

Viking CCS pipeline

# Preliminary Environmental Information Report Volume II

Main PEIR

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

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The PEIR NTS is presented in a separate document and provides a concise description of the Viking CCS Pipeline (hereafter, 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 PEIR

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:

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# Abbreviations



## ABBREVIATIONS

Abbreviation	Definition
AADT	Average Annual Daily Traffic
AAWT	Average Annual Weekday Traffic
AGI	Above Ground Installation
AGLV	Area of Great Landscape Value
AILs	Abnormal Indivisible Loads
ALARP	As low as reasonably practicable
ALC	Agricultural Land Classification
AoD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQEG	Air Quality Expert Group
AQMAs	Air Quality Management Areas
AQO	Air Quality Objectives
AQS	Air Quality Standards
ATC	Automatic Traffic Counters
BAT	Best Available Technique
BEIS	Department for Business, Energy & Industrial Strategy
BGS	British Geological Survey
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BNL	Basic Noise Level
BoCC	Birds of Conservation Concern
BPM	Best Practicable Means
BSSS	British Society of Soil Science
BTO	British Trust for Ornithology
CCC	Committee on Climate Change
CCGs	Clinical Commissioning Groups
CCGT	Combined Cycle Gas Turbine
CCR	Central Control Room
CCR	Climate Change Resilience
CCS	Carbon Capture and Storage
CCS	Carbon Capture and Storage
CCTV	Closed Circuit Television



Abbreviation	Definition
CCUS	Carbon Capture Usage and Storage
CCW	Countryside Council for Wales
CDM	Construction, Design and Management
CDOIF	Chemicals and Downstream Oil Industries Forum
CEcMP	Construction Ecological Management Plan
CEMP	Construction Environmental Management Plan
CIA	Cumulative Impact Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industries Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CLJSPC	Central Lincolnshire Joint Strategic Planning Committee
CMEs	Coronal Mass Ejections
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide equivalent
COMAH	Control of Major Accident Hazards Regulations
CoPA	The Control of Pollution Act 1974
CP	Cathodic Protection
CRoW	Countryside and Rights of Way
CRTN	Calculation of Road Traffic Noise
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
DEMP	Decommissioning Environmental Management Plan
DLL	District Level Licensing
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DOLs	Draft Order Limits
DoWCoP	Definition of Waste: Development Industry Code of Practice
DPD	Development Plan Documents
EA	Environment Agency
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
ELDC	East Lindsey District Council

Abbreviation	Definition
ELDC	East Lindsey District Council
EN-1	National Policy Statement for Energy
EN-4	National Policy Statement for Gas Supply and Gas and Oil Pipelines
EPA	The Environmental Protection Act 1990
EPC	Engineering, Procurement and Construction
EPSML	European Protected Species Mitigation Licences
ES	Environmental Statement
ESDV	Emergency Shutdown Valve
FAQs	Frequency Asked Questions
FEED	Front End Engineering Design
FMfP	Flood Maps for Planning
FOC	Fibre Optic Cable
FRA	Flood Risk Assessment
FRAPs	Flood Risk Activity Permits
GB	Great Britain
GCN	Great Crested Newt
GDF	Geological Disposal Facility
GHG	Greenhouse Gas
GLLEP	Greater Lincolnshire Local Enterprise Partnership
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPS	Global Positioning System
GRP	Glass Reinforced Plastic
GVA	Gross Value Added
GWDTE	Groundwater Dependent Terrestrial Ecosystem
HAZID	Hazard Identification Review
HAZOP	Hazard and Operability Study
HDD	Horizontal Directional Drilling
HDV	Heavy Duty Vehicle
HER	Historic Environment Record
HFCs	Hydrofluorocarbons
HGVs	Heavy Goods Vehicles
HIPPS	Overpressure protection system
HPI	Habitats of Principal Importance
HRA	Habitats Regulations Assessment

Abbreviation	Definition
HSE	Health and Safety Executive
HSES	Health, Safety, Environment and Security
HUDU	Healthy Urban Development Unit
IACPC	Impact Assessment and Conservation Payment Certificate
IAQM	Institute of Air Quality Management
ICB	Integrated Care Board
ICCI	In-combination Climate Change Impact
ICP	Integrated Care Partnership
ICS	Integrated Care Systems
IDB	Internal Drainage Board
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non-Native Species
INNSMS	Invasive Non-Native Species Method Statement
KIPS	Killingholme Pipeline System
KM	Kilometre
LAQM	Local Air Quality Management
LCARs	Landscape Character Areas
LCAs	Local Character Areas
LCC	Lincolnshire County Council
LCR	Local Control Room
LCRM	Land Contamination Risk Management
LCTs	Landscape Character Types
LDF	Local Development Frameworks
LDS	Leak Detection System
LDV	Light Duty Vehicle
LEMP	Landscape and Ecology Management Plan
LER	Local Equipment Room
LGP	Low Ground Pressure
LGSs	Local Geological Sites
LGV	Light Goods Vehicle
LHA	Local Highway Authorities
LLFAs	Lead Local Flood Authorities
LNR	Local Nature Reserves
LOAEL	Lowest Observable Adverse Effect Level

Abbreviation	Definition
LOGGS	Lincolnshire Offshore Gas Gathering System
LPAs	Local Planning Authorities
LSOAs	Lower Layer Super Output Area
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Sites
LWT	Local Wildlife Trust
MAFF	Ministry of Agriculture, Fisheries and Food
MAGIC	Multi-Agency Geographic Information for the Countryside
MAHPs	Major Accident Hazard Pipelines
MHCLG	Ministry of Housing, Communities and Local Government
MLWS	Mean Low Water Springs
MMP	Materials Management Plan
MOD	Ministry of Defence
MoRPh	Modular River Physical
MPAs	Minerals Planning Authorities
MSA	Mineral Safeguarding Area
MTBM	micro-tunnelling boring machine
MtCO <sub>2</sub>	Million Tonnes of Carbon Dioxide
N <sub>2</sub> O	Nitrous Oxide
NATMAP	National Soil Map of England and Wales
NBN	National Biodiversity Network
NCAs	National Character Areas
NCN	National Cycle Network
NE	Natural England
NELC	North East Lincolnshire Council
NERC	Natural Environment and Rural Communities
NH <sub>3</sub>	Nitrogen Trifluoride
NHLE	National Heritage List for England
NIPA	National Infrastructure Planning Association
NLC	North Lincolnshire Council
NMP	National Mapping Programme
NNR	National Nature Reserves
NNR	National Nature Reserves
NOEL	No Observed Effect Level

Abbreviation	Definition
NPAI	Not Permanently Attended Installation
NPPF	National Planning Policy Framework
NPPG	The National Planning Practice Guidance
NPS	National Policy Statements
NPSE	The Noise Policy Statement for England
NRMM	Non Road Mobile Machinery
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
NUI	Normally Unattended Installation
OCGT	Open Cycle Gas Turbine
OEMP	Operational Environmental Management Plan
OGA	Oil and Gas Authority
ONS	Office of National Statistics
OSWMP	Operational Site Waste Management Plan
PCR	Polarisation Cell Replacement
PCTs	Primary Care Trusts
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PFCs	Perfluorocarbons
PIA	Privacy Impact Assessment
PIC	Personal Injury Collision
PINS	Planning Inspectorate
PPBNE	Planning Practice Guidance for the Natural Environment
PPG	Planning Practice Guidance
PPG-FRCC	Planning Practice Guidance – Flood risk and coastal change
PPGN	The Planning Practice Guidance concerned with Noise
PPGs	Pollution Prevention Guidance
PPV	Peak Particle Velocity
PRF	Preliminary Roost Features
PRoW	Public Rights of Way
PSYM	Predictive System of Multimetrics
QRA	Quantitative Risk Assessment
RBD	River Basin District
RBMP	River Basin Management Plans

Abbreviation	Definition
RCAs	Regional Character Areas
RCPs	Representative Concentration Pathways
RHS	River Habitat Survey
RIGS	Regionally Important Geological Sites
RNR	Roadside Nature Reserve
ROWIP	Rights of Way Improvement Plans
RSPB	The Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SCADA	Supervisory Control and Data Acquisition
SF6	Sulphur Hexafluoride
SFRA	Strategic Flood Risk Assessment
SLOD	Significant Likelihood of Death
SLOT	Specified Level of Toxicity
SMP	Soil Management Plan
SNCI	Site of Nature Conservation Interest
SNH	Scottish Natural Heritage
SNHRW	Stable Non-Reactive Hazardous Waste Cell
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SoS	Secretary of State
SPA	Special Protection Area
SPZ	Source Protection Zones
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TA	Transport Assessment
TCE	The Crown Estate
TGT	Theddlethorpe Gas Terminal
TMP	Traffic Management Plan
TSIEA	Transport Statement
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
UXO	Unexploded Ordnance
VCR	Virtual Consultation Room

Abbreviation	Definition
VSAT	Very-small-aperture-terminal
Waste FD	Waste Framework Directive
WCA	The Wildlife and Countryside Act
WeBS	Wetland Birds Survey
WFD	Water Framework Directive
WHIASU	Wales Health Impact Assessment Support Unit
WHO	World Health Organisation
WLDC	West Lindsey District Council
WPAs	Waste Planning Authorities
WRAP	Waste and Resources Action Programme
ZoI	Zone of Influence

# Glossary





## Glossary

Term	Definition
Above Ground Installation (AGI)	All permanent above ground facilities which are required for the Project. It covers facilities including Block Valve Stations, the Immingham Facility and Theddlethorpe Facility.
Agricultural Land Classification (ALC)	A framework for determining the physical quality of the land at national, regional and local levels. This is based on the long-term physical limitations of land for agricultural use. There are a number of factors that affect the grade and the main ones are climate, site and soil characteristics, and the interactions between them.
Air Quality Management Area (AQMA)	Air Quality Management Areas (AQMAs) are areas that are likely to exceed the national air quality objective for a specific pollutant. They are determined by Local Authorities
Above-Ground Heritage Asset	An above ground building, monument, site, place, area or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Ancient Woodland	Ancient Woodland is defined as an area that has been wooded continuously since at least 1600 AD. Ancient Woodland is divided into ancient semi-natural woodland and plantations on Ancient Woodland sites. Both types are classed as ancient woods.
Applicant	The organisation (Chrysaor Production (U.K.) Limited) applying for the DCO.
Application	The Application for a Development Consent Order (DCO) that is submitted by the Applicant to the Secretary of State (SoS) for Business, Energy and Industrial Strategy (BEIS).
Archaeological Interest	There will be archaeological interest in a Heritage Asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
As Low As Reasonably Practicable (ALARP)	For a Risk to be ALARP, the cost, time or effort involved in reducing the Risk further would be grossly disproportionate to the benefit gained.
Authorised Development	The development that is described in Schedule 1 of the draft Development Consent Order (dDCO).
Baseline	A reference level of existing Environmental Conditions against which a project is measured and controlled.
Baseline Studies	Work done to determine and describe the Environmental Conditions against which any future changes can be measured or predicted and assessed.
Below-Ground Heritage Asset	Below-ground heritage assets include both known and hitherto unknown buried archaeological remains.
Best and Most Versatile Agricultural Land (BMV)	Defined as Grades 1, 2 and 3a in the Agricultural Land Classification by the revised National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG). This is the land which is determined to be most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is of moderate quality to very poor quality.

Term	Definition
Best Available Techniques (BAT)	The available techniques which are the best for preventing or minimising emissions and impacts on the environment.
Biodiversity	The biological diversity of the earth’s living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, landscape, ecosystem, Habitats, communities, Species, populations, individuals, genes and the structural and functional relationships within and between these different levels.
Biodiversity Net Gain	Biodiversity Net Gain is an approach to development that improves biodiversity levels post development, when compared to those in place prior to construction.
Block Valve	A valve located at strategic points along the pipeline that can be used to isolate sections of the pipeline if required
Block Valve Station (BVS)	An area containing a Block Valve and Electrical and Instrumentation (E&I) Kiosk and includes perimeter security fencing
Book of Reference	A list of all of the land directly affected by the Project, as well as the owners and occupiers of the affected land and those with an interest in it.
Best Available Technique Reference Documents (BREF) Notes	The European Commission (EC) produces Best Available Technique reference documents or BREF notes. They contain Best Available Techniques (BAT) for installations.
Carbon Capture	The capture of CO <sub>2</sub> from industrial sources that would otherwise be emitted into the atmosphere.
Carbon Capture and Storage	The combined processes of Carbon Capture, transportation (by pipeline or otherwise), and Carbon Dioxide Storage
Carbon Dioxide Storage	The locations for or act of providing the long-term sub-sea geological storage of carbon dioxide
Cathodic Protection (CP)	Cathodic protection (CP) is a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell.
Climate Change	Large scale, long term shift in the Earth’s weather patterns or average temperature.
CO <sub>2</sub> Stream	A fluid consisting overwhelmingly of carbon dioxide that has been captured from industrial sources, which also contains incidental associated substances derived from the source materials and the capture process (impurities), and any substances added to the stream to enable or improve the injection process.
Combined Effects	The interaction and combination of different residual (post-mitigation) environmental effects of the Project affecting the same Receptor. For example, visual and noise effects during construction affecting the same residential dwelling.
Competent Authority	The relevant Secretary of State is the Competent Authority for the purposes of the Habitats Directive and the Habitats Regulation in relation to applications for Nationally Significant Infrastructure Projects (NSIPs).
Compressor Plant	A compressor is a mechanical device that increases the pressure of a gas by reducing its volume.
Construction Environmental	Document containing the REAC setting out methods to avoid, minimise and mitigate Impact on the environment and surrounding area and the protocols to be followed in

Term	Definition
Management Plan (CEMP)	implementing these measures in accordance with environmental commitments during the Construction Stage.
Construction Stage	The stage during which construction works for the Project will take place.
Consultation Documents	The documents submitted to support the formal pre-application consultation under the PA2008. They include “plans and maps showing the nature and location of the Project” as stated in subsection (4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.
Construction Compound	A secure area from which Site work is managed and resourced, including but not limited to temporary offices, workshops, parking and storage areas.
Consultation Zone	The Health & Safety Executive (HSE) sets a Consultation Distance around major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the major hazard site/pipeline. The area enclosed within the CD is referred to as the consultation zone. The Local Planning Authority is notified of this CD and has a statutory duty to consult HSE on certain Projects within the zone the CD forms.
Contaminated Land	Where substances are causing or have a significant possibility to cause significant harm to people, property or protected species; or, where significant pollution is being caused or has a significant possibility of being caused to controlled waters.
Cumulative Effects	The effects of the Project in cumulation with other existing development and/or approved development.
Decommissioning	The final process of shutting down the infrastructure comprised in the Project when it is no longer required once it has reached end of life.
Development Consent Order (DCO)	A Development Consent Order (DCO) is a Statutory Instrument (SI) made by the Secretary of State (SoS) pursuant to the Planning Act 2008 (as amended) (PA2008).
Direct Effect	An effect that is directly attributable to the Project.
Direct Employment	An increase in local employment arising from further economic activity (jobs, expenditure or income) associated with additional local income and local supplier purchases as a result of the Project.
Disaster	In the context of the Project, a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident.
EIA Directive	Directive 85/337/EEC (as amended). The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.
Emission	A material that is expelled or released to the environment. Usually applied to gaseous or odorous discharges to the atmosphere.
Emission Rate	The quantity of a pollutant released from a source over a given period of time.
Enhancement	Measures to improve the environment, such as landscape resource and the Visual Amenity of the Project and its wider setting, over and above its Baseline condition.
Environmental Impact	A systematic means of assessing the significance of effects from the Project, undertaken in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations).

Term	Definition
Assessment (EIA)	
EIA Regulations	Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended).
Environmental Statement (ES)	A statement prepared in accordance with the EIA Regulations that includes the information that is reasonably required to assess the likely effects of a development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile
European Designated Site	An area of land subject to protection through European legislation, including Special Area of Conservation (SAC) and Special Protection Area (SPA).
Examining Authority (ExA)	Planning Inspector(s) responsible for conducting the examination and recommending a decision on a DCO application to the Secretary of State (SoS).
Exceedance	A period of time where the concentrations of a pollutant is greater than the appropriate air quality standard.
External Influencing Factor	A factor which occurs beyond the limits of the Project that may present a risk to the Project, e.g. if an external disaster occurred (e.g. earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the Project.
Flood Map for Planning	Defines Flood Zones based on annual probability of flooding from Fluvial and tidal sources to inform development planning and flood risk assessment. Nationally consistent delineation of 'high', 'medium' and 'low' flood risk updated by the Environment Agency as deemed appropriate, typically on a quarterly basis
Flood Risk Assessment (FRA)	An assessment of the risk of flooding.
Flood Zones	Zones based on the annual probability of flooding from Fluvial and tidal sources, as defined in the Flood Map for Planning. Areas are categorised into one of the following: Flood Zone 1, Flood Zone 2, Flood Zone 3a or Flood Zone 3b.
Fluvial	Processes associated with rivers and streams and the deposits and landforms created by them.
Future Baseline	The likely evolution of the baseline without implementation of the Project.
Geographic Information System (GIS)	A system that captures, stores, analyses, manages and presents data linked to location. It links spatial information to a digital database.
Geophysical Survey	Making and interpreting measurements of physical properties of the earth to determine subsurface conditions.
Geotechnical Survey	An investigation to determine the nature and engineering properties of the soil and other materials and to determine soil profiles and property assignments for the purpose of design and construction.
Greenhouse Gas (GHG)	Gases that absorb and emit reflected solar radiation which result in the warming of the Earth's atmosphere. It is absorbed and emitted at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere, and clouds. The six main GHGs whose emissions are human caused are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon and sulphur hexafluoride. In combination, these GHG emissions are commonly expressed in terms of 'carbon

Term	Definition
	dioxide equivalents' (CO <sub>2</sub> e) according to their relative global warming potential. For this reason, the shorthand 'carbon' may be used to refer to GHGs.
Ground Investigations	The physical investigation stage of the Geotechnical Survey of which Geophysical Surveys may be one element. Comprised of targeted investigations including both intrusive and non-intrusive techniques to prove ground conditions, determine soil / rock parameters and identify hazards associated with the ground conditions to inform a Project.
Groundwater	Groundwater is the store of water present beneath Earth's surface in rock and soil pore spaces and in the fractures of rock formations
Groundwater Source Protection Zone (SPZ)	Also, Source Protection Zone (SPZ), defined for 2,000 groundwater sources such as wells, boreholes and springs used for public drinking water supply, show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The SPZ maps show three main zones (inner, outer and total catchment) and a fourth zone of special interest, which the Environment Agency occasionally apply to a groundwater source.
Habitat	The environment in which populations or individual species live or grow.
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 (as amended) which covers the terrestrial environment.
Habitats Regulations Assessment (HRA)	A Habitats Regulations Assessment (HRA) refers to the stages of assessment carried out by the competent authority in accordance with Habitats Regulations and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) to determine if a project may affect the protected features of a European site and European offshore marine site, before deciding whether to undertake, permit or authorise it.
Haul Road	Haul roads are temporary roads provided within a contractor's site area to allow for the movement of construction materials, construction machinery and/or construction labour around the site.
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Heritage Asset	A building, monument, site, place, area or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Horizontal Directional Drilling (HDD)	Horizontal directional drilling (HDD) is a Trenchless construction method used to install pipes underground without disturbing the ground surface above. The drill is launched from one HDD Compound and retrieved from the HDD compound at the other end, and except for the launch and retrieving spaces above ground, the entire process takes place underground.
HDD Compound	Temporary compound within which the Horizontal Directional Drilling (HDD) operations takes place.
Hydrology	The movement, distribution and quality of water throughout the earth.

Term	Definition
Hydromorphology	The physical characteristics of the shape, boundaries and content of a water body.
Impact	A physical or measurable change to the environment attributable to the Project.
Index of Multiple Deprivation	The indices of deprivation measure relative deprivation in local authorities across England. The index of multiple deprivation is the most widely used of these indices.
Indirect Effect	An effect that results indirectly from the Project, as a consequence of a ‘Direct Effect’, often occurring away from the Site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the Source of the effect.
Indirect Employment	Employment growth arising locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers) as a result of the Project.
Induced Employment	Employment associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the Project.
Internal Drainage Board	Each internal drainage board is a public body that manage water levels in an area, known as an internal drainage district, where there is a special need for drainage. They undertake works to reduce flood risk to people and property and manage water levels for agricultural and environmental needs within their district
Internal Influencing Factor	A factor which occurs within the limits of the Project that may present a risk to the Project.
LAeq	Equivalent Continuous Level. When a noise varies over time, the LAeq is the equivalent continuous sound which would contain the same sound energy as the time varying sound.
Land Cover	The surface cover of the land usually expressed in terms of vegetation cover or lack of it. Related to, but not the same as, Land Use.
Land Use	What land is used for, based on broad categories of functional land cover, such as urban and infrastructure use and the different types of agricultural and forestry.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significant effect of change resulting from development both on the Landscape as an environmental resource in its own right and on people’s views and Visual Amenity.
Landscape Character	A distinct, recognisable and consistent pattern of Elements in the Landscape that makes one Landscape different from another.
LAfmax	LAfmax is the maximum A - weighted sound pressure level recorded over the period stated. LAfmax is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall LAeq,T noise level but will still affect the noise environment.
Lead Local Flood Authority (LLFA)	Local authority responsible to taking the lead on local flood risk management as defined within the Flood and Water Management Act 2010.

Term	Definition
Likely Significant Effect	The significance of an environmental effect is typically a function of the ‘value’ or ‘sensitivity’ of the receptor and the ‘magnitude’ or ‘scale’ of the impact. Combining the environmental value of the resource or receptor with the magnitude of change produces a significance of effect category. The definition of a significant effect for each environmental topic will be contained within their respective chapters of the Environmental Statement.
Limit of Deviation	These limits show the maximum area within which the Project could be installed. This flexibility is required in order to deal with unforeseen circumstances, such as ground conditions and local features. This is expected to be approximately 100 metres wide, but will be confirmed within the ES
Limit of Land to be Acquired or Used	The limits of land to be acquired or used, as shown on the Land Plans.
Local Development Plan (LDP)	The set of documents and plans that sets out the local authority's policies and proposals for the development and use of land in their area.
Local Nature Reserve (LNR)	A site of importance for wildlife, geology, education or public enjoyment. Some are also nationally important Site of Special Scientific Interest (SSSI). Local Nature Reserves must be controlled by the local authority through ownership, lease or agreement with the owner.
Local Planning Authority (LPA)	The local authority or council that is empowered by law to exercise statutory town planning functions for a particular area of the UK.
Lower Layer Super Output Area	A geographic area with an average population of 1500 residents, identified for the purpose of reporting census data by the Office for National Statistics (ONS).
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected as a result of noise or vibration.
Main River	A watercourse shown as such on the Flood Map for Planning and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. Main Rivers are usually larger streams and rivers, but also include smaller watercourses of strategic drainage importance. Main Rivers are under the jurisdiction of the Environment Agency who have powers to carry out flood defence works to Main Rivers.
Major Accident	In the context of the Project, an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Magnitude	A combination of the scale, extent and duration of an impact.
Mean Low Water Springs	MLWS is the average throughout a year of the heights of two successive low waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest
Mitigation Measures	Actions proposed to prevent, reduce and where possible, offset significant adverse effects arising from the whole or specific elements of the Project.

Term	Definition
National Nature Reserve (NNR)	Established to protect sensitive features and to provide ‘outdoor laboratories’ for research.
National Planning Policy Framework (NPPF)	The document that sets out Government's planning policies for England and how these are expected to be applied. The NPPF was last revised in February 2019.
National Policy Statement (NPS)	Overarching policy designated under the Planning Act 2008 (as amended) (PA2008) concerning the planning and consenting of Nationally Significant Infrastructure Projects (NSIPs) in the UK.
Nationally Significant Infrastructure Project (NSIP)	Projects which fall under one of the categories in Part 3 of the Planning Act 2008 (as amended) (PA2008).
Nationally Designated Site	Areas of land subject to project through UK legislation, including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR)
Noise Action Plan Priority Area (NAPPA)	Areas where people’s homes are exposed to a day-evening-night noise level exceeding 73 dB, or where people live alongside concrete trunk roads.
Noise Important Area (NIA)	Noise ‘hotspots’ as defined by the Noise Action Plan produced by DEFRA. Important Areas are defined as the areas where the 1% of the population that are affected by the highest noise levels are located according to the results of the strategic noise mapping undertaken by DEFRA.
Noise Sensitive Receptor	Any identified Receptor likely to be affected by noise. These are generally human Receptors, and may include residential dwellings, work places, schools, hospitals, community facilities, places of worship, recreational spaces and ecological Receptors.
Nomis	Nomis is a service hosted by the Office for National Statistics (ONS) which provides access to the most detailed and up-to-date UK labour market statistics from official sources.
No Observed Effect Level (NOEL)	The level below which no effect from noise or vibration can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
Non-Statutory Consultation	The informal process of holding consultation events with interested parties to give them an opportunity to review the Project details and provide feedback which can help influence a projects design.
Non-Statutory Consultees	Consultees who – whilst not designated in law – are likely to have an interest in a Project and will therefore be consulted on the Project.
Open Cut	Open Cut is a method of installing a length of pipeline by clearing the ground along the Carbon Dioxide Pipeline Route, excavating a trench and installing a length of pipe. Following satisfactory testing of the pipe, the trench is backfilled, and the ground returned to its previous condition.
Operational Stage	The stage after which the Project is handed over by the relevant construction contractors and approved for operation. It will remain in its Operational Stage until operations cease.
Order Limits	The outer limits for the project, including the route and any temporary working areas that would be required to construct the pipeline, such as access routes, and working



Term	Definition
	compounds. The limits will be shown on the Works Plan provided as part of examination.
Ordinary Watercourse	Any river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows that does not form part of a Main River. The Lead Local Flood Authority (LLFA) or Internal Drainage Board (IDB) where relevant, has powers for Ordinary Watercourses that are similar to those held by the Environment Agency for Main Rivers.
Parameters	A limit or boundary which defines the scope of a particular process or activity.
Phase 1 Habitat Survey	An ecological survey technique that provides a standardised system to record vegetation and wildlife Habitat. It enables a basic assessment of Habitat type and its potential importance for nature conservation.
Pipeline Inspection Gauge (PIG)	A device used for inspecting, internal maintenance, cleaning and monitoring of a pipeline.
Pigging	Use of a PIG.
Pipeline Construction Activities	Construction Activities specific to the Carbon Dioxide Pipeline and the work required to install them. This will also include installation activities such as Open Cut and trenchless methods.
Planning Inspectorate (PINS)	The Government agency responsible for administering applications for development consent under the Planning Act 2008 (as amended) (PA2008) on behalf of the Secretary of State (SoS).
Planning Practice Guidance (PPG)	The Planning Practice Guidance (PPG) provides context and guidance to the National Planning Policy Framework (NPPF). The PPG has been updated to reflect changes to the revised NPPF.
Preliminary Ecological Appraisal (PEA)	Preliminary ecological surveys have a range of purposes; one key use is to gather data on existing conditions, often with the intention of conducting a preliminary assessment of likely impacts of Projects or establishing the baseline for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for notable Species or Habitats, identification of potential constraints to the Project and recommendations for Mitigation Measures
Preliminary Environmental Information (PEI)	Information which has been compiled by the Applicant and 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).
Preliminary Environmental Information Report (PEIR)	The Preliminary Environmental Information Report (PEIR) is the report prepared by the Applicant, containing Preliminary Environmental Information (PEI).
Primary Mitigation	Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
Principal Aquifer	These are layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, Principal Aquifers are aquifers previously designated as major aquifers.

Term	Definition
Priority Habitat Inventory (PHI)	A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 Habitats of Principal Importance (HPI).
Project	Viking CCS Pipeline -
Ramsar Site	Wetlands of international importance designated under the Ramsar Convention 1971.
Receptor	A component of the natural, created or built environment such as a human being, water, air, a building, or a plant that has the potential to be affected by the Project.
Register of Environmental Actions and Commitments (REAC)	The Register of Environmental Actions and Commitments (REAC) identifies the design, construction and operational commitments included within the Technical Chapters of the Environmental Statement (ES) to address the potential environmental effects of the Project.
Residual Effects	Effects arising from the Project that remain following implementation of Mitigation Measures.
Resilience (Climate change)	The vulnerability of the Project to climate change.
Risk	The likelihood of an impact occurring, combined with the effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the Project and has the potential to be a Major Accident and/or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental receptor.
Rochdale Envelope	The Rochdale Envelope is an acknowledged way of dealing with an application comprising EIA development, where details of a project have not been fully resolved by the time the application is submitted. The term is used to describe those elements of a scheme that have not yet been finalised, but yet can be accommodated within certain limits and parameters allowing the likely significant effects of a project to be presented in the Environmental Statement as a worst case. It also provides the opportunity to assess aspects of a development where the detailed design is to be developed post grant of a DCO and approved by the local planning authority under a Requirement.
Scoping	An exercise undertaken pursuant to the EIA Regulations, to determine the topics to be addressed within the Environmental Statement (ES).
Scoping Boundary	The boundary considered to be the limits of the Project, as studied as part of the Scoping Report. Where additional areas may be required, but are not yet identified (e.g. location of construction compounds) this is made clear.
Scoping Opinion	The Secretary of State's written opinion as to the scope, and level of detail, of the information to be provided in the environmental statement.
Scoping Report	A report prepared by an applicant to provide the information required under the EIA Regulations to request a Scoping Opinion from the Secretary of State.
Secondary Aquifer	These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. Secondary Aquifers are subdivided into two types: Secondary A – permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers;

Term	Definition
	<p>Secondary B – predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.</p> <p>The term ‘Secondary Undifferentiated’ is also used in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</p>
Secondary Mitigation	<p>Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Statement.</p>
Secretary of State (SoS)	<p>In case of the Project, the Secretary of State for Business, Energy and Industrial Strategy (BEIS).</p>
Significance	<p>A measure of the importance or gravity of the effect defined by significance criteria specific to the environmental topic</p>
Significant Observed Adverse Effect Level (SOAEL)	<p>The level above which significant adverse effects on health and quality of life occur as a result of noise or vibration. (see also: Significance).</p>
Site	<p>The land within the Order Limits that will be shown on the Works Plans.</p>
Sites of Importance for Nature Conservation (SINC)	<p>Sites of Importance for Nature Conservation are usually selected within a local authority area and support both locally and nationally threatened Habitats and Species that are priorities under the county or UK Biodiversity Action Plan (BAP).</p>
Site of Special Scientific Interest (SSSI)	<p>A site statutorily notified under the Wildlife and Countryside Act 1981 (as amended) as being of special nature conservation or geological interest. Site of Special Scientific Interest (SSSIs) include Habitats, geological features and Landforms.</p>
Source Protection Zone 1 (SPZ 1)	<p>Also referred to as ‘inner zone’. In relation to contamination risks to groundwater sources, defined by the Environment Agency as the 50- day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres.</p>
Special Crossing	<p>The crossing of a pipeline of features such as watercourse, rail or road which require particular consideration with regards to the construction methods.</p>
Special Area of Conservation (SAC)	<p>Areas of protected habitats and species as defined in the Habitats Directive.</p>
Special Protection Area (SPA)	<p>Sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species.</p>
Species	<p>A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.</p>
Stringing	<p>Placing lengths of pipe end to end along a pipeline right of way in preparation for laying, i.e., welding the joints together to form the pipeline.</p>

Term	Definition
Study Area	The area identified by each technical specialist for which impacts could occur and therefore within which specialist assessment is undertaken and baseline data and information is gathered.
Survey Area	The area within which environmental surveys are undertaken.
Statutory Consultation	The Planning Act 2008 (as amended) (PA 2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS). Statutory consultation must occur with 'statutory consultees' and the formal consultation period will normally last for 21 days.
Statutory Consultees	Planning law prescribes circumstances where the Secretary of State is required to consult specified bodies prior to a decision being made on an application. Includes bodies such as: Environment Agency, Highways England, Historic England, Natural England, Parish Councils, among others.
Statement of Community Consultation (SoCC)	The Planning Act 2008 (as amended) (PA2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS). A Statement of Community Consultation (SoCC) must be prepared, setting out how the Applicant proposes to consult people living in the vicinity of the Project.
Survey Buffer	An area additional to the core Survey Area within which surveys may be required.
Temporary Works	Those parts of the works that allow or enable construction of the Project and which do not remain in place at the completion of the works
Tertiary Mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental Effects.
Town and Country Planning Act	The Town and Country Planning Act 1990 (as amended) gives Local Planning Authorities in England and Wales the power to regulate and grant permission for local development. It is used to permit development for the Project which does not fall under the Planning Act 2008.
Townscape	The character and composition of the built environment including the buildings and the relationships between them, the different types of open urban space, including green spaces, and the relationship between buildings and open spaces.
Transect	Survey technique for surveying birds, wintering birds and breeding birds, with surveyors walking pre-defined routes.
Trenchless	Trenchless technologies are typically used when the installation of an underground pipeline is required to cross features such as major roads or railways where the use of the open cut technique is not possible. Trenchless technology minimise the amount of surface excavation and associated environmental disturbance associated with Open Cut techniques
Visual Amenity	Overall enjoyment of a particular area, surroundings, or views in terms of people's activities – living, recreating, travelling through, visiting, or working.
Visual Effect	An effect on specific views and on the general visual amenity experienced by people.
Visual Receptor	Individuals and / or defined groups of people who have the potential to be affected by the Project.
Viking CCS Pipeline	This Project – i.e. the development for which a Development Consent Order (DCO) is sought.

Term	Definition
V Net Zero Pipeline	The original name of the Viking CCS Pipeline
Vulnerability	In the context of the 2014 EU Directive, the term refers to the ‘exposure and resilience’ of the Project to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.
Waste	Any substance or object which the holder discards or intends or is required to discard
Waste Hierarchy	Sets out the priorities that must be applied when managing waste.
Water Framework Directive (WFD)	European directive which commits member states to achieve good qualitative status of all water bodies.
Water Body	A discrete body of water forming a physical Feature.
Wetlands	Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.
Wildlife and Countryside Act 1981 (as amended)	The principal piece of UK legislation relating to the protection of wildlife.
Working Width	The temporary boundary within which Pipeline Construction Activities are expected to take place. This will be defined within the ES.
Zone of Influence (Zoi)	The areas / resources that may be affected by the changes caused by activities associated with a project.
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land within which, the Project is theoretically visible.