

Viking CCS pipeline

Preliminary Environmental Information Report Volume II

Main PEIR

Applicant: Chrysoar Production (U.K.) Limited,
a Harbour Energy Company

PINS Reference: EN070008

November 2022

Chapter 1

Introduction



Table of Contents

1	Introduction.....	1-1
1.1	General Background.....	1-1
1.2	The Applicant.....	1-4
1.3	The Viking CCS Pipeline	1-4
1.4	Requirement for a DCO.....	1-5
1.5	Requirement for an EIA	1-5
1.6	Structure, Scope and Context of the PEIR	1-8
1.7	Consultation.....	1-9
1.8	References	1-11

Figures

Figure 1-1: Overall Viking Carbon Capture Storage Project (including the Viking CCS Pipeline)	1-2
Figure 1-2: Viking CCS Pipeline Location in context of the UK	1-3

Tables

Table 1-1: Location of Information Required by Regulation 14(2) within this PEIR .	1-7
Table 1-2: Structure of the PEIR	1-8

1 Introduction

1.1 General Background

- 1.1.1 This Preliminary Environmental Information Report (PEIR) has been prepared by AECOM on behalf of Chrysaor Production (U.K) Limited (the 'Applicant'), a Harbour Energy group company, which intends to transport compressed and conditioned Carbon Dioxide (CO₂) from the delivery point at Immingham to storage in depleted gas reservoirs in the Southern North Sea. This overall project is called the Viking Carbon Capture Storage Project (Viking CCS Project) as shown in **Figure 1-1**.
- 1.1.2 The Viking CCS Project would consist of the following two components:
- The Viking CCS Pipeline: an onshore transportation system comprising a buried approximately 55.6 kilometre (km) 24 inch (") diameter onshore pipeline commencing at the Immingham Facility, connecting to the Theddlethorpe Facility, which would include a pipeline crossover to the existing Lincolnshire Offshore Gas Gathering System (LOGGS) offshore pipeline to Mean Low Water Springs (MLWS) tide mark. The application for the Development Consent Order (DCO) will cover the onshore transportation system element of the project; and
 - An offshore system repurposing the existing decommissioned 36" diameter LOGGS pipeline, a new 23 km offshore extension of 36" diameter pipeline and a new normally unattended installation (NUI) with facilities to inject the conveyed CO₂ into the depleted gas reservoirs under the Southern North Sea. The offshore system will not form part of the DCO.
- 1.1.3 Repurposing the existing offshore gas transmission pipeline infrastructure supports the wider project objective to minimise the environmental impact of delivering the Viking CCS Project.
- 1.1.4 This PEIR relates to the **onshore pipeline** transportation system called the **Viking CCS Pipeline**, (hereafter 'the Project'). Details on the wider Viking CCS Project will be included where necessary to help provide a more thorough understanding of the overall context to the development.
- 1.1.5 This PEIR presents:
- a description of the Project;
 - the likely significant environmental effects of its construction, operation and decommissioning based on the preliminary environmental information available at the time of writing;
 - measures to avoid or reduce such effects; and
 - alternative sites, technologies and layouts considered.
- 1.1.6 The PEIR is provided to support consultees in developing an informed view of the likely significant environmental effects of the Project. The location of the Project is shown in **Figure 1-2**.

Figure 1-1: Overall Viking Carbon Capture Storage Project (including the Viking CCS Pipeline)



1.2 The Applicant

- 1.2.1 The Project is being developed by Chrysaor Production (U.K.) Limited, which is a subsidiary of Harbour Energy plc. Harbour Energy plc was formed in 2021 through a merger between Chrysaor Holdings Limited and Premier Oil plc, and is the largest UK listed independent oil and gas company with its legacy companies having almost 90 years operating experience.
- 1.2.2 The Applicant is committed to helping solve the dual challenge the world energy markets face, namely increasing energy supply to meet growing demand and doing so with lower greenhouse-gas emissions. They are committed to playing their role in the transition to a lower-carbon economy whilst minimising the environmental impact of their operations around the world. Their overall strategy also includes leveraging their existing skills and infrastructure to pursue CO₂ transport and storage.
- 1.2.3 In support of this, the Applicant has committed to achieving Net Zero for their Scope 1 and 2 greenhouse gas emissions by 2035. For this to be achieved, the Applicant will need to make reductions in their own emissions supplemented by the purchase of independently verified offsets to mitigate the impact of the remaining emissions.
- 1.2.4 In line with this strategy, the Applicant has been awarded carbon storage licences by the Oil & Gas Authority (OGA) and have applied for a seabed lease with The Crown Estate (TCE) in relation to the wider Viking CCS Project. TCE has subsequently indicated its support to the required lease option (subject to final lease agreement).
- 1.2.5 The Applicant has a long history of operating in the Humber and Lincolnshire area, providing safe and environmentally sound operations. In particular, they have more than 40 years of operational experience relating to the Viking field area, helping to support their geological understanding of the field and its ability to act as a regionally extensive superseal, securing the storage of CO₂. Additionally, they have also operated the Theddlethorpe Gas Terminal (TGT) site over the same time period.

1.3 The Viking CCS Pipeline

- 1.3.1 The Project is located in the Yorkshire and Humber region and East Midlands region of England (**Figure 1-2**). The Project comprises the development of an approximately 55.6 km buried pipeline, which would enable CO₂ captured by emitters in Immingham to be transported to Theddlethorpe, for onward transportation within the existing offshore LOGGS Pipeline and a newly installed spur pipeline, to the offshore injection facilities for permanent storage.
- 1.3.2 As outlined in section 1.1.4, this PEIR relates to the onshore pipeline transportation system. In particular, the Project consists of:
- Immingham Facility;
 - A buried 24" onshore pipeline, approximately 55.6 km in length (including cathodic protection);
 - Above Ground Installations (AGIs), including Block Valve Stations and venting systems;
 - Theddlethorpe Facility; and
 - Existing LOGGS Pipeline down to the extent of the DCO limits at MWLS including the isolation valve.

1.4 Requirement for a DCO

- 1.4.1 Onshore pipelines over 16.093 km (10 miles) in length are classified as Nationally Significant Infrastructure Projects (NSIPs) under section 14(1)(g) of the Planning Act 2008 (as amended) (Ref 1-1) and require development consent to be granted under section 31 of the Planning Act 2008 for their development.
- 1.4.2 An application for a DCO will be submitted to Secretary of State (SoS) for Business, Energy & Industrial Strategy (BEIS) via the Planning Inspectorate. The DCO application will be accompanied by an Environmental Statement (ES) prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) (Ref 1-2).
- 1.4.3 The development covered by the DCO comprises:
- A pipeline for the conveyance of CO₂, and apparatus and works associated therewith, including offtake, offshore pipeline tie-in and outlet facilities;
 - Shutdown valves;
 - Ancillary works integral to the construction of the pipeline, including; construction compounds, temporary access tracks, and laydown areas;
 - Land required for the construction, operation and maintenance of the pipeline; and
 - The use of the existing offshore pipeline down to MLWS.
- 1.4.4 The Department for Energy and Climate Change (now BEIS) published several National Policy Statements (NPS) in relation to nationally significant energy infrastructure, which were designated by the Secretary of State (SoS) for Energy and Climate Change in July 2011.
- 1.4.5 There are no existing energy NPSs directly applicable to CO₂ transportation projects such as the Project, but the following NPSs may still be important and relevant considerations in assessing the Project:
- Overarching National Policy Statement for Energy (EN-1) (Ref 1-3); and
 - National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 1-4).
- 1.4.6 NPS EN-4 applies to nationally significant infrastructure pipeline projects which transport natural gas or oil. However, NPS EN-4 notes that the information provided within may also be useful in identifying impacts to be considered in applications for pipelines intended to transport other substances.
- 1.4.7 Updated drafts of both EN-1 (Ref 1-5) and EN-4 (Ref 1-6) were issued in 2021 and re-emphasised the government's plans to help decarbonise the UK's economy. These new emerging documents and any subsequent formal adoption of new NSPs for energy infrastructure will be considered where relevant during the production of the ES.
- 1.4.8 Section 105 of the Planning Act 2008 confirms that where no NPS has effect, projects should be tested against 'important and relevant' matters, which are typically local adopted planning policies and the National Planning Policy Framework (NPPF).

1.5 Requirement for an EIA

- 1.5.1 Under the EIA Regulations, where an application is made for a DCO for "EIA development" then an EIA must be carried out and an ES submitted with the application. Under regulation

3 of the EIA Regulations, “EIA development” means any development which is either (a) listed within schedule 1 of the regulations, or (b) listed within schedule 2 of the regulations and where the development likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

- 1.5.2 The Project does not fall within the list of development in schedule 1 of the EIA Regulations. However, it falls within paragraph 3(j) of Schedule 2: “*installations for the capture of CO₂ streams for the purposes of geological storage pursuant to Directive 2009/31/EC from installations not included in Schedule 1 to these Regulations.*” It is considered that the Project is likely to have significant effects on the environment and is therefore EIA development for which an EIA must be undertaken.

EIA Scoping

- 1.5.3 Scoping forms a key stage of the EIA process; providing a framework for identifying likely significant environmental effects arising from the Project and distinguishes the environmental topics to be addressed within the ES.
- 1.5.4 On 29 March 2022, an EIA Scoping Report¹ was submitted to the Planning Inspectorate outlining the intended scope of each environmental topic. The EIA Scoping Report was based on the emerging preliminary design for the Project available at the time of writing.
- 1.5.5 A Scoping Opinion² was received on 5 May 2022 and in examining the proposed scope of the EIA, the Planning Inspectorate engaged a range of prescribed consultees (comprising statutory and non-statutory bodies, agencies and groups) seeking their views on the content of the assessments. A copy of the Scoping Opinion is included within *PEIR Volume IV: Appendix 5-2*.
- 1.5.6 The comments within the Scoping Opinion will be taken account of as part of the EIA and will be reported within the ES or in other documentation comprising the DCO application. More information on the scoping process can be found in *Chapter 5: PEIR Assessment Methodology*.

The Preliminary Environmental Information Report

- 1.5.7 This PEIR presents the emerging results of the EIA process and has been compiled in accordance with statutory pre-application consultation obligations under the Planning Act 2008 (Ref 1-1).
- 1.5.8 PEI is defined in Section 12(2) of the EIA Regulations (Ref 1-2) as:
- “...information referred to in regulation 14(2) which –*
- (a) has been compiled by the applicant; and*
- (b) is reasonably required for the consultation bodies to develop an informed view of the likely significant effects of the development (and of any associated development).*
- 1.5.9 This PEIR accordingly provides:
- a. a statement of the main environmental information gathered to date as part of the EIA process;
 - b. an indication of the likely effects on the environment resulting from the construction, operation and maintenance of the Project; and

¹ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN070008/EN070008-000018-V%20Net%20Zero%20Pipeline_EIA%20Scoping%20Report.pdf

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN070008/EN070008-000083-EN070008%20V%20Net%20Zero%20Pipeline%20-%20Scoping%20Opinion.pdf>

- c. a summary of the potential measures likely to be required to mitigate the environmental effects of the Project.
- 1.5.10 This PEIR has been prepared to assist consultees in understanding the potential impacts of the Project and the mitigation measures currently proposed. It forms part of the consultation material provided for the statutory consultation process under the Planning Act 2008.
- 1.5.11 The information presented within this PEIR is *preliminary*. It reflects the current design position of the Project and the status of the individual environmental assessments being progressed as part of the EIA and is subject to change following this statutory consultation.
- 1.5.12 **Table 1-1** identifies where the information defined by Regulation 14(2) of the EIA Regulations (Ref 1-2) 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) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;	<i>PEIR Volume II - Chapter 3: The Viking CCS Pipeline</i>
b) a description of the likely significant effects of the proposed development on the environment	<i>PEIR Volume II - Chapters 6 - 20</i>
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	<i>PEIR Volume II - Chapters 6 – 20 PEIR Volume IV Appendix 3.1 Preliminary Draft Construction Environmental Management Plan (CEMP)</i>
d) 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, taking into account the effects of the development on the environment	<i>PEIR Volume II - Chapter 2: Design Evolution and Alternatives</i>
e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and	<i>PEIR Volume I: Non-Technical Summary</i>
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.	Descriptions of the current and future environmental baselines, receptors and impacts, methodology, limitations, likely significant effects and reference lists are provided in: <i>PEIR Volume II - Chapter 5: Methodology PEIR Volume II - Chapters 6-20.</i>

- 1.5.13 Feedback received from the statutory consultation will be considered within both the design of the Project and the EIA, the final outcomes of which will be reported in an ES. The ES will confirm the scale and significance of the Project’s likely environmental effects, and any measures required to mitigate those effects.
- 1.5.14 Additionally, baseline environmental information is continuing to be gathered, the potential impacts of the Project are still being identified, and measures to avoid or reduce adverse impacts are still being developed. The results of the full EIA will be presented in an ES submitted with the required DCO application. The ES will form one of a number of documents comprising the DCO application.

1.6 Structure, Scope and Context of the PEIR

1.6.1 The structure of this PEIR is comprised of four volumes as presented in **Table 1-2** below:

Table 1-2: Structure of the PEIR

Structure of the PEIR	
PEIR Volume I: PEIR Non-Technical Summary (NTS)	
The PEIR NTS is presented in a separate document and provides a concise description of the Project, the considered alternatives, baseline, assessment methodology, potential environmental effects and mitigation measures. The PEIR NTS is designed to provide information on the Project in an accessible format which can be understood by a wide audience and to assist interested parties with their familiarisation of the Project, including via a digital platform.	
PEIR Volume II: Main Report	
This volume forms the main body of the PEIR, detailing the preliminary results of the environmental assessment at the time of writing and based on the baseline information available and sourced to date, the emerging likely significant effects arising from the Project, and the proposed mitigation measures. The PEIR is to be divided into a number of background and technical chapters, each being supported with figures and tabular information. A proposed table of contents is as presented below:	
Chapter 1	Introduction
Chapter 2	Design Evolution and Alternatives
Chapter 3	The Viking CCS Pipeline
Chapter 4	Consultation
Chapter 5	PEIR Assessment Methodology
Chapter 6	Ecology and Biodiversity
Chapter 7	Landscape and Visual
Chapter 8	Historic Environment
Chapter 9	Geology and Hydrogeology
Chapter 10	Agriculture and Soils
Chapter 11	Water Environment
Chapter 12	Traffic and Transport

Structure of the PEIR	
Chapter 13	Noise and Vibration
Chapter 14	Air Quality
Chapter 15	Climate Change
Chapter 16	Socio-Economics
Chapter 17	Health and Wellbeing
Chapter 18	Materials and Waste
Chapter 19	Cumulative Effects
Chapter 20	Major Accidents and Disasters
Chapter 21	Summary of Likely Significant Effects
PEIR Volume III: Supporting Figures	
A complete set of figures will be provided for reference which support the preliminary assessments in PEIR Volume II.	
PEIR Volume IV: Technical Appendices	
A complete set of appendices will be provided for reference. These comprise of background data, technical reports, tables, figures and surveys which support the preliminary assessments in PEIR Volume II.	

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 Project.

Consultation to Date – Non-Statutory Consultation

1.7.2 A non-statutory consultation was held for six weeks from Tuesday 26 April to Tuesday 7 June 2022. This first phase of consultation introduced the Project, and sought feedback from members of the public, impacted landowners and key project stakeholders on the initial pipeline corridor.

1.7.3 The Applicant informally consulted the host local authorities, namely North Lincolnshire Council, North East Lincolnshire Council, East Lindsey District Council, West Lindsey District Council and Lincolnshire County Council, and the Planning Inspectorate prior to the submission of the EIA Scoping Report. Further consultation has also occurred with all of the local authorities and other statutory bodies following on from the receipt of the Scoping Opinion received from the Planning Inspectorate.

Ongoing and Future Consultation – Statutory Consultation

1.7.4 Consultation is an on-going process and the publication of this PEIR forms an important part of that process. The Planning Act 2008 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 Planning 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 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 where relevant within 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.

1.7.5 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.

1.7.6 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. Further information on consultation is located in *Chapter 4: Consultation*.

1.7.7 A nine week Statutory Consultation on the Project runs from 22 November 2022 until 24 January 2023 to enable consultees to review the proposals and provide feedback. Harbour Energy invites comments on the Project and the environmental issues addressed in the PEIR.

1.7.8 Further details on the consultation events and locations where copies of the consultation documents can be viewed are available in the SoCC, which can be found online at the following address:

<http://www.consultation.vikingccs.co.uk>

1.7.9 This website also includes links to downloadable copies of the full PEIR and appendices, the non-technical summary of the PEIR, the consultation booklet and response form along with further information on the Project.

How to respond to this Statutory Consultation

1.7.10 Responses can be shared, in writing, in one of the following ways:

- Completing the online response form located on the project website at www.consultation.vikingccs.co.uk;
- Attending an in-person consultation event, where the project team can be met with and a paper copy of the response form completed;
- Requesting the response form by post or picking up a paper copy at one of the document inspection venues – these can be posted (no stamp required) to Freepost VIKING CCS PIPELINE; or
- Emailing the response form to vikingccspipeline@aecom.com.

- 1.7.11 All responses must be received by 23:59 on Tuesday 24 January 2023. Responses received after this date may not be considered.
- 1.7.12 The following phone number and email address can be used to ask any questions without making a formal response:
- Phone: 07917 986 094
 - Email us at: vikingccspipeline@aecom.com

1.8 References

Ref 1-1 Planning Act 2008. Available at:
<https://www.legislation.gov.uk/ukpga/2008/29/contents>

Ref 1-2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents/made>

Ref 1-3 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/37046/1938-overarching-nps-for-energy-en1.pdf

Ref 1-4 Department of Energy and Climate Change (2011). National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37049/1941-nps-gas-supply-oil-en4.pdf

Ref 1-5 Department for Business, Energy & Industrial Strategy (BEIS) (2021). Draft Overarching National Policy Statement for Energy (EN1). Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf

Ref 1-6 Department for Business, Energy & Industrial Strategy (BEIS) (2021). Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015237/en-4-draft-for-consultation.pdf