans> (Accessed: 30 May 2022).
- Ref 1.10 HM Government (1990) *Town and Country Planning Act 1990 (as amended)*. Available at: <https://www.legislation.gov.uk/ukpga/1990/8/contents> (Accessed: 30 May 2022).
- Ref 1.11 HM Government (2017) *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations')*. Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents/made> (Accessed: 30 May 2022).
- Ref 1.12 The Planning Inspectorate (2020) *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements*. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice->

notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/ (Accessed: 6 June 2022).

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