Intended for

Cerulean Winds Aspen Project Limited

Date

May 2026

ASPEN OFFSHORE WIND FARM

ONSHORE EIA SCOPING REPORT

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ASPEN OFFSHORE WIND FARM
ONSHORE EIA SCOPING REPORT

Project name	**Aspen Offshore Wind Farm**
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Approved by	**WHAZE**

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CONTENTS

GLOSSARY

Defined Term	Definition
Air Quality Management Area (AQMA)	A defined area by virtue of Section 82(3) of the Environment Act 1995, where it appears that the air quality objectives prescribed under the UK Air Quality Strategy2 will not be achieved. In these areas, a Local Authority must designate Air Quality Management Areas, within which an Action Plan can be proposed to secure improvements in air quality so that prescribed air quality objectives can be achieved.
Analysis (Landscape)	The process of breaking the landscape or seascape down into its component parts to understand how it is made up.
Analysis (Visual)	The process of identifying the nature of visibility in an area, which is determined through topographic analysis.
Archaeological Site	A place or group of physical sites in which evidence of past human activity is preserved; the place where a historic asset is located.
Architectural Interest	The architectural interest of a building may include its design, designer, materials, setting and the extent to which these characteristics survive. These factors are grouped under two headings: Design and Setting.
Assessment (Landscape and Visual)	An umbrella term for description, classification and analysis of landscape or nature of views.
Associative Characteristics (Cultural Heritage)	How an asset or place relates to people, practices, events and/or historic and social movements.
Automatic Traffic Counts	Equipment which is laid across a road and measures traffic characteristics such as the number of vehicles passing over it, speed, and classification.
Avoidance measures	Actions to prevent impacts (e.g., siting away from roosts, timing works outside breeding season)
A-weighted	The ear has the ability to recognise a particular sound depending on its pitch or frequency. Microphones cannot differentiate noise in the same way as the ear, and to counter this weakness the noise measuring instrument applies a correction to correspond more closely to the frequency response of the human ear. The correction factor is called ‘A-Weighting’ and the resulting measurements are written as dB(A). The dB(A) is internationally accepted and

Defined Term	Definition
	has been found to correspond well with people's subjective reaction to noise.
Background Sound Level	The noise level rarely fallen below in any given location over any given time period, often classed according to daytime, evening or night time periods. The LA90 indices (see below) is often used to represent the Background Sound Level.
Baseline (Landscape and Visual)	The landscape and visual character of the study area as it exists at the commencement of the assessment process – i.e. prior to the development proposal under consideration.
Bird survey types: breeding bird survey, wintering bird survey, vantage point watches, transects, point counts	Standard survey methods tailored to species presence and behaviour
Broadleaved (trees or woodland)	Broadleaved trees are characterised by their broad leaves and most are deciduous. They produce 'hardwood' timber
Certification body	A body which is accredited by an accreditation service to certify (by giving written assurance) that woodland management conforms to the specific requirements of the UK Woodland Assurance Standard. Also sometimes referred to as a conformity assessment body.
Clearfelling	Cutting down of an area of woodland (if it is within a larger area of woodland, it is typically a felling greater than 0.25 ha). A scatter or small clumps of trees may be left standing within the felled area.
Collision risk	The probability that birds will collide with structures (e.g., turbines, buildings, powerlines, windows).
Compensation / biodiversity offset	Measures to compensate for residual impacts that cannot be fully mitigated on-site, ideally achieving net gain
Conifer (trees or woodland)	Conifer trees are characterised by their needle or scale-like leaves and most are evergreen. They produce 'softwood' timber.
Conservation Area	An area of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance, designated under the Planning (Listed Buildings and Conservation Areas) Act (Scotland) 1997.
Conservation status (e.g., WCA Schedule 1, BoCC Red List)	Assessment of extinction risk for species at global, national or local scales.

Defined Term	Definition
Construction Traffic Management Plan	Document which outlines traffic management measures to mitigate adverse impacts associated with construction related traffic.
Contextual Characteristics	How an asset or place relates to its surroundings and/or to our existing knowledge of the past.
Coupe	An area of woodland that has been or is planned for clearfelling
Cultural Significance/Cultural Heritage Value	The aesthetic, historic, scientific, social, or spiritual value for past, present or future generations.
Cumulative impacts	Combined effects of the project plus other past, present, or reasonably foreseeable future projects
Decibel (dB)	The ratio between the quietest audible sound and the loudest tolerable sound is a million to one in terms of the change in sound pressure. A logarithmic scale is used in noise level measurements because of this wide range. The scale used is the decibel (dB) scale which extends from 0 to 140 decibels (dB) corresponding to the intensity of the sound level.
Deep peat	Areas of peat in which the organic layers are greater than 100 cm thick.
Department for Transport	Department for Transport UK.
Designated Historic/Heritage Asset	A World Heritage Site, Scheduled Monument, Inventoried Battlefield, Inventoried Garden and Designed Landscape, Listed Building, Protected Wreck Site or Conservation Area designated as such under the relevant legislation.
Displacement / disturbance	Behavioural avoidance or reduced use of habitat due to human activity or development.
Ecological clerk of works (ECoW)	A specialist who oversees compliance with ecological mitigation during construction
Environmental Impact Assessment	Process of examining the anticipated environmental effects of a proposed project.
Environmental Impact Assessment Report	Document outlining examination the anticipated environmental effects of a proposed project.
Flock / communal roost	Aggregations of birds for feeding or roosting.
Forest resilience	The ability of a forest system to recover from short-term disturbances or to adapt to long-term changes, such as climate change, pests or diseases, while retaining or recovering the same basic structure and ways of functioning
Forestry	The science and art of managing woodlands

Defined Term	Definition
Forestry and Land Scotland	The Scottish Government agency responsible for managing Scotland's national forests and land,
Functional habitat loss	Loss in the ability of habitat to support a species due to disturbance or degradation, even if habitat area remains
Greenhouse Gas (GHG)	A gas that absorbs and emits radiant energy at thermal infrared wavelengths, causing the greenhouse effect.
Habitat	The natural environment where a bird species lives, feeds, breeds, or migrates (e.g., wetlands, woodland, grassland)
Habitat connectivity / ecological network	The degree to which the landscape facilitates movement among habitat parcels
Heavy Goods Vehicle	All goods vehicles > 3.5 tonnes gross maximum weight.
Historic Environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed.
Historic Interest	Historic interest is in such things as a building's age, rarity, social historical interest and associations with people or events that have had a significant impact on Scotland's cultural heritage. Historic interest is assessed under three headings; Age and rarity: Social historical interest: and Association with people or events of national importance.
Historic Value	Value deriving from the ways in which past people, events and aspects of life can be connected through a place to the present.
Historic/Heritage Asset	An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated.
Immission Level (Noise and Vibration)	The sound pressure level received at a given location (e.g. the nearest dwelling).
Impact	The change arising for a landscape or visual receptor as a result of some form of alteration to the baseline.
In-Combination Climate Impacts (ICCI)	How and to what degree climate change can positively or negatively alter the magnitude of impacts and significance of effects from the Proposed Development on other environmental receptors.

Defined Term	Definition
Indirect Impacts	Impacts on the environment, which are not a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impacts.
Institute of Environmental Management and Assessment	Former professional body for Sustainability & Environmental Professionals.
Institute of Sustainability & Environmental Professionals	Current professional body for Sustainability & Environmental Professionals.
Intrinsic Characteristics (Cultural Heritge)	How the physical remains of an asset or place contribute to our knowledge of the past.
Inventoried Battlefield	A list of nationally important battlefields in Scotland that are recorded on the Inventory of Historic Battlefields maintained by HES under the terms of the Ancient Monuments and Archaeological Areas Act 1979 as modified by the Historic Environment Amendment Act 2011.
Inventoried Garden and Designed Landscape	A list of specially designed landscapes in Scotland that are recorded on the Inventory of Gardens and Designed Landscapes maintained by HES under the terms of the Ancient Monuments and Archaeological Areas Act 1979 as modified by the Historic Environment Amendment Act 2011.
LA90(t)	The noise level exceeded for 90 percent of the measurement period and is used to indicate quieter times during the measurement period. It is often used to measure the background noise level. The $L_{A90,T}$ is the A-weighted background noise level over a given time period (t).
LAeq(t)	The equivalent continuous sound level, and is the sound level of a steady sound with the same energy as a fluctuating sound over the same period. It is possible to consider this level as the ambient noise encompassing all noise at a given time. The $LA_{eq,T}$ is the A-weighted equivalent continuous sound level over a given time period (t).
Land Use	The primary use of land, including both rural and urban activities.
Landform	A natural feature of the earth's surface. The shape and form of the land surface resulting from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Character	The distinct and recognisable pattern of elements that occurs consistently in a particular

Defined Term	Definition
	type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place in different areas of the landscape.
Landscape Character Type	A landscape type will have broadly similar patterns of geology, landform, soils, vegetation land use, settlement and field pattern discernible in maps and field survey records.
Landscape Evaluation	The process of attaching value (non-monetary) to a particular landscape, usually by the application of previously agreed criteria, including consultation and third-party documents, for a particular purpose (for example, designation or in the context of an assessment).
Landscape Fabric	Physical elements of the landscape or development site.
Landscape Quality (or Condition)	Based on judgments about the physical state of the landscape and about its intactness. Also relates to the state of repair of individual features and elements which make up character in any one place.
Landscape Resource	The combination of elements that contribute to landscape context, character and value.
Landscape Sensitivity (to a specific type of change)	The extent to which a landscape can accept change of a particular type and scale and is assessed in relation a particular type of development. Based on a combination of susceptibility and value.
Landscape Value	The relative value or importance attached to a landscape (often as a basis for designation or recognition), which expresses commonly held national or local perception of its quality, special qualities and/or scenic beauty, tranquillity or wildness and cultural associations.
Landscape-scale planning	Planning that considers ecological processes and habitats at a wider geographic scale, not just the site
Listed Building	A building of special architectural or historic interest which is included in a list compiled or approved by the UK Government.
Magnitude of Landscape Change	A measure of the amount of change to the landscape that would occur as a result of proposed development, generally based on the scale or degree of change to the landscape resource, the nature of the effect and its

Defined Term	Definition
	duration. This is based on a combination of largely quantifiable parameters, such as the distance to the proposed development, visible extent, degree of contrast with context, extent to which the development would be visible, and the duration of an impact.
Magnitude of Visual Change	A measure of the amount of change to the visual context that would occur as a result of a proposed development. This is generally based on the scale of change to the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view that would be occupied by the proposed development; the degree of contrast or integration of any new features of changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale, mass, line, height, colour and texture; duration and nature of the change, whether temporary or permanent, transient or persistent, etc.; the angle of view in relation to the main activity of the receptor(s); distance of the viewpoint from the proposed development; and extent of the area over which the changes would be visible.
Mitigation hierarchy	Sequence of measures to address impacts: avoid, minimise, restore/rehabilitate, offset/compensate
Mitigation Measures	Measures including any process, activity or design process to avoid, reduce, remedy or compensate for adverse landscape and visual impacts of a development. Mitigation can also apply to the amelioration of existing adverse effects associated with existing developments/features in the landscape.
National Road Traffic Forecast	Factors used to apply future year growth to traffic flows.
Nest site / nest success	The physical location where birds build nests and the proportion of nests that produce fledged young.
Noise Monitoring Location (NML)	Refers to any location where noise levels have been measured.
Noise Sensitive Receptor (NSR)	Refers to all identified receptors that are sensitive to noise.
Non-Designated Heritage Asset	A heritage asset which is not designated, usually identified by local historic environment records protected by NPF4 and local planning policy.
Peak season constraints / timing restrictions	Conditions limiting activities during sensitive periods (e.g., no clearance in breeding season)

Defined Term	Definition
Peat	Partially decomposed remains of plants and soil organisms which have accumulated at the surface of the soil profile. The Soil Survey of Scotland defines peat as soil where the surface organic layer has more than 35% organic carbon and is at least 50 cm in thickness.
Physical Impacts (Cultural Heritage)	Potential physical impacts on heritage assets or buried archaeological remains which may survive relate to the possibility of disturbing, removing, or destroying in situ remains and artefacts during proposed development works (including excavation, construction, and other works associated with the Proposed Development). Physical impacts have the capacity to result in impacts of high magnitude as they could potentially result in the destruction or removal of a heritage asset.
Population density	Number of individuals of a species per unit area
Project	The Aspen Offshore Wind Farm, inclusive of both onshore and offshore components.
Proposed Development	The onshore components of the Aspen Offshore Wind Farm, landward of Mean Low Water Springs (MLWS).
Rating Level	Refers to the Immission Level after consideration of the character of the sound. The Rating Level is the Immission Level plus any required character corrections, if this is deemed necessary.
Receptor	Physical landscape resource, special interest or individual or group experiencing view liable to change as a result of the proposed development.
Regeneration	Renewal of woodland through sowing, planting, or natural regeneration
Residual biodiversity value / net biodiversity gain	Final state of biodiversity after development; net gain aims to leave biodiversity better than before
Residual Effects	Effect of development after mitigation proposals are taken into account.
Residual impact	Impacts remaining after mitigation measures are implemented
Restocking	Replacing felled trees by sowing seed, planting or natural regeneration
Scheduled Monument	A monument which is included in the Schedule of monuments compiled and maintained by the UK Government under the Ancient Monuments and Archaeological Areas Act 1979.
Scoping Boundary	The area within which the Proposed Development would be located.

Defined Term	Definition
Scoping Report	Scoping Report for the onshore elements of the Project.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Setting (Cultural Heritage)	The surroundings in which a historic asset is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Setting is not itself a historic asset, though land within a setting may contain other historic assets. Elements of a setting may make an adverse (diminishment) or positive (beneficial) contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.
Setting Impacts (Cultural Heritage)	Potential impacts which include consideration of whether any change as a result of a development would constitute an adverse impact (diminishment) to those attributes the setting of the assets which directly contribute to their significance rather than simply being an alteration to, or addition of a new element to the existing settings of these assets. Where a new development may be located within the setting of an asset but does not diminish the significance of the asset or the ability to appreciate that significance, it may have a neutral impact.
Silvicultural (silviculture)	The techniques of tending and regenerating woodlands and harvesting their physical products
Sound Power Level (SWL)	The total sound power emitted by a source, in decibels.
Sound Pressure Level (SPL)	A measure of the sound pressure at a point, in decibels.
Species richness / diversity	Number of different species (richness) and their relative abundances (diversity) in an area
Specific Sound Level	The equivalent continuous A-weighted sound pressure level (SPL) produced by the specific sound source at the assessment location over a given reference time interval, i.e. the sound level of just the sound source to be assessed. Described using the metric LAeq(t).
Substation	The onshore Substation, as part of the Proposed Development, would comprise electrical transformers and associated infrastructure designed to transform electricity between high

Defined Term	Definition
	and low voltage levels, or the reverse, to facilitate the transfer of electricity between the Project and the Grid Connection Point.
Territory / territorial behaviour	The area defended by an individual or pair for breeding and feeding
Transport Assessment	Document that evaluates the potential transport impacts of a new development.
Veteran tree	A tree that is of interest biologically, culturally or aesthetically because of its age, size or condition, including the presence of deadwood micro-habitats
Visibility Analysis	The process of identifying theoretical (based on digital modelling) and/or actual predicted areas from where any given development may be seen.
Visual Amenity	Particular composition of landscape elements that contribute to a view, or views.
Visual Effect	The consequence of change in the appearance of the landscape as a result of development, which may be positive or negative.
Visual Impact	The change in the appearance of the landscape and nature of views which may be adverse or beneficial.
Visual Sensitivity	The extent to which a view would be altered by change of a particular type and scale, assessed in relation to the following: • Location and land use (receptor activity) at the viewpoint or context of the view. • Landscape character and quality at the viewpoint. • Landscape character and quality of the intervening landscape. Importance of the view (which may be determined with respect to its popularity or number of affected people, its appearance in guidebooks, on tourist maps and the facilities provided for its enjoyment and references to it in literature and/or art).
Visualisation	Computer generated simulation or photomontage or other technique to illustrate how the proposed development would appear.
Windthrow	Uprooting of trees by the wind
Windthrow risk	A technical assessment of risk based on local climate, topography, site conditions and tree height

Defined Term	Definition
Woodland	Predominantly tree-covered land whether in large tracts (generally called forests) or smaller units (known by a variety of terms such as woodlands, woods, copses and shelterbelts)
World Heritage Site	A natural or cultural site, area or structure recognised as being of Outstanding Universal Value and inscribed under the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage 1972.
Written Scheme of Investigation	A written statement on the objectives of a project, including methods, timetable and resources. These form the framework for the execution of the project through to completion, set out in sufficient detail to be quantifiable, implemented and monitored. Normally prepared by an archaeologist or organisation undertaking the fieldwork, frequently in response to a brief/project outline or specification. The project design may be updated following post-excavation assessment.
Zone of influence / buffer zone	Distance around a project within which ecological receptors may be affected
Zone of Theoretical Visibility	The area predicted to have views of a proposed development on the basis of a digital terrain model or digital surface model, which may/may not take account of landcover features such as built form or vegetation.

ACRONYMS

Unit	Definition
AADT	Average Annual Daily Traffic
ADMS	Atmospheric Dispersion Modelling System
ADS	Archaeological Data Service
AEOSI	Adverse Effect on Site Integrity
AIS	Air Insulated Substation
ALDP	Aberdeenshire Local Development Plan 2023
ALGAO	Association of Local Government Archaeological Officers
ANC	Association of Noise Consultants
AOD	Above Ordnance Datum
APIS	Air Pollution Information Service
APR	Annual Progress Report
ARN	Affected Road Network
ASR	Annual Status Report
ATC	Automatic Traffic Counts
AWI	Ancient Woodland Inventory
BESS	Battery Energy Storage System
BGS	British Geological Survey
BNG	Biodiversity Net Gain
BoCC	Birds of Conservation Concern
CAFS2	Cleaner Air for Scotland 2
CCC	Climate Change Committee
CCRA	Climate Change Resilience Assessment
CCRA3	Third UK Climate Change Risk Assessment
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Protection Plan
CES	Crown Estate Scotland
CIEEM	Chartered Institute for Terrestrial Ecology and Environmental Management
CIfA	Chartered Institute for Archaeologists
CoWRP	Control of Woodland Removal-Policy
CTMP	Construction Traffic Management Plan
CUCAP	Cambridge University Collection of Aerial Photography

Unit	Definition
DBA	Desk-Based Assessment
Defra	Department for Environment, Food & Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DPSG	Designation Policy and Selection Guidance
DTM	Digital Terrain Model
EcIA	Ecological Impact Assessment
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPUK	Environmental Protection UK
FLOW	Floating Offshore Wind
FLS	Forestry and Land Scotland
FWPM	Freshwater Pearl Mussel
GCR	Geological Conservation Review
GDL	(Inventoried) Garden and Designed Landscape
GHG	Greenhouse Gas
GI	Ground Investigation
GIS	Gas Insulated Substation
GIS	Geographic Information System
GLTA	Ground Level Tree Assessment
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, Third Edition
GPP	Guidance for Pollution Prevention
GPS	Global Positioning System
GWDTE	Groundwater Dependent Terrestrial Ecosystem
GWP	Global Warming Potential
HCA	Habitat Condition Assessment
HDD	Horizontal Directional Drilling
HDV	Heavy Duty Vehicle
HEPS	Historic Environment Policy for Scotland
HER	Historic Environment Record
HES	Historic Environment Scotland

Unit	Definition
HGV	Heavy Goods Vehicle
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAQM	Institute for Air Quality Management
ICCI	In-Combination Climate Impacts
ICOMOS	International Council on Monuments and Sites
IEMA	Institute of Environmental Management and Assessment
IHS	Integrated Habitat System
INNS	Invasive Non-Native Species
INTOG	Innovation and Targeted Oil and Gas
IPCC	Intergovernmental Panel on Climate Change
ISEP	Institute of Sustainability and Environmental Professionals
ISO	International Organization for Standardization
JNCC	Joint Nature Conservation Committee
LAQM.TG22	Local Air Quality Management Technical Guidance 2022
LBAP	Local Biodiversity Action Plan
LCA	Land Capability for Agriculture
LCRM	Land Contamination Risk Management
LCT	Landscape Character Type
LDP	Local Development Plan
LDP23	Local Development Plan 2023
LDV	Light Duty Vehicle
LI	Landscape Institute
LiDAR	Light Detection and Ranging
LIS	Land Information Search
LMP	Land Management Plan
LNCS	Local Nature Conservation Site
LNR	Local Nature Reserve
LVIA	Landscape and Visual Impact Assessment
MAGIC	Multi-Agency Geographic Information for the Countryside
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs

Unit	Definition
MM	Mitigation Measure
MSC	Matters Specified in Conditions
NAP3	Third National Adaptation Programme (UK)
NBN	National Biodiversity Network
NCAP	National Collection of Aerial Photography
NCN	National Cycle Network
Ndep	Nitrogen deposition
NESBReC	North East Scotland Biological Records Centre
NFI	National Forest Inventory
NGR	National Grid Reference
NH3	Ammonia
NLS	National Library of Scotland
NML	Noise Monitoring Location
NNR	National Nature Reserve
NOx	Nitrogen oxides
NPF	National Planning Framework
NPF4	National Planning Framework 4
NRHE	National Record for the Historic Environment
NRTF	National Road Traffic Forecast
NSR	Noise Sensitive Receptor
NSRG	North Sea Renewables Grid
NVA	Night Vision Aids
NWSS	Native Woodland Survey of Scotland
O&G	Oil and Gas
O&M	Operations and Maintenance
OHL	Overhead Line
OHLs	Overhead Lines
OS	Ordnance Survey
PAC	Pre-Application Consultation
PBA	Protection of Badgers Act 1992
PEA	Preliminary Ecological Appraisal
PLHRA	Peat Landslide Hazard Risk Assessment
PMP	Peat Management Plan

Unit	Definition
PPiP	Planning Permission in Principle
PRA	Preliminary Roost Assessment
RCP	Representative Concentration Pathway
RO	Registered Organisation
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SEPA	Sottish Environment Protection Agency
SF	Scottish Forestry
sHRA	Shadow Habitats Regulations Assessment
SLA	Special Landscape Area
SM	Scheduled Monument
SNAP3	Scottish National Adaptation Plan 2024–2029
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPL	Sound Pressure Level
SPV	Special Purpose Vehicle
SSEN	Scottish and Southern Electricity Networks
SSSI	Site of Special Scientific Interest
SSU	Scottish Statutory Instrument
SuDS	Sustainable Drainage Systems
SWL	Sound Power Level
SWT	Scottish Wildlife Trust
TA	Transport Assessment
UK	United Kingdom
UKCP18	UK Climate Projections 2018
UNESCO	United Nations Educational, Scientific and Cultural Organization
UXO	Unexploded Ordnance
WCA	Wildlife and Countryside Act
WHS	World Heritage Site
WSI	Written Scheme of Investigation
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

TABLE OF UNITS

Unit	Definition
dB	Decibel
°C	Degrees Celsius
gCO_2e/kWh	Grams of carbon dioxide equivalent per kilowatt-hour
GW	Gigawatts
ha	Hectares
km	Kilometres
kV	Kilovolts
m	Metres
mm	Millimetres
MW	Megawatts
nm	Nautical miles
tCO_2e	Tonnes of carbon dioxide equivalent

1. INTRODUCTION

1.1 Project Background

1.1.1 Cerulean Winds Aspen Project Limited (the **Applicant**) is proposing the development of the Aspen Offshore Wind Farm (the **Project**), a floating offshore wind farm located approximately 84 km offshore to the east of Peterhead, Aberdeenshire.

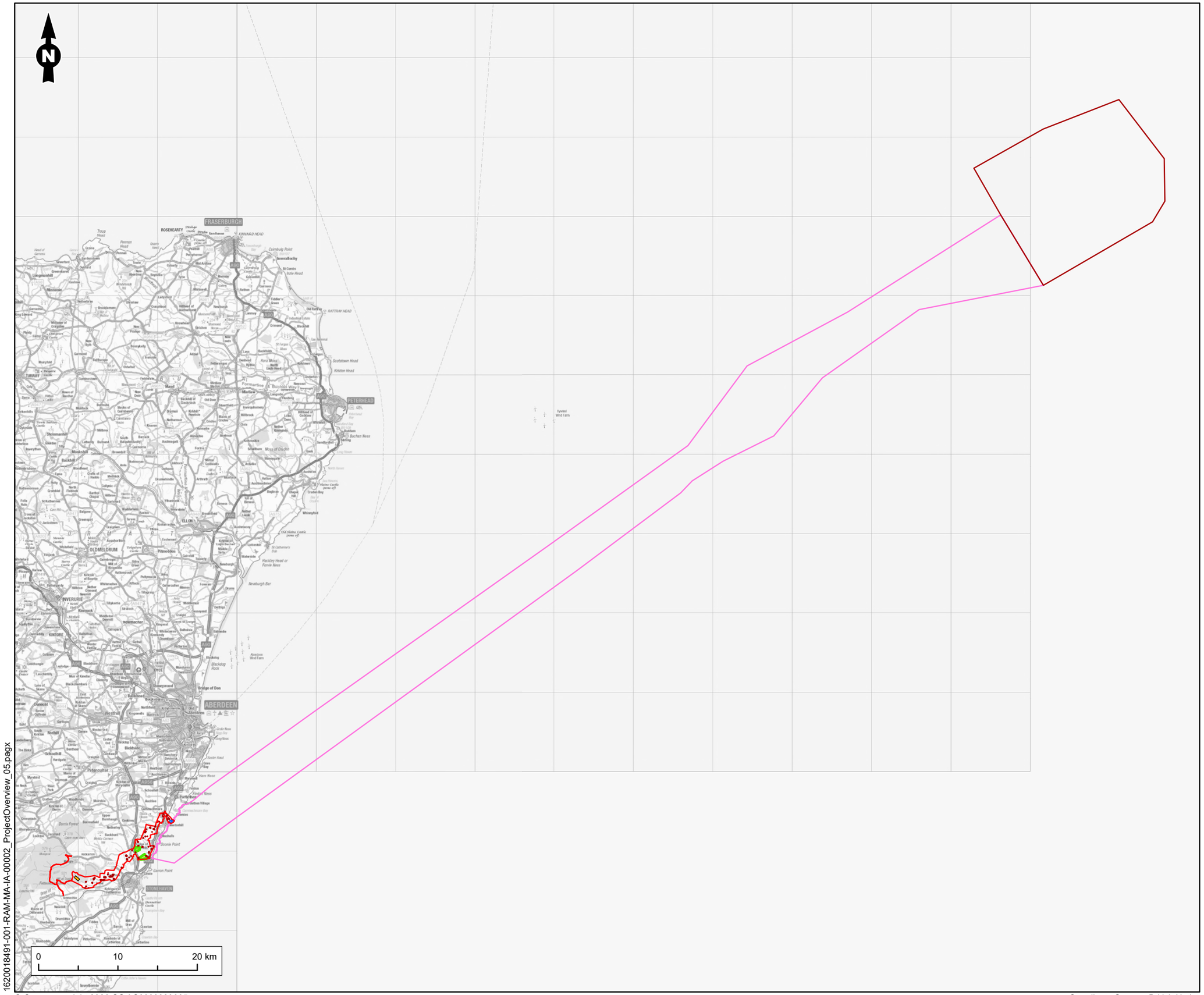
1.1.2 The Project comprises offshore and onshore components. For the purposes of this Scoping Report, the offshore components are referred to as the **Proposed Offshore Development** and the onshore components (landward of Mean Low Water Springs (MLWS)) referred to as the **Proposed Development** (see **Figure 1.1** and **Figure 1.2**).

1.1.3 The Proposed Offshore Development is subject to a separate consent application under Section 36 of the Electricity Act 1989 and Marine Licences under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009. The offshore EIA supported an application submitted in August 2025, which is currently awaiting determination.

1.1.4 The Applicant intends to submit an application for Planning Permission in Principle (PPiP) for the Proposed Development. The Proposed Development comprises onshore transmission infrastructure (including underground electrical cables, a substation, and associated enabling and ancillary works) to connect the Project to the National Electricity Transmission System (NETS).

1.1.5 This Onshore EIA Scoping Report supports the Applicant's request for an EIA Scoping Opinion from **Aberdeenshire Council** for the Proposed Development, in accordance with Regulation 17 of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the **EIA Regulations**).

1.1.6 The Proposed Development would be located within the Scoping Boundary identified in this Scoping Report (**Figure 1.2**).



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point
- Aspen Array Area
- Offshore Transmission Cable Corridor

Figure Title
The Project

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	1.1	1.0

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Client
Cerulean Winds Aspen Project Limited

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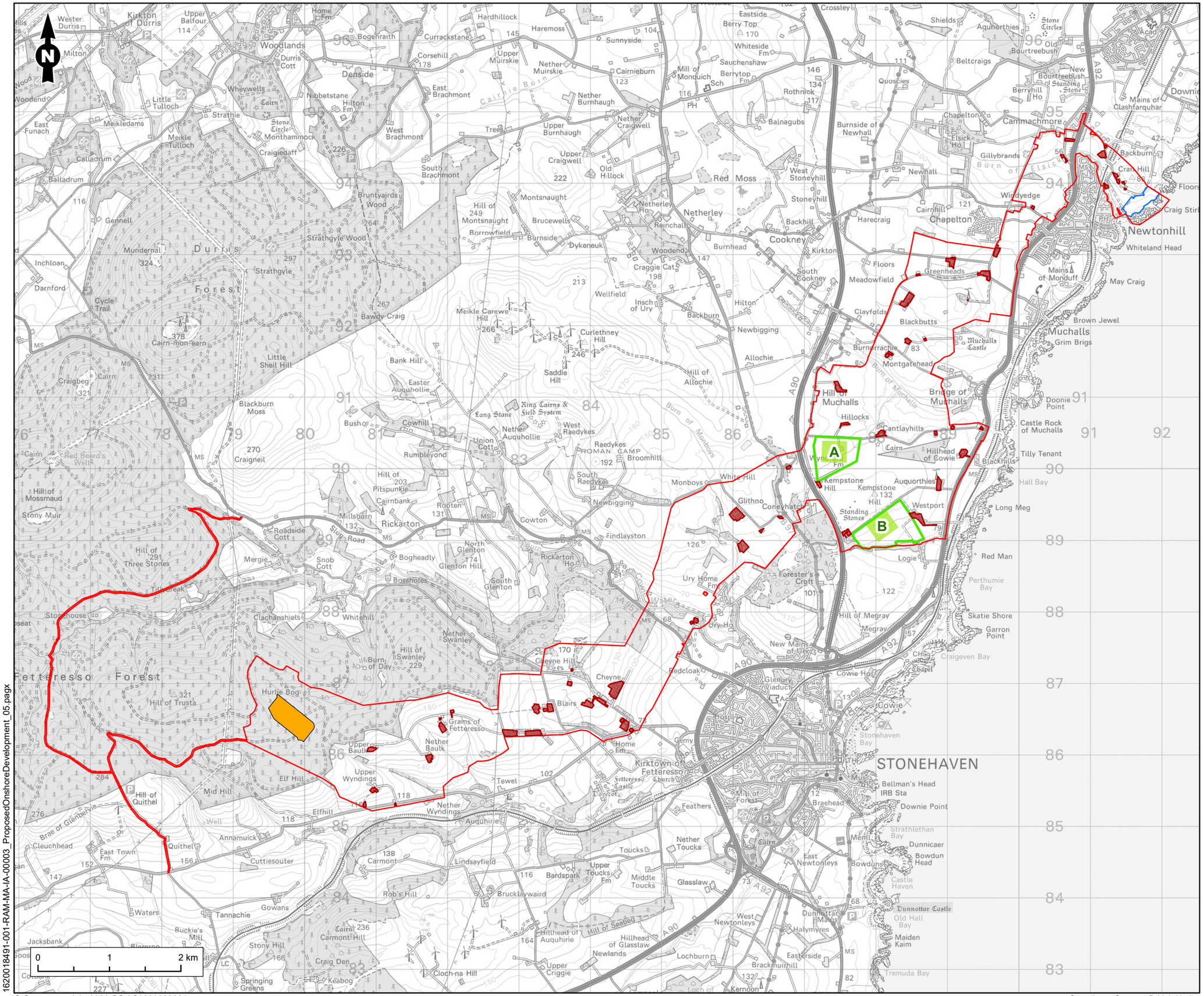
Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point

Figure Title
The Proposed Development

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	1.2	1.0

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1620018491-001-RAM-MA-IA-00003_ProposedOnshoreDevelopment_05.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

1.2 The EIA Team

1.2.1 This Onshore EIA Scoping Report has been prepared by Ramboll UK Limited (Ramboll) on behalf of the Applicant. Ramboll has been a member of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark Scheme since its inception in 2011, and its EIA activities are managed to meet the requirements of Regulation 5(5) of the EIA Regulations. A statement confirming the relevant expertise and qualifications of those preparing the EIA Report will be provided in the EIA Report to be submitted.

1.3 Overview of the Proposed Development

1.3.1 The Proposed Development comprises the construction, operation and maintenance (O&M), and decommissioning of Onshore Transmission Infrastructure for the Project, landward of MLWS. The Proposed Development includes works within the Landfall Area close to Craig Stirling, Newtonhill, and connections to the grid at the proposed SSEN Transmission Hurlie 400 kV Substation at Fetteresso Forest, Aberdeenshire (**Figure 1.2**). The SSEN Transmission substation itself is being consented separately and does not form part of the Project[1].

1.3.2 As the Applicant intends to submit an application for Planning Permission in Principle (PPiP). Which consents the principle of the development, with further detailed design to be confirmed via Matters Specified in Condition (MSC). Within this Scoping Report, a description of all elements of the Proposed Development applicable for this type of application has been provided. In particular, the overall area of land required for the Proposed Development (the Scoping Boundary), the Landfall Area, and the Substation Site Options are provided to indicate land within which the Proposed Development would be located. Ancillary infrastructure may also be required, both permanently and temporary, within each of the areas identified above.

1.3.3 Further detail in relation to the Proposed Development are set out within **Chapter 3: Description of the Proposed Development**.

1.4 Structure and Purpose of the Onshore Scoping Report

1.4.1 Scoping is an integral part of the EIA process that seeks to focus the approach of the assessment. The role of the Scoping process is to ensure key environmental issues are to be appropriately assessed, while identifying those unlikely to give rise to likely significant environmental effects which do not need to be considered further.

1.4.2 The purpose of this Scoping Report is therefore to identify and report potential significant environmental effects for detailed assessment and those that can be 'scoped out' of further consideration. The Scoping Report formally presents information on the Proposed Development to enable stakeholders to engage on the key environmental topics, including the proposed methodology by which these will be addressed as part of the EIA.

1.4.3 The structure of the Onshore Scoping Report is set out in **Table 1.1**.

Table 1.1: Structure of the Onshore Scoping Report

Chapter	Title	Summary
1	Introduction	This chapter introduces the Project, the Proposed Development, the Applicant, and the key objectives of the Onshore Scoping Report.
2	Legislative and Policy Context	This chapter sets out the need for the Proposed Development and the key legislation and national and local policy relevant to the EIA.

[1] The SSEN Transmission proposed Hurlie 400 kV Substation will be considered as part of the cumulative effects assessment, with reference made to the respective environmental assessments that supported its corresponding planning application.

Chapter	Title	Summary
3	The Proposed Development	This chapter describes the Project and the key components and activities that form the Proposed Development. This includes a description of the construction, operation and maintenance (O&M) and decommissioning phases.
4	Approach to Scoping and EIA	This chapters outlines the approach to Scoping, describes the principles of EIA and the methodology proposed to identify and assess likely significant environmental effects that could arise from the Proposed Development.
5	Consultation Process	This chapter summarises the approach to consultation and engagement for the Proposed Development.
6	Site Selection and Alternatives	This chapter sets out the decisions made to inform the design and layout of the Proposed Development and provides justification for the Proposed Development as currently identified and assessed for the purposes of Scoping.
7 to 20	Technical Onshore Scoping Topics	These chapters set out the topic specific scope of onshore environmental topics by outlining relevant legislation, policy and guidance; study area(s); data sources; baseline conditions; mitigation measures; potential impacts of the Proposed Development; the proposed assessment methodology; potential cumulative effects; potential transboundary effects; a summary of the proposed scope; and scoping questions. The environmental topics considered include: • Climate (Chapter 7); • Terrestrial Ecology (Chapter 8); • Terrestrial Ornithology (Chapter 9); • Landscape and Visual (Chapter 10); • Archaeology and Cultural Heritage (Chapter 11); • Geology, Soils and Peat (Chapter 12); • Hydrology and Flood Risk (Chapter 13); • Traffic and Transport (Chapter 14); • Air Quality (Chapter 15); • Noise and Vibration (Chapter 16); • Tourism and Recreation (Chapter 17); • Land Use and Agriculture (Chapter 18); • Forestry (Chapter 19); and • Other Environmental Issues to be Scoped Out (Chapter 20), including: - Introduction (Section 20.1); - Major Accidents or Disasters (Section 20.2); - Waste and Materials; (Section 20.3); - Human Health and Electromagnetic Fields (Section 20.4).
21	Summary of EIA Scoping and Next Steps	This chapter provides a summary of the environmental topics to be scoped in as part of the EIA and of next steps.
22	Proposed Structure of the EIA Report	This chapter sets out structure proposed to be adopted by the EIA Report.

2. LEGISLATIVE AND POLICY CONTEXT

2.1 Introduction

2.1.1 The following chapter sets out the relevant legislation and policy context that has informed the proposed scope and methodology of the EIA, including the identification of relevant receptors, likely significant effects, assessment criteria and standards. Each technical chapter has identified the legislation, policy and guidance that has informed the proposed topic-specific scope and approach. Relevant legislation, policy and guidance will be considered in further detail within the EIA Report.

2.1.2 This Scoping Report does not seek to assess compliance with legislation or planning policy. Consideration of how the Proposed Development accords with relevant legislation and planning policy will be set out within the Planning Statement to accompany the PPiP application.

2.2 Climate Policy Context and Energy Need

2.2.1 In 2008, the UK established a legally binding framework for reducing greenhouse gas emissions through the Climate Change Act 2008[1], introducing statutory carbon budgets and establishing the Committee on Climate Change to set a trajectory towards long term emissions reductions. This included a target to reduce greenhouse gas emissions by at least 80% by 2050 compared to 1990 levels. This framework was strengthened in 2019 through an amendment to the Climate Change Act[2], committing the UK to achieving net zero greenhouse gas (GHG) emissions by 2050.

2.2.2 In Scotland, the Climate Change (Scotland) Act 2009[3] (as amended in 2019[4]) establishes a more ambitious statutory target of achieving net zero emissions by 2045, supported by interim targets[5] and a requirement for regular Climate Change Plans. These plans set out the policies and proposals required to reduce emissions across key sectors, including electricity generation and transmission.

2.2.3 The decarbonisation of the energy system is a key component of both UK and Scottish climate policy. This includes a substantial increase in renewable electricity generation, in particular offshore wind, alongside the reinforcement and expansion of the electricity transmission network required to transport energy from areas of generation to centres of demand. NPF4[6] identifies renewable energy generation and electricity transmission infrastructure as critical to supporting the transition to a net zero economy, maintaining energy security, and ensuring a resilient energy system across Scotland and the wider UK electricity network.

2.2.4 Given this context, there is a recognised need for the timely development of both renewable energy generation and supporting transmission infrastructure required to facilitate its delivery. The Proposed Development forms part of this national infrastructure, enabling the integration of offshore wind generation assets into the electricity network and supporting the achievement of statutory emissions reduction targets and wider energy policy objectives.

2.2.5 A detailed assessment of the need for the Proposed Development and its compliance with relevant planning policy will be provided in the Planning Statement submitted in support of the PPiP application.

[1] Climate Change Act 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/27/data.pdf
[2] The Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111187654
[3] Climate Change (Scotland) Act 2009. Available at: https://www.legislation.gov.uk/asp/2009/12/data.pdf
[4] Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Available at: https://www.legislation.gov.uk/asp/2019/15/data.pdf
[5] Including a 75% reduction in greenhouse gas emissions by 2030 and a 90% reduction by 2040, each relative to 1990 baseline levels.
[6] Scottish Government. (2023). National Policy Framework 4. Available at: https://www.gov.scot/publications/national-planning-framework-4/

2.3 INTOG Leasing Context

2.3.1 In support of the Scottish Government's statutory target to achieve net zero (GHG) emissions by 2045, and the target to generate the equivalent of 50% of Scotland's overall energy consumption from renewable sources by 2030, Crown Estate Scotland (CES) launched the Innovation and Targeted Oil and Gas (INTOG) Offshore Wind Leasing Round in August 2022. The INTOG leasing round is intended to facilitate offshore wind projects that support innovation and contribute to the decarbonisation goals of existing offshore oil and gas assets, including through the direct electrification of existing assets[7]. It is also designed to support the delivery of the North Sea Transition Deal (NSTD) through encouraging investment in offshore wind in brownfield Oil and Gas (O&G) regions that result in the decarbonisation of O&G assets to reach unabated greenhouse gas emissions targets[8].

2.3.2 As part of Crown Estate Scotland's INTOG leasing round, the Applicant was awarded an Exclusivity Agreement in March 2023 to progress the Aspen INTOG Lease Area following a merit-based assessment process.

2.3.3 The strategic distribution of the three Lease Areas in relation to the oil and gas (O&G) facilities (including existing, currently under development and future assets) enhances O&G decarbonisation potential via electrification. The distributed position of the three projects, with interlinking cables, supports greater confidence in the supply of renewable energy to any connecting O&G facilities, with each project able to mitigate reduced generation at others (due to maintenance downtime/lower wind speed/etc.). By integrating renewable energy within the O&G sector, the NSRG helps drive the technological innovation and infrastructure investment necessary for achieving the goals of the NSTD. It also supports the commitments of the NSTD to long term job creation and economic opportunities in the UK offshore energy industry, positioning the North Sea as a leader in the global energy transition and of FLOW technology.

2.3.4 This Scoping Report relates to the onshore transmission infrastructure (the Proposed Development) of the Aspen Offshore Wind Farm (the Project). The offshore elements of the Project are subject to separate consenting and EIA processes. This EIA for the Proposed Development will take into account any relevant interactions and dependencies between the onshore and offshore components, where these have the potential to give rise to likely significant environmental effects. Further detail as to how interactions with the offshore infrastructure of the Project will be considered are set out with **Chapter 4: Approach to Scoping and EIA**.

2.3.5 Beech, Cedar and the NSRG will be considered as part of the Cumulative Effects Assessment (CEA) in the same manner as other projects at the same early stage of development where information is available to identify potential interactions. Beech, Cedar, and the NSRG are not currently understood to result in additional onshore transmission infrastructure and, on this basis, no overlap in onshore receptors or impact pathways with the Proposed Development has been identified. This position reflects the current early stage of development of these projects and will be kept under review as further information becomes available.

2.3.6 Should these projects progress, the assessments prepared to inform their respective applications would consider potential interactions with the Proposed Development where required, either as part of the baseline environment or as cumulative effects, depending on the sequencing of development. This does not affect the Scoping position for the Proposed Development, which is based on information available at this stage.

[7] Crown Estate Scotland. (2026). INTOG leasing round. Available at: https://www.crownestatescotland.com/scotlands-property/offshore-wind/intog-leasing-round

[8] North Sea Transition Authority. (2025). Accelerating the energy transition. Available at: https://www.nstauthority.co.uk/what-we-do/accelerating-the-energy-transition/

2.4 Application and Consenting Process

2.4.1 Owing to the scale, nature and complexity of the Project, for the onshore transmission infrastructure (the Proposed Development), the Applicant intends to submit an application PPiP under The Town and Country Planning (Scotland) Act 1997[9]. This approach is commonly adopted for large scale infrastructure projects, particularly those comprising linear elements where a degree of flexibility in the siting, routing and design of components is required at the initial consent stage. The level of detail provided in the PPiP application will reflect the early stage of design development. As set out within **Chapter 3: The Proposed Development**, the EIA will adopt a design envelope approach. A receptor-based assessment will ensure that potential impacts are robustly evaluated while flexibility is maintained for future refinement to the design, siting, and routing of the proposed infrastructure.

2.4.2 This Scoping Report forms part of the EIA process and has been submitted to Aberdeenshire Council to inform the adoption of a Scoping Opinion. The PPiP application will be accompanied by an EIA Report which will identify, describe and assess the likely significant environmental effects of the Proposed Development.

2.4.3 In advance of submission of the PPiP application, Pre-Application Consultation (PAC) will be undertaken in accordance with the Town and Country Planning (Scotland) Act 1997[9]. Feedback received through the PAC process will be taken into account in refining the design of the Proposed Development and informing the preparation of the supporting application documentation prior to submission of the PPiP application.

2.4.4 Should the PPiP application be granted, the decision by the determining authority would set out the Matters Specified in Conditions (MSC) to be subsequently addressed. Applications for the approval of Matters Specified in Conditions would then be submitted for the detailed design of the Proposed Development as required by the planning permission, which may include routing, siting, layout, design and access arrangements, and the detailed specification of mitigation measures identified through the EIA process.

2.4.5 The Proposed Development constitutes ‘multi-stage consent’ development as defined in Regulation 2 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, whereby the PPiP establishes the principles of the development, with subsequent consents required to approve detailed matters.

2.4.6 A summary of the key stages and activities of the consenting process are set out within **Table 2.1**.

[9] The Town and Country Planning (Scotland) Act 1997. Available at: https://www.legislation.gov.uk/ukpga/1997/8/data.pdf

Table 2.1: Key Stages and Activities of the Consenting Process

Key Stages of the Consenting Process	Key Activities (Not Necessarily in Order)
Pre-Application	• Early stakeholder engagement and consultation; • Environmental surveys and baseline data collection; • Proposal of Application Notice; • EIA Scoping; • Pre-Application Consultation (PAC); and • Preparation of EIA Report.
Application Submission and Validation	• Submission of the PPiP application, supported by the EIA Report; • Validation by the Planning Authority; and • Advertisement of the application.
Statutory Consideration	• Statutory consultation with consultees; and • Publicity and opportunity for representations.
Assessment	• Consideration of environmental information (EIA Report and any further information); • Review of consultation responses and representations; • Pre-determination hearing (if required); and • Assessment of the acceptability of the development in principle.
Determination	• Determination of the application by the Planning Authority (committee or delegated powers).
Post Determination	• Review of conditions, including Matters Specified in Conditions (MSC); and • Preparation and submission of MSC applications to approve detailed siting, layout, routing and design, and to secure mitigation measures identified through the EIA, where these require further definition.

2.5 Regulatory Framework relevant to the EIA

2.5.1 The regulatory framework relevant to the EIA is set out in **Table 2.2**.

Table 2.2: Regulatory Framework relevant to the EIA

Regulatory Framework	Details
Town and Country Planning (Scotland) Act 1997	The Town and Country Planning (Scotland) Act 1997 forms the primary legislation for the planning system across Scotland. Key objectives are listed as ensuring the sustainable use of land, promoting sustainable economic development, encouraging regeneration as well as maintaining and enhancing heritage assets including those of a natural and cultural description.
Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017	The Proposed Development constitutes EIA development under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and is therefore subject to the preparation of an EIA Report to assess its likely significant environmental effects. In accordance with Regulation 4, the determining authority is required to take the EIA Report (together

Regulatory Framework	Details
	with any other relevant environmental information) into account in reaching its decision on the PPiP application.
The Town and Country Planning (Pre-Application Consultation) (Scotland) Amendment Regulations 2021	The Town and Country Planning (Pre-Application Consultation) (Scotland) Amendment Regulations 2021[10] include requirements for Pre-Application Consultation (PAC) with communities for National Developments to which the Proposed Development is designated. Detail in relation to the approach to consultation is set out within **Chapter 5: Consultation Process**.
Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013	The determination of planning applications in Scotland is governed by the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013[11], which set out the procedural requirements for the planning process including pre-application, submission, consultation and post-determination stages.

2.6 The Development Plan

2.6.1 Section 13 of the Planning (Scotland) Act 2019[12] amends Section 24 of the Town and Country Planning (Scotland) Act 1997[9] regarding the meaning of the 'Development Plan'. The Development Plan provides the primary basis for determining planning applications unless material considerations indicate otherwise.

2.6.2 The Development Plan for the Proposed Development comprises:

- National Planning Framework 4 (NPF4)[6]; and
- Local Development Plan 2023 (ALDP)[13].

National Planning Framework 4

2.6.3 National Planning Framework 4 (NPF4) is the national spatial strategy for Scotland, setting out the spatial principles, regional priorities, National Developments, and national planning policy.

2.6.4 As set out within **Section 2.2**, in accordance with Annex A of NPF4, the Proposed Development is designated as a National Development. This designation confirms the national importance of the Proposed Development in policy terms and establishes the principle of need.

2.6.5 Policy 11: Energy of NPF4 supports all forms of renewable, low carbon and zero emissions energy development. This support extends to enabling infrastructure, including electricity transmission networks and associated works, where proposals accord with other relevant NPF4 policies.

Aberdeenshire Local Development Plan 2023

2.6.6 The Aberdeenshire Local Development Plan 2023[13] (ALDP) sets out the regional vision for the administrative area of Aberdeenshire Council, supporting sustainable economic growth while committing to environment safeguarding and enhancement. The ALDP aligns with the national spatial strategy set out in NPF4, adopting consistent principles relating to climate change

[10] The Town and Country Planning (Pre-Application Consultation) (Scotland) Amendment Regulations 2021. Available at: https://www.legislation.gov.uk/ssi/2021/99/data.pdf

[11] Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Available at: https://www.legislation.gov.uk/ssi/2013/155/data.pdf

[12] Planning (Scotland) Act 2019. Available at: https://www.legislation.gov.uk/asp/2019/13/data.pdf

[13] Aberdeenshire Council. (2023). Aberdeenshire Local Development Plan 2023. Available at: https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023

mitigation and adaptation, emissions reduction, and the protection of the natural and built environment.

2.6.7 The ALDP establishes a supportive policy context for renewable energy and associated infrastructure, including National Developments, subject to accordance with relevant policies including in relation to environmental protection, landscape, biodiversity, cultural heritage and residential amenity. ALDP is supported by supplementary guidance and planning advice which provide further detail on the application of policies and inform best practice in the assessment and delivery of development proposals.

3. THE PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 The following chapter sets out a description of the Proposed Development. This includes the key design parameters and proposed activities associated with the construction, operation and maintenance, and decommissioning phases, which have been used to establish the proposed scope of the EIA.

3.1.2 At this stage, the description of the Proposed Development is indicative, reflecting the need to account for flexibility to accommodate ongoing refinement to the design. The parameters set out in this chapter reflect the current understanding of the maximum potential parameters of the infrastructure that may be required to construct the proposed development. These parameters for the Design Envelope that will be utilised to inform a proportionate, precautionary scope of assessment.

3.1.3 Through ongoing design development, the Applicant will seek to further refine the Design Envelope and, where possible, reduce the extent of variability. The EIA Report will set out the parameters that define the Design Envelope for the Proposed Development and form the basis of the assessment for the purposes of the Planning Permission in Principle (PPiP) application.

3.1.4 The Scoping Boundary, within which the Proposed Development would be located, is set out in **Figure 1.2**.

3.1.5 The Scoping Boundary is located within the administrative boundary of Aberdeenshire Council, and the North Kincardine, Stonehaven and Lower Deeside, and Mearns wards (north to south).The Landfall Area is located close to Craig Stirling, Newtonhill, and the Grid Connection Point at the proposed SSEN Transmission Hurlie 400 kV Substation at Fetteresso Forest to the west of Stonehaven.

3.2 Design Envelope Approach

3.2.1 For the purposes of the EIA, the Proposed Development will be assessed through the application of a Design Envelope (Rochdale Envelope) approach[1]. This approach allows a degree of flexibility to be retained where certain detailed aspects of the Proposed Development will not be fully defined at the point of application submission. This approach is common practice for PPiP applications and has been developed in accordance with Scottish Government Planning Advice Note 1/2013[2].

3.2.2 Much of the transmission infrastructure that forms the Proposed Development, including substation and cabling technologies (as well as associated construction and installation techniques) continue to evolve as the industry identifies efficiencies in design, delivery and operation. A design envelope approach is a way to ensure the Proposed Development does not constrain the future adoption of new technology or construction and maintenance techniques.

3.2.3 The EIA Report will define the Design Envelope for the Proposed Development, comprising the range of maximum and minimum design parameters that represent the extent of variability for which consent is sought, which will form the basis of the EIA.

3.2.4 This approach allows flexibility at the PPiP stage while ensuring that the EIA is based on parameters that represent a reasonable worst-case scenario to ensure potential significant effects

[1] The 'Design Envelope' approach reflects the principles established in Rochdale case law (R v Rochdale MBC ex parte Milne [2000]), whereby consent may be sought on defined parameter ranges provided the EIA assesses the maximum realistic potential for likely significant effects.

[2] Scottish Government. (2013). Planning Advice Note 1/2013: Environmental Impact Assessment. Available at: https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/

are not underestimated. Each environmental topic will set out the relevant parameters of the Design Envelope which form a reasonable worst-case scenario in relation to each potential impact assessed.

3.3 Key Design Parameters of the Proposed Development

3.3.1 As set out within **Chapter 1: Introduction**, the Proposed Development comprises onshore transmission infrastructure landward of MLWS, the key components are listed below and the Scoping areas identified for these components shown in **Figure 3.1**:

- The Landfall Area – where the Offshore 220 kV HVAC Transmission Cables are brought onshore and are jointed to the Onshore Transmission Cables.
- The Substation Area– the proposed onshore Substation, comprising electrical transformers and associated infrastructure designed to transform electricity between 220 kV and 400 kV to allow the onward transmission of electricity.
- Onshore Transmission Cable Corridor comprising the area within which the Onshore Transmission Cables would be located:
  - 220 kV HVAC Onshore Transmission Cable Corridor Area – the area within which the 220 kV Onshore Transmission Cables would be installed between Landfall and the Proposed Development Substation.
  - 400 kV HVAC Onshore Transmission Cable Corridor Area – the area within which the 400 kV Onshore Transmission Cables would be installed to facilitate onward transmission to the National Electricity Transmission System, to connect the Proposed Development Substation to SSENs proposed Hurlie Substation.

3.3.2 As the Applicant intends to submit an application for PPiP, a detailed description of all elements of the Proposed Development are not provided at this stage. However, the land required for the Proposed Development (the Scoping Boundary), the Landfall Area, and the Substation Site Options are provided to indicate land within which the Proposed Development would be located. Ancillary infrastructure may also required, both permanently and temporarily, within each of the areas identified above.

Landfall

3.3.3 Landfall would be located within the coastal area to the north of Newtonhill, Aberdeenshire, defined as the Landfall Area (as set out in **Figure 3.2**). It would form the interface between offshore and onshore transmission components of the Project. The Landfall is where the 220 kV HVAC Offshore Transmission Cables come ashore and enter underground Transition Joint Bays.

3.3.4 The 220 kV HVAC Offshore Transmission Cables would be installed underground and utilise trenchless installation methods, such as Horizontal Directional Drilling (HDD), extending between Mean Low Water Springs (MLWS) and the Transition Joint Bays within the Landfall Area. There would be no above ground construction works seaward of the Landfall Area.

3.3.5 There would be up to three Transition Joint Bays which equates to one per cable circuit of the 220kV HVAC Onshore Transmission Cables.

3.3.6 Transition Joint Bays are buried concrete box like structures used to house the cable interface joints connecting the Offshore Transmission Cables to the Onshore Transmission Cables at Landfall. The Transition Joint Bays would be backfilled with material to protect the cable joint. A an access cover would be located above ground to provide operation or emergency maintenance access.

Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Grid Connection Point

Development Scoping Areas

- 220kV Cable Corridor Scoping Area
- 400kV Cable Corridor Scoping Area
- Indicative Substation Development Site
- Landfall Scoping Area

Figure Title
Development Scoping Areas

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	3.1	1.0

Prepared By	Scale
CW	1:50,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

0 250 500 m

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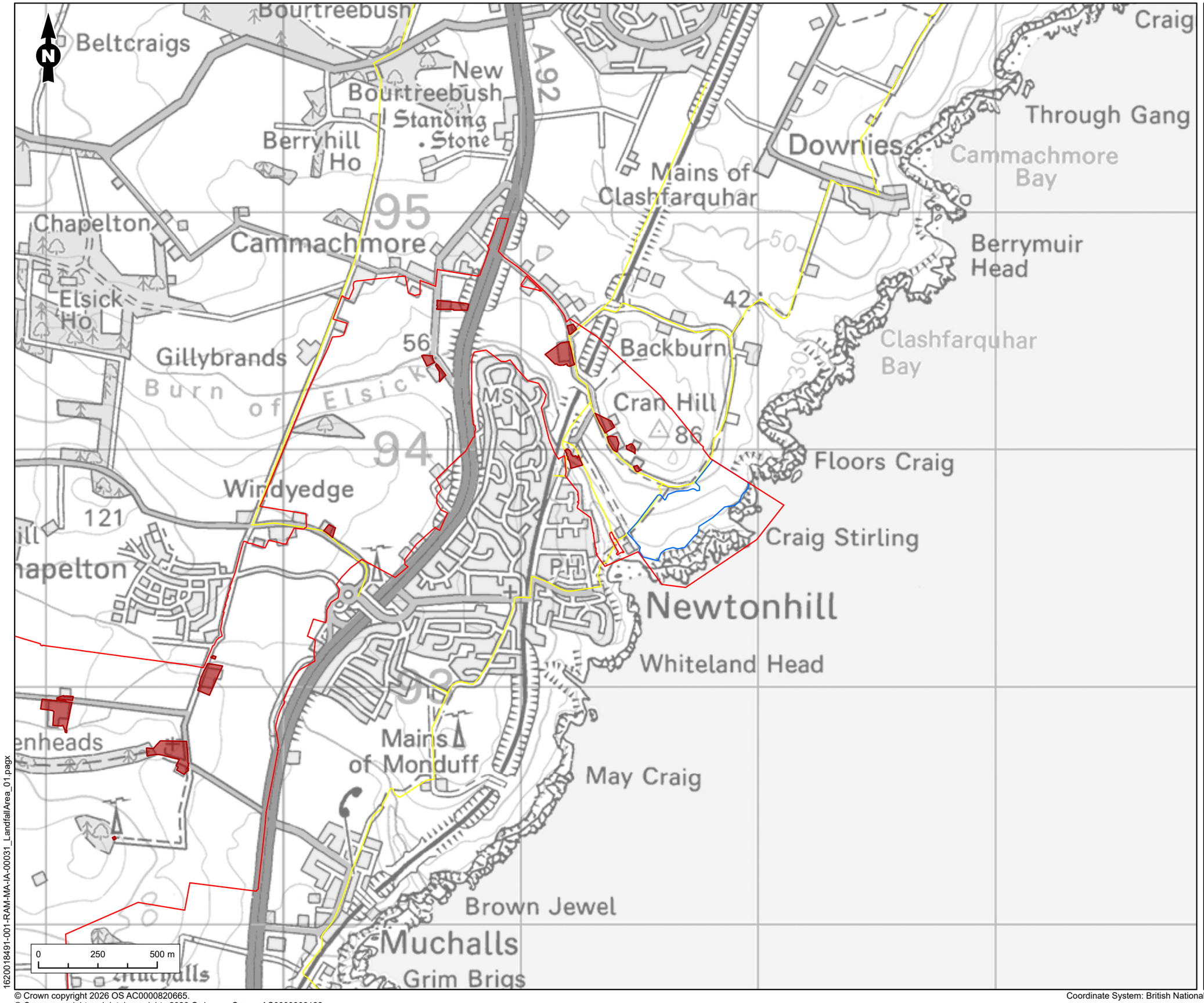
Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Landfall Area
- Core Paths

Figure Title
Landfall Area

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	3.2	1.0

Prepared By	Scale
CW	1:15,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00031_LandfallArea_01.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Onshore Transmission Cables

3.3.7 The Onshore Transmission Cables are typically installed as cable circuits, either in a flat or trefoil formation depending on the installation method, i.e., trenchless crossing of hazards or other environmental constraints. The 220 kV Onshore Transmission Cables from the Transition Joint Bays at Landfall to the Substation would comprise of up to three circuits, and the 400 kV Onshore Transmission Cables from the Substation to the Grid Connection Point would comprise of up to two circuits. Flat lay is considered to represent the reasonable worst-case scenario.

3.3.8 The indicative maximum design parameters in relation to the Onshore Transmission Cables are set out in **Table 3.1**.

Table 3.1: Onshore Transmission Cables Indicative Maximum Design Parameters

Design Parameter	Indicative Maximum Parameters
220 kV Onshore Transmission Cables	
Number of circuits	3
Number of trenches	9
Trench burial depth	3.5 m
Trench burial width	6.85 m
400 kV Onshore Transmission Cables	
Number of circuits	2
Number of trenches	6
Trench burial depth	3.5 m
Trench burial width	6.85 m

3.3.9 The cable circuits of the Onshore Transmission Cables would be installed in either open cut trenches or trenchless methods, such as HDD, where required and feasible in response to specific technical and environmental constraints such as railway crossings, roads, Ancient Woodland, watercourses or other existing utilities or infrastructure. Open cut trench methods are anticipated to be the most common method of cable burial employed. Link Boxes and Joint Bays will be installed at regular intervals along the cable route.

3.3.10 The Onshore Transmission Cable Corridor would comprise the area within which the installation of the Onshore Transmission Cables would be located.

3.3.11 For the purposes of Scoping, the Onshore Transmission Cable Corridor is anticipated to have a maximum width of up to 200 m at its greatest point during construction. The typical width of the Onshore Transmission Cable Corridor would be less than this maximum and would be reduced in response to site-specific technical and environmental constraints where required.

3.3.12 An indicative Onshore Transmission Cable Corridor is being developed as part of the ongoing design process and is anticipated to be presented within the EIA Report for reference and to demonstrate a potential feasible corridor within the Scoping Boundary. The corridor would not be the fixed corridor within the PPiP application, nor define the spatial extent of development for which consent is sought. The routing of the Onshore Transmission Cable Corridor will be subject to further refinement through subsequent design and consenting stages.

3.3.13 The minimum and maximum design parameters in relation to the Onshore Transmission Cable Corridor are set out in **Table 3.2**.

Table 3.2: Onshore Transmission Cable Corridor Indicative Minimum/Maximum Design Parameters

Design Parameter	Indicative Parameters (Maximum)	Indicative Parameters (Minimum)
Construction Phase (Temporary)		
220kV HVAC Onshore Transmission Cable Corridor width	200 m	75 m
400kV HVAC Onshore Transmission Cable Corridor width	200 m	85 m
Operation and Maintenance Phase (Permanent)		
220kV HVAC Onshore Transmission Cable easement width	40 m	n/a
400kV HVAC Onshore Transmission Cable easement width	50 m	n/a

3.3.14 The Onshore Transmission Cable Corridor would require access to allow for the movement of construction related vehicles along haul roads, and the installation of the Onshore Transmission Cable circuits. Access would also be required to temporary construction compounds, laydown areas, and the cable trenches. Access requirements during construction works may necessitate the provision of both temporary and permanent access tracks. The access points are currently being developed, it is anticipated that the A92 and A90 will be the primary routes to the Scoping Boundary, with access then being taken from suitable local road network locations to access the Onshore Transmission Cable Corridor. Substation Site Option A could be accessed via the B979 and the local road network off the A92 or a similar part of the local road network, while Substation Site Option B could be accessed via the local road network off the A92 or a similar part of the local road network. The design process will seek to reduce the number of road access points and utilise a temporary haul road within the Onshore Transmission Cable Corridor where possible (this principle is already accounted for in the minimum and maximum parameters above). Illustrative access points will be identified in the EIA Report and will inform the traffic and transport assessment undertaken on the Proposed Development.

3.3.15 Joint Bays and Link Boxes would be required along the route of the Onshore Transmission Cables. Joints Bays are the underground chambers within which cable section would be physically joined together during installation, their location and frequency are dependent on the final design of the Proposed Development. Link Boxes are the small above ground boxes which connect to the outer layer of the cabling to allow it to be safely monitored, earthed and managed. Once operational, the only above ground presence of the Onshore Transmission Cables would comprise small, discrete Link Boxes or access covers to facilitate inspection and maintenance works.

3.3.16 The Onshore EIA Report will include indicative details on the proposed Onshore Transmission Cable Corridor, Joint Bays, Link Boxes and installation methods (and parameters).

The Substation

3.3.17 A purpose-built HVAC Substation would be required to transform electricity delivered by the Onshore Transmission Cables from 220 kV to 400kV, and vice versa, enabling connection of the Project to the Grid Connection Point and the National Electricity Transmission System (NETS). The Substation would accommodate auxiliary plant and facilities required to operate, monitor and maintain the Proposed Development, including control buildings.

3.3.18 Three broad substation design options are being considered for the purposes of Scoping: Air Insulated Substation (AIS), Gas Insulated Substation (GIS) and hybrid designs (which combines AIS and GIS technologies). For an AIS design option, equipment is typically arranged in an open

yard format while for GIS and hybrid design options, some or all equipment is housed within one or more buildings.

3.3.19 For the purposes of Scoping and the subsequent EIA, an AIS layout is intended to be used as a reasonable worst-case case for massing and footprint parameters. Irrespective of the design option to be taken forward, the EIA will continue to consider the maximum potential massing (in terms of height and footprint) of the Substation to ensure that a robust and precautionary worst-case assessment of likely significant effects is undertaken. Gas Insulated (GIS) and hybrid substation configurations will be retained as part of the Design Envelope and assessed where considered to represent a worst-case scenario in relation to other matters as appropriate.

3.3.20 Two Substation Site Options, Site Option A and B, are being considered for the purposes of Scoping, these locations are set out in **Figure 3.3**. For each Substation Site Option, a Representative Substation Platform Area and Indicative Substation Development Site has been identified.

3.3.21 The Representative Substation Platform Area defines the maximum extent of the Substation platform, accounting for the worst-case potential footprint and massing requirement. The Substation Development Site represents the indicative area encompassing the maximum area of potential Substation development including the Representative Substation Platform Area, Sustainable Drainage Systems (SuDS), access, landscaping and temporary construction areas.

3.3.22 The preferred Substation Site Option will be confirmed through the EIA process, informed by environmental and engineering constraints and other relevant considerations. The exact siting of the Substation Platform Area, within the Substation Development site will continue to be further refined through the PPiP and subsequent detailed design process.

3.3.23 The indicative maximum design parameters in relation to the Substation are set out in **Table 3.3**. It should be noted that AIS and GIS substations differ in form and footprint and these are indicative maximum parameters presented here. All onshore parameters are preliminary and may be refined through the engineering design process as further baseline information, local context and stakeholder feedback are taken into account.

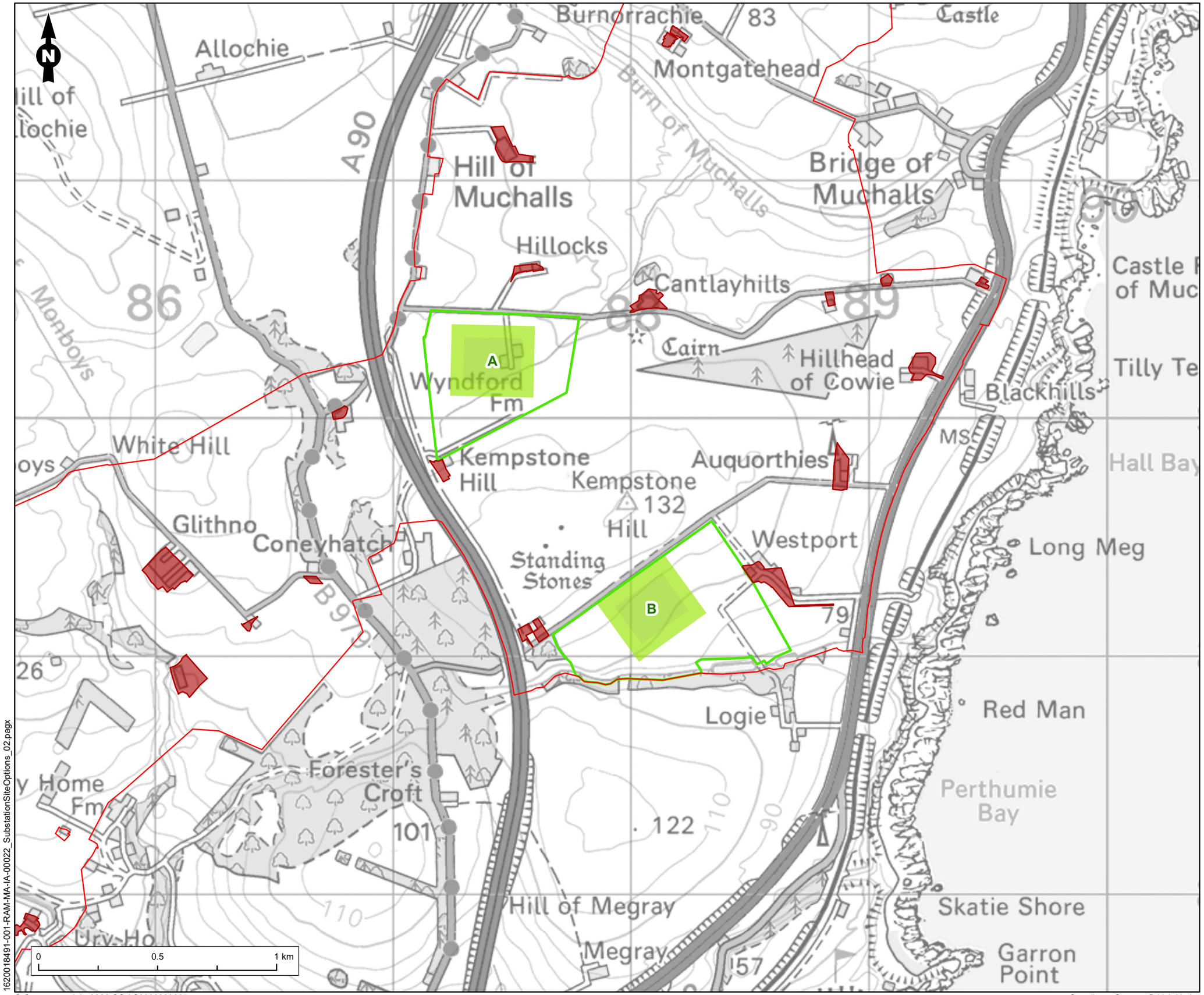
3.3.24 The indicative parameters in relation to the Substation apply irrespective of the preferred Substation Site Option selected as the preferred site to take forward for the purposes of the EIA.

Table 3.3: Substation Maximum Design Parameters

Design Component	Indicative Parameters (Maximum)
Height of tallest building/unit(s)	20 m
Height of lightning protection mast(s)	30 m
Platform area footprint	300 m x 350 m

3.3.25 Temporary construction compounds and associated laydown areas will be required in the vicinity of the preferred substation location to facilitate construction of the onshore substation.

3.3.26 The Onshore Transmission Cables would connect into the Grid Connection Point at the SSEN Transmission proposed Hurlie 400 kV Substation. The Applicant will continue to engage with SSEN Transmission to identify specific final bay and connection requirements once available.



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Indicative Substation Development Sites
- Representative Substation Platform Areas

Figure Title
Substation Site Options

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	3.3	1.0

Prepared By	Scale
CW	1:15,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00022_SubstationSiteOptions_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

3.4 Construction Phase

3.4.1 The construction phase of the Proposed Development is anticipated to be up to a total of approximately three years (excluding commissioning), representing a reasonable worst-case for the purposes of the assessment. Installation of the Onshore Transmission Cables would be temporary and transient in nature, progressing sequentially along the length of the Onshore Transmission Cables Corridor, with works in any given localised area lasting for a shorter duration than the overall programme. Construction works may also run concurrently at more than one location within the Scoping Boundary to further enable efficiencies, e.g., at both the Landfall Area and at the Substation.

3.4.2 Key activities anticipated during the construction phase would include (not necessarily in order):

- Pre-construction site investigation surveys;
- Installation of fencing and signage within construction works areas;
- Site preparation and clearance, including erection of temporary construction compounds and vegetational clearance as required;
- Upgrading of existing access tracks as required and construction of temporary haul roads;
- Cable installation at Landfall, including construction of Transition Joint Bays;
- Installation of the 220 kV Onshore Transmission Cables;
- Construction and installation of the Substation;
- Installation of the 400 kV Onshore Transmission Cables;
- Commissioning of the Onshore Transmission Cables and Substation;
- Reinstatement to previous land uses and placement of cable markers and security fencing where required; and
- Replanting of forestry and vegetation and landscaping (screening) as required, including biodiversity enhancement measures.

3.4.3 Temporary construction compound(s) will be required to support construction of the Substation. Formation of a level platform will require areas of cut and fill, with excavated material reused where practicable following installation of foundations. The extent of earthworks will be confirmed as the design develops.

3.4.4 The sequencing and duration of construction works will be further defined once the Onshore Transmission Cable Corridor and preferred Substation have been confirmed. The sequencing of works will be planned to reduce disruption and to support efficient delivery, having regard to the timing and construction programmes of other relevant major infrastructure projects in the area, through consultation with Aberdeenshire Council as appropriate.

3.5 Operation and Maintenance (O&M) Phase

3.5.1 The Proposed Development would require operational and maintenance activities over its anticipated 35-year operational lifetime. The seabed lease period for the Aspen Offshore Windfarm is expected to cover a period of 50 years, while the operational life of the Project is anticipated to be approximately 35 years.

3.5.2 Activities associated with the operation and maintenance phase of the Proposed Development are expected to be limited to equipment maintenance and servicing, replacement of any components that fail, periodic fence inspections, vegetational management and monitoring, if and where required, to ensure continued effective operation.

3.5.3 The Onshore Transmission Cables and the Substation are anticipated to be operated and monitored remotely. Operation and maintenance staff would visit the Substation and carry out inspection of the Onshore Transmission Cables as and when required. Transition Joint Bays at Landfall, and Joint Bays and Link Boxes along the span of the Onshore Transmission Cable

Corridor, would be fitted with inspection covers to allow access for inspections and emergency maintenance.

3.6 Decommissioning Phase

3.6.1 The Proposed Development would be either decommissioned or repowered following its approximately 35-year operational lifetime.

3.6.2 Decommissioning of the Substation may be reviewed in discussion with the transmission system operator and/or relevant regulators in regard to its potential for other existing or proposed future use, though this would be subject to a separate consenting process at the time.

3.6.3 If decommissioning of the Substation is required, all electrical infrastructure would be removed if feasible to complete with limited environmental disturbance and/or if reinstatement is required subject to agreements with relevant landowners. It is assumed that the foundations of the Substation would be removed, with land reinstated to its original use. Associated waste disposed of or reused in accordance with relevant legislation, guidance or industry good practice, as considered appropriate at the time of works.

3.6.4 The Onshore Transmission Cables, including associated Joint Bays and Link Boxes, are expected to be left in situ to reduce potential environmental disturbance during the decommissioning phase. Once fully disconnected, cable ends would be cut, sealed and securely buried as a precautionary measure.

3.6.5 As the Onshore Transmission Cables are anticipated to remain in situ and decommissioning activities would largely be limited to the Substation, the scale and nature of works are not expected to be greater than those assessed in relation to the construction phase.

3.6.6 A Decommissioning Plan will be submitted to the relevant authorities for approval in accordance with a condition of consent, typically several years prior to the end of the operational life of the Proposed Development. The Decommissioning Plan will consider relevant legislation, policy, guidance and industry practice as required at the time of works.

4. APPROACH TO SCOPING AND EIA

4.1 Introduction

4.1.1 The following chapter describes the proposed approach to the Environmental Impact Assessment (EIA). It sets out the methodology for identifying, assessing and evaluating likely significant environmental effects arising from the Proposed Development. The methodology also explains how potential cumulative effects with other existing, consented and reasonably foreseeable developments, together with interactions between effects, would be considered. The assessment will be undertaken using a systematic, transparent and evidence led approach to support robust conclusions on effects on physical, biological and human environment receptors.

4.2 EIA Scoping

4.2.1 The Scoping process is intended to agree the scope, content and methodological framework for the EIA with the determining authority, Aberdeenshire Council. This includes identifying the surveys and assessments required to establish the likely significant environmental effects of the Proposed Development and defining both the topics to be assessed in detail and those proposed to be scoped out. Aberdeenshire Council will issue a Scoping Opinion in response to this Scoping Report in accordance with Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, following consultation with the prescribed consultation bodies. The approach to Scoping and EIA reflects the nature of the Proposed Development at this Planning Permission in Principle (PPiP) stage, including the use of a Design Envelope approach as part of an iterative design process.

4.3 Legislation and Guidance

4.3.1 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 set out the requirements by which EIA development in Scotland must accord with. Further information in relation to relevant legislation is set out in **Chapter 2: Legislative and Policy Context**, as well as within each environmental topic chapter where it has informed the proposed approach to the assessment.

4.3.2 The following guidance has informed the Scoping process and/or will be taken into account as part of the overarching approach to the EIA:

- Scottish Government (2013) Planning Advice note 1/2013: Environmental Impact Assessment[1];
- Scottish Government (2017) Planning Circular 1/2017: Environmental Impact Assessment regulations[2];
- Scottish Highways et al. (2020) Design Manual for Roads and Bridges (DMRB) LA 104 Environmental assessment and monitoring[3];
- Planning Inspectorate (2025) Advice Note Nine: Rochdale Envelope[4];

[1] Scottish Government. (2013). Planning Advice note 1/2013: Environmental Impact Assessment. Available at: https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/

[2] Scottish Government. (2017). Planning Circular 1/2017: Environmental Impact Assessment regulations. Available at: https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/

[3] Scottish Highways et al. (2020). Design Manual for Roads and Bridges (DMRB) LA 104 Environmental assessment and monitoring. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a

[4] Planning Inspectorate. (2025). Advice Note Nine: Rochdale Envelope. Available at: https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope

- Planning Inspectorate (2025) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment[5]; and
- ISEP (formerly IEMA) (2017) Guidance on Delivering Proportionate EIA - A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice[6].

4.4 Key Principles of the Assessment

Overview

4.4.1 The EIA Report will present the assessment of potential impacts as a result of the construction, operation and maintenance, and decommissioning phase of the Proposed Development. As set out in **Chapter 22: Proposed Structure of the EIA Report**, each environmental topic will form a separate chapter, and will present the following:

- An outline of the legislation, policy and guidance that has informed the assessment;
- A summary of consultation and engagement;
- A description of the methodology used to undertake the assessment, including study area(s), data sources, site surveys (where relevant), criteria for the assessment of effects, and key limitations and assumptions;
- A description of the existing and future environmental baseline conditions;
- The key parameters for assessment, including a summary of the scope of the assessment, and the Maximum Design Scenario (MDS) within the Design Envelope adopted in relation to each potential impact assessed;
- Identification of topic-specific measures proposed to avoid, prevent, reduce or, where possible, offset likely significant adverse environmental effects (embedded mitigation)
- An assessment of the potential significant effects during the construction, operation and maintenance, and decommissioning phases; and
- Where applicable, a description of any additional mitigation proposed in response to likely significant environmental effects, together with an explanation of any resulting residual effects once committed additional measures have been taken into account.

4.4.2 As the PPiP application is being submitted at an early stage of design development, the level of detail available for the Proposed Development reflects the iterative nature of the design process and will vary across the key elements of proposed infrastructure. To ensure that the EIA remains robust, as set out within **Chapter 3: The Proposed Development**, a design envelope (Rochdale envelope) approach will be been adopted whereby the maximum parameters (and where relevant, minimum parameters), form reasonable worst-case scenarios by which each potential impact is assessed. Reasonable worst-case scenarios may vary by receptor and therefore a receptor-led approach will be adopted where relevant.

4.4.3 By adopting a reasonable worst-case scenario approach, the EIA identifies the maximum likely significant effects of the Proposed Development. This ensures that any subsequent refinement in the design, siting or routing of infrastructure remains within the parameters assessed and does not give rise to effects beyond those already reported at the PPiP stage.

Characterising the Environmental Baseline

4.4.4 To establish a reference point from which the potential impacts of the Proposed Development can be assessed, an understanding of the environmental baseline conditions is required within the corresponding topic specific study areas. The baseline environmental conditions will be identified

[5] Planning Inspectorate. (2025). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment

[6] ISEP (2017) Guidance on Delivering Proportionate EIA - A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice. Available at: https://s3.eu-west-2.amazonaws.com/iema.net/documents/resources/event-reports/Delivering-Proportionate-EIA.pdf

through a combination of desk studies, site specific surveys, and information received during consultation and engagement.

4.4.5 For the purposes of Scoping, the Scoping Boundary and the current understanding of the Proposed Development (as set out in **Chapter 3: the Proposed Development**), has been used to inform topic specific study areas. Study areas will be refined as appropriate in response to refinement to the Proposed Development, including in relation to the selection of a preferred Substation Site Option, as appropriate.

4.4.6 Both the existing and future baseline conditions will be presented, including in relation to the 'no development' scenario in which the Proposed Development is not brought forward.

4.4.7 Where relevant, each topic chapter will consider the potential implications of climate change on the future baseline.

Assessment of Significant Effects

4.4.8 The significance of environmental effects that may result from the Proposed Development will be assessed by considering the sensitivity of a receptor against the magnitude of impact (the degree of change experienced by the receptor). The general criteria by which the assessment will be undertaken are set out in the following sections. Topic chapters may need to adopt an alternative approach informed by discipline specific technical guidance or industry practice. Where this is the case, this will be clearly set out within the relevant EIA Report topic chapters.

Sensitivity of Receptors

4.4.9 A receptor is an entity that has the potential to be affected by an impact resulting from the Proposed Development. Relevant receptors will be identified in relation to each environmental topic and the baseline conditions established within relevant topic specific study areas.

4.4.10 The criteria set out in **Table 4.1** represents the general approach that will be adopted by environmental topic chapters when defining sensitivity.

Table 4.1: General Criteria in relation to Sensitivity

Sensitivity	General Criteria
High	Feature or receptor with defining characteristics fundamental to its rarity, distinctiveness, and character, and which has very limited capacity to accommodate the proposed change.
Medium	Feature or receptor with defining characteristics key to its distinctiveness and character, and which has limited capacity to accommodate the proposed change.
Low	Feature or receptor with characteristics of local distinctiveness, importance and rarity, and which is considered somewhat tolerant to accommodating the proposed change.
Negligible	Feature or receptor with limited local distinctiveness, importance and rarity, and which is considered tolerant to accommodating the proposed change.

Magnitude of Impact

4.4.11 An impact is a change to environmental baseline conditions as a result of the Proposed Development. The general criteria and definitions by which magnitude of impact will be assessed are set out within **Table 4.2**.

Table 4.2: General Criteria in relation to Magnitude of Impact

Magnitude of Impact		Criteria
High	Adverse	Extensive loss of and/or severe damage to integrity, defining characteristics, features, or elements.
	Beneficial	Large scale or major improvement of quality; extensive restoration or major improvement of attribute quality.
Medium	Adverse	Loss of resource but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to, or positive addition of, one or more characteristics, features or elements.
Neutral		No loss or alteration of characteristics, features or elements; no observable impact.

Assigning Significance of Effect

4.4.12 When the sensitivity of a respective receptor is identified and the magnitude of impact established, the overall significance of resulting effect will be assessed in accordance with the general significance matrix set out in **Table 4.3**.

Table 4.3: General Significance Matrix to Classify Environmental Effects

Magnitude of Impact	Sensitivity			
	High	**Medium**	**Low**	**Negligible**
Major	Major	Major or Moderate	Moderate	Moderate or Minor
Moderate	Major or Moderate	Moderate	Moderate or Minor	Minor
Minor	Moderate	Moderate or Minor	Minor	Negligible
Negligible	Minor	Minor	Minor or Negligible	Negligible
Neutral	Neutral	Neutral	Neutral	Neutral

4.4.13 Effects assessed as being major or moderate are considered to be significant in EIA terms. Effects that are minor or negligible are considered not significant in EIA terms. Where the significance of an effects has the potential to be of two significance ratings, evidence will be provided to support the report of a single significance rating.

Limitations and Assumptions

4.4.14 The potential impacts of the Proposed Development, and the associated effects, cannot be predicted with absolute certainty. Predictions are ultimately limited by the quality and certainty of the information available and the accuracy of the predicted techniques adopted. Where

uncertainty exists, a precautionary approach has been adopted, with assessments based on a reasonable worst-case assumptions to ensure that the potential for likely significant effects is not underestimated.

4.4.15 The assumptions and potential limitations of each assessment are set out within each relevant topic chapter of this Scoping Report. The assumptions and limitation relevant to each assessment will be updated within the topic chapters of the EIA Report as appropriate.

Mitigation Measures

4.4.16 Mitigation measures include any features of the Proposed Development and any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment[7]. Mitigation will be considered and addressed in accordance with the mitigation hierarchy as set out in **Table 4.4**.

Table 4.4: The Mitigation Hierarchy

Order of Preference	Mitigation	Description
	Avoid	Designing out a potential impact so it does not occur.
	Minimise	Adopting measures to reduce the magnitude, extent or duration of a potential impact that cannot be avoided.
	Restore	Committing to measures to restore or repair affected receptors or resources in response to an adverse effect.
	Offset	Committing to measures to compensate for significant residual adverse effects that cannot otherwise be mitigated.

4.4.17 In seeking PPiP, the Applicant intends to establish appropriate mitigation measures in response to potential significant effects identified as part of the EIA. However, the Applicant acknowledges further detail in relation to select mitigation measures may be required to be confirmed at the Approval of Matters Specified in Conditions stage where reliant on further refinement to the design of the Proposed Development. Commitments will establish such measures in principle (for example, compensatory woodland planting), with the detailed specifications subject to further refinement as the design of the Proposed Development is further refined and confirmed at the MSC stage.

Embedded Mitigation

4.4.18 Embedded mitigation measures form an inherent part of the Proposed Development, including changes to the location, design or activities made prior to the application. These measures form part of the assessed Proposed Development and do not require separate implementation during the construction, operation and maintenance, or decommissioning phases.

Additional Mitigation

4.4.19 Additional mitigation measures would require further activity to achieve the anticipated outcome. These are primarily developed in response to identified adverse effects and seek to result in a reduction to what forms the predicted residual effect.

[7] Scottish Government. (2017). Planning Circular 1/2017: Environmental Impact Assessment regulations. Available at: https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/documents/

Monitoring

4.4.20 Where it is considered appropriate, monitoring would be implemented to monitor the effectiveness of measures to avoid, prevent, reduce or offset significant adverse effects of the Proposed Development as identified through the EIA process. The Applicant will engage with Aberdeenshire Council as appropriate in relation to appropriate monitoring, including at the Approval of Matters Specified in Conditions stage.

4.5 Cumulative Effects

Inter-Related Effects

4.5.1 Regulation 4(2) of the Town and Country Planning (EIA) (Scotland) Regulations 2017 requires that the EIA considers the interaction of environmental effects associated with the Proposed Development, referred to as inter-related effects. Inter-related effects occur where multiple effects arising from the Proposed Development affect the same receptor either over time or concurrently. Inter-related effects to be considered as part of the EIA will include:

- Receptor-led effects: the assessment of multiple effects arising from the Proposed Development on a given receptor (e.g., the combined effects on a residential receptor as a result of temporary noise and visual amenity); and
- Lifetime effects: the assessment of effects likely to occur during multiple phases of the Proposed Development (construction, operation and maintenance and/or decommissioning) which could interact to result in a more significant effect on a receptor than when considered in isolation during each phase (e.g., effects in relation to noise associated with construction, operation and maintenance, and decommissioning of the Substation).

4.5.2 The inter-related effects assessment will be presented within a dedicated chapter of the EIA Report.

Cumulative Effects Assessment

4.5.3 A Cumulative Effects Assessment for the Proposed Development would be undertaken in accordance with Schedule 4 of the Town and Country Planning (EIA) (Scotland) Regulations 2017. Cumulative effects occur where effects as a result of the Proposed Development and one or more other existing and/or approved projects affect the same receptor. Other existing and/or approved projects include:

- Existing developments under construction;
- Approved developments awaiting implementation; and
- Developments with submitted applications awaiting determination.

4.5.4 An initial list of other existing and/or approved projects has been identified for consideration as part of the Cumulative Effects Assessment and is set out in **Table 4.5**. Other existing and/or approved projects will continue to be reviewed up to a cutoff date prior to the completion of the EIA Report as agreed with Aberdeenshire Council. Other projects that are operational at the time of the agreed cutoff date will be considered as part of the environmental baseline conditions as appropriate.

Table 4.5: Initial Long List of Other Existing and/or Approved Projects for the Cumulative Effects Assessment

Name and Application Reference(s)	Planning Status	Description	Approximate Distance from Proposed Development (At Closest Point)
Aspen Offshore Wind Farm – Offshore Infrastructure:	Awaiting decision	The Proposed Offshore Development, comprising the offshore elements of the Aspen Offshore Wind Farm (the Project).	• Within the Scoping Boundary; • Approximately 1.9 km to the south west of Substation Site Option A; and • Approximately 610 m to the south west of Substation Site Option B.
Hurlie 400kV Substation: APPEAL/2026/0007, APP/2024/1951, ENQ/2024/1176, ENQ/2024/0146.	Appeal lodged	Construction and operation of a new 400 kV Air Insulated Substation, formation of associated earthworks, access, drainage, landscaping, security, creation of temporary construction compounds and set-down, equipment and materials storage areas.	• Within the Scoping Boundary; • Approximately 7.4 km to the south west of Substation Site Option A; and • Approximately 7.5 km to the south west of Substation Site Option B.
Bowdun Offshore Windfarm: APP/2025/1952, ENQ/2024/1337.	Awaiting decision	Onshore transmission infrastructure for Bowdun Offshore Wind Farm, including formation of onshore landfall point, laying of underground cables, erection of substation and associated works to connect to the transmission grid.	• Within the Scoping Boundary; • Approximately 7.3 km to the south west of Substation Site Option A; and • Approximately 7.4 km to the south west of Substation Site Option B.
TKUP Tealing, Angus to Kintore: ECU00005225, ENQ/2024/1397, APP/2025/1556.	Awaiting decision	Approximately 105.2 km of new 400 kV Overhead Lines (OHLs), supported on steel lattice tower structures, including downleads to substations, crossing works, temporary diversions, permanent realignment works, reconductoring works to existing 132 kV and 275 kV OHLs (of approximately 13.84 km in total) and ancillary development and associated works.	• Within the Scoping Boundary; • Approximately 7.7 km to the south west of Substation Site Option A; and • Approximately 7.8 km to the south west of Substation Site Option B.
Fetteresso 132 kV Substation Extension: ENQ/2025/1734, ENQ/2025/1103, ENQ/2025/1000	Awaiting decision	Upgrade to the existing 132 kV Fetteresso Substation, including the installation of a combined Gas Insulated Switchgear and control building and ancillary works, means of access, site drainage, landscaping and other associated operations.	• Within the Scoping Boundary; • Approximately 7.5 km to the south west of Substation Site Option A; and

Name and Application Reference(s)	Planning Status	Description	Approximate Distance from Proposed Development (At Closest Point)
			• Approximately 7.6 km from Substation Site Option B.
Glendye Wind Farm Grid Connection: ENQ/2024/1818, ENQ/2024/1335, APP/2025/1786, ECU00005197	Awaiting decision	Overhead line to connect the consented Glendye Wind Farm to Fetteresso substation.	• Within the Scoping Boundary; • Approximately 8.2 km to the south west of Substation Site Option A; and • Approximately 8.3 km to the south west of Substation Site Option B.
Quithel Battery Energy Storage System (BESS) 50MW capacity: ENQ/2023/1713, ECU00005005	EIA Screening Completed	Construction and operation of a battery energy storage system (BESS), with a capacity in excess of 50 MW, with associated access and infrastructure.	• Within the Scoping Boundary; • Approximately 10.2 km to the south west of Substation Site Option A; and • Approximately 10.3 km to the south west of Substation Site Option B.
Craigneil Wind Farm: APP/2018/0993, PPA-110-2420, ENQ/2024/0640.	Awaiting decision	Erection and operation of a wind farm comprising up to 7 wind turbines with associated access and infrastructure.	• Adjacent to Scoping Boundary; • Approximately 5.6 km to the west of Substation Site Option A; and • Approximately 5.7 km to the west of Substation Site Option B.

4.5.5 Given the spatial overlap and the potential for shared impact pathways between the Proposed Development and the Proposed Offshore Development, including at the onshore-offshore interface within the Intertidal Area, the potential for cumulative effects as a result of interaction between onshore and offshore elements of the Project will need to be considered. The potential for cumulative effects arising from the interaction of onshore and offshore elements of the Project (whole project effects) will be set out in relation to each environment topic for detailed assessment as appropriate.

4.6 Transboundary Effects

4.6.1 Due to the onshore nature of the Proposed Development and the absence of any pathways for effects to extend to European Economic Area states, transboundary effects are not anticipated. Transboundary effects as a result of offshore elements of the Project have been considered as part of the Offshore EIA Report and are therefore not proposed to be considered further as part of the EIA for onshore elements of the Project (the Proposed Development) where related effects are not anticipated.

5. CONSULTATION PROCESS

5.1 Introduction

5.1.1 This chapter sets out the consultation and engagement process in relation to the EIA, including engagement undertaken to date, and further engagement with key stakeholders and communities, other interested parties, and the public, proposed to inform the assessment.

5.1.2 Consultation and engagement are an important part of the EIA process and support the effective delivery of the Proposed Development. Early and ongoing consultation and engagement enables stakeholder inputs to inform the design process and project decision making. A key focus of consultation and engagement in relation to the EIA is to enable stakeholders to identify environmental issues for consideration within the assessment.

5.2 Pre-Application Consultation

5.2.1 The statutory requirements for Pre-Application Consultation (PAC) for developments designated as National Developments under NPF4, such as the Proposed Development, are set out in the Town and Country Planning (Scotland) Act 1997[8], Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013[9], and Town and Country Planning (Pre-Application Consultation) (Scotland) Amendment Regulations 2021[10]. This is further informed by Planning circular 3/2022: development management procedures[11].

5.2.2 The purpose of PAC is to ensure that local communities are informed about proposed major and national developments and are given the opportunity to provide views and feedback prior to submission of a formal planning application to the planning authority.

5.2.3 This process helps to improve the quality of planning applications by identifying opportunities to mitigate potential adverse effects, addressing misunderstandings at an early stage, and enabling community issues to be raised and, where practicable, resolved.

5.2.4 Any changes made as a result of pre-application consultation are intended to refine and improve the proposal and to support efficient consideration of the planning application once submitted. This approach reflects the principle of embedding mitigation into the Proposed Development from an early stage of design.

5.2.5 The PAC process is expected to engage the local community and facilitate engagement with a wider range of stakeholders relevant to the Proposed Development. While the process is intended to be meaningful and community views will be considered by the Applicant, there is no statutory requirement for those views to be directly reflected in changes to the Proposed Development.

5.2.6 It is therefore important that communities and other interested parties continue to engage with the proposal through to the planning application stage, at which point representations may be made directly to Aberdeenshire Council prior to determination. The Applicant intends to proactively engage with communities and stakeholders and to take comments and feedback into account when refining the design of the Proposed Development.

5.2.7 In accordance with the relevant Regulations, the statutory minimum PAC requirement comprises two public consultation events held more than 14 days apart following submission of a Proposal of

[8] Town and Country Planning (Scotland) Act 1997. Available at: https://www.legislation.gov.uk/ukpga/1997/8/data.pdf
[9] Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Available at: https://www.legislation.gov.uk/ssi/2013/155/data.pdf
[10] Town and Country Planning (Pre-Application Consultation) (Scotland) Amendment Regulations 2021. Available at: https://www.legislation.gov.uk/ssi/2021/99/data.pdf
[11] Scottish Government. (2022). Planning circular 3/2022: development management procedures. Available at: https://www.gov.scot/publications/planning-circular-3-2022-development-management-procedures/

Application Notice (PoAN). As statutory pre-application consultation is required in this case, the Applicant will submit a Proposal of Application Notice (PoAN) to Aberdeenshire Council at least 12 weeks prior to submission of the planning application.

5.2.8 The PoAN is required to include the following information:

- A general description of the proposed development;
- The postal address of the development site, where applicable;
- A plan identifying the location and extent of the site to which the development relates;
- Details of how the prospective applicant may be contacted and corresponded with; and
- Details of the proposed pre-application consultation, including the nature of the consultation, when it will take place, those to be consulted, and the format of consultation events. This should also set out any consultation proposed in addition to the statutory minimum.

5.2.9 Therefore, the Applicant will identify a site that adequately captures the reasonable range of options for the final proposal of the Proposed Development. Following a minimum period of 12 weeks, and having undertaken consultation in line with the statutory requirements during the wider pre-application phase, together with any additional requirements specified by Aberdeenshire Council the Applicant, will submit the planning application accompanied by the required written pre-application consultation (PAC) report.

5.2.10 The Applicant will hold a minimum of two public consultation events at which members of the public will be invited to view the proposals and provide comments. Notice of the public consultation events will be published at least seven days in advance in a newspaper circulating within the locality of the Proposed Development.

5.2.11 The notice for each public consultation event must include the following information:

- A description of the Proposed Development and its location;
- Details of where further information relating to the Proposed Development may be obtained;
- The date and venue of the public consultation event;
- Information explaining how, and by what date, comments on the proposal may be submitted to the prospective applicant; and
- A statement clarifying that comments made to the prospective applicant do not constitute representations to the planning authority, and that there will be an opportunity to make representations on any subsequent planning application to the planning authority.

5.2.12 The timing of public consultation events is a key element of the Applicant's engagement strategy, both in ensuring that communities are informed about the Proposed Development and in allowing sufficient time for advice, feedback, and any potential changes to be considered and, where appropriate, incorporated into the Proposed Development.

5.3 Community Engagement

5.3.1 The Applicant has commenced pre-scoping engagement with the local community to share information on the Proposed Development. This has included notification of Community Councils by email, attendance at meetings with Community Council representatives from host Community Councils, and invitations to forthcoming public consultation events scheduled for Wednesday 27th May and Thursday 28th May 2026. Follow up events are proposed on the 13th and 14th of July 2026.

5.3.2 Additional engagement activities undertaken to date are summarised below in **Table 5.1**.

Table 5.1: Aspen Onshore Community Engagement Activities

Engagement	Description of Events / Activities
Community Councils	• Individual meetings with Community Councils to introduce the Proposed Development; and • Specific Community Council meetings to discuss specific topics and update post initial pre application consultation.
Community Events	• PAC events held at Newtonhill and Stonehaven in May and July. Further events may be held specifically to address issues raised through the consultation or with specific groups or stakeholders.
STEM/Skills	• Direct engagement with embedded supply chain throughout the project development phases of the Proposed Developer (and wider Project); and • Ongoing engagement with Energy Transition Zone and North East Scotland College (NESCOL) to develop Community Wealth Building Strategy.

5.4 Key Stakeholders and Ongoing and Proposed Consultation and Engagement

5.4.1 Key stakeholders, as well as a summary of ongoing and proposed consultation and engagement in relation to the Proposed Development are set out within **Table 5.2**.

Table 5.2: Key Stakeholders and Relevant Ongoing and Proposed Consultation and Engagement

Stakeholders	Detail of Ongoing and Proposed Consultation and Engagement
Aberdeenshire Council	• Early engagement (pre-scoping and scoping stages), including Pre Application Advice and submission of the Scoping Report, to agree the scope, level of detail and submission requirements for the PPiP application and supporting EIA Report; • Targeted post-scoping technical liaison across environmental and planning topics, including in relation to Biodiversity Net Gain (BNG); • Engagement with the Aberdeenshire Council Place Team in respect of the Community Wealth Building Strategy; • Pre-Application Consultation (PAC) activities (as required for National Developments); and • Ongoing liaison throughout application preparation and, where appropriate, during determination.
NatureScot	• Early engagement and introductions to inform EIA scope (pre-scoping/scoping), including in relation to surveys; • Targeted post-scoping consultation on terrestrial ecology and terrestrial ornithology; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, as required.
Historic Environment Scotland	• Early engagement to inform EIA scope (scoping/pre-scoping); • Targeted post-scoping consultation on cultural heritage matters; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, as required.

Stakeholders	Detail of Ongoing and Proposed Consultation and Engagement
Scottish Environment Protection Agency (SEPA)	• Early engagement to inform EIA scope (scoping/pre-scoping); • Post Scoping consultation on flood risk, water environment and related matters; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, as required.
Transport Scotland	• Early engagement to inform EIA scope (scoping/pre-scoping); • Post Scoping consultation on traffic and transport and related matters; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, including in relation to trenchless crossings of roads, as required.
Community Councils	• Early project introduction and ongoing community liaison; • Pre-Application Consultation (PAC) events and public exhibitions; • Ongoing discussion in relation to the Community Wealth Building Strategy; and • Provision of accessible information in relation to the Proposed Development, and opportunities for feedback.
Scottish Ministers	• Engagement where relevant to call in powers or consenting overlap; and • Provision of accessible information in relation to the Proposed Development, as required.
National Grid / SSEN – Transmission	• Early engagement in relation to Grid Connection Point (and interface of the Proposed Development with the proposed Hurlie 400 kV Substation); and • Ongoing technical coordination as the design of the Proposed Development continues to be refined, as required.
Network Rail	• Early project introductions (pre-scoping/scoping phase) in relation to the trenchless crossing of the Dundee to Aberdeen Railway Line, to the west of the Landfall Area, and asset protection; • Agreement of trenchless crossing methodology; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, as required.
Pipeline Operators (including, but not limited to, INEOS, Shell and National Gas).	• Early engagement in relation to pipeline constraints and crossings • Technical liaison, risk considerations and agreement of avoidance and/or trenchless crossing methods; and • Ongoing technical liaison as the design of the Proposed Development continues to be refined, as required.
Non-Statutory Consultees e.g., Royal Society for the Protection of Birds (RSPB), Fishery Boards.	• Early engagement to inform baseline identification and scope of assessment; • Targeted consultation on relevant environmental topics; and • Ongoing engagement, as appropriate.

6. SITE SELECTION AND CONSIDERATION OF ALTERNATIVES

6.1 Introduction

6.1.1 The following chapter provides an overview of the site selection process and consideration of alternatives to date. The EIA Report will set out information in relation to these processes in greater detail, including where further refinement to the design of the Proposed Development takes place in response to feedback received during consultation and engagement, and/or the findings of ongoing environmental assessments. It will outline the main alternatives considered as part of the iterative design process and explain the basis on which the preferred options, informing the Design Envelope of the Proposed Development for the purposes of the Planning Permission in Principle (PPiP) application, have been selected.

6.2 Site Selection and Consideration of Alternatives

Methodology

6.2.1 A site selection and route corridor appraisal has been undertaken to identify and review preferred option(s) for the key elements of the onshore transmission infrastructure which form the Proposed Development. The process comprised three interrelated components: the identification of a preferred Landfall Area, preferred site(s) for the Substation and a high-level exercise to identify indicative routes for the Onshore Transmission Cables (and associated indicative Onshore Transmission Cable Corridors) connecting these elements, onward to the Grid Connection Point, to confirm the feasibility of the overall system. The appraisal was informed by a combination of desk-based studies and site visits, supported by Geographic Information System (GIS) analysis. The identification of preferred options(s) through the site selection process has informed the definition of the current Scoping Boundary. The approach to the site selection process and consideration of alternatives process to date is set out in the following sections, with information provided in relation to each key element of the Proposed Development.

Landfall

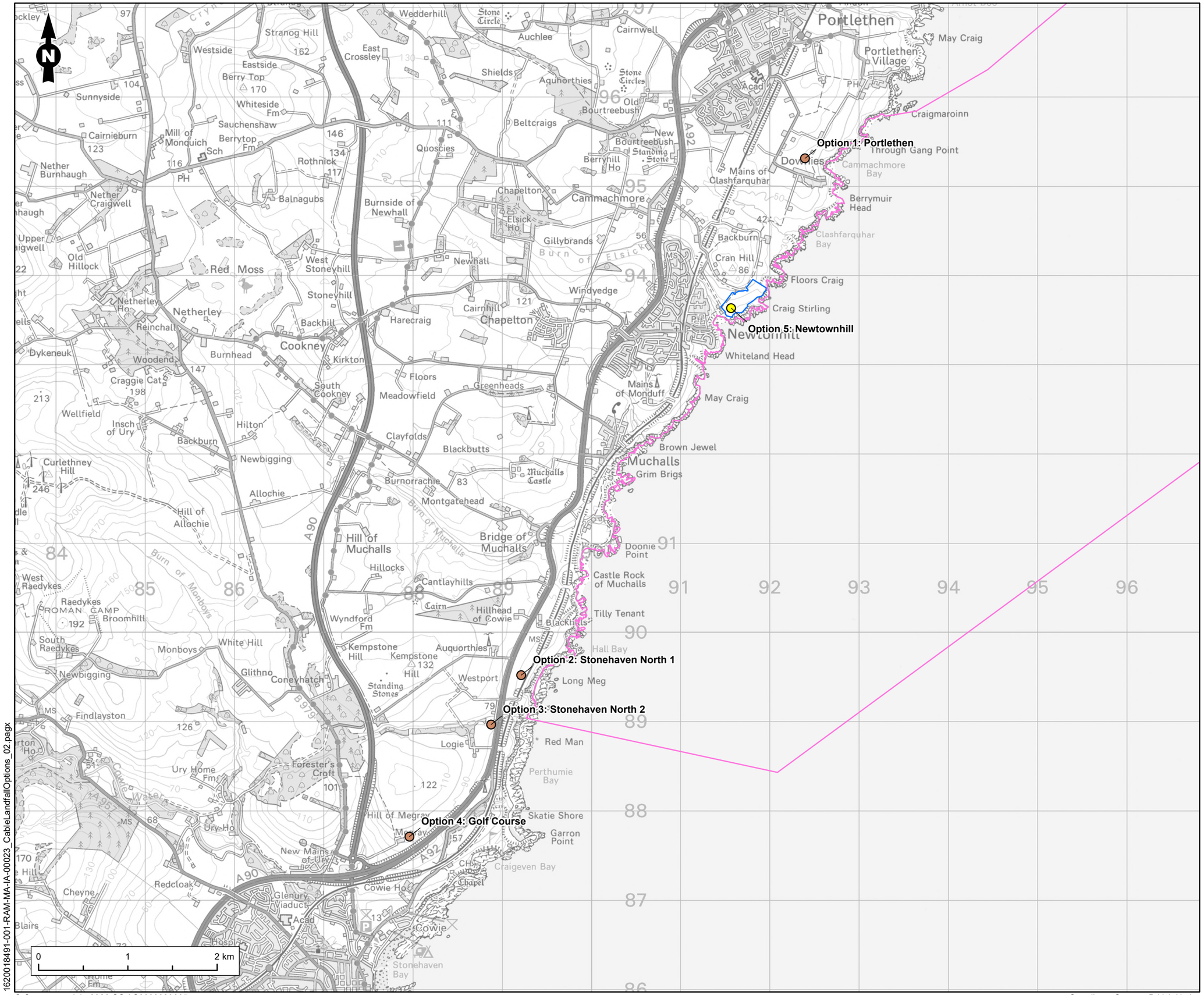
6.2.2 The selection of Landfall options considered by the Applicant were driven by the Grid Connection Point options within the Fetteresso area and the need to connect with the Proposed Offshore Development within a technically achievable HVAC cable length tolerance. These requirements led to the identification of the following four areas of interest for indicative Landfall locations:

- Portlethen;
- Stonehaven North;
- Stonehaven South; and
- Braidon Bay.

6.2.3 There were two different technical options considered for installation of the Landfall connection; trenchless or trenched techniques. Trenchless techniques involve drilling from onshore to the Intertidal Area or offshore (seaward of MWLS), through which cables are pulled and installed within Transition Joint Bays. While the exit point of drilling ('punch out') within the Intertidal Area broadly provides greater flexibility as to the location of Landfall, there remains the need for onward seaward trenching. Trenched techniques involve excavating open trenches through the Intertidal Area and coastal land to connect to the Transition Joint Bays. Given the predominantly cliffed coastline and environmental context, trenchless installation with a punch-out seaward of MLWS was considered the preferred method and has informed the subsequent consideration of Landfall options.

6.2.4 The Offshore EIA was based on landfall north of Stonehaven. Whilst all of the options were broadly similar in their suitability for selection, the area to the south of Stonehaven (including Braidon Bay) was discounted due to its relative distance from the Aspen Array Area which would necessitate a longer route for the Offshore Transmission Cables. This risked Offshore Transmission Cable lengths exceeding those typically suitable for HVAC technology. This also applied to Portlethen to the north but in relation to the likely length and challenging topography, and therefore its technical feasibility.

6.2.5 Within the north of the Stonehaven area, five Cable Landfall Options were initially identified and then shortlisted to three options for further consideration. The option north east of Newtonhill (as set out within **Figure 6.1**) were preferred on technical grounds, including a lower relative trenchless entry elevation, a reduced potential change in elevation between entry and exit points, and a shorter relative potential drilled length.



Legend

- Preferred Cable Landfall Option
- Cable Landfall Options
- Landfall Area
- Offshore Transmission Cable Corridor

Figure Title
Cable Landfall Options

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	6.1	1.0

Prepared By	Scale
CW	1:40,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00023_CableLandfallOptions_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Substation

6.2.6 The identification of a preferred site for the Substation element of the Proposed Development followed a structured appraisal process. The appraisal used the potential Substation platform footprint area and massing, and the substation search area was located within a 10 km buffer from the identified Grid Connection Point due to cable length tolerance constraints.

6.2.7 A total of 17 Substation Site Options (as set out within **Figure 6.2**) were identified and considered as part of an initial longlist appraisal, which applied a Black-Red-Amber-Green (BRAG) based assessment against environmental and technical criteria. Six Site Options were subsequently shortlisted for further detailed appraisal (as set out within **Figure 6.3**).

Legend

- 10 km Buffer from Grid Connection Point (Proposed Hurlie Substation)
- Longlisted Substation Site Options
- Grid Connection Point

Figure Title
Longlisted Substation Site Options

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	6.2	1.0

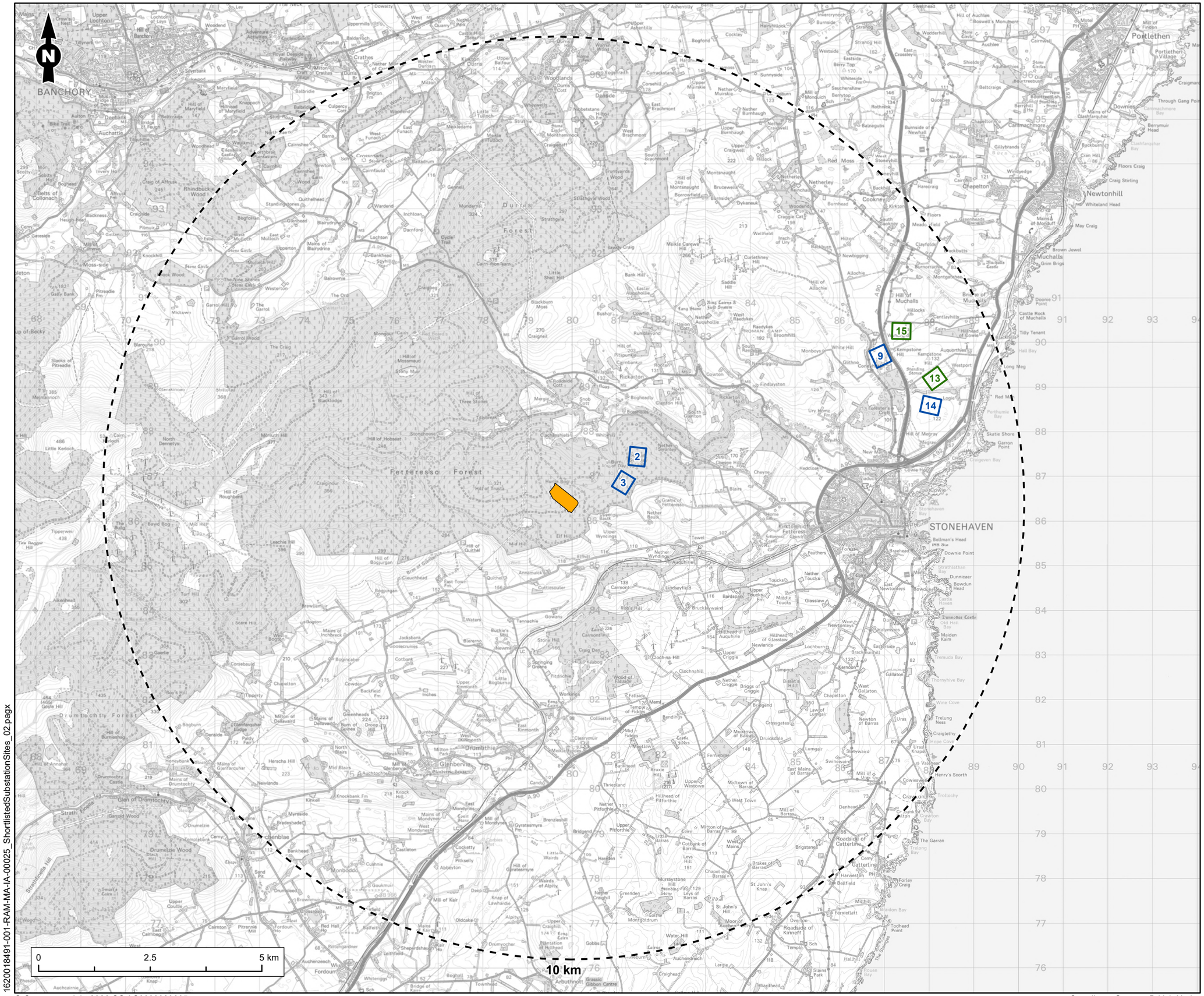
Prepared By	Scale
CW	1:80,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00024_LonglistedSubstationSites_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- 10 km Buffer from Grid Connection Point (Proposed Hurlie Substation)
- Preferred Substation Site Options
- Shortlisted Substation Site Options
- Grid Connection Point

Figure Title
Shortlisted Substation Site Options

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	6.3	1.0

Prepared By	Scale
CW	1:80,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00025_ShortlistedSubstationSites_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

6.2.8 The shortlist appraisal included a reassessment of longlist criteria alongside additional environmental, technical and land availability considerations. Targeted site surveys were undertaken to ground truth from a landscape and visual perspective and confirm heritage setting related considerations identified at the longlist stage. As a result of this process, Substation Site Options A and B were identified as the preferred Substation options for the Proposed Development at EIA Scoping.

6.2.9 Substation Site Option A and Substation Site Option B are being considered at this stage, and as such, both have been included within the EIA Scoping Boundary. It is anticipated that a single Substation Site Option will be taken forward and presented within the EIA Report.

6.2.10 The EIA Report is intending to assess an Air Insulated Substation (AIS) option as a reasonable worst case for the massing and footprint parameters. Gas Insulated (GIS) and hybrid substation configurations will be retained as part of the Design Envelope and assessed where considered to represent a worst-case scenario in relation to other matters as appropriate.

Onshore Transmission Cable Corridor

6.2.11 An indicative Onshore Transmission Cable Corridor (covering both the 220 kV and 400kV sections), reliant on the selection of preferred site and site options for the Landfall and the Substation, is being developed as part of the ongoing design process. A high-level review of potential routes for the Onshore Transmission Cables connecting the key elements of the Proposed Development (identified above) onward to the Grid Connection Point has been completed to confirm the feasibility of the overall system.

6.2.12 There are options in relation to the installation arrangements of the Onshore Transmission Cables (flat or trefoil). Flat is a configuration where each circuit is laid in individual trenches, whereas trefoil is where the circuits are grouped together in a triangular arrangement within a single trench. For the purposes of assessment, a flat arrangement has been taken forward as being the reasonable worst-case in term of footprint and required construction activity.

Scoping Boundary

6.2.13 The Scoping Boundary has been developed through an iterative process, informed by the preferred Landfall and Substation Site Options taken forward to EIA Scoping, in addition to the high-level review of potential routes for the Onshore Transmission Cables. The iterative process of developing the Scoping Boundary has meant that adequate land area is included within the Scoping Boundary to allow a feasible route for the Onshore Transmission Cables to connect the key elements of the Proposed Development, identified above, to the Grid Connection Point. The Scoping Boundary has taken account of known constraints in the area, and the route of the Onshore Transmission Cables will be further refined and developed as the Proposed Development progresses through the planning system.

6.3 Refinement and Next Steps

6.3.1 In summary, the site selection and alternatives appraisal undertaken to date has comprised an iterative and ongoing process of identifying, reviewing and refining options for the key elements of the Proposed Development, through the application of environmental, technical, land and constructability criteria, informed by desk-based assessment, GIS analysis, site visits, stakeholder engagement and continuing engineering and EIA inputs.

6.3.2 The site selection exercise continues to progress and evolve and will be described in more detail within the EIA Report. The EIA Report will outline a summary of the site selection process, design evolution and the alternatives considered, including justification for the choice of preferred options for key elements of the Proposed Development.

7. CLIMATE

7.1 Introduction

7.1.1 The following chapter sets out the proposed assessment scope of likely significant effects from the Proposed Development in relation to Climate.

7.1.2 A climate assessment in the context of Environmental Impact Assessment (EIA) comprises of the following three separate assessments:

- Climate Change Resilience Assessment (CCRA) – considers the vulnerability of the Proposed Development to extreme weather and projected climate change during the demolition and construction stage and completed development stage;
- In-Combination Climate Impacts (ICCI) Assessment – considers how extreme weather and projected climate change could have an additive effect on impacts identified by other technical disciplines as a result of the Proposed Development during the demolition and construction stage and completed development stage; and
- Greenhouse gas (GHG) Emissions Assessment – considers the potential for significant effects to arise from the Proposed Development in terms of GHG emissions during the demolition and construction stage and completed development stage.

7.1.3 The aims of this chapter of the Scoping Report are to:

- Set out the overall approach to the assessment in relation to Climate;
- Define the Study Area to be considered in the assessment;
- Describe the baseline environment in relation to Climate;
- Set out the embedded mitigation measures, anticipated to be implemented prior to undertaking the Climate assessment;
- Identify key potential impacts at all stages of the Proposed Development;
- Identify topics not requiring further assessment, which can be scoped out;
- Describe the proposed assessment methodology; and
- Set out the potential cumulative effects.

7.2 Legislation, Policy and Guidance

7.2.1 The proposed scope of assessment in relation to Climate has been developed with reference to the legislation, policy and guidance as set out in the following section.

<u>Legislation</u>

- The Paris Agreement[1];
- Climate Change Act 2008 (as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019)[2];
- Climate Change (Scotland) Act 2009[3];
- Climate Change (Emissions Reduction Targets) (Scotland) Act 2019[4];
- Climate Change (Emissions Reduction Targets) (Scotland) Act 2024[5];
- Energy Act 2023[6];

[1]The Paris Agreement (2015). Available at: https://unfccc.int/process-and-meetings/the-paris-agreement
[2] The Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: https://www.legislation.gov.uk/uksi/2019/1056/contents/made
[3] Climate Change (Scotland) Act 2009. Available at: https://www.legislation.gov.uk/asp/2009/12/contents
[4] Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Available at: https://www.legislation.gov.uk/asp/2019/15/contents/enacted
[5] Climate Change (Emissions Reduction Targets) (Scotland) Act 2024. Available at: https://www.legislation.gov.uk/asp/2024/15/contents
[6] Energy Act 2023. Available at: https://www.legislation.gov.uk/ukpga/2023/52/contents

- The Town and Country Planning (Scotland) Act 1997 (as amended)[7];
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017[8];
- Planning (Scotland) Act 2019[9]; and
- Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015[10].

Policy

National Policy

- National Planning Framework 4[11];
- National Planning Framework 4 (NPF4) Planning Guidance: Policy 2 – Climate Mitigation and Adaptation[12]
- Draft Energy Strategy and Just Transition Plan[13].
- Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 – Update[14]
- Climate Change: Scottish National Adaptation Plan 2024–2029[15];
- Onshore Wind Policy Statement 2022[16];
- Net Zero Strategy: Build Back Greener[17];
- Carbon Budget Delivery Plan[18];
- Clean Power 2030 Action Plan[19];
- UK Government 10-Year Infrastructure Strategy[20]; and
- Third National Adaptation Programme (NAP3) and the Fourth Strategy for Climate Adaptation Reporting[21].

Local Policy

- Aberdeenshire Local Development Plan 2023[22];
- Aberdeen Local Development Plan 2023[23];

[7] Town and Country Planning (Scotland) Act 1997. Available at: https://www.legislation.gov.uk/ukpga/1997/8/contents
[8] The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at: https://www.legislation.gov.uk/ssi/2017/102/contents/made
[9] Planning (Scotland) Act 2019. Available at: https://www.legislation.gov.uk/asp/2019/13/contents/enacted
[10] The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015. Available at: https://www.legislation.gov.uk/ssi/2015/347/contents/made
[11] Scottish Government. (2023). National Planning Framework 4. Available at: https://www.gov.scot/publications/national-planning-framework-4/
[12] Scottish Government. (2025). NPF4 Planning Guidance: Policy 2 – Climate Mitigation and Adaptation. Available at: https://www.gov.scot/publications/npf4-planning-guidance-policy-2-climate-mitigation-adaptation/
[13] Scottish Government. (2023). Draft Energy Strategy and Just Transition Plan. Available at: https://www.gov.scot/publications/draft-energy-strategy-transition-plan/
[14] Scottish Government. (2020). Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 – Update. Available at: https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
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[23] Aberdeen City Council. (2023). Aberdeen Local Development Plan 2023. Available at: https://www.aberdeencity.gov.uk/services/planning-and-building/local-development-plan/aberdeen-local-development-plan-2023

- Aberdeenshire Council Climate Change Strategy 2021–2025[24]; and
- Local Heat and Energy Efficiency Strategy (LHEES)[25].

Guidance

- Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation[26];
- Assessing Greenhouse Gas Emissions and Evaluating Their Significance with Supplementary Guidance[27];
- UK Climate Projections 2018 (UKCP18)[28];
- Local Authority Climate Service (LACS)[29];
- Adaptation Capability Framework[30];
- Climate Projections for Scotland: Summary[31];
- PAS 2080:2023 Carbon Management in Buildings and Infrastructure[32];
- UK Government GHG Conversion Factors for Company Reporting[33];
- Sixth Assessment Report (AR6)[34];
- Fifth Assessment Report (AR5)[35];
- Climate Change Allowances for Flood Risk Assessment in Land Use Planning[36];
- Scottish Environment Protection Agency (SEPA) Flood Maps[37];
- Dynamic Coast: Scotland's National Coastal Change Assessment[38];
- A Handbook on Environmental Impact Assessment[39]; and
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment[40].

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[25] Aberdeenshire Council. (2023). Local Heat and Energy Efficiency Strategy (LHEES). Available at: https://www.aberdeenshire.gov.uk/environment/climate-change/lhees/

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[35] Intergovernmental Panel on Climate Change. (2014). Fifth Assessment Report (AR5). Available at: https://www.ipcc.ch/assessment-report/ar5/

[36] Scottish Government. (2024). Climate Change Allowances for Flood Risk Assessment in Land Use Planning. Available at: https://www.gov.scot/publications/climate-change-allowances-for-flood-risk-assessment-in-land-use-planning/

[37] Scottish Environment Protection Agency. (2024). SEPA Flood Maps. Available at: https://map.sepa.org.uk/floodmap/map.htm

[38] Scottish Government. (2024). Dynamic Coast: Scotland's National Coastal Change Assessment. Available at: https://www.dynamiccoast.com/

[39] Scottish Natural Heritage. (2018). A Handbook on Environmental Impact Assessment. Available at: https://www.nature.scot/doc/handbook-environmental-impact-assessment

[40] European Commission. (2013). Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment. Available at: https://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf

7.3 Consultation

Summary of Consultation Undertaken to Date

7.3.1 Pre-application consultation with Aberdeenshire Council (the determining authority for the planning permission in principle (PPiP) application), Aberdeen City Council, NatureScot, the Scottish Environment Protection Agency (SEPA), and Historic Environment Scotland is being undertaken on the wider Proposed Development. No formal climate-specific consultation responses have been received to date in relation to the Proposed Development. However, the Climate scope set out in this Chapter has been informed by the response of MD-LOT and statutory consultees to the Aspen Offshore Wind Farm, Offshore Scoping Report (May 2025 Offshore Scoping Opinion), in which comments were made on the IEMA-aligned approach to GHG emissions and CCRA assessment for the Proposed Offshore Development, including NatureScot's comments on carbon costs and futureproofing for climate change. These have been considered in developing the proposed scope set out herein for the Proposed Development.

Future Consultation

7.3.2 Consultation responses received to this Scoping Report through the formal scoping process will inform the scope and methodology of the Climate assessment in the EIA Report. Continued engagement with Aberdeenshire Council, SEPA, NatureScot, Historic Environment Scotland and other relevant statutory and non-statutory consultees will be undertaken throughout the EIA process. Any specific climate-related issues raised will be addressed in the EIA Report Climate chapter and supporting GHG technical appendix.

7.4 Study Area

7.4.1 The Study Area for the Climate assessment will be defined separately for each component of the assessment:

- The CCRA Study Area will encompass the Scoping Boundary of the Proposed Development, including the Offshore Transmission Cables landward of mean low water springs (MLWS), the Landfall Area at Newtonhill and Transition Joint Bays, the Onshore Transmission Cable Corridor, the Substation, and any temporary construction compounds and access tracks. The CCRA Study Area is inclusive of construction, operational and decommissioning works areas;
- The ICCI Study Area will correspond to the Study Areas defined for each technical EIA topic chapter (e.g. **Chapter 8: Terrestrial Ecology**, **Chapter 10: Landscape and Visual, Chapter 12: Geology, Soils and Peat**, **Chapter 13: Hydrology and Flood Risk**, **Chapter 14: Traffic and Transport),** as appropriate; and
- The GHG assessment Study Area will cover all the infrastructure and activities required to construct, operate, maintain and decommission the Proposed Development, including the construction supply chain, transport of materials and personnel to and from site, and end-of-life material handling.

7.4.2 The Aberdeenshire local authority area will be used as the regional reference area for baseline climate data, supplemented by Met Office Local Authority Climate Service data for Aberdeenshire and Aberdeen City. UKCP18 data will be drawn from the 25 km grid cell(s) covering the Scoping Boundary.

7.5 Data Sources

7.5.1 A desk-based study has been undertaken to establish current and projected baseline climate conditions and to inform the GHG assessment. The data sources presented in **Table 7.1** will inform the CCRA and ICCI assessments. The data sources presented in **Table 7.2** will inform the

GHG assessment. No site-specific climate-related surveys are proposed; the assessment will rely on the published datasets, projections and guidance below.

Table 7.1: Data Sources Used to Inform the CCRA and ICCI Assessment

Source, Author and Year	Summary
Met Office Historic Climate Data (Met Office, ongoing) and location-specific long-term averages for Aberdeenshire	Historic monthly climate data, including 1991–2020 and 1981–2010 climate periods, used to characterise the baseline temperature, precipitation, wind and air frost regimes for the Study Area.
UK Climate Projections 2018 (UKCP18) (Met Office) including UKCP18 Land Projections: Science Report, UKCP18 Science Overview Report, and UKCP18 factsheets (precipitation, wind, temperature, snow)	Probabilistic projections (25 km) of mean and extreme air temperature, precipitation and other variables for the UK; and projections of climate extremes used to characterise future baseline conditions across the construction (2030s), operation and maintenance (O&M) (2030s–2070s) and decommissioning (2070s) periods.
Met Office Local Authority Climate Service (LACS) for Aberdeenshire and Aberdeen City	Local Authority-level reports on observed and projected climate trends, used to provide a localised summary of climate change risks for the Proposed Development.
State of the UK Climate Report (Kendon et al., latest annual edition)	Annual peer-reviewed summary of observed UK climate, used to characterise observed warming, precipitation, wind and sea level trends in Scotland.
UK Climate Change Risk Assessment 3 (CCRA3) (HM Government, 2022) including Technical Report Chapter 4: Infrastructure	UK-wide assessment of risks and opportunities for infrastructure (including energy) from climate change, used to identify climate hazards relevant to the Proposed Development.
NAP3 (Defra, 2023) and Scottish National Adaptation Plan (SNAP3) 2024–2029 (Scottish Government, 2024)	National adaptation plans setting out priority risks and adaptation actions for the UK and Scotland.
SEPA Flood Maps and Climate Change Allowances for Flood Risk Assessment in Land Use Planning (Scottish Government)	Flood mapping and climate change uplift allowances used to inform the future baseline for fluvial, pluvial and surface water flood risks at the Substation, Onshore Transmission Cable Corridor and Landfall.
Dynamic Coast (Scottish Government)	Information on projected coastal erosion and sea level rise of relevance to the Landfall and Transition Joint Bay locations near Newtonhill.
Adaptation Scotland Climate Projections for Scotland summary	Summary of projected climate trends in Scotland, supporting the future baseline characterisation.

Table 7.2: Data Sources Used to Inform the GHG Assessment

Source, Author and Year	Summary
Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) (2021–2023)	Latest scientific consensus on global climate change projections and impacts, used to contextualise UK and Scotland projections.
Department for Energy Security and Net Zero (DESNZ) UK Government GHG Conversion Factors for Company Reporting (annual update)	Used for energy unit conversions, fuel emissions, transport, electricity grid-average and waste management emission factors.

Source, Author and Year	Summary
Project Description (see **Chapter 2: Description of the Proposed Development**) and supplier/development information	Bill of materials, development plans and layouts, equipment and energy use data for the Onshore Transmission Cables, Transition Joint Bays, Substation and associated construction works.
Carbon Budget Delivery Plan (DESNZ, 2023) and Climate Change Committee (CCC) Seventh Carbon Budget advice (2025)	UK pathway to net zero used to evaluate significance of GHG emissions in line with ISEP (2026) guidance.
Scotland's Carbon Budgets and CCC advice (May 2025)	Scottish carbon budget pathway 2026–2045 used to evaluate the contribution of the Proposed Development to Scottish climate targets.
PAS 2080:2023 Carbon Management in Buildings and Infrastructure	Best practice standard for managing carbon across the project lifecycle, applied to the GHG assessment scope.

7.6 Baseline Environment

Existing Baseline Conditions

Climate Change Resilience

7.6.1 The nearest Met Office weather station to the Proposed Development is Dyce, located approximately 18 km north of the Grid Connection Point. Historical observations from Dyce (Met Office, 2025[41]), recorded as monthly averages over 30-year periods, are presented in **Table 7.3**. Extreme temperatures recorded in Aberdeen, approximately 14 km north of the Substation Site Options (Extreme Weather Watch, 2025[42]), have also been included in the table to demonstrate the temperature range experienced in the nearby area.

Table 7.3: Historic Climate Conditions Observed at Dyce Weather Station and Extreme Recorded Temperatures at Aberdeen

Climatic Condition	Climate Observations at Dyce Weather Station (observed between 1991 and 2020 unless stated otherwise)
Temperature	The mean maximum annual temperature in the area around Dyce was 12.21°C and the mean minimum annual temperature was 5.37°C[43]. During the winter months[44]: • Average monthly maximum temperatures ranged from 6.75 – 7.31°C[41] • Average monthly minimum temperatures ranged from 0.89 – 1.09°C[41] • Minimum recorded temperature was -15.2°C (occurring in February 2021)[45] During the summer months[46]: • Average monthly maximum temperatures ranged from 16.33 – 18.49°C[41] • Average monthly minimum temperatures ranged from 9.04 – 10.99°C[41] • Maximum recorded temperature was 30°C (occurring in July 2006).

[41] Met Office. (n.d.). Location-specific long-term averages. Available at:https://www.metoffice.gov.uk/research/climate/maps-and-data/location-specific-long-term-averages

[42] Extreme Weather Watch - Aberdeen Weather Records. Available at: https://www.extremeweatherwatch.com/cities/aberdeen

[43] Value extracted from Met Office (n.d.).

[44] Winter: December - February inclusive.

[45] Value extracted from Extreme Weather Watch, based on National Oceanic and Atmospheric Administration (NOAA) data.

[46] Summer: June - August inclusive.

Climatic Condition	Climate Observations at Dyce Weather Station (observed between 1991 and 2020 unless stated otherwise)
Rainfall	The monthly average rainfall was 69.38 mm, with an annual average of 143[47] days of rainfall ≥ 1 mm[41].
Wind	The annual average wind speed at 10 m above ground was 8.74 knots (kn) (4.50 m/s)[41].
Air Frost	Air frost, occurring when temperatures at 1.25 m above ground fall below 0°C, averaged 48.81[48] days per year.

7.6.2 The Proposed Development is located in north-east Scotland, within the Aberdeenshire local authority area, in a temperate maritime climate strongly influenced by its proximity to the North Sea. The Landfall Area is located on the coast at Newtonhill, with the Onshore Transmission Cable Corridor and Substation extending inland through low-lying, predominantly agricultural and forested land to the Grid Connection Point at Fetteresso Forest, west of Stonehaven.

7.6.3 The Onshore Transmission Cable Corridor crosses several watercourses and drainage features, and traverses areas of mineral soils, peat and organo-mineral soils characteristic of north-east Scotland. Coastal conditions at the Landfall Area, including baseline coastal erosion and sea level rise, are characterised in **Chapter 13: Hydrology and Flood Risk chapter** and **Chapter 12: Geology,** Soils and Peat chapter, informed by Dynamic Coast (Scottish Government [49]).

7.6.4 A summary of the baseline climate data showing historical observations from Dyce, regional Scotland East and national Scotland (Met Office, 2025), recorded as monthly averages over 30-year periods, are presented in **Table 7.4**.

Table 7.4: Baseline Climate Data 1981–2010 (Met Office, n.d.[41])

Climate Variable	Nearest Weather Station: Dyce	Regional: Scotland East	National: Scotland
Monthly average rainfall (mm)	69.38	97.09	129.22
Days of rainfall > 1 mm (days)	142.72	160.58	188.18
Minimum annual average temperature (°C)	5.37	3.79	4.16
Maximum annual average temperature (°C)	12.21	10.83	10.77
Maximum summer average temperature (°C)	17.69	16.97	16.46
Mean monthly wind speed at 10 m (knots)	8.74	10.26	10.84
Air frost (days)	48.81	84.80	75.33

7.6.5 To provide a further summary of the current baseline climate for Scotland, the State of the UK Climate 2023 report (Kendon et al., 2024[50]) is summarised in **Table 7.5** for key climate parameters.

[47] Value unavailable for 1991–2020 climate period; 1981–2010 climate period data included instead.
[48] Air frost occurs when temperatures at 1.25 m above ground fall below 0°C.
[49] Scottish Government. (2024). Dynamic Coast: Scotland's National Coastal Change Assessment. Available at: https://www.dynamiccoast.com/
[50] Kendon, M., et al. (2024). State of the UK Climate 2023. Royal Meteorological Society. Available at: https://rmets.onlinelibrary.wiley.com/journal/1477870x.

Table 7.5: State of the UK Climate 2023 Report Findings (Kendon et al., 2024[50])

Climate Variable	Description
Temperature	Scotland experienced a continuation of its long-term warming trend in 2023. The annual mean temperature for Scotland was 8.5°C, which is 0.9°C above the 1991–2020 average, making it the third warmest year on record for the region. June 2023 was the warmest June on record for Scotland, with temperatures significantly above average across the country.
Precipitation	Scotland experienced a continuation of its long-term trend of increasing winter rainfall, particularly in the north and west. While annual precipitation levels were close to average, the year was marked by significant short-term extremes, such as the record-breaking rainfall in eastern Scotland during October 2023.
Wind	Scotland experienced a continuation of the long-term trend of decreasing average wind speeds, consistent with the phenomenon known as "global terrestrial stilling". In 2023, the UK's annual mean wind speed was slightly below the 1991–2020 average, reflecting this ongoing decline. Despite this overall trend, Scotland still encountered significant wind events, such as Storm Otto in February 2023, which brought gusts exceeding 100 mph in parts of the country.
Sea level	Sea levels around the UK, including Scotland, are rising at an accelerating rate. Data from the Newlyn tide gauge, one of the longest running in the UK, show that 2023 had the highest annual mean sea level since records began in 1916, with a rise of approximately 4.6 ± 0.9 mm per year from 1993 to 2023. Of relevance to the Landfall Area at Newtonhill, sea level rise along the north-east Scottish coast is expected to continue accelerating.

In-combination Climate Impacts

7.6.6 The baseline conditions for the ICCI assessment are set out in the corresponding technical chapters of the EIA Report **Chapter 8:Terrestrial Ecology**, **Chapter 9: Terrestrial Ornithology**, **Chapter 10: Landscape and Visual**, **Chapter 11: Archaeology and Cultural Heritage**, **Chapter 12: Geology, Soils and Peat**, **Chapter 13: Hydrology and Flood Risk, Chapter 14: Traffic and Transport**, **Chapter 15: Air Quality**, **Chapter 17: Tourism and Recreation, Chapter 18: Land Use and Agriculture**, and **Chapter 19: Forestry**). The future evolution of these baselines under climate change, and any consequent change in the significance of effects identified in those chapters, is the subject of the ICCI assessment in **Section 7.9**.

Greenhouse Gas Emissions

7.6.7 Two elements of the GHG baseline are relevant to the Proposed Development: the existing electricity supply context within which the Proposed Development sits, and the existing soil and vegetation carbon stocks within the Scoping Boundary which act as a climate-relevant baseline against which construction-phase and operational land use change emissions will be assessed.

7.6.8 With respect to electricity supply, the existing baseline against which the GHG emissions of the Proposed Development will be evaluated is characterised by two factors:

- The current carbon intensity of electricity generation on the O&G platforms that the Proposed Development is intended to serve, currently provided by Open Cycle Gas Turbine (OCGT) at approximately 500 g/kWh; and
- The current average carbon intensity of the GB transmission network at approximately 78 g/kWh. The Proposed Development comprises the onshore transmission infrastructure required to deliver electricity from landfall to the Grid Connection Point and is therefore an

enabling component of the overall climate context of the Proposed Development, against which significance will be evaluated in line with ISEP (2026).

7.6.9 In addition to existing electricity supply, the GHG baseline for the Proposed Development also considers existing soil and vegetation carbon stocks within the Scoping Boundary, which act as a climate-relevant baseline against which construction-phase and operational land use change emissions will be assessed. The Scoping Boundary crosses areas of mineral, organo-mineral and peat soils, agricultural land, and commercial forestry within Fetteresso Forest. Soil carbon, peat carbon and standing forest biomass within the Scoping Boundary represent the baseline carbon stock that could be released as GHG emissions if disturbed during construction of the Proposed Development. The detailed baseline soil, peat and forestry data are presented in **Chapter 12: Geology, Soils and Peat** and **Chapter 19: Forestry**, and will be used as inputs to the GHG assessment to quantify the direct emissions from disturbance, oxidation or removal of peat and organo-mineral soils within the construction footprint, drawing on the NatureScot Carbon and Peatland 2016 map[51], and the Scottish Government Carbon Calculator for Wind Farms[52] (or equivalent peat-loss methodology) where applicable;

- Direct emissions from disturbance, oxidation or removal of peat and organo-mineral soils within the construction footprint of the Proposed Development, drawing on the NatureScot Carbon and Peatland 2016 map and the Scottish Government Carbon Calculator for Wind Farms (or equivalent peat-loss methodology) where applicable;
- Direct emissions from felling, removal and associated decay of standing forestry biomass within Fetteresso Forest and elsewhere in the area associated with the installation of the Onshore Transmission Cables;
- Foregone sequestration during the construction and operational periods from land taken out of agricultural, peatland or forestry use within the Scoping Boundary; and
- Re-sequestration potential from reinstated soils, replanted vegetation and habitat enhancement areas within the Scoping Boundary, in line with the embedded mitigation set out in **Section 7.7**.

Future Baseline Conditions

Climate Change Resilience

7.6.10 UKCP18[53] data has been reviewed to show the scale of changes expected to occur over the 35-year operational lifetime of the Proposed Development. The projected changes in climate variables have been assessed for the '2030s' (2020–2039), '2050s' (2040–2059) and the '2070s' (2060–2079) in line with the anticipated construction, O&M, and decommissioning phases.

7.6.11 Modelled climate scenarios and pathways provide plausible representations of future states of the climate system, incorporating socio-economic, technological, demographic and environmental development. Representative Concentration Pathways (RCP) were developed for the Fifth Assessment Report (AR5) by the IPCC (IPCC, 2014[54]). The future baseline for this CCRA considers changes in climate variables under a high emissions scenario (RCP8.5). RCP8.5 is considered a worst-case future pathway, referencing a slow transfer to low-carbon energy provision. RCP8.5 is

[51] NatureScot. (2016). Carbon and Peatland 2016 Map. Available at: https://www.nature.scot/professional-advice/land-and-sea-management/managing-land/peatland/carbon-and-peatland-2016-map

[52] Scottish Government. (2024). Carbon Calculator for Wind Farms on Scottish Peatlands. Available at: https://www.webarchive.org.uk/wayback/archive/3000/https://www2.gov.scot/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings

[53] Met Office. (2018). UK Climate Projections (UKCP18). Available at: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index.

[54] IPCC. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland. Available at: https://www.ipcc.ch/report/ar5/syr/.

considered a possible, but conservative GHG emissions scenario, suitable for evaluating the climate resilience of long-lifetime projects.

7.6.12 Probabilistic climate projections such as UKCP18 assign a probability to climate change outcomes, based on a Probability Distribution Function. **Table 7.6** provides climate data for three percentiles (10%, 50% and 90%), for three time periods up to the 2070s:

- 10th percentile (10%): This represents a low-end estimate. There is a 10% chance that the actual outcome will be lower than this value and a 90% chance it will be higher;
- 50th percentile (50%): This is the median or central estimate. There is a 50% chance that the actual outcome will be lower or higher than this value. It represents the most likely or typical projection; and
- 90th percentile (90%): This represents a high-end estimate. There is a 90% chance the actual outcome will be lower than this value and only a 10% chance it will be higher.

7.6.13 These percentiles illustrate the range of uncertainty in future climate projections, rather than relying on a single deterministic outcome.

7.6.14 In addition, the UKCP18 projections are provided as either Anomaly values or Absolute values:

- Anomaly values indicate the change in a given climate variable relative to a baseline period. For example, an anomaly projection of 1.92°C for annual mean air temperature at 1.5 m in 2040 signifies an average increase of 1.92°C compared to the baseline; and
- Absolute values reflect specific projected values; for instance, an absolute projection of 44.58 mm for spring 1-day total precipitation in 2040 represents the expected average rainfall falling in a single day during the spring months of that year.

7.6.15 The type of climate change value (anomaly or absolute) is specified in the headings of **Table 7.6**. For the anomaly values, the baseline period selected is 1981-2010, unless stated otherwise.

7.6.16 Where data is available, climate variables for future climate conditions have been downloaded directly from UKCP18 land projections. Where information is not directly available, climate risks have been assessed using a combination of variables and/or sources and information outside of UKCP18, or from technical guidance provided alongside UKCP18.

Table 7.6: UKCP18 Probabilistic Land Projections of Climate Variables. 25 km UKCP18 Data Grid Square Selected Closest to the Grid Connection Point

Climate Variable	Data Type	Percentile	2030s (2020–2039)	2050s (2040–2059)	2070s (2060–2079)
Mean air temperature anomaly at 1.5 m (Summer) (°C)	Anomaly (change)	10%	0.16	0.55	1.1
		50%	0.87	1.67	2.75
		90%	1.62	2.84	4.53
Maximum air temperature anomaly at 1.5 m (Summer) (°C)	Anomaly (change)	10%	-0.02	0.33	0.79
		50%	0.83	1.73	2.92
		90%	1.71	3.14	5.03
Maximum absolute air temperature at 1.5 m (Summer) (°C)	Absolute	10%	15.1	15.93	16.8
		50%	15.84	16.87	17.84
		90%	16.15	17.13	18.07

Climate Variable	Data Type	Percentile	2030s (2020–2039)	2050s (2040–2059)	2070s (2060–2079)
Mean air temperature anomaly at 1.5 m (Winter) (°C)	Anomaly (change)	10%	0.11	0.4	0.72
		50%	0.86	1.46	2.25
		90%	1.66	2.58	3.86
Minimum air temperature anomaly at 1.5 m (Winter) (°C)	Anomaly (change)	10%	0.09	0.33	0.64
		50%	0.92	1.54	2.4
		90%	1.84	2.91	4.34
Precipitation rate anomaly (%) (Winter)	Anomaly (change)	10%	-1.98	-2.72	-2.31
		50%	14.19	16.25	23.19
		90%	33.14	40.64	54.92
5-day absolute total precipitation (mm) (Winter)	Absolute	10%	106.41	107.78	108.39
		50%	126.64	130.48	133.89
		90%	156.76	164.01	172.77
Precipitation rate anomaly (%) (Summer)	Anomaly (change)	10%	-14.47	-26.96	-38.26
		50%	-1.57	-9.30	-17.42
		90%	11.21	10.21	6
5-day absolute total precipitation (mm) (Summer)	Absolute	10%	85.63	83.78	81.59
		50%	98.88	99.30	99.53
		90%	116.28	121.33	126.37
Mean wind speed anomaly at 10 m (Annual) (m/s)	Anomaly (change)	10%	-0.21	-0.24	-0.26
		50%	-0.15	-0.20	-0.21
		90%	-0.04	-0.10	-0.11
Relative humidity anomaly (%) (Summer)	Anomaly (change)	10%	-0.42	-0.53	-0.42
		50%	-0.10	-0.00	0.24
		90%	0.42	0.47	1.07
Soil moisture anomaly (%) (Summer)	Anomaly (change)	10%	To be completed at EIA stage in coordination with **Chapter 12: Geology, Soils and Peat** and **Chapter 13: Hydrology and Flood Risk**		
		50%			
		90%			
Sea level rise (m) at Aberdeen tide gauge (RCP8.5)	Anomaly (change) - Relative to baseline 1981-2000	10%	0.07	0.14	0.22
		50%	0.10	0.20	0.33
		90%	0.14	0.28	0.47

Air Temperature

7.6.17 Climate projections for the UK show a trend towards warmer temperatures over land (Met Office, 2018). As shown in **Table 7.6**, UKCP18 data for the area local to the Proposed Development are

consistent with national projections, showing a trend towards warmer average temperatures throughout the year as well as hotter maximum temperatures. Under RCP 8.5 at the 50th percentile, mean summer air temperatures at 1.5 m are projected to rise by 0.87°C by the 2030s, 1.67°C by the 2050s and 2.75°C by the 2070s, relative to the 1981–2010 baseline. Mean winter temperatures show a comparable but slightly smaller upward trend, rising by 0.86°C, 1.46°C and 2.25°C across the same time slices. Maximum summer temperatures rise more steeply than the seasonal mean, with the 50th percentile increase reaching 2.92°C by the 2070s. At the 90th percentile (a high-end estimate) the increase in summer mean temperature could reach 4.53°C by the 2070s.

7.6.18 Maximum absolute summer temperatures derived from UKCP18 Regional Simulations indicate the median summer maximum temperature for the Substation grid cell rising from approximately 15.84°C in the 2030s to 17.84°C in the 2070s, with the 90th-percentile ensemble member reaching approximately 18.07°C by the 2070s. Minimum winter air temperatures are projected to rise by 0.92°C (50th percentile, 2030s) to 2.40°C (50th percentile, 2070s), reducing the frequency of frost days at the Substation Site Option over the operational lifetime.

Relative Humidity

7.6.19 UKCP18 regional simulations indicate only modest changes in summer relative humidity at 1.5 m over the lifetime of the Proposed Development, with the 12-member ensemble median ranging from −0.10% in the 2030s to +0.24% in the 2070s. The ensemble percentile spread (−0.42% to +1.07% across the 10th to 90th percentiles by the 2070s) is consistent with the wider literature, which finds that relative humidity changes only modestly under warming because near-surface absolute humidity rises broadly in step with temperature.

Precipitation

7.6.20 Climate projections for the UK show a trend towards warmer, wetter winters and hotter, drier summers, although rainfall patterns across the UK are not uniform and vary on seasonal and regional scales. As shown in **Table 7.6**, UKCP18 data for the area local to the Proposed Development show an increase in winter precipitation, in line with the national trend. Median winter precipitation rates are projected to increase by approximately 14% by the 2030s, 16% by the 2050s and 23% by the 2070s relative to the 1981–2010 baseline, with the 90th percentile reaching almost 55% by the 2070s.

7.6.21 The summer UKCP18 precipitation projections for the area show a clearer drying trend, with median precipitation rates falling by approximately 1.6% by the 2030s, 9.3% by the 2050s and 17.4% by the 2070s. At the 10th percentile (a low-end estimate), summer precipitation could decrease by as much as 38.3% by the 2070s, indicating substantially drier summers under the high-end pathway. Notwithstanding the overall reduction in summer rainfall totals, the intensity of extreme summer rainfall events is also projected to increase, indicating drier summers overall but more intense rainfall events when they do occur.

7.6.22 Extreme precipitation has been characterised using the UKCP18 probabilistic projections of climate extremes for 5-day precipitation totals at the 100-year return level. Median winter 5-day extreme precipitation totals are projected to increase from approximately 126.6 mm in the 2030s to 133.9 mm in the 2070s. Summer 5-day extreme precipitation totals show a smaller increase at the median, rising from approximately 98.9 mm in the 2030s to 99.5 mm in the 2070s, but with a substantially larger increase at the 90th percentile (from 116.3 mm to 126.4 mm over the same period). This indicates an increasing risk of high-intensity short-duration rainfall events during the operational phase of the Proposed Development, with implications for flood risk in relation to the Onshore Transmission Cables and the Substation, addressed in detail in **Chapter 13: Hydrology and Flood Risk**.

Wind Speed

7.6.23 There is considerable uncertainty in future climate projections in terms of changes to wind speed and direction. UKCP18 regional simulations for the Substation grid cell indicate a small reduction in mean annual 10 m wind speed across all 12 ensemble members, with the ensemble median falling by approximately 0.15 m/s in the 2030s, 0.20 m/s in the 2050s and 0.21 m/s in the 2070s. This is consistent with the long-term observed trend known as "global terrestrial stilling"[55], although recent studies suggest that there will be a potential increase in extreme wind speeds across Europe throughout the 21st century due to more severe convective weather events[56]. Mean near-surface wind speeds across Northern Europe are projected to change modestly, often within ±10% or smaller[57], and mean wind power/mean wind speed over Europe is projected to change only modestly (approximately ±5%) by the end of the century[58].

Storm Intensity

7.6.24 With respect to storm frequency, the total number of cyclones/storms may remain stable or show only slight increases in the North Atlantic and European sectors[59]. However, when they do occur, storm intensity is expected to increase under high-emission scenarios. A likely increase in the intensity of severe convective storms in the wider North Sea region is anticipated, driven by rising humidity and convective instability under climate change[56].

Lightning

7.6.25 Climate projections suggest an increase in the occurrence of lightning strikes across Europe over the 21st century[56]. A detailed climate simulation using a ~2 km grid (RCP 8.5 by 2100) found lightning counts to double in July to August over the British Isles (Kahraman et al., 2022). This has potential implications for the lightning protection design of the Substation, addressed in the CCRA in **Section 7.8**.

Soil Moisture

7.6.26 Direct soil moisture projections are not available within the standard UKCP18 product suite. The implications of climate change for summer soil moisture are inferred from the projected reductions in summer precipitation rate and increases in summer maximum temperature reported in **Table 7.6**, which together imply a trend towards drier summer soils over the operational lifetime of the Proposed Development. Quantitative soil moisture projections will be drawn for the EIA Report from the UKSCAPE-G2G derived product[60], which applies the Grid-to-Grid hydrological model to UKCP18 Regional 12 km data, in coordination with **Chapter 12: Geology, Soils and Peat** and **Chapter 13: Hydrology and Flood Risk** technical leads. Drier summer soil moisture is

[55] Kendon, M., et al. (2024). State of the UK Climate 2023. Royal Meteorological Society. Available at: https://rmets.onlinelibrary.wiley.com/journal/1477870x

[56] Rädler, A. T., Groenemeijer, P. H., Faust, E., Sausen, R., & Púčik, T. (2019). Frequency of severe thunderstorms across Europe expected to increase in the 21st century due to rising instability. npj Climate and Atmospheric Science, 2(1). Available at: https://www.nature.com/articles/s41612-019-0083-7

[57] Pryor, S. C., Barthelmie, R. J., Clausen, N. E., Drews, M., MacKellar, N., & Kjellström, E. (2012). Analyses of possible changes in intense and extreme wind speeds over northern Europe under climate change scenarios. Climate Dynamics, 38(1–2), 189–208. Available at: https://link.springer.com/article/10.1007/s00382-010-0955-3

[58] Mömken, J., Reyers, M., Feldmann, H., & Pinto, J. G. (2018). Future changes of wind speed and wind energy potentials in EURO-CORDEX ensemble simulations. Journal of Geophysical Research: Atmospheres, 123(12), 6373–6389. Available at: https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2018JD028473

[59] Ulbrich, U., Leckebusch, G. C., & Pinto, J. G. (2009). Extra-tropical cyclones in the present and future climate: a review. Theoretical and Applied Climatology, 96(1–2), 117–131. Available at: https://link.springer.com/article/10.1007/s00704-008-0083-8

[60] Kay, A. L., Lane, R. A., & Bell, V. A. (2022). Grid-based simulation of soil moisture in the UK: future changes in extremes and wetting and drying dates. Environmental Research Letters, 17(7), 074029. Available at: https://doi.org/10.1088/1748-9326/ac7a4e

of particular relevance to peat stability, soil carbon retention and shrink-swell of cohesive soils within the Scoping Boundary, which are addressed in those chapters.

Sea Level Rise

7.6.27 Global sea levels are projected to continue rising over the coming century, with the magnitude of relative sea level rise varying by location around the UK due to differences in vertical land motion. North-east Scotland is still rising slowly due to ongoing glacial isostatic adjustment, so relative sea level rise at the Aberdeen tide gauge is lower than the global mean. According to the UKCP18 marine projections for the Aberdeen tide gauge under RCP 8.5, a relative sea level rise of 0.33m relative to a 1981–2000 baseline could be experienced by the 2070s at the 50th percentile. Increased sea level is also likely to result in increasing wave depth and an increase in extreme sea levels and storm surge[61] with implications for the Landfall Area at Newtonhill addressed in the CCRA in **Section 7.8** and in coordination with Volume 2, Chapter 18: Climate of the Offshore EIA Report for Aspen.

Coastal Erosion at Landfall

7.6.28 Baseline coastal change in the vicinity of the Landfall Area at Newtonhill is characterised in **Chapter 13: Hydrology and Flood Risk**, drawing on Dynamic Coast[62]. Future coastal erosion is projected to be exacerbated by relative sea level rise as set out above, with the rate and extent of change varying along the coast depending on local geology, exposure and sediment supply[63]. The implications for the landfall and the offshore transmission cables landward of MLWS are addressed in the CCRA in **Section 7.8**.

Greenhouse Gas Emissions

7.6.29 The future baseline for the GHG assessment considers the projected decarbonisation of the UK electricity grid in the absence of the Project, in line with the UK Carbon Budgets, the Carbon Budget Delivery Plan and the Clean Power 2030 Action Plan (DESNZ, 2024 [64]). The grid carbon intensity is projected to fall progressively over the 35-year operational lifetime of the Proposed Development, in line with the UK net zero pathway to 2050 and the Scottish net zero pathway to 2045. This declining grid carbon intensity will be applied in the GHG assessment to evaluate the operational emissions associated with electrical losses on the Onshore Transmission Cables and Substation, and the avoided emissions enabled by delivery of low-carbon electricity to the GB transmission network.

7.6.30 In the absence of the Project, the existing O&G platforms in the Central North Sea would continue to generate electricity using OCGT at approximately 500 g/kWh, contributing to UK and Scottish emissions over the same timeframe. This counterfactual is used to evaluate the avoided emissions enabled by the Proposed Development as a whole.

7.6.31 The future GHG baseline for the Proposed Development also considers how soil and vegetation carbon stocks within the Scoping Boundary would evolve in the absence of the Proposed Development. Under the future baseline, agricultural and forestry land within the Scoping Boundary would be expected to remain broadly in current management, with peat and organo-mineral soils continuing to act as either a small carbon source or sink depending on hydrological condition, and Fetteresso Forest continuing to be managed under the relevant long-term forest

[61] Arns, A., Wahl, T., Dangendorf, S., & Jensen, J. (2015). The impact of sea level rise on storm surge water levels in the northern part of the German Bight. Coastal Engineering, 96, 118–131. Available at: https://www.sciencedirect.com/science/article/pii/S0378383914002245

[62] Scottish Government. (2024). Dynamic Coast: Scotland's National Coastal Change Assessment. Available at: https://www.dynamiccoast.com/

[63] Hansom, J. D., Fitton, J. M., & Rennie, A. F. (2017). Dynamic Coast – National Coastal Change Assessment: National Overview. CRW2014/2. Available at: https://www.dynamiccoast.com/files/reports/National%20Overview.pdf

[64] Department for Energy Security and Net Zero. (2024). Carbon Budget Delivery Plan and Clean Power 2030 Action Plan. Available at: https://www.gov.uk/government/publications/clean-power-2030-action-plan

plan. Climate change is, however, projected to alter the future baseline of these stocks within the Scoping Boundary: warmer and drier summers may increase peat oxidation and reduce soil carbon stocks over the 35-year operational lifetime of the Proposed Development, and wetter winters and increased extreme rainfall may affect soil carbon stability through erosion and saturation cycles. These effects are quantified in **Chapter 12: Geology, Soils and Peat** and **Chapter 19: Forestry chapter** and will be used to define the counterfactual against which construction-phase and operational land use change emissions of the Proposed Development are evaluated in the GHG assessment.

7.7 Embedded Mitigation

7.7.1 The following section outlines the embedded mitigation anticipated to be implemented prior to undertaking the Climate assessment.

7.7.2 The following embedded mitigation, relevant to Climate would be implemented:

- Climate-resilient design of the Substation and ancillary buildings, sized for projected future climate parameters (including extreme air temperature, wind loading and humidity) over the 35-year operational lifetime of the Proposed Development;
- Burial of Onshore Transmission Cables (220 kV and 400 kV) at depths and using cable specifications informed by future ground temperature and soil moisture conditions, to maintain cable ampacity and minimise efficiency losses;
- Use of trenchless installation techniques (such as HDD) at sensitive crossings (watercourses, railway, ancient woodland and other infrastructure), reducing surface disturbance and increasing resilience to surface flooding and ground movement;
- Sustainable Drainage Systems (SuDS) and surface water management at the Substation, designed in line with SEPA guidance and Scottish Government Climate Change Allowances for Flood Risk Assessment in Land Use Planning, to manage runoff under future rainfall scenarios;
- Routing of the Onshore Transmission Cable Corridor to avoid, where reasonably practicable, areas of identified fluvial, pluvial or coastal flood risk under future climate scenarios;
- Adoption of low-carbon material specifications (including, where reasonably practicable, recycled steel, low-carbon concrete (e.g., ground granulated blast furnace sag (GGBS) or pulverised fuel ash (PFA) cement replacement), and recycled-content polymers in cabling), in line with PAS 2080:2023 and NPF4 Policy 2 lifecycle GHG minimisation requirements;
- Construction Environmental Management Plan (CEMP) including measures for fuel and energy efficiency of plant, idling controls, sustainable transport for construction workers, and waste minimisation, to be secured through consent conditions;
- Lightning protection masts at the Substation (up to 30 m), and lightning and surge protection of electrical equipment, to mitigate the risk of increased lightning strike frequency under climate change;
- Health and safety arrangements for the construction workforce that respond to extreme weather conditions, including dynamic scheduling, weather monitoring, fatigue management, and hot- and cold-weather working procedures;
- Reinstatement and biodiversity enhancement measures within the Scoping Boundary, including replanting and landscaping at the Substation, contributing to the carbon sequestration potential of the Proposed Development and supporting climate adaptation through nature-based solutions;
- Operation and maintenance procedures including remote monitoring of the Onshore Transmission Cables and Substation, periodic inspections, and adaptive management of vegetation and drainage; and
- A Decommissioning Plan to be developed prior to the end of the operational lifetime, setting out arrangements for the safe removal or repowering of above-ground assets and reinstatement of land in line with relevant legislation and guidance at that time.

7.8 Potential Impacts of the Proposed Development

7.8.1 Following the implementation of embedded mitigation, a series of potential impacts as a result of the construction, operation and maintenance, and decommissioning of the Proposed Development have been identified in relation to Climate related receptors.

Climate Change Resilience

7.8.2 Receptors relevant to the CCRA include:

- Construction, O&M and decommissioning workers (human receptors);
- The Substation and ancillary buildings (including control buildings, lightning protection masts and auxiliary plant);
- The Onshore Transmission Cables (three circuit 220 kV high voltage alternating current (HVAC) and two circuit 400 kV HVAC) and associated buried Joint Bays and link boxes;
- Transition Joint Bays at Landfall;
- The Offshore Transmission Cables landward of MLWS, within the Landfall Area;
- Temporary construction compounds, haul roads and access tracks; and
- Construction plant, vehicles and decommissioning equipment.

In-combination Climate Impacts

7.8.3 Receptors relevant to the ICCI assessment include those identified in other technical chapters, where the significance of effects on those receptors could be altered by future climate conditions:

- Designated and non-designated habitats, protected species and biodiversity receptors within the Scoping Boundary (as identified in **Chapter 8: Terrestrial Ecology** and **Chapter 9: Terrestrial Ornithology**);
- Watercourses, water bodies and groundwater receptors crossed by, or in proximity to, the Proposed Development (as identified in **Chapter 13: Hydrology and Flood Risk**);
- Soils, peat and geological receptors within the Scoping Boundary (as identified in **Chapter 12: Geology, Soils and Peat**);
- Landscape character areas and visual receptors with views of the Proposed Development (as identified in **Chapter 10: Landscape and Visual**);
- The road network and sensitive transport receptors used to access the Proposed Development during construction, O&M and decommissioning (as identified in **Chapter 14: Traffic and Transport**);
- Air quality receptors, including human and ecological receptors sensitive to construction-phase emissions (as identified in **Chapter 15: Air Quality**);
- Designated and non-designated heritage assets and their settings crossed by, or with the potential to be affected by, the Proposed Development (as identified in **Chapter 11: Archaeology and Cultural Heritage**);
- Agricultural land, land users and forestry receptors crossed by, or with the potential to be affected by, the Proposed Development (as identified in **Chapter 18: Land Use and Agriculture** and **Chapter 19: Forestry**); and
- Local communities, businesses, recreational users and tourism receptors in proximity to the Proposed Development (as identified in the **Chapter 17: Tourism and Recreation**).

GHG Emissions

7.8.4 As GHG emissions affect the global atmosphere rather than discrete spatial receptors, the receptors relevant to the GHG assessment are global rather than local. The principal receptors and reference frames considered in evaluating significance include:

- The global atmosphere and global climate system, to which all anthropogenic GHG emissions contribute;
- The UK Carbon Budgets (CB4 covering 2023–2027, CB5 covering 2028–2032, CB6 covering 2033–2037, and the Climate Change Committee's recommended CB7 covering 2038–2042), set under the Climate Change Act 2008, against which the UK's progress toward net zero by 2050 is measured;
- The Scottish Carbon Budgets (the first to fourth Scottish Carbon Budgets covering 2026–2045), set under the Climate Change (Emissions Reduction Targets) (Scotland) Act 2024, against which Scotland's progress toward net zero by 2045 is measured;
- The UK and Scottish net zero trajectories and associated sectoral pathways for the electricity transmission and renewable energy sectors; and
- The wider Project's lifetime emissions savings, against which the Proposed Development's emissions are contextualised, recognising that the onshore transmission infrastructure is required to enable delivery of the low-carbon electricity generated by the Proposed Offshore Development to the GB transmission network and to associated oil and gas assets.

7.8.5 Potential impacts proposed to be scoped into the assessment are set out in **Table 7.7**, and issues proposed to be scoped out are set out in **Table 7.8**, with justifications provided.

Table 7.7: Summary of Potential Climate Related Impacts Proposed to be Scoped In

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
Increased health and safety risk to construction, O&M and decommissioning workers from heat stress, cold stress and extreme weather (high winds, intense rainfall, lightning).	✓	✓	✓	Projected increases in mean and extreme air temperatures, intensity of convective storms and lightning strikes may increase exposure of workers to climate-related hazards.	CCRA in line with IEMA (2020), assessing magnitude (probability x consequence) and sensitivity (susceptibility, vulnerability and importance) of receptors using UKCP18 RCP8.5 projections at the 10th, 50th and 90th percentiles. Embedded mitigation (CEMP, working procedures) considered in determining residual significance.
Increased risk of damage and disruption to construction plant, vehicles and temporary works due to extreme weather (storms, intense rainfall, high winds, lightning, surface water flooding).	✓	✕	✕	Projected increases in storm intensity, extreme rainfall and lightning may increase risks of physical damage to plant and equipment and may extend programme through weather-related downtime.	CCRA following the methodology described in **Section 7.9**, with embedded mitigation (CEMP, weather monitoring, contingency planning) accounted for.
Reduced ampacity (current-carrying capacity) and accelerated ageing of the Onshore Transmission Cables (three circuit 220 kV HVAC and two circuit 400 kV HVAC) due to higher ground temperatures and changes in soil moisture.	✕	✓	✕	Higher mean and extreme air temperatures, drier summers and changes in soil moisture may increase ground temperatures around buried cables, reducing their thermal dissipation and ampacity over the 35-year operational lifetime.	CCRA using UKCP18 land temperature projections and cable-specific thermal modelling assumptions, with embedded mitigation (cable specification, burial depth, route selection) accounted for.
Increased corrosion, weather damage and reduced reliability of the Substation, control buildings and ancillary plant due to changes in temperature, humidity, precipitation and wind loading.	✕	✓	✕	Higher humidity, increased winter rainfall, more intense storms and stronger wind loads may accelerate the corrosion of metal components, increase maintenance requirements, and reduce reliability of substation equipment over its operational lifetime.	CCRA using UKCP18 land projections, considering the substation design parameters set out in **Chapter 2: Description of the Proposed Development** and embedded mitigation (corrosion-resistant materials, lightning protection, OMP).

Increased risk of fluvial, pluvial and surface water flooding affecting the Substation, Transition Joint Bays, Link Boxes and the Onshore Transmission Cable Corridor.	✓	✓	✓	Climate change is projected to increase winter rainfall and the intensity of extreme rainfall events, with associated increases in fluvial and pluvial flood risk. Buried cables, Joint Bays, link boxes and the Substation may be affected.	CCRA informed by SEPA flood mapping with Scottish Government climate change uplift allowances, drawing on **Chapter 13: Hydrology and Flood Risk**. Embedded mitigation (route selection, SuDS, substation flood resilience) considered.
Increased risk of coastal erosion, sea level rise and storm-driven coastal flooding affecting the Landfall Area, the Offshore Transmission Cables landward of MLWS and Transition Joint Bays.	✓	✓	✓	Sea level rise, increased wave heights and storm intensity may affect the long-term integrity of the Landfall Area, the cables landward of MLWS and the Transition Joint Bays located inland of MHWS.	CCRA informed by Dynamic Coast data and UKCP18 marine projections (RCP8.5, 50th and 90th percentiles), with embedded mitigation (HDD, TJB siting and depth) considered.
Increased risk of ground movement (subsidence, peat instability, shrink-swell on cohesive soils) affecting Onshore Transmission Cables, Joint Bays and Substation foundations.	✓	✓	✓	Drier summers and wetter winters may increase the risk of differential ground movement, particularly on cohesive soils and peat, with potential implications for buried infrastructure and substation foundations.	CCRA informed by site-specific ground investigations (to be reported in **Chapter 12: Geology, Soils** and **Chapter 13: Hydrogeology and Flood Risk**) and UKCP18 projections.
GHG emissions arising from the construction, O&M and decommissioning of the Proposed Development, including embodied emissions from raw materials and manufacturing, transport, installation, operational energy use and end-of-life material handling.	✓	✓	✓	Lifecycle GHG emissions are likely to arise from extraction and manufacture of materials (e.g., copper, steel, polymers, concrete), construction plant and vehicle fuel use, transport of materials and personnel, electrical losses during operation, and decommissioning works. Significance must be assessed against UK and Scottish carbon budgets and net zero targets in line with NPF4 Policy 2 and ISEP (2026).	Quantitative GHG assessment in line with ISEP (2026) and PAS 2080:2023, using AR5 GWP100 factors and DESNZ conversion factors. Significance evaluated against UK and Scottish carbon budgets and the lifetime emissions savings of the wider Project (predominantly displacement of OCGT generation on associated O&G assets and provision of low-carbon electricity to the grid).

*Phase of Proposed Development refers to construction (C), operation and maintenance (O&M), and decommissioning (D).

Table 7.8: Summary of Potential Climate Related Impacts Proposed to be Scoped Out

Potential Impact	Justification
Direct likely significant effects on regional or global climate from operational GHG emissions assessed at a Project level.	Climate change is a global phenomenon driven by aggregated worldwide emissions. The contribution of any individual project cannot be discretely observed in the form of localised climatic change. Lifecycle GHG emissions will, however, be quantified and contextualised against UK and Scottish carbon budgets and net zero targets in the GHG assessment (**Section 7.8.1**) in accordance with ISEP (2026) and NPF4 Policy 2.
Standalone GHG cumulative effects assessment at the Project level.	As above, individual project GHG emissions cannot be meaningfully assessed cumulatively against other developments at a level that would yield additional environmental information. The Proposed Development's contribution to global climate is appropriately assessed against national carbon budgets, which already integrate the cumulative effect of all projects within those budget periods.
Effects on offshore receptors (offshore wind farm infrastructure, marine processes, marine ecology) seaward of MLWS.	These effects are addressed in the Aspen Offshore Wind Farm Offshore EIA Report Volume 2, Chapter 18: Climate, including the CCRA, ICCI and GHG assessment for the offshore components of the Project. Cumulative effects between the onshore and offshore components are addressed in **Section 7.10** of this Chapter.
Effects on indoor climate of operational buildings (e.g. control buildings) on the Substation through unoccupied operational ageing.	Indoor climatic conditions of the Substation control buildings are routinely managed through standard building services and design (heating, ventilation, cooling) and are not considered to give rise to LSE. Embedded mitigation (climate-resilient design of buildings, appropriate insulation and HVAC sizing) is considered sufficient.
Climate-related effects on receptors below significance thresholds at scoping (e.g. minor temporary access tracks, fencing, signage).	Such temporary, low-value items will be specified to standard industry practice and are not considered sensitive to projected climate variables to a degree that could give rise to LSE.

7.9 Proposed Assessment Methodology

7.9.1 The Climate assessment will follow the general approach to EIA outlined in **Chapter 4: Approach to Scoping and EIA** of this Scoping Report. Specific assessment criteria and methodologies for the CCRA, ICCI and GHG assessment, aligned with the approach adopted for the Proposed Offshore Development in Volume 2, Chapter 18: Climate of the Aspen Offshore Wind Farm Offshore EIA Report, are summarised below.

CCRA

7.9.2 The CCRA will follow the approach set out in IEMA (2020), Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation. It will evaluate the potential impacts of projected future climate conditions on the Proposed Development across its construction, O&M and decommissioning phases, considering direct impacts (e.g. damage to infrastructure), as well as associated impacts such as time loss, functional disruption and required maintenance/repairs.

7.9.3 The significance of effects will be determined through a two-stage process involving (a) assessment of the magnitude of potential impacts and (b) assessment of the sensitivity of the receptor:

- Magnitude will be derived from the probability of the impact occurring within the lifetime of the Proposed Development and the consequence of the impact (geographic extent, number of receptors affected, complexity, degree of harm, duration, frequency and reversibility). Each receptor will be assigned a score of 1–5 for probability and consequence, multiplied and normalised to a magnitude score (1–100), then translated to a descriptor: <16 negligible, 16–35 low, 36–63 medium, >63 high. Magnitude will further be classed as adverse or beneficial;
- Sensitivity will be derived from the susceptibility, vulnerability and importance of the receptor (each scored 1–3, multiplied and normalised to a sensitivity score (1–100): <10 negligible, 10–28 low, 29–65 medium, >65 high); and
- Effect significance will be assigned by combining magnitude and sensitivity using a matrix consistent with that adopted for the Proposed Offshore Development. A level of effect of moderate or greater will be considered 'significant' for the purpose of EIA; minor or less will be considered 'not significant'.

7.9.4 The CCRA will use UKCP18 land projections under RCP8.5 (10th, 50th and 90th percentiles), with reference periods aligned to the construction (2030s; 2020–2039), O&M (2030s, 2050s and 2070s) and decommissioning (2070s) phases. Where UKCP18 data is unavailable for a specific climate variable, supplementary information will be drawn from peer-reviewed literature, IPCC AR6, Met Office LACS reports for Aberdeenshire, and Adaptation Scotland resources.

ICCI

7.9.5 The ICCI assessment will follow IEMA (2020) guidance and will consider whether projected future climate conditions are expected to change the significance of environmental effects identified elsewhere in the EIA Report (e.g. ecology, hydrology, landscape, traffic and transport). Topic leads for each technical chapter will be requested to consider whether climate change could:

- Increase the magnitude or significance of effects identified in their chapter under existing baseline conditions; and/or
- Result in completely new effects arising during construction, O&M or decommissioning under future climate conditions.

7.9.6 UKCP18 projections on future baseline conditions, as presented in **Section 7.6**, will inform judgement on whether the significance of identified effects would be greater or lesser when compared with existing baseline conditions. The ICCI findings from each technical chapter will be summarised in the Climate chapter of the EIA Report.

GHG Assessment

7.9.7 The GHG assessment will follow ISEP (2026) Assessing Greenhouse Gas Emissions and Evaluating Their Significance with Supplementary Guidance, applying the principles of PAS 2080:2023 Carbon Management in Buildings and Infrastructure. The assessment will:

- Quantify lifecycle GHG emissions (in tonnes of carbon dioxide equivalent, tCO2e) across the construction (raw materials, manufacturing, transport and installation), O&M (operational electrical losses, vehicle and plant fuel use, periodic replacement of components) and decommissioning (removal, transport and end-of-life material handling) phases of the Proposed Development. In line with the guidance, this will be done in a proportionate fashion to the design level available at the PPiP stage of the project;
- Use IPCC AR5 GWP100 factors (consistent with current UK Government carbon reporting), the latest DESNZ UK Government GHG Conversion Factors for Company Reporting, and the Ecoinvent database for embodied emissions. AR6 GWP factors will be referenced for sensitivity testing;

- Apply a precautionary worst-case design scenario (Rochdale Envelope), assuming maximum design parameters set out in **Chapter 2: Description of the Proposed Development**, including three circuit 220 kV HVAC Onshore Transmission Cables, two circuit 400 kV HVAC Onshore Transmission Cables, the maximum Substation footprint (300 m × 350 m, with platform area inclusive of landscaping and SuDS up to 360 m × 410 m), and conservative assumptions on material recycled content;
- Contextualise emissions against the relevant UK Carbon Budgets (CB4–CB7) and Scottish Carbon Budgets (1st–4th, 2026–2045) to evaluate the significance of contributions to national pathways. Significance will be evaluated in line with ISEP (2026), recognising that a project that meaningfully supports a Net Zero trajectory may have a minor or even beneficial effect; and
- Consider, where reasonably possible, the contribution of the Proposed Development to enabling the wider Project's climate benefits (i.e. providing the transmission infrastructure necessary to deliver low-carbon electricity to associated O&G assets and to the GB transmission network), in line with NPF4 Policy 11 (Energy).

7.9.8 The GHG assessment will not include separate, project-level cumulative GHG effects, on the basis that climate change is a global phenomenon and individual project emissions are appropriately contextualised against national carbon budgets which already aggregate the contributions of all developments. This approach is consistent with that adopted for the Proposed Offshore Development.

7.10 Potential Cumulative Effects

Potential Intra-Project Cumulative Effects

7.10.1 Intra-related effects on climate-related receptors will be considered as part of the ICCI assessment.

Potential Inter-Project Cumulative Effects

7.10.2 Cumulative effects with the Proposed Offshore Development will be considered, together with cumulative effects with other developments, where relevant.

7.10.3 The inter-project cumulative effects assessment will follow the approach set out within **Chapter 4: Approach to Scoping and EIA**.

7.10.4 Cumulative effects between the Proposed Development and the Proposed Offshore Development with respect to climate will be considered in the EIA Report. Areas of cumulative consideration include:

- Cumulative health and safety risks to workers across overlapping construction periods, particularly in the Landfall area where onshore and offshore works may interface, and at any shared port or laydown facilities;
- Cumulative climate resilience of the integrated cable system from the Aspen Array Area to the Grid Connection Point, including the Offshore Transmission Cables seaward and landward of MLWS, the transition joint bays and the Onshore Transmission Cables;
- Cumulative GHG emissions across the lifecycle of the whole Project, including offshore generation infrastructure, offshore and onshore transmission infrastructure, and the Substation, evaluated against UK and Scottish carbon budgets and the carbon 'pay-back period' of the Proposed Development (i.e. how long into the lifetime of the Proposed Development before the carbon emissions associated with its construction are counter-acted by the lower carbon emissions of the electricity it generates and supplies, predominantly displacing OCGT-based generation on associated O&G platforms with a carbon intensity of

approximately 500 gCO_2e/kWh and providing electricity to the GB grid at an average carbon intensity of approximately 78 gCO_2e/kWh); and
- Cumulative ICCI on shared receptors (e.g. coastal processes, intertidal ecology) at the Landfall and intertidal interface, drawing on the corresponding offshore EIA Report chapters.

7.10.5 Where the Climate chapter of the Offshore EIA Report has assessed the offshore Project elements (including the GHG emissions of offshore generation and offshore transmission infrastructure), this assessment will be cross-referenced and the onshore Climate assessment in the EIA Report will avoid duplication. The combined whole-Project GHG emissions and pay-back period will be reported in the EIA Report to provide the cumulative context required by NPF4 Policy 2 and ISEP (2026).

7.10.6 Cumulative effects with other developments will be considered in line with **Chapter 4: Approach to Scoping and EIA**, with the cumulative project list informed by consultation with Aberdeenshire Council, SEPA, NatureScot and other consultees.

7.10.7 As set out in **Section 7.9.3**, cumulative project-level GHG emissions are not separately assessed; rather, the contribution of the Proposed Development to UK and Scottish carbon budgets is reported, which inherently accounts for cumulative emissions at the national level.

7.10.8 Cumulative ICCI between the Proposed Development and other identified developments will be addressed within the relevant technical EIA Report chapters.

7.11 Limitations and Assumptions

7.11.1 The principal limitations and assumptions of the proposed Climate assessment are anticipated to be as follows:

- UKCP18 climate projections rely on assumptions about future GHG emissions, are conditional on the chosen RCP and percentile, and do not encompass all possible future climate scenarios. The Met Office advises that UKCP18 results offer greater reliability for long-term averages than for extreme events or short-term variations, therefore seasonal averages will be used in the CCRA where appropriate, with extreme indices used only where supported by the underlying datasets;
- The CCRA will adopt RCP8.5 (a high emissions, conservative pathway) consistent with IEMA (2020) guidance and the approach used for the Proposed Offshore Development. As scientific understanding and modelling improve, projections may change; the EIA Report Climate chapter will use the most up-to-date UKCP datasets available at the time of writing;
- Where UKCP18 does not provide projections for a specific variable (e.g. lightning strike frequency, ground temperature, soil moisture) supplementary peer-reviewed literature, IPCC AR6, and Met Office LACS reports for Aberdeenshire will be used. These supplementary sources may use different baselines and time horizons, which will be made transparent in the EIA Report;
- The GHG assessment will be based on the reasonable worst-case design envelope utilised for the PPiP assessment set out in **Chapter 2: Description of the Proposed Development**.
- Operational electrical losses on the Onshore Transmission Cables and the Substation will be estimated based on indicative cable specifications and the design envelope; these may evolve as the design is refined;
- Decommissioning effects will be assessed on a reasonable worst-case basis, assumed to be no greater than those in the construction phase as set out in **Chapter 2: Description of the Proposed Development**, recognising the inherent uncertainty as to the nature and timing of decommissioning or repowering;

- The GHG assessment will use IPCC AR5 GWP100 factors to maintain consistency with current UK Government carbon reporting; AR6 GWP factors will be applied as a sensitivity check; and
- ICCI assessment will rely on the outputs of other technical chapters; any limitations or assumptions associated with those chapters will be inherited by the ICCI assessment and made transparent in the EIA Report.

7.12 Summary of Proposed Scope

7.12.1 In summary, it is proposed that the Climate chapter of the EIA Report will comprise:

- A CCRA of the Proposed Development against UKCP18 RCP8.5 land projections (10th, 50th and 90th percentiles) for the construction (2030s), O&M (2030s, 2050s and 2070s) and decommissioning (2070s) phases, in line with IEMA (2020), assessing potential effects on workers, the Substation, the Onshore Transmission Cables (three circuit 220 kV HVAC and two circuit 400 kV HVAC), Transition Joint Bays, the Offshore Transmission Cables landward of MLWS, and temporary construction features, with embedded mitigation accounted for;
- An ICCI assessment, informed by the technical chapters of the EIA Report, addressing whether climate change could alter the significance of effects identified in those chapters and identifying any new climate-related effects;
- A quantitative GHG assessment, proportionate to the stage of design and in line with ISEP (2026) and PAS 2080:2023, using IPCC AR5 GWP100 factors, ecoinvent and DESNZ conversion factors, evaluating significance against the relevant UK Carbon Budgets (CB4–CB7) and Scottish Carbon Budgets (1st–4th, 2026–2045) and contextualising the Proposed Development's emissions against the wider Project's climate benefits and carbon 'pay-back period';
- Inter-related effects within the Proposed Development across project phases and across technical topics, in line with **Chapter 4: Approach to Scoping and EIA**;
- Cumulative consideration with the Proposed Offshore Development (assessed in the Volume 2, Chapter 18: Climate of the Offshore EIA Report for Aspen), including a whole-Project view of GHG emissions and pay-back period, and cumulative resilience considerations along the integrated cable route from the Aspen Array Area to the Grid Connection Point; and
- Identification of any further mitigation measures, beyond the embedded mitigation set out in **Section 7.7**, required to ensure that residual climate-related effects are not significant in EIA terms, and any monitoring required to support those measures.

7.12.2 The proposed scope set out above is considered to provide a robust, IEMA-compliant and policy-aligned basis for the Climate assessment of the Proposed Development. Confirmation of this proposed scope, together with any additional issues raised through the formal Scoping Opinion, will inform the Climate chapter of the EIA Report.

8. TERRESTRIAL ECOLOGY

8.1 Introduction

8.1.1 The following chapter of the Scoping Report sets out the proposed scope of assessment of likely significant effects as a result of the construction, maintenance, operation and decommissioning of the Proposed Development in relation to Terrestrial Ecology. This chapter considers protected and priority species and habitats, excluding birds and ornithological designations (Refer to **Chapter 9: Terrestrial Ornithology**).

8.1.2 The chapter (and its associated figures and appendices) should be read in conjunction with the description of the Proposed Development presented in **Chapter 3: The Proposed Development** and with respect to relevant parts of other technical chapters, such as **Chapter 9: Terrestrial Ornithology**.

8.2 Legislation, Policy and Guidance

8.2.1 Overarching legislation and policy used to inform the proposed scope of the Terrestrial Ecology assessment is set out in **Chapter 2: Legislative and Policy Context**. This has been further developed with specific reference to the standard guidance and professional best practice as referenced throughout the document.

8.3 Consultation

8.3.1 The consultation process for the proposed assessment is set out in **Chapter 5: Consultation Process.** The following sets out the consultation undertaken to date in relation to Terrestrial Ecology and that which is proposed in advance of the EIA.

Summary of Consultation Undertaken to Date

8.3.2 To date, limited consultation with Aberdeenshire Council has been undertaken in relation to Biodiversity Net Gain (BNG), primarily to seek early clarification on the appropriateness of available biodiversity metrics and the Council's expectations regarding biodiversity gain. This consultation was undertaken prior to confirmation that the application would be submitted as a Planning Permission in Principle (PPiP) and was therefore framed generically with reference to a future planning application rather than a PPiP submission.

8.3.3 In response, the Natural Environment Team advised that the use of the most up to date statutory Defra Biodiversity Metric would be appropriate, noting that Scottish planning policy does not specify a mandatory biodiversity net gain percentage requirement, but that proposals should demonstrate positive effects for biodiversity where possible.

8.3.4 Given that this advice was provided on the assumption of a later, more detailed consent stage, and prior to confirmation that the application would be submitted as a PPiP, it is acknowledged that the scope and nature of biodiversity assessment considered appropriate at this stage may differ from that envisaged at the time of consultation. The approach to Biodiversity Net Gain adopted for the PPiP application, as set out within this Scoping Report, has therefore been defined to be proportionate to the current level of design maturity and consistent with the principles of Scottish planning policy and the mitigation hierarchy.

Future Consultation

8.3.5 The consultation with Aberdeenshire Council regarding BNG requirements was prior to the knowledge that the application would be a PPiP application, and therefore further consultation will be undertaken to confirm/agree if there will be BNG requirements going forwards.

8.3.6 NatureScot will be consulted for their views on the potential for impact on statutory designated sites[1] and the proposed survey scope and timings. This will be agreed upon following the Scoping Opinion to ensure baseline surveys are comprehensive and robust. An agreed scope for protected species survey will also be sought, particularly in regard to survey timings and alignment with the wider planning process.

8.3.7 Following the detailed desktop study and Scoping Survey, it will be determined whether there is a requirement for consultation with local interest groups to ensure all relevant and up to date species records and specialist expertise are used to inform surveys and assessment.

8.4 Study Area

8.4.1 For the purposes of scoping and the EIA Report, the Study Area comprises land within the Scoping Boundary within which the Proposed Development will fall, and extending to up to 20 km (dependent on the receptor and their sensitivity) from the Scoping Boundary to ensure all potential effects from the Proposed Development can be captured. The Study Area is thus defined as the Scoping Boundary plus the Zone of Influence (ZoI) of the Proposed Development. The ZoI is the area over which ecological features may be affected by the biophysical changes caused by the proposed development and its associated activities. **Figure 8.1** presents the Study Area and Scoping Boundary.

[1] Statutory designated sites are those legally protected areas recognized for their national or international importance for wildlife, habitats, or geological features. In the UK, in relation to Terrestrial Ecology, they include Special Areas of Conservation (SAC), Ramsar sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), National Parks and Local Nature Reserves (LNR).

Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Ecology Study Area (Statutory Designated Sites: National and Local, Non-statutory Designated Sites and Protected and Noteworthy Species) (2 km Buffer from Scoping Boundary)
- Ecology Study Area (Statutory Designated Sites: International) (20 km Buffer from Scoping Boundary)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point

Figure Title
Ecology Study Areas

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	8.1	1.0

Prepared By	Scale
CW	1:200,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

2 km

20 km

0 5 10 km

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Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

8.4.2 **Chapter 3**: **The Proposed Development** of the EIA Scoping Report sets out the Proposed Development parameters, through the application of a design envelope (Rochdale Envelope) approach. The Scoping Boundary extends from proposed landfall to the north of Newtonhill, south-west along the length of the Onshore Transmission Cable Corridor to two options for the Substation (Substation Site Option Site A and Substation Site Option B) and through to the Grid Connection Point at the proposed SSEN Transmission Hurlie 400 kV Substation to the west of Stonehaven.

Desk study

8.4.3 For the purposes of the desk study, the Study Area variously comprised the following:

Table 8.1: Desk study areas

Receptor	Search radius (from Scoping Boundary)
Statutory designated sites: International (SAC and Ramsar)	Up to 20 km to ensure all potential exported effects on e.g. air and water quality and functionally linked land can be fully captured.
Statutory designated sites: National (SSSI, NNR and National Parks)	2 km
Statutory designated sites: Local (LNR)	2 km
Non-statutory designated sites (LNCS, SWT reserves and sites)	2 km
Protected and noteworthy species (incl. Scottish Biodiversity List species)	2 km (extended to 10 km for bats and birds to reflect the wider landscape scale at which these mobile species operate)
Habitats (incl. Scottish Biodiversity List, Priority Habitats, Local Biodiversity Action Plan (LBAP) habitats, Ancient Woodland Inventory (AWI))	2 km

Surveys

8.4.4 A Preliminary Ecological Appraisal (PEA) to comprise a UK Habitat Classification (UKHab), Habitat Condition Assessment (HCA) survey and Protected Species Scoping Survey will be undertaken across the Scoping Boundary in April/May 2026. The Scoping Survey will identify suitable habitats and record any evidence of use by protected and notable species, where possible. Proposed methodology and timings are set out in **Table 8.8**.

8.4.5 The Scoping Survey conclusions and desktop study will inform the requirement for further, targeted species and habitat survey. Preliminary analyses of the data search results and scope for effects from the Proposed Development suggest that targeted bat *Chiroptera* and badger *Meles meles* surveys will be required, and other species surveys currently considered most likely to be required on the basis of data search results and known development parameters (Refer to **Chapter 3**) are presented below. However, as set out in **Section 8.3.4**, consultation with NatureScot and Aberdeenshire Council will be sought on the full scope of surveys in advance of the EIA Report. Further surveys required to inform the EIA Report for the PPiP application would be undertaken at the appropriate time of year between May and July 2026 and/or in subsequent years as required to inform detailed application as design plans evolve.

Table 8.2: Study areas for terrestrial ecology field survey

Survey	Study Area
PEA: UKHab and Habitat Condition Assessment (HCA)	The UK Habitat Classification (UKHab) survey Habitat Condition Assessment (HCA)[2] will be undertaken within the Scoping Boundary and an appropriate buffer (500 m).
PEA: Protected Species Scoping Survey	The Scoping Survey will cover the Scoping Boundary and an appropriate buffer (up to 500 m).
Badger	Survey to cover Scoping Boundary with an appropriate buffer (100m) in line with NatureScot Standing advice for planning consultations –Badgers (2024)[3]. This will be undertaken concurrently with the Scoping Survey.
Bats (roosting)	Bat surveys will be undertaken in line with Collins (2023)[4] and NatureScot Standing Advice for planning consultations – Bats (2024)[5]. Buildings, structures and trees within the Scoping Boundary will be assessed for their suitability to support roosting bats, with particular focus on those likely to require demolition or felling, or that may be subject to significant disturbance. If deemed necessary, structures and trees outside the Scoping Boundary will also be assessed if there is scope for indirect disturbance effects to bat roosts. Further surveys (emergence surveys and aerial inspections) will be undertaken within the same area where required.
Bats (foraging and commuting)	Surveys will focus on the construction footprint and points where the cable route crosses linear features such as hedgerows, treelines, watercourses, or where these and other habitats of high quality (such as woodland edge) may be affected by artificial lighting within or adjacent to the Scoping Boundary.
Otter *Lutra lutra*	Where suitable habitat and/or evidence of presence is found during the Scoping Survey, targeted otter surveys of suitable habitat (riverine and coastal habitat, waterbodies, woodland) will be undertaken to search for natal dens, holts and other lying-up sites within 250 m of works.
Pine marten *Martes martes*	The Scoping Survey will be used to identify whether suitable habitat is present within the Scoping Boundary and a buffer of up to 250 m. If required, targeted pine marten surveys will be undertaken in accordance with NatureScot Standing Advice for Planning Consultations – Pine Marten (2024)[6] in areas of suitable habitat with potential to be directly or indirectly affected by the Proposed Development.

[2] UK Habitat Classification (2023). Available at: https://www.ukhab.org/
[3] https://www.nature.scot/doc/standing-advice-planning-consultations-badgers
[4] Collins, J. (ed) (2023) Bat surveys for professional ecologists: Good practice guidelines (4th edition). The Bat Conservation Trust, London. Available at: https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition
[5] https://www.nature.scot/doc/standing-advice-planning-consultations-bats
[6] https://www.nature.scot/doc/standing-advice-planning-consultations-pine-martens

Survey	Study Area
Red squirrel *Sciurus vulgaris*	The Scoping Survey will be used to identify suitable habitat within the Scoping Boundary and a minimum buffer of 50 m. Should subsequent walkover survey be required to identify presence of dreys, areas of highest suitability within the Scoping Boundary will be targeted.
Reptiles	The Scoping Survey will identify areas of habitat with suitability to support populations of reptiles within the Scoping Boundary. Should further survey be required (using artificial refugia), these would be confined to suitable habitat within the Scoping Boundary, and will be confined to those areas of moderate to high suitability for reptiles only.
Water vole *Arvicola amphibius*	The Scoping Survey will be used to identify whether any of the watercourses, including ditches and drains, within the Scoping Boundary are suitable for water vole. Should further survey be required, these would be undertaken within 200 m upstream and downstream of works.
Wildcat *Felis silvestris*	The Scoping Survey will be used to identify suitable habitat within the Scoping Boundary and a minimum buffer of 50 m. A walk-over survey of most suitable areas will be undertaken to establish if there are potential dens sites present on the site or nearby

8.5 Data Sources

8.5.1 A detailed desk-based data-gathering exercise will be undertaken to obtain existing information relating to relevant ecological receptors, including statutory and non-statutory designated sites, habitats and Species of Principal Importance, legally protected and controlled species and other noteworthy species within the study area and its ZoI. The ZoI is the area over which ecological features may be affected by the biophysical changes caused by the proposed development and its associated activities.

8.5.2 Baseline data on the nature conservation interest of the Site and its ZoI will be sought from a range of sources including (but not limited to):

- NatureScot SiteLink[7]– details of relevant statutory sites and qualifying features.
- North East Scotland Biological Records Centre - records of protected and otherwise noteworthy habitats and species.
- Joint Nature Conservation Committee (JNCC) website[8].
- Multi Agency Geographic Information for the Countryside (MAGIC) website[9].
- National Biodiversity Network (NBN) Atlas[10] (where permissible under licence conditions). and,
- Relevant Geographic Information System databases (Scottish Wildlife Trust (SWT) Reserves and woodland recorded on the Ancient Woodland Inventory (AWI)), the local District Salmon Fisheries Board, Scottish Squirrel Survey website and local natural history groups.
- Aerial imagery available from Google™ Earth.

8.5.3 Relevant information will be gathered on both statutory and non-statutory nature conservation sites. Statutory sites include those designated at an international level, including Special Protection Areas (SPA), Special Areas for Conservation (SAC) and Ramsar sites. Those at a national level include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and National Parks. At the local level, statutory designated sites include Local Nature Reserves (LNR). Non-statutory designated sites will include Local Nature Conservation Sites (LNCS), Scottish Wildlife Trust (SWT) Reserves, and SWT Wildlife Sites. Other relevant information will include woodland listed on the AWI, protected species records and habitats/species listed on the Scottish Biodiversity List (SBL).

8.5.4 The Terrestrial Ecology assessment will also consider ecological features outside the identified Study Area, where there is potential ecological connectivity of relevance to the constraints within the Site.

8.6 Baseline Environment

Existing Baseline Conditions

8.6.1 *Desk Study*

8.6.2 The Study Area is bound to the north by the town of Portlethen, arable fields and grasslands and moorland, to the east by the eastern coastline of Scotland and the North Sea, to the south by the town of Stonehaven, arable fields and woodland, and the west by Fetteresso Forest.

8.6.3 The Scoping Boundary comprises a mix of arable farmland, grassland, gorse scrub, and coniferous and deciduous woodland, including areas listed on the AWI. The area is traversed by hedgerows, treelines and small watercourses / burns.

8.6.4 **Figure 8.1** presents the Study Area and Scoping Boundary.

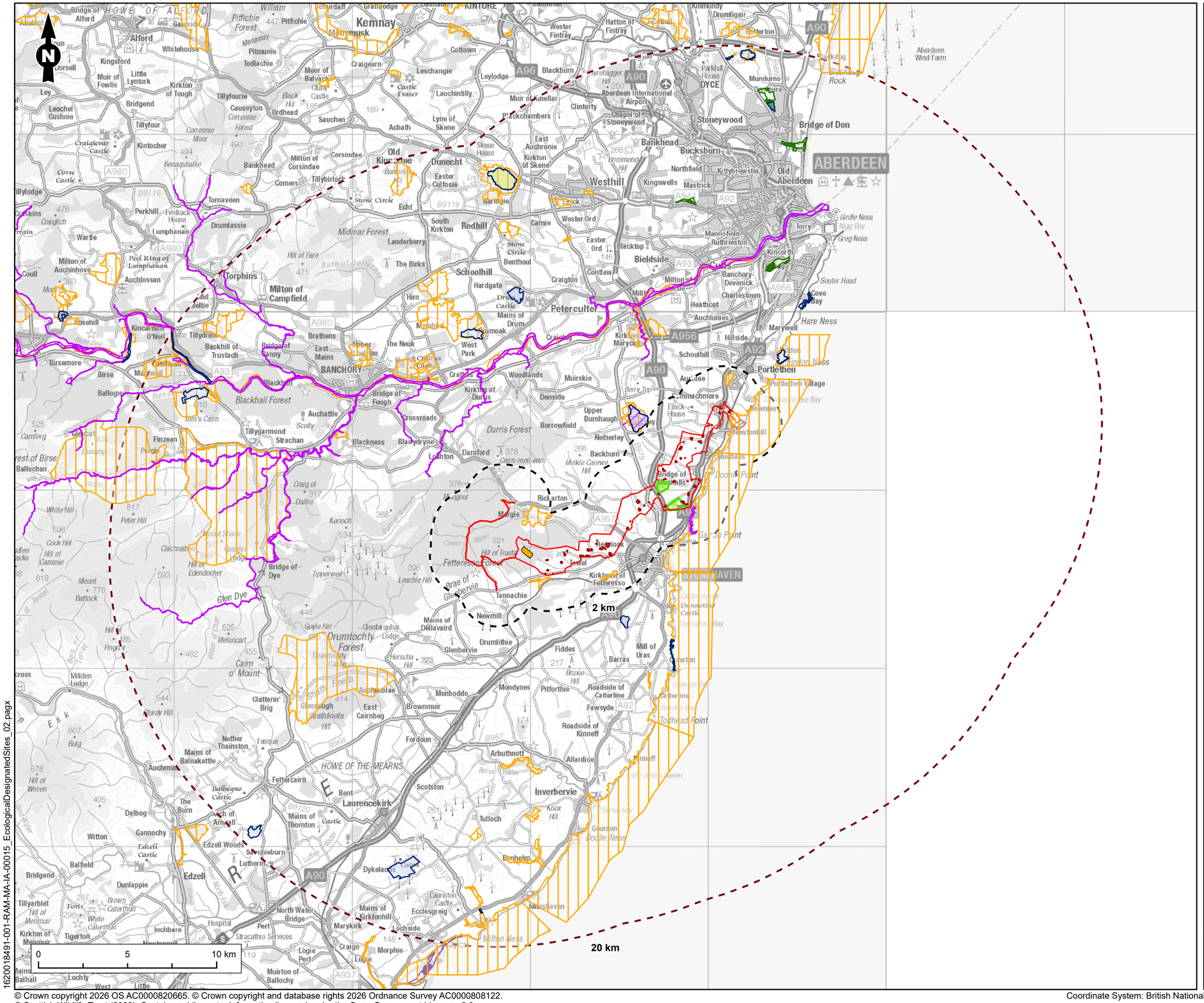
[7] https://sitelink.nature.scot/map
[8] https://jncc.gov.uk/
[9] https://magic.defra.gov.uk/
[10] NBN Atlas - UK's largest collection of biodiversity information

Statutory sites

8.6.5 There are six internationally designated sites within 20 km of the Scoping Boundary, the closest being Garron Point SAC which is located 1.37 km to the east. Within 2 km of the Scoping Boundary lies Red Moss of Netherly SAC which is located to the west.

8.6.6 There are two SSSI within 2 km of the Scoping Boundary, the closest of which is Garron Point SSSI which lies 1.37 km to the east. There are no NNR or National Parks within 2 km of the Scoping Boundary.

8.6.7 Details of the statutory designated sites within the search radii are presented in **Table 8.3** below and on **Figure 8.2**.



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Ecology Study Area (Statutory Designated Sites: National and Local, Non-statutory Designated Sites and Protected and Noteworthy Species) (2 km Buffer from Scoping Boundary)
- Ecology Study Area (Statutory Designated Sites: International) (20 km Buffer from Scoping Boundary)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point

Designated Sites

- Site of Special Scientific Interest (Biological) (SSSI)
- Special Area of Conservation (SAC)
- Local Nature Conservation Site
- Scottish Wildlife Trust Reserve
- Local Nature Reserve
- National Nature Reserve
- Ramsar

Figure Title
Ecology Designated Sites

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	8.2	1.0

Prepared By	Scale
CW	1:200,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

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Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Table 8.3: Statutory designated sites within Study Area

Name	Distance from Scoping Boundary	Reason for Designation
Garron Point SAC	**1.37 km S & E**	*Annex II species (primary reason for selection):* 1014 Narrow-mouthed whorl snail *Vertigo angustior*
Red Moss of Netherly SAC	**1.97 km NW**	*Annex I habitats (primary reason for selection):* 7110 Active raised bogs * Priority feature *Annex I habitats (present as a qualifying feature, but not a primary reason for selection):* 7120 Degraded raised bogs still capable of natural regeneration.
River Dee SAC	**4.61 km N**	*Annex II species (primary reason for selection):* 1029 Freshwater pearl mussel *Margaritifera margaritifera* 1106 Atlantic salmon *Salmo salar* 1355 Otter
Garron Point SSSI	**1.37 km S & E**	*Biological:* Coastlands - Maritime cliff Invertebrates - Narrow-mouthed whorl snail *Vertigo angustior* Butterflies: Northern brown argus butterfly *Aricia artaxerxes* *Geological*[11]*:* Dalradian structural and metamorphic geology Ordovician Igneous igneous petrology Non-marine Devonian stratigraphy Silurian-Devonian Chordata palaeontology
Red Moss of Netherley SSSI	**1.97 km NW**	*Biological:* Raised bog.

8.6.8 The above statutory sites will be fully considered within the EIA Report in respect of the potential for effects from the Proposed Development and, where required, to set out appropriate avoidance, and mitigation measures in line with the mitigation hierarchy. For international sites, this will be informed by a Shadow Habitats Regulations Assessment (sHRA) which is to be submitted alongside the EIA Report.

Non-statutory sites

8.6.9 Seven LNCS are located within 2 km of the Scoping Boundary based on information from North East Scotland Biological Records Centre (NESBReC). These are listed in **Table 8.4** and illustrated on **Figure 8.2**. No further designated sites are present within 2 km of the Scoping Boundary.

[11] Geological interest features fall outside the scope of the Terrestrial Ecology assessment and are not covered here.

Table 8.4: Non-statutory designated sites within Study Area

Name	Distance (from Scoping Boundary)	Reason for Designation
Elfhill	**95 m S**	This small site forms a fairly steep-sided river valley, with semi natural broadleaved woodland, gorse scrub and acid grassland. Good diversity of plant species and particularly important for the native bluebell *Hyacinthoides non-scripta*
Fetteresso	**830 m S**	This site contains broadleaved woodland on the slopes of the railway line, down to the Carron Water. Neutral grassland and gorse scrub are also present. The site has a good woodland flora including the locally uncommon wood stitchwort *Stellaria nemorum*.
Mergie	**700 m N of main Scoping Boundary and 740 m S of the on-road section of the scoping area – eastern extent.**	Neutral and acid grassland, broadleaved and coniferous woodland, wet heath, scrub, bracken, bog, pond, rivers and rush pasture alongside the Cowie Water. Locally important species such as lesser twayblade *Neottia cordata* and bog myrtle *Myrica gale*.
Muchalls to Stonehaven Bay	**c. 95 m E at closest point.**	Coastal site comprising rocky cliffs and shore with a rich coastal flora. Species associated with base-rich soils are present. Key site for invertebrates of base rich habitats. Rare whorl snail at Garron Point. Outcrop of Highland Boundary Fault. (Includes Garron Point SSSI see **Table 8.3**.)
Portlethen Moss	**930 m N**	Lowland raised bog which is remnant of much larger area with rush pasture, gorse scrub and planted woodland. Good diversity of heathland and wetland species
Portlethen to Muchalls Coast	**Partly within Scoping Boundary, to east of Landfall Search Area.**	This coastal site is made up of cliffs, coastal grassland, heathland and gorse scrub. These habitats support a good diversity of coastal and heathland plant species and the cliffs are important for nesting birds.
Red Moss Netherley	**1.9 km NW**	A relatively large area of lowland raised bog with associated habitats of fen, rush pasture, wet woodland and birch woodland. The site supports a rich diversity of plant species including coralroot orchid lesser twayblade *Neottia cordata*.

8.6.10 The above non-statutory sites will be fully considered within the EIA Report in respect of the potential for effects from the Proposed Development and, where required, to set out appropriate avoidance, and mitigation measures in line with the mitigation hierarchy.

Habitats

8.6.11 A number of habitats were returned in the NESBReC data search from within 2 km of the Scoping Boundary. These include habitats listed on the Integrated Habitat System Survey (2005-2024) (IHS) and other datasets. The IHS represents an integration of existing classifications in use in the UK including Biodiversity Broad Habitat Types, Biodiversity Priority Habitat Types (including those on the Scottish Biodiversity List which is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland), Annex 1

of the Habitats Directive and Phase 1 habitats. IHS definitions are presented in Somerset Environmental Records Centre (2007)[12].

8.6.12 The relevance of these records to the Proposed Development will be evaluated further in the EIA Report. Data have also been gathered on National Forest Inventory and Native Woodland Survey of Scotland habitats within 2 km. These will also be drawn upon, where relevant, within the EIA Report. Habitats within the Scoping Boundary and buffer will be assessed and categorised during the UKHab and HCA survey to identify important and priority habitats.

Species

8.6.13 The following species of interest, legally protected[13], Annex II species, and species listed on the Scottish Biodiversity List have been recorded within the last 10 years within 2 km (extended to 10 km for bats) of the Scoping Boundary as evidenced by the results of the NESBReC data search and other sources. A number of LBAP species and other species of note (e.g. those of local importance within NE Scotland) were also recorded on or within 2 km of the Scoping Boundary.

8.6.14 **Table 8.5** also includes those invasive non-native species (INNS) recorded as present within 2 km of the Scoping Boundary. Bird records (within 10 km of the Scoping Boundary) are presented within **Chapter 9: Terrestrial Ornithology** and are not included here.

8.6.15 The relevance of these records to the Proposed Development will be evaluated further in the EIA Report.

Table 8.5: Protected and otherwise notable species records within Study Area since 2015[14]

Taxon group	Species	Location	Status
Terrestrial Mammal	**Badger**	Within Scoping Boundary	**PBA, WCA**
Terrestrial Mammal	**Bat**	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Brown hare *Lepus europaeus***	Within Scoping Boundary	**SBL**
Terrestrial Mammal	**Brown long-eared bat *Plecotus auritus***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Common pipistrelle *Pipistrellus pipistrellus***	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Daubenton's bat *Myotis daubentonii***	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Hedgehog *Erinaceus europaeus***	Within 2km Study Area	**SBL**

[12] Somerset Environmental Records Centre (2007). IHS Definitions. Available at: https://www.somerc.com/wp-content/uploads/2019/01/IHS-Definitions.pdf

[13](The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)– 1994 Habitat Regulations; Wildlife and Countryside Act 1981 (as amended) – WCA, Protection of Badgers Act 1992),

[14] Unless otherwise stated.

Terrestrial Mammal	**Otter**	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Leisler's bat *Nyctalus leisleri***	Within 10km Study Area	**1994 Habitat Regulations, WCA**
Terrestrial Mammal	**Long-eared bat sp. *Plecotus***	Within 10km Study Area	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	***Myotis* bat sp.**	Within 10km Study Area	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Nathusius' pipistrelle *Pipistrellus nathusii***	Within 10km Study Area	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Natterer's bat *Myotis nattereri***	Within 10km Study Area	**1994 Habitat Regulations, WCA**
Terrestrial Mammal	**Nyctalus bat sp.**	Within 10km Study Area	**1994 Habitat Regulations, WCA**
Terrestrial Mammal	**Parti-coloured bat *Vespertilio murinus***	Within 2km Study Area	**1994 Habitat Regulations, WCA**
Terrestrial Mammal	**Pine marten**	Within Scoping Boundary	**WCA**
Terrestrial Mammal	**Pipistrelle sp. *Pipistrellus***	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Red squirrel**	Within Scoping Boundary	**WCA, SBL**
Terrestrial Mammal	**Soprano pipistrelle *Pipistrellus pygmaeus***	Within Scoping Boundary	**1994 Habitat Regulations, WCA, SBL**
Terrestrial Mammal	**Water shrew *Neomys fodiens***	Within 2km Study Area	**LBAP**
Terrestrial Mammal	**Water vole**	Within Scoping Boundary (2005 and 2007 only)	**WCA**
Terrestrial Mammal	**Wildcat**	Within Scoping Boundary (2009 and 2013 only)	**1994 Habitat Regulations, WCA**
Marine Mammal	**Bottle-nosed dolphin *Tursiops truncatus***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**
Marine Mammal	**Common porpoise *Phocoena phocoena***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**

Marine Mammal	**Harbour seal *Phoca vitulina***	Within 2km Study Area	**Marine (Scotland) Act 2010, SBL**
Marine Mammal	**Humpback whale *Megaptera novaeangliae***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**
Marine Mammal	**Killer whale *Orcinus orca***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**
Marine Mammal	**Long-finned pilot whale *Globicephala melas***	Within 2km Study Area	**1994 Habitat Regulations, WCA, SBL**
Amphibian	**Common toad *Bufo bufo***	Within 2km Study Area	**SBL**
Reptile	**Adder *Vipera berus***	Within 2km Study Area	**WCA, SBL**
Reptile	**Common lizard *Zootoca vivipara***	Within Scoping Boundary	**WCA**
Reptile	**Slow-worm *Anguis fragilis***	Within 2km Study Area	**WCA**
Insect - butterfly	**Grayling *Hipparchia semele***	Within 2km Study Area	**SBL.**
Insect - butterfly	**Northern brown argus *Aricia artaxerxes***	Within Scoping Boundary	**SBL**
Insect - butterfly	**Small pearl bordered fritillary *Boloria selene***	Within 2km Study Area	**SBL**
Insect - lacewing	**Bordered brown lacewing *Megalomus hirtus***	Within 2km Study Area	**SBL**
Fungus	**Pink waxcap *Porpolomopsis calyptriformis***	Within 2km Study Area	**WCA**
Invasive non-native plant species	**Giant hogweed *Heracleum mantegazzianum***	Within 2km Study Area (records largely relate to Stonehaven area).	**WCA**
Invasive non-native	**Himalayan balsam *Impatiens glandulifera***	Within 2km Study Area (largely related to the corridor along	**WCA (Sch. 9)**

plant species		Cowie Water, Stonehaven)	
Invasive non-native plant species	**Himalayan knotweed *Persicaria wallichii***	Within 2km Study Area (mostly around Ury Burn / Cowie Water)	**WCA (Sch. 9)**
Invasive non-native plant species	**Japanese knotweed *Fallopia japonica***	Within Scoping Boundary	**WCA (Sch. 9)**
Invasive non-native plant species	**Rhododendron *Rhododendron ponticum***	Within 2km Study Area (majority recorded around Fetteresso).	**WCA (Sch. 9)**

Future Baseline Conditions

8.6.16 The EIA process will consider the future baseline conditions (as far as reasonably practicable) of relevance to the assessment for this topic based on a 35-year operational lifetime. Potential changes include, but are not limited to, changes in land use and management, and climate change.

8.6.17 In the longer term, climate change is likely to be the single most prevalent factor when attempting to predict the future baseline of an ecosystem or species community. It will affect terrestrial ecology in various ways including changes in species distribution and abundance, the timing of seasonal events and habitat use and changes to the composition of plant and animal communities. The distributions of many species are shifting northwards in response to the changing climate, while some species are seen to be utilising habitats at a higher altitude than known previously.

8.6.18 In the short to medium term, and within the envisaged 35-year operational lifetime of the Proposed Development, changes in land management and land use are key drivers of the future baseline. It is assumed that in the absence of development, land use and management within the Scoping Boundary would continue largely as it is currently with a mix of agricultural farming practises, and woodland, hedgerow and scrub management, and that successional changes of more open habitats to scrub and eventually woodland are unlikely on any significant scale.

8.7 Embedded Mitigation

8.7.1 The Proposed Development will undergo design iterations and evolution in response to constraints identified by further surveys and through consultation to avoid and/or minimise potential effects on receptors where possible. The design of the Proposed Development will aim to minimise loss, modification or damage to SBL habitats and important sheltering, breeding and/or foraging sites used by protected species, and the requirement for and feasibility of mitigation measures will be consulted upon with statutory consultees throughout the EIA process. The following embedded mitigation, relevant to Terrestrial Ecology, would be implemented:

8.7.2 The construction phase will be completed in accordance with a Construction Environmental Management Plan (CEMP) which will detail all mitigation measures to be undertaken during

construction. The Proposed Development shall comply with all legal requirements as identified in the CEMP.

8.7.3 The CEMP will also include precautionary measures to protect any wildlife that may be present to avoid the risk of killing or injury, and to ensure compliance with the relevant legislation. Habitat clearance within sensitive areas will be overseen by an Ecological Clerk of Works (ECoW).

8.7.4 Relevant industry guidance includes the various Guidance for Pollution Prevention (GPP)[15] which contain a mix of regulatory requirements and good practice advice. Other sources of best construction practice and environmental management include CIRIA[16] guidance and the various NatureScot guidelines[17]. Mechanisms to avoid pollution will be implemented to ensure all forms of pollution will be prevented / contained within the construction sites including airborne particles, dust and ground/water contamination wherever possible.

8.7.5 Fencing and signage will be installed within construction works areas to demarcate sensitive areas and prevent accidental incursion by works, plant and personnel, with this managed by the ECoW. Construction materials will be appropriately stored in designated areas away from sensitive habitats and root protection zones will be established and clearly demarcated to prevent damage to trees, woodland and hedgerows.

8.7.6 Biosecurity measures will be included within the CEMP to ensure INNS and disease are not introduced as a result of movement of plant, vehicles, personnel and any import of materials. Should baseline surveys find INNS to be present within the Scoping Boundary (as indicated by the data search results), an Invasive Non-Native Species Management Plan will be produced as part of the CEMP to ensure the works do not exacerbate their spread.

8.7.7 Construction lighting at night will be controlled as detailed in the CEMP such that light spill onto retained habitats of value to biodiversity, including woodland, hedgerows, trees, particularly any found to have suitability as, or confirmed to support bat roosts. Mitigation measures will be in-line with those given by the Institution of Lighting Professionals and Bat Conservation Trust and[18] and will include restriction of lighting levels at night to the minimum required for safe working, use of directional lighting, the use of warm tone LED lighting and the locations of temporary site compounds and lay down areas to be used at night away from any areas of sensitive habitat.

8.7.8 For reptiles, as a minimum, precautionary measures will include fingertip searches of suitable terrestrial habitat by an experienced ecologist immediately prior to clearance, followed by a two-phased cut at a time when reptiles are active and able to move to safety of their own accord (March to October weather permitting). Rubble and habitat piles will be dismantled by hand under watching brief.

8.7.9 Where works would otherwise result in an offence under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) or the Protection of Badgers Act 1992, mitigation licences will be required from NatureScot to derogate from the relevant legislation and ensure the long-term favourable conservation status of the species. Any such licence will set out the requirements for mitigation and compensation, working practices and timings of operations in line with accepted guidelines, and any necessary post-development monitoring to ensure the mitigation provided is effective and that remedial measures can be taken to address this if not. This would apply to badgers, bats, otter, and wildcat. Standard measures required as part of the mitigation licences, which would be granted following planning consent, but prior to works commencing, and required

[15] https://www.netregs.org.uk/tools/guidance-for-pollution-prevention-gpp-documents/

[16] https://www.ciria.org/

[17] https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-good-practice-construction

[18] https://theilp.org.uk/resource/gn08-bats-and-artificial-lighting-pdf.html

in order to ensure compliance with the nature conservation legislation would be considered embedded mitigation.

8.7.10 Land associated with the installation of the Onshore Transmission Cables, including temporary construction compounds, will be reinstated to previous land uses. There will be replanting of forestry and vegetation and landscaping (screening) as required, and including biodiversity enhancement measures.

8.7.11 Any standard post-development monitoring of mitigation and compensation measures associated with protected species mitigation licences would be considered embedded within the Proposed Development.

8.8 Potential Impacts of the Proposed Development

8.8.1 Following the implementation of embedded mitigation, a series of potential impacts as a result of the construction, operation and maintenance, and decommissioning of the Proposed Development have been identified in relation to Terrestrial Ecology related receptors.

Construction

8.8.2 As set out in **Chapter 3: The Proposed Development**, the construction phase of the Proposed Development is anticipated to last up to 3 years (excluding commissioning). Construction in relation to the Onshore Transmission Cables would be predominantly transient in nature with works completed sequentially along the span of the Onshore Transmission Cable Corridor and therefore substantially less than the total assumed duration. Works may also run concurrently at more than one location, e.g., at both Landfall and at the Substation. For the purposes of scoping, two potential Substation Site Options are considered.

8.8.3 The potential for the following likely impacts to arise during the construction phase will be considered within the EIA Report (scoped in):

- Negative effects on statutory and non-statutory designated sites presented in **Tables 8.3** and **8.4**, including, but not limited to, the following impact pathways:
    - Direct habitat loss, damage and degradation to habitats within designated sites;
    - Direct loss, damage, degradation and fragmentation of habitat functionally linked to (internationally and nationally) designated sites;
    - Disturbance and displacement of qualifying interest features and/or species within site citations of the designated sites (noise, light, visual, vibration);
    - Killing/injury of qualifying interest features and/or species within site citations of the designated sites;
    - Water quality effects (including pollution to surface water, groundwater, changes to flow regime, temperature, turbidity, sedimentation effects);
    - Air quality effects (including dust deposition, NOx, Ndep, NH3); and
    - Introduction of invasive non-native species and disease.
- Loss, degradation and/or fragmentation of notable (e.g. SBL and ancient woodland) habitats and features outwith designated sites to construction activities such as habitat clearance and site preparation, demolition, excavation and trenching, trenchless techniques such as horizontal directional drilling (HDD) and construction of infrastructure within the Scoping Boundary and its ZoI. This will include, but not be limited to, damage/degradation and destruction and contamination (e.g. through release of pollutants, dust and emissions) of notable habitats (including SBL, LBAP, AWI habitats), and damage and destruction of bat

roosts, bat foraging areas and commuting routes, badger setts, and badger foraging and commuting routes.

- Where there is potential for other notable species to be present within the Scoping Boundary and its ZoI (to be determined by the Scoping Survey and detailed analysis of the data search results), damage and destruction to supporting habitats and features will also be considered within the EIA Report following detailed survey (where required) and/or evaluation. Such species may include: otter, pine marten, red squirrel, wildcat, hedgehog, brown hare, water shrew, mountain hare, water vole, common and widespread reptiles (i.e. slow worm, adder, common lizard), amphibians (i.e. common toad, great crested newt (although it should be noted that no records of this species were returned by the data search), fish (i.e. Atlantic salmon, brown trout, European eel), invertebrates (including butterflies, moths, lacewing, diptera, molluscs etc), and notable plants and fungi.

- Disturbance to and displacement of legally protected and otherwise noteworthy species within the Scoping Boundary and its ZoI through construction activities as a result of noise, light vibration and the movement and presence of people and machinery. This will include, but not be limited to, potential disturbance to bat roosts, badgers setts within the ZoI of works. Where there is potential for other notable species such as those listed above, as well as cetacea (whales, dolphins, porpoises) and pinnipeds (seals) to be present within the Scoping Boundary and its ZoI (to be determined by the Scoping Survey and detailed analysis of the data search results), disturbance and displacement will be considered within the EIA report following detailed survey (where required) and/or evaluation.

- Direct harm (killing/injury) to legally protected or otherwise noteworthy species and habitats within the Scoping Boundary and ZoI through construction activities such as habitat clearance and site preparation, demolition, excavation and trenching, horizontal directional drilling (HDD) and construction of infrastructure. This will include, but not be limited to, bats, badgers within roosts/setts within the ZoI of works. Where there is potential for other notable species such as those listed above to be present within the Scoping Boundary or its ZoI (to be determined by the Scoping Survey and detailed analysis of the data search results), direct harm will be considered within the EIA Report following detailed survey (where required) and/or evaluation.

- Introduction and spread of INNS and disease to the wider environment through construction activities including import/export of materials, movement of spoil, vehicles and personnel, and vegetation clearance.

Operation and Maintenance

8.8.4 Activities associated with the operation and maintenance of the Proposed Development are expected to be limited to equipment maintenance and servicing, replacement of any components that fail, periodic fence inspections, vegetational management, and monitoring if and where required to ensure continued effective operation.

8.8.5 The proposed Onshore Transmission Cables and the Substation are anticipated to be operated and monitored remotely. Operation and maintenance staff would visit the Substation and carry out inspection of the Onshore Transmission Cables as and when required.

8.8.6 The potential for the following impacts during the operational phase of the Proposed Development will be considered within the EIA Report (scoped in):

- Disturbance to and displacement of legally protected and otherwise noteworthy species within the Scoping Boundary and its ZoI through external lighting, and the movement and presence

of people and vehicles. This may include, but not be limited to, potential disturbance to bats and badgers; and

- Long-term positive effects of habitat creation and enhancement and landscaping.

Decommissioning

8.8.7 On a precautionary basis, it is considered that, should the Proposed Development be decommissioned after 35 years, the potential impact pathways will be similar to the Construction phase above, whereby there will be a need to consider effects from the removal of buildings, including the Substation and above-ground infrastructure (it is expected that the Onshore Transmission Cables will remain *in situ* to minimise environmental effects).

Table 8.6: Summary of Potential Terrestrial Ecology Related Impacts Proposed to be Scoped In

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
Designated sites: Direct habitat loss, damage and degradation to habitats within or functionally linked to statutory designated sites, and negative effects on populations of the qualifying species they support (e.g. otter, narrow-mouthed whorl snail, other invertebrates).	✓	✕	✓	There are no statutory designated sites within the Scoping Boundary. Impact pathways to consider limited to: • Potential damage and degradation of aquatic and groundwater dependent habitats and species associated with the River Dee SAC and SSSI, Garron Point SAC and SSSI and Red Moss of Netherley SAC and SSSI through water quality effects (including pollution/contamination to surface water, groundwater, changes to flow regime, temperature, turbidity, sedimentation effects) where hydrological connectivity exists. • Potential damage and degradation of sensitive habitats and species associated with River Dee SAC and SSSI, Garron Point SAC and SSSI and Red Moss of Netherley SAC and SSSI through air quality effects from e.g. dust deposition, NOx, Ndep, acid dep, NH_3 as a result of increased plant and traffic movement, including routes to site, demolition, excavation, movement and storage of materials, and operational emissions.	Water Quality: Desktop study drawing on information on relevant designated sites from JNCC, NatureScot SiteLink and Magic, as well as interrogation of SEPA River Catchment data and other relevant habitat and geological datasets via SEPA Open Data Hub[19] to determine hydrological connectivity and scope for impact. Where credible impact pathways are found to exist, a sHRA will be undertaken for international sites to assess likely significant effects and, where necessary, set out appropriate mitigation, and conclusions of the Adverse Effect on Site Integrity (AEOSI) text in consultation with NatureScot. This will inform the EIA Report for these sites. For nationally designated sites, a similar process of assessment and consultation will be undertaken within the EIA Report following CIEEM (2018) guidance. Air Quality: Interrogation of Air Pollution Information Service (APIS)[20] for presence of pollutant sensitive

[19] SEPA Open Data
[20] APIS - Air Pollution Information System | APIS

					habitats and species, alongside designated sites information from NatureScot's SiteLink and JNCC to determine likelihood of significant impact pathways. Obtain traffic and vehicle movement data, including roues to site to establish Affected Road Network (ARN) and changes to Average Annual Daily Traffic (AADT), and undertake air quality modelling where necessary, alongside production of CEMP and establishment of good site practice measures to inform impact assessment and mitigation with respect to dust and emissions. Where credible impact pathways are found to exist, a sHRA will be undertaken for international sites to assess likely significant effects and, where necessary, set out appropriate mitigation, and conclusions of the AEOSI text in consultation with the relevant SNCO. This will inform the EIA Report for these sites. For nationally designated sites, a similar process of assessment and consultation will be undertaken within the EIA Report following CIEEM (2018) guidance[21].
Designated Sites: Disturbance, displacement, killing/injury of qualifying interest features and/or	✓	✓	✓	Otters are a qualifying interest feature of the River Dee SAC. There is some scope for individuals utilising the Study Area to be part of the SAC population	Desktop study drawing on information from data search and relevant designated sites information from

[21] CIEEM (2018) CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester. Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

species within site citations of the statutory designated sites (noise, light, visual, vibration) – Otters				owing to the presence of watercourses and woodland with indirect connectivity to the SAC. Activities which generate noise, light, vibration and visual disturbance have the potential to disturb and displace otters and affect fitness and breeding success. Construction and decommissioning activities could result in the killing/injury of otters through entrapment or pollution events.	JNCC, NatureScot SiteLink, alongside site-based scoping survey (and where necessary detailed otter survey) to determine likelihood of effect on SAC population.
Introduction of INNS and disease	✓	✕	✓	Japanese knotweed has been recorded within the Scoping Boundary. Unmitigated, there is some potential for movement of materials and vehicles/plant to and from the site during construction and decommissioning to exacerbate spread of INNS and disease to nearby designated sites and within the wider landscape.	Desktop study and site survey to establish/verify presence of INNS on site and assess likely risk and impact of spread within EIA Report. Provision of appropriate mitigation and biosecurity measures, where required, within CEMP.
Temporary or permanent disturbance/displacement of protected and noteworthy species	✓	✓	✓	Legally protected and noteworthy species such as bats, badgers, otter, pine marten, red squirrel and wildcat may present within the Study Area and may be subject to disturbance within places of shelter and breeding through noise, external and security lighting, vibration or visual disturbance from increased presence and movement of people, plant and vehicles. Disturbance may displace species from key foraging grounds or commuting routes, increasing energetic stress. Potential effects on fitness and breeding success at the individual and population level.	Desktop study and protected species surveys using appropriate survey guidance and buffers. Identify presence of key resources (roosts, dens, setts, commuting and foraging areas) through survey. Where likely significant effects are identified, appropriate mitigation will be outlined to avoid and/or minimise the effects, including requirement for mitigation licensing.
Temporary or permanent loss or damage to foraging, commuting, sheltering and breeding sites for protected and noteworthy species	✓	✕	✓	Habitat clearance to facilitate construction and decommissioning has the potential to result in the loss of trees and buildings with roosting bats, damage or destruction of badger setts and places used for shelter and breeding of other species that may be present. Several buildings and trees are within the provisional footprint of the platform of Onshore Substation- Site A. Key foraging and	As above.

				commuting routes through the landscape may be severed or lost, affecting access to resources, dispersal and genetic interchange between populations. Direct losses to the Onshore Transmission Cable installation will be phased and are likely to be temporary, with land use reinstated once construction is complete; however, for the purposes of Scoping it is assumed that the cable corridor will be 200m at its widest point and thus loss of foraging areas could be significant in the short-medium term. Losses to other infrastructure likely to last at least for duration of lifetime of Proposed Development (35 years).	
Temporary or permanent loss, damage and degradation of priority habitats.	✓	✕	✓	Potential loss, degradation and/or fragmentation of priority habitats to construction and decommissioning activities such as habitat clearance and site preparation, and through e.g. soil compaction, contamination through air and waterborne pollutants, effects on water table and groundwater flow. Direct losses to the Onshore Export Cable installation are likely to be temporary, with land use reinstated once construction is complete. Losses to other infrastructure likely to last at least for duration of lifetime of Proposed Development (35 years). Loss of irreplaceable habitat such as ancient woodland would be avoided through design.	Desktop study and habitat surveys using appropriate survey guidance and buffers. Identify presence of important habitats. Where likely significant effects are identified, appropriate mitigation will be outlined to avoid and/or minimise the effects. This may include establishment of root protection zones, protective fencing, dust and pollution control measures, phased clearance, compensatory planting and habitat reinstatement.
Mid to long-term positive effects of habitat creation and enhancement	✕	✓	✕	Potential for landscaping/habitat creation/enhancement to provide a long-term benefit to terrestrial ecology in the mid to long-term by providing additional or enhanced habitats and foraging, breeding and commuting resources to species.	Suitable habitat creation/ enhancement will be identified within the EIA following detailed assessment of impact and necessary compensatory/reinstatement measures. In line with NPF4 Policy

			3b[22], measures to enhance biodiversity and nature networks, targeting locally and nationally important species and habitats will be explored.
*Phase of Proposed Development refers to construction (C), operation and maintenance (O&M), and decommissioning (D).			

[22] Scottish Government (2023). Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf

Table 8.7: Summary of Potential Terrestrial Ecology Related Impacts Proposed to be Scoped Out

Potential Impact	Justification
Construction/decommissioning disturbance and killing/injury effects on terrestrial ecology related qualifying features of designated sites other than otter (River Dee).	With the exception of otter, it is considered that there is negligible scope for disturbance/displacement or killing/injury of terrestrial ecology related interest features of the statutory designated sites (for example narrow-mouthed whorl snail, Atlantic salmon, freshwater pearl mussel, butterflies) as a result of activities at any stage of the Proposed Development. This is due to the nature of the habitats within the Scoping Boundary and their connectivity to designated sites.
Construction/decommissioning related killing/injury of fish and freshwater peal mussel (FWPM)	It is expected that trenchless techniques would be used to cross watercourses and therefore direct effects on fish and FWPM are unlikely. As such surveys are not likely to be required. Should the design evolve to require in water works then the EIA Report would include watercourses that flow into and out of the Scoping Boundary. Each would be assessed for their suitability to support populations of fish and FWPM (Habitat survey and desktop study). Of particular relevance would be connections into specific watercourses such as the River Dee SAC.
Operational impacts from the Onshore Transmission Cables	As the Onshore Transmission Cables would be underground, operational maintenance is expected to be of limited scale (both spatially and temporally), there is not considered to be any potential for significant (population-level) effects on any terrestrial protected species.
Operational impacts on habitats of low ecological value	All habitats which are of low ecological value e.g., amenity grassland/arable are not considered to be significantly affected by the Proposed Development and therefore are scoped out of further assessment.
Operational impacts on statutory designated sites over 20 km	Assessment of statutory designated sites (which have a qualifying ecological feature) that are located outwith 20 km of the Proposed Development are scoped out, due to lack of connectivity between the designated site and between the designated site and the Proposed Development.

8.9 Proposed Assessment Methodology

Determination of the baseline

8.9.1 The baseline for the Terrestrial Ecology EIA Report chapter will be informed by a number of ecological surveys and assessments. A PEA to comprise a UK Habitat Classification (UKHab) and Habitat Condition Assessment (HCA) survey and Protected Species Scoping Survey will be undertaken across the Scoping Boundary in April/May 2026 to identify suitable habitats and record any evidence of use, where possible. Targeted bat surveys will also be undertaken with a badger walkover survey undertaken concurrently with the Scoping Survey.

8.9.2 The Scoping survey conclusions, desktop study and any preliminary bat and badger survey results will inform the requirement for further, targeted species and habitat survey. Those listed below are considered most likely to be required on the basis of data search results and known development parameters; however, as set out in Section 8.3.4, consultation with NatureScot and Aberdeenshire Council will be sought on the full scope of surveys in advance of the EIA Report. Further surveys required to inform the EIA Report for the PPiP application would be undertaken at

the appropriate time of year between May and July 2026 and/or in subsequent years as required to inform detailed application as design plans evolve.

8.9.3 Proposed methodology and timings for the surveys are set out in **Table 8.8**.

UKHab and Scoping Survey

8.9.4 A UKHab and scoping survey will be undertaken over several visits to the Study Area to establish the baseline, alongside the desk study incorporating data obtained from NESBReC and other data sources as described. The scoping survey will assess the potential of the site to support protected and notable species and their potential as a constraint to the Proposed Development. This, alongside any subsequent targeted species and habitat survey and desktop study data will enable an evaluation of the importance of the Site and its ecological receptors.

Biodiversity Net Gain (BNG) Assessment (PPIP Stage Approach)

8.9.5 At the PPiP stage, the Proposed Development is not supported by a fixed or detailed design, with the alignment of infrastructure, construction methods, working widths, ancillary areas and land take subject to change as the project progresses. In this context, a full quantitative BNG assessment, including the application of a biodiversity metric, is not considered proportionate or robust at this stage.

8.9.6 Instead, a staged and proportionate approach to BNG will be adopted, consistent with Scottish planning policy and the principles of the mitigation hierarchy (avoid, minimise, restore, enhance). The PPiP stage approach will focus on demonstrating early consideration of biodiversity within the design process, proportionate to the current level of information available, rather than on the calculation of a definitive net gain figure.

8.9.7 The PPiP stage BNG approach will comprise the following:

- Preparation of a high level baseline biodiversity description of the study area, informed by UK Habitat Classification (UKHab) and Habitat Condition Assessment data collected as part of the Preliminary Ecological Appraisal and scoping surveys. This will summarise the habitat types present and their relative biodiversity value, using habitat distinctiveness as defined within the biodiversity metric framework.
- Production of a baseline habitat map illustrating the distribution and extent of habitats within the Scoping Boundary. Where survey coverage is incomplete due to access or programme constraints, publicly available datasets may be used to inform a precautionary understanding of baseline habitat characteristics.
- Clear confirmation that no biodiversity metric calculations, and no quantified BNG outcome, will be reported or relied upon at the PPiP stage.

8.9.8 The PPiP stage outputs will demonstrate that biodiversity has been considered at an early stage in accordance with National Planning Framework 4 policy objectives, and that the Proposed Development is being designed to avoid and minimise effects on higher value habitats where reasonably practicable.

8.9.9 A full, quantitative BNG assessment will be undertaken at the Matters Specified in Conditions (MSC) stage, once the detailed route alignment, construction footprint and mitigation proposals are confirmed. At that stage, the assessment will apply the appropriate biodiversity metric current at the time, and will set out measurable outcomes in accordance with the mitigation hierarchy and relevant planning policy.

Shadow Habitat Regulations Assessment (HRA)

8.9.10 A shadow Habitat Regulations Assessment (sHRA) will be undertaken for the Site with reference to the approach provided in Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites, and will be in accordance with CIEEM (2018) and Holman *et al*. (2020)[23]. The report will provide a preliminary screening assessment to inform design and consultation at an early stage in an iterative process of assessment. This will be updated as further design and assessment information becomes available. The sHRA will focus on the internationally designated statutory sites within **Table 8.3** as well as relevant Special Protection Areas (SPA) and Ramsar sites as set out in **Chapter 9: Terrestrial Ornithology**.

[23] Holman, C., Barrowcliffe, R., Harker, G., Hawkings, C., Horrocks, S., and Prismall, F. (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1. London, Institute of Air Quality Management.

Protected and notable species

8.9.11 Dedicated surveys for the relevant terrestrial ecology receptors will be undertaken to inform the EIA Report as required. Proposed methodology and timings are presented below:

Table 8.8: Survey methods and timings

Receptor	Survey type	Justification	Methods and Timings
Habitats	UKHab and HCA	The UKHab Classification is used to categorise habitats and record their condition and distinctiveness against set criteria, making it directly transferable for use within Biodiversity Net Gain (BNG) assessment. UKHab results will also be used to determine the potential presence of Ground Water Dependent Terrestrial Ecosystems (GWDTE), and the requirement for follow up surveys or assessment to ensure compliance with SEPA (2024)[24] and SEPA (2025)[25]	The UK Habitat Classification (UKHab) survey Habitat Condition Assessment (HCA) will be undertaken over several visits in April/May 2026, within the optimal time of year for this survey.
Protected Species	Scoping Survey	Data search results indicate the presence of several species and habitats of note within the Study Area and Scoping Boundary. Suitability of habitats, and field sign observations will be assessed during the Scoping Survey to inform the need for targeted survey.	The Scoping Survey will be undertaken in April/May 2026. The potential for protected and otherwise notable species and habitats to be present will be assessed based on suitability of habitats and field evidence, and alongside the results of the desktop study.
Badger	Walkover	Badger records are known from within the Scoping Boundary and may be affected by construction and decommissioning activities.	The walkover will be undertaken over May 2026. To identify, characterise and map setts and other field evidence of badger presence (e.g. latrines, footprints). Survey will be in line with NatureScot Standing advice for planning consultations –Badgers (2024)[26]. Sett types will be classified as main, annex, subsidiary or outlier

[24] SEPA (2024) https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fa1yh0blq%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK

[25] SEPA (2025) SEPA Planning Advice Note Assessing the impact of developments on peatland and carbon rich soils. Available at:https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fwm0nvuc3%2Fpan-on-peat-and-soils.docx&wdOrigin=BROWSELINK

[26] https://www.nature.scot/doc/standing-advice-planning-consultations-badgers

Receptor	Survey type	Justification	Methods and Timings
			and as used, partially used or disused in line with Harris *et al.* (1989)[27] and Scottish Badgers (2018)[28].
Bats (roosting)	Preliminary Roost Assessment (PRA)	Various bat species are known to be present on and around the Scoping Boundary and potentially suitable roosting habitat is also present in the form of buildings and structures. Roosting bats have the potential to be negatively affected by the Proposed Development through demolition, disturbance and killing/injury.	Bat surveys will be undertaken in line with Collins (2023)[29] and NatureScot Standing Advice for planning consultations – Bats (2024)[30]. Structures within the Scoping Boundary will be assessed for their suitability to support roosting bats, with particular focus on those likely to require demolition, or that may be subject to significant disturbance. Where possible, buildings will be inspected internally and externally, accessing all features of the structure. If deemed necessary, structures outside the Scoping Boundary will also be assessed if there is scope for indirect disturbance effects to bat roosts.
Bats (roosting)	Ground Level Tree Assessment (GLTA)	Various bat species are known to be present on and around the Scoping Boundary and potentially suitable roosting habitat is also present in the form of trees. Roosting bats have the potential to be negatively affected by the Proposed Development through tree felling, disturbance and killing/injury.	Bat surveys will be undertaken in line with Collins (2023) and NatureScot Standing Advice for planning consultations – Bats (2024). Trees within the Scoping Boundary will be assessed for their suitability to support roosting bats, with particular focus on those likely to require felling, or that may be subject to significant disturbance. Trees will initially be assessed from ground level. If deemed necessary, trees outside the Scoping Boundary will also be assessed if there is scope for indirect disturbance effects to bat roosts.

[27] Harris, S., Cresswell, P., Jeffries, D. (1989) Surveying Badgers. The Mammal Society, London. Available at: https://static1.squarespace.com/static/654a3265fcbd755384b0552f/t/67fe5c7e8bc839559453d248/1744723117151/surveying-badgers-1989

[28] Scottish Badgers (2018) Surveying for Badgers: Good Practice Guidelines. Available at: https://www.scottishbadgers.org.uk/wp-content/uploads/2020/12/Surveying-for-Badgers-Good-Practice-Guidelines_V1-2020-2455979.pdf

[29] Collins, J. (ed) (2023) Bat surveys for professional ecologists: Good practice guidelines (4th edition). The Bat Conservation Trust, London. Available at: https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition

[30] https://www.nature.scot/doc/standing-advice-planning-consultations-bats

Receptor	Survey type	Justification	Methods and Timings
Bats (roosting)	Aerial Inspection	Aerial inspections of trees will be necessary to fully categorise the suitability of the tree for roosting bats and to provide a detailed inspection for signs of use, past and present.	Trees assessed as PRF-M (potential roost features with suitability for multiple bats) will be subject to aerial inspections or emergence surveys with Night Vision Aids (NVA) between May and July 2026 as appropriate. Surveys will be undertaken in line with Collins (2023) and NatureScot Standing Advice for planning consultations – Bats (2024).
Bats (roosting)	Emergence survey	Emergence surveys of buildings with bat roost suitability (and of trees that cannot be climbed due to access or H&S constraints) will be necessary to establish presence/likely absence of roosting bats and to fully characterise the roost if present. The roost status and species is necessary to inform the impact assessment and appropriate mitigation/licensing requirement.	Structures liable to be affected by the Proposed Development and with bat roost suitability will be subject to further survey in the form of emergence surveys with night vision aids (NVA) between May and July 2026 with at least three weeks between each visit. The number of visits and surveyors will be dependent on the suitability and distribution of potential roost features. Emergence surveys will commence at least 15 mins prior to sunset and continue for at least 2 hours after sunset. Bat surveys will be undertaken in line with Collins (2023) and NatureScot Standing Advice for planning consultations – Bats (2024).
Bats (foraging & commuting)	Activity survey including static survey)	The Proposed Development has the potential to result in the loss of foraging and commuting habitat (to be determined by the habitat and scoping surveys with reference to Collins (2023)).	Activity surveys combining walked transects and automated static detectors will be undertaken between May and July 2026 to assess the significance of key habitat features and potential for impact and mitigation, as well as to identify the species assemblage present. These surveys will focus on route crossing points and construction footprint. The survey effort will be determined by the quality of habitat within the Scoping Boundary. and will be undertaken in accordance with Collins (2023) as far as possible within the constraints posed by the programme.

Receptor	Survey type	Justification	Methods and Timings
Otter	Walkover survey (presence/ absence)	Otter have been recorded within the Scoping Boundary. The Proposed Development has the potential to negatively affect otter through damage and destruction of holts, dens and lying up sites, disturbance to otters and killing/injury of otters. Otters within the Study Area have some potential to be part of the River Dee SAC population owing to the size of their territories/home ranges, particularly males.	Where suitable habitat and/or evidence of presence is found during the Scoping Survey, targeted otter surveys of suitable habitat (riverine and coastal habitat, waterbodies, woodland) will be undertaken between May and July 2026 to search for natal dens, holts and other lying-up sites within 250m of works. These will be conducted with reference to Chanin (2003)[31], NatureScot Standing Advice for Planning Consultations – Otters (2024)[32]. It is not proposed, for the purposes of the EIA Report for the PPiP application, to use intrusive camera trapping at holts and dens as occupancy is liable change with time and will be assumed as a worst-case scenario and assessed accordingly. However, this may be undertaken as part of subsequent investigations for Matters Specified in Conditions applications and to inform protection plans and the requirement for mitigation licensing. N.B. survey licence from NatureScot would be required.
Pine marten	Walkover survey (presence/ absence)	Pine marten have been recorded within the Scoping Boundary. The Proposed Development has the potential to negatively affect the species through damage/destruction of dens, disturbance and killing/injury.	The Scoping Survey will be used to identify whether suitable habitat is present within the Scoping Boundary and a buffer of up to 250m If such habitats may be affected by the Proposed Development, targeted pine marten surveys will be undertaken in accordance with NatureScot Standing Advice for Planning Consultations – Pine Marten (2024)[33] to search for dens and scats. These will be undertaken between May and July 2026.

[31] Chanin P (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough. Available at: https://cieem.net/wp-content/uploads/2019/07/otter_monitoring.pdf
[32] https://www.nature.scot/doc/standing-advice-planning-consultations-otters
[33] https://www.nature.scot/doc/standing-advice-planning-consultations-pine-martens

Receptor	Survey type	Justification	Methods and Timings
Red squirrel	Walkover survey (presence/ absence)	Red squirrel have been recorded within the Scoping Boundary. The Proposed Development has the potential to negatively affect the species through damage/destruction of dreys, disturbance and killing/injury.	The Scoping Survey will be used to identify whether suitable habitat is present within the Scoping Boundary and a minimum buffer of 50m. A walk-over survey of most suitable areas will be undertaken to search for dreys and feeding signs in accordance with NatureScot Standing Advice for Planning Consultations – Red Squirrel (2024)[34] between May and July 2026. As there are records of both grey and red squirrel within the Study Area and given the difficulties in distinguishing between the dreys of the two species, all dreys will be assumed to be protected for the purposes of the EIA Report on a precautionary basis. Further survey to establish if the dreys are of red squirrel will be undertaken as part of works to support subsequent Matters Specified in Conditions application should any dreys be directly or indirectly affected by the Proposed Development (i.e. through felling of the tree or disturbance during the breeding season). This would be undertaken in line with NatureScot Standing Advice for Planning Consultations – Red Squirrel (2024).
Reptiles	Presence/ absence	Reptile records are known from within 2 km of the Scoping Boundary with a record of common lizard from within. Common and widespread reptiles will inhabit a variety of habitats which may be present within the Scoping Boundary, including grassland, arable margins, scrub, woodland edge and bankside habitats. If present, the Proposed Development has the potential to negatively affect reptiles through killing/injury during habitat clearance.	The Scoping Survey will identify any suitable areas of reptile habitat within the Scoping Boundary. Depending on its extent and distribution, and likelihood of supporting more than individual animals, reptile surveys may be undertaken in accordance with NatureScot Standing Advice for Planning Consultations –Reptiles (2024)[35] and Froglife (2018)[36] to inform the EIA Report. These would consist of deployment of artificial refugia, combined with visual searches over a minimum of seven visits in suitable weather conditions in May and July.

[34] https://www.nature.scot/doc/standing-advice-planning-consultations-red-squirrels
[35] https://www.nature.scot/doc/standing-advice-planning-consultations-reptiles-adder-slow-worm-common-lizard
[36] https://www.froglife.org/wp-content/uploads/2018/04/Compressed-Advice-note-10-Reptile-Survey-and-Mitigation-Guidance-for-Peatland-Habitats.pdf

Receptor	Survey type	Justification	Methods and Timings
Water vole	Presence/ absence and density.	Water vole have been recorded in low number within the Scoping Boundary but not since 2007. If present along watercourses, drains or ditches, the Proposed Development has the potential to negatively affect the species through damage/destruction of their burrows and killing/injury (where HDD or other trenchless techniques are not used). Water voles within burrows may also be disturbed by ongoing operations.	The Scoping Survey will be used to identify whether any of the watercourses within the Scoping Boundary are suitable. It is expected that trenchless techniques will be employed for cabling to avoid direct damage to important features such as watercourses; however, areas that may be affected by the Proposed Development (damage/disturbance) would be subject to a targeted survey (to 200m of the Proposed Development) to identify presence / likely absence and provide a density estimate in accordance with Dean *et al.*, (2016)[37] and NatureScot Standing Advice for Planning Consultations –Water Vole (2024)[38]. One visit would be undertaken in May/June 2026. Where no evidence is observed and where programme allows, a second visit would be undertaken in July 2026 of deemed necessary.
Wildcat	Walkover survey (presence/ absence)	Wildcat have been occasionally recorded within the Scoping Boundary, the most recent being 2013. If present, the Proposed Development has the potential to negatively affect the species through damage and destruction of dens, disturbance and killing/injury.	The Scoping Survey will be used to identify suitable habitat within the Scoping Boundary and a minimum buffer of 50m. A walk-over survey of most suitable areas will be undertaken between May and June 2026 to establish if there are potential dens sites present on the site or nearby in accordance with NatureScot Standing Advice for Planning Consultations - Wildcat (2024)[39] and Wildcat Survey Methods[40].

[37] https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/1e/30/1e3072bf-0ffe-4df2-8ee2-e1af6f66755e/d93_-_water_vole_mitigation_handbook81824175_1.pdf
[38] https://www.nature.scot/doc/standing-advice-planning-consultations-water-voles
[39] Standing advice for planning consultations - Wildcats | NatureScot
[40] https://www.nature.scot/sites/default/files/2018-04/Guidance-Wildcat-Survey-Methods.pdf

Receptor	Survey type	Justification	Methods and Timings
			It is not proposed, for the purposes of the EIA Report for the PPiP application, to use intrusive camera trapping at any suspected dens as occupancy is liable change with time and will be assumed as a worst-case scenario and assessed accordingly. However, this may be undertaken as part of subsequent investigations for Matters Specified in Conditions applications and to inform protection plans and the requirement for mitigation licensing. N.B. survey licence from NatureScot would be required.

Assessment methodology

8.9.12 The impacts of the Proposed Development on ecological features and attributes will be assessed with reference to the Guidelines for Ecological Impact Assessment (EcIA) CIEEM (2018)[41]. This will include:

- Establishment of the zone(s) of influence of the Proposed Development, defined by the area within which potential ecological impacts are considered likely to occur. This includes the physical extent of land-use associated with the proposals as well as indirect or exported effects of pollution and light or noise disturbance that may affect a wider area. The scope of assessment is determined for each impact based on its likely spatial and temporal extent and the distribution of ecological features likely to be affected.

- Assignation of a geographic scale of importance to each ecological feature/receptor. In descending level of importance, features assessed to be 'important' will be categorised as: International; national; regional; county or other local authority-wide area; and local. Features of less than local level of importance will be classified as being of importance at the Site level, where they have ecological importance within the ZoI of the Proposed Development, or otherwise as being of negligible importance.

- Predicting the magnitude of impact across the stages of the Proposed Development. An assessment of likely ecological impacts will be undertaken in accordance with CIEEM guidelines (2018) for receptors assessed as 'important' and only where clear evidence is available to substantiate and justify the findings. In the absence of such evidence, the precautionary principal will be applied and the effect included as significant in the absence of evidence to the contrary. Impacts will be assessed initially without mitigation in accordance with the approach adopted by CIEEM (2018). Following identification of the scale and magnitude of impacts, mitigation measures will then be proposed that are commensurate with the impacts identified. The impact assessment will then be reapplied to determine the scale of any residual impacts to each ecological receptor, to determine potential residual effects. Only those receptors for which effects are considered significant will be carried through to the next stage.

- A level of significance will be assigned to each predicted effect, taking the importance of the receptor and magnitude of impact together. The geographic scale of the effects will be estimated on the same geographic scale as above. Where an ecological feature falls into more than one category of scale (e.g., a site designated at both the international and national level), then the highest category will be selected for evaluation purposes.

- In accordance with CIEEM guidelines, the following factors will be taken into account for each identified impact on each relevant ecological feature:
  - Positive or negative;
  - Extent;
  - Magnitude (size / amount / intensity / volume);
  - Duration (short, medium or long-term, permanent or temporary);
  - Timing / frequency (occurring at a critical stage in lifecycle, regular or irregular); and,
  - Reversibility (reversible or irreversible).

[41] CIEEM (2018) CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester. Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

- Taking the importance of the receptor and magnitude of impact together to assess the significance of effect.

Mitigation & Design Principles

8.9.13 As the collection and analysis of baseline data is ongoing, mitigation measures will be developed in response to survey findings and iterative scheme design, alongside consultation with stakeholders as required. In general, it will follow the principles of the mitigation hierarchy to retain and enhance valued habitats where possible, avoid/minimise adverse effects, and provide connected and biodiverse spaces, to offset losses.

8.9.14 Built-in mitigation, such as an outline Construction Environment Management Plan (CEMP) and standard design features, will influence the assessment of significance.

8.9.15 Where effects are considered potentially significant in EIA terms, additional mitigation measures will be designed and applied as part of a residual significance assessment.

8.10 Potential Cumulative Effects

Potential Intra-Project Cumulative Effects

8.10.1 Potential inter-project cumulative effects will be considered as part of the Terrestrial Ecology assessment with details presented within the EIA Report. This will include the consideration of both project lifetime effects and receptor-led effects in accordance with the approach set out within **Chapter 4: Approach to Scoping and EIA**. There is potential for inter-project cumulative effects to occur in relation to the following other environmental topics:

- Terrestrial Ornithology (Chapter 9):
  - Any mitigation and enhancement measures targeted at ornithology interest may also benefit terrestrial ecology. Where any conflict in recommended timings of operations exists, this will require careful consideration to ensure needs of ecology and ornithology are met. For example, clearance of vegetation in winter to avoid nesting birds could affect hibernating species.
- Landscape and Visual (Chapter 10):
  - Areas of native planting used to screen the Proposed Development and integrate it into its setting would give greater variety and provide increased biodiversity and habitat. All existing hedgerows, woodland and individual trees are to be retained where possible and shall be protected during the construction phase in accordance with BS:5837 2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Archaeology and Cultural Heritage (Chapter 11):
  - Archaeological investigations have the potential to affect terrestrial ecology through habitat clearance and excavation, noise and disturbance. Embedded mitigation and timings within outline CEMP will minimise risk of effects on protected species and habitats.
- Geology, Soils and Peat (Chapter 12):
  - Soil loss, compaction, contamination and other changes to soil quality during construction has the potential to impact terrestrial ecology. Potential loss of peat has implications for terrestrial ecology and biodiversity and carbon sequestration. Local geology will influence hydrological regime of Proposed Development. Any trial pits to investigate soil/ground conditions have the potential to affect terrestrial ecology through habitat clearance and excavation. Embedded mitigation and timings within outline CEMP will minimise risk of soil/peat loss and damage and effects on protected species.

- Hydrology and Flood Risk (Chapter 13):
  - The effects of excavations on groundwater, increased surface water run-off and flooding, and construction-related water contamination and changes to flow regime and other parameters on and off-site may impact on terrestrial ecology. Any trial pits to investigate ground conditions/drainage have the potential to affect terrestrial ecology through habitat clearance and excavation. Embedded mitigation and timings within outline CEMP will minimise risks of contamination and pollution effects on hydrology and effects on protected species.
- Air Quality (Chapter 15):
  - Dust deposition and air emissions from construction traffic (including routes to site) during construction and decommissioning of the Proposed Development may have an impact on biodiversity and terrestrial ecology due to the presence of designated sites and priority habitats within the Study Area. Embedded mitigation within the outline CEMP will minimise risk of dust and emissions effects on Terrestrial Ecology.
- Noise and Vibration (Chapter 16):
  - Noise and vibration disturbance during construction and decommissioning works may have an impact on terrestrial ecology due to the presence of suitable habitat within the Study Area and/or records. Embedded mitigation within the outline CEMP will minimise risk of disturbance events.

Potential Inter-Project Cumulative Effects

8.10.2 Cumulative effects with the Proposed Offshore Development will be considered, together with cumulative effects with other developments, where relevant.

8.10.3 The inter-project cumulative effects assessment will follow the approach set out within **Chapter 4: Approach to Scoping and EIA**.

8.11 Limitations and Assumptions

8.11.1 Data search results used within the desktop study reflect the Scoping Boundary (plus a 2 km buffer around it) at the time of request from NESBReC. Minor changes to this have since occurred and may do so in future as the EIA process evolves. The 2 km buffer around the Scoping Boundary ensures that records are unlikely to be missed unless changes are very substantial and it is considered unlikely that this is a significant limitation.

8.11.2 The desk study will take into account of records provided by the NESBReC. However, even where data for a particular species group are provided, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest, the area may simply be under-recorded, or records may not have been submitted.

8.11.3 Ecological survey data should be considered to be valid for a period of 12-18 months, unless there are any significant changes to habitats within the site (CIEEM, 2019).[42]

8.11.4 An accelerated programme for the submission of the planning application presents potential limitations with respect to the survey window for certain ecological receptors and the establishment of the baseline.

[42] CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys. Available at: https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf

8.11.5 Bat surveys to identify the presence/likely absence of roosts and their characterisation, and surveys to assess bat assemblages and use of habitat features for foraging and commuting, are typically undertaken across the year with hibernation surveys in winter and activity and emergence surveys between April/May to September/October. An absence of surveys later in the season may result in a lack of information on the importance of the Proposed Development for breeding, swarming, migrating and hibernating bats. A precautionary approach will be taken within the EIA Report with respect to the importance of the Proposed Development for bats, drawing on desktop study information as well as field survey results. Further survey will be undertaken at a later stage to provide more information for assessment of the detailed application, when design plans are refined.

8.11.6 Should water vole surveys be required, two visits may be required to robustly conclude absence. These are typically undertaken within the first half of the survey season (May-June) with a second in the latter half (July to mid-September) if presence is not already established. There is some potential for low density populations to be missed without a second survey, although it is anticipated that this is unlikely to significantly affect the evaluation or impact assessment process within the EIA Report and further survey could be undertaken subsequently to inform detailed application, construction and mitigation requirements.

8.11.7 By its nature, the PPiP application will not include all details of the Proposed Development, with fixed design parameters, timings and working methods. The EIA will be based on the scope provided and will assume a worst-case scenario where necessary. Any limitations or assumptions will be set out clearly in the EIA Report, with an assessment of certainty or reliability of any conclusions drawn.

8.12 Summary of Proposed Scope

8.12.1 The scoping exercise has concluded that because of potential ecological effects arising from the Proposed Development during the construction, operational and decommissioning phases that a Terrestrial Ecology Chapter should be scoped into the EIA Report.

8.12.2 The following potential impacts (and associated potential effects) have been scoped into the EIA:

- Construction and Decommissioning: Potential impacts on statutory designated sites including direct habitat loss, damage or degradation within or functionally linked to designated sites, resulting in negative effects on qualifying species (e.g. otter, narrow-mouthed whorl snail and other invertebrates).
- Construction, Operation & Maintenance and Decommissioning: Disturbance, displacement, killing/injury of otters within statutory designated sites;
- Construction and Decommissioning: Introduction and spread of invasive non-native species (INNS) and disease;
- Construction, Operation & Maintenance and Decommissioning: Temporary or permanent disturbance or displacement of protected and noteworthy species;
- Construction and Decommissioning: Temporary or permanent loss or damage to foraging, commuting, sheltering and breeding sites for protected and noteworthy species;
- Construction and Decommissioning: Temporary or permanent loss, damage and degradation of SBL and other important habitats; and
- Operation and Maintenance: Potential medium to long-term positive effects associated with habitat creation and enhancement measures.

8.12.3 It is to be noted that uncertainty remains regarding the nature of the decommissioning phase. As a precaution, decommissioning effects will be scoped into the EIA Report on the assumption that effects will be no greater than the construction phase; however, they could be significantly less.

8.12.4 The following potential impacts have been scoped out of the EIA:

- Construction and Decommissioning: Disturbance and killing/injury effects on terrestrial ecology related qualifying features of designated sites, other than otter;
- Construction and Decommissioning: Risk of killing or injury to fish and freshwater pearl mussel (FWPM);
- Operation and Maintenance: Impacts from the Onshore Transmission Cables;
- Operation and Maintenance: Impacts on habitats of low ecological value; and
- Operation and Maintenance: Impacts on statutory designated sites located beyond 20 km.

9. TERRESTRIAL ORNITHOLOGY

9.1 Introduction

9.1.1 The following chapter of the Scoping Report sets out the proposed scope of assessment of likely significant effects as a result of the construction, maintenance, operation and decommissioning of the Proposed Development in relation to Terrestrial Ornithology. The assessment is based on the Proposed Development as described in **Chapter 3: The Proposed Development**.

9.1.2 This chapter sets out relevant legislation, policy and guidance, consultation (both undertaken and future consultation), the baseline environment, anticipated mitigation, potential impacts of the Proposed Development, proposed assessment methodology, proposed approach to cumulative effects assessment and a summary of the proposed scope to be taken to forwards to the EIA Report.

9.2 Legislation, Policy and Guidance

9.2.1 Overarching legislation and policy used to inform the proposed scope of the Terrestrial Ornithology assessment is set out in **Chapter 2: Legislative and Policy Context**. This has been further developed with specific reference to the standard guidance and professional best practice as referenced throughout the document.

9.3 Consultation

Future Consultation

9.3.1 NatureScot will be consulted for their views on the potential for impact on statutory designated sites and the proposed survey scope and timings. This will be agreed following scoping opinion to ensure baseline surveys are comprehensive and robust. An agreed scope for ornithological survey will also be sought, particularly in regard to survey timings and alignment with the wider planning process.

9.3.2 Following the detailed desktop study and Scoping Survey, it will be determined whether there is a requirement for consultation with local interest groups to ensure all relevant and up to date species records and specialist expertise are used to inform surveys and assessment.

9.4 Study Area

9.4.1 For the purposes of scoping and the EIA Report, the Study Area comprises land within the Scoping Boundary within which the Proposed Development will fall, and extending to up to 2 km (dependent on the receptor and their sensitivity) from the Scoping Boundary to ensure all potential effects from the Proposed Development can be captured. The Study Area is thus defined as the Scoping Boundary plus the Zone of Influence (ZoI) of the Proposed Development. The ZoI is the area over which ecological features may be affected by the biophysical changes caused by the proposed development and its associated activities. **Figure 9.1** presents the Study Area and Scoping Boundary.

Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Ornithology Study Area (Statutory Designated Sites: National and Local, Non-statutory Designated Sites and Protected and Noteworthy Species) (2 km Buffer from Scoping Boundary)
- Ornithology Study Area (Statutory Designated Sites: International) (20 km Buffer from Scoping Boundary)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point

2 km

20 km

0 5 10 km

Figure Title
Ornithological Study Areas

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	9.1	1.0

Prepared By	Scale
CW	1:200,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

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Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

9.4.2 **Chapter 3** of the EIA Scoping Report sets out the Proposed Development parameters, through the application of a design envelope (Rochdale Envelope) approach. The Scoping Boundary extends from proposed landfall to the north of Newtonhill, south-west along the length of the Onshore Transmission Cable Corridor to two options for the Substation (Substation Site Option A and Substation Site Option B) and through to the Grid Connection Point at the proposed SSEN Hurlie 400 kV Substation to the west of Stonehaven.

Desk study

9.4.3 For the purposes of the desk study, the Study Area variously comprised the following:

Table 9.1: Desk study areas

Receptor	Search radius (from Scoping Boundary)
Statutory designated sites: International (SPA and Ramsar)	Up to 20 km to ensure all potential exported effects on e.g. air and water quality and functionally linked land can be fully captured.
Statutory designated sites: National (SSSI, NNR and National Parks)	2 km
Statutory designated sites: Local (LNR)	2 km
Non-statutory designated sites (LNCS, SWT reserves and sites)	2 km
Protected and noteworthy species (incl. Scottish Biodiversity List species)	2 km (extended to 10 km for birds to reflect the wider landscape scale at which these mobile species operate))
Habitats (incl. Scottish Biodiversity List, Priority Habitats, Local Biodiversity Action Plan (LBAP) habitats, Ancient Woodland Inventory (AWI))	2 km

Surveys

9.4.4 A Preliminary Ecological Appraisal (PEA) to comprise a UK Habitat Classification (UKHab), Habitat Condition Assessment (HCA) survey and Protected Species Scoping Survey will be undertaken across the Scoping Boundary in April/May 2026. The Scoping Survey will identify suitable habitats and record any evidence of use by protected and notable species, where possible. Proposed methodology and timings are set out in **Table 9.6**.

9.4.5 The Scoping survey conclusions, desktop study and any preliminary bird survey results will inform the requirement for further, targeted species or species-group survey. Those listed below are considered most likely to be required on the basis of data search results and known development parameters; however, as set out in **Section 9.3.4**, consultation with NatureScot and Aberdeenshire Council will be sought on the full scope of surveys in advance of the EIA Report. Further surveys required to inform the EIA Report for the PPiP application would be undertaken at the appropriate time of year between May and July 2026 and/or in subsequent years as required to inform detailed application as design plans evolve.

9.4.6 A suite of wintering bird surveys was undertaken during the winter of 2025-2026, and breeding bird surveys are currently being undertaken in 2026. All surveys are being carried out in line with current guidelines (Bird Survey & Assessment Steering Group, 2025). All suitable habitats within the red-line boundary (and an additional 5m buffer where appropriate) will be surveyed including woodland, lines of trees, waterbodies and field boundaries, with particular focus on those likely to be permanently or temporarily destroyed or disturbed. If deemed necessary, structures and trees

outside the Scoping Boundary will also be assessed if there is scope for indirect disturbance effects to WCA Schedule 1 bird nests. Further surveys (wintering and breeding bird surveys) will be undertaken within the same area where required. Winter intertidal surveys were undertaken as part of the Proposed Offshore Development (separate application) and data are available for use within the EIA Report as required.

9.5 Data Sources

9.5.1 A detailed desk-based data-gathering exercise will be undertaken to obtain existing information relating to relevant ecological receptors, including statutory and non-statutory designated sites, habitats and Species of Principal Importance, legally protected and controlled species and other noteworthy species within the study area and its Zone of Influence (ZoI). The ZoI is the area over which ecological features may be affected by the biophysical changes caused by the proposed development and its associated activities.

9.5.2 Baseline data on the nature conservation interest of the Site and its ZoI will be sought from a range of sources including (but not limited to):

- NatureScot SiteLink[1]– details of relevant statutory sites and qualifying features.
- North East Scotland Biological Records Centre - records of protected and otherwise noteworthy habitats and species.
- JNCC website[2].
- Multi Agency Geographic Information for the Countryside (MAGIC) website[3].
- National Biodiversity Network (NBN) Atlas[4] (where permissible under licence conditions) and,
- Relevant Geographic Information System databases (Scottish Wildlife Trust (SWT) Reserves and woodland recorded on the Ancient Woodland Inventory (AWI)) and local natural history groups.
- Aerial imagery available from Google™ Earth.

9.5.3 Relevant information will be gathered on both statutory and non-statutory nature conservation sites. Statutory sites include those designated at an international level, including Special Protection Areas (SPA) and Ramsar sites. Those at a national level include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and National Parks. At the local level, statutory designated sites include Local Nature Reserves (LNR). Non-statutory designated sites will include Local Nature Conservation Sites (LNCS), Scottish Wildlife Trust (SWT) Reserves, and SWT Wildlife Sites. Other relevant information will include woodland listed on the AWI, protected species records and habitats/species listed on the Scottish Biodiversity List (SBL).

9.5.4 The Terrestrial Ornithology assessment will also consider ecological features outside the identified search area, where there is potential ornithological connectivity of relevance to the constraints within the Site.

[1] https://sitelink.nature.scot/map
[2] https://jncc.gov.uk/
[3] https://magic.defra.gov.uk/
[4] https://nbnatlas.org/

9.6 Baseline Environment

Existing Baseline Conditions

9.6.1 The Study Area is bound to the north by the town of Portlethen, arable fields and grasslands and moorland, to the east by the eastern coastline of Scotland and the North Sea, to the south by the town of Stonehaven, arable fields and woodland, and the west by Fetteresso Forest.

9.6.2 The Scoping Boundary comprises a mix of arable farmland, grassland, gorse scrub, and coniferous and deciduous woodland, including areas listed on the AWI. The area is traversed by hedgerows, treelines and small watercourses/burns.

Statutory sites

9.6.3 Four internationally designated sites for birds lie within 2 km of the Scoping Boundary. The nearest is Fowlsheugh SPA, 4.37 km east. All of these sites are designated for seabirds or waterbirds, and the Scoping Boundary contains no sea or wetland habitat. Nevertheless, these bird species may use the Scoping Boundary (e.g. for foraging, commuting or passage), so potential links cannot be ruled out.

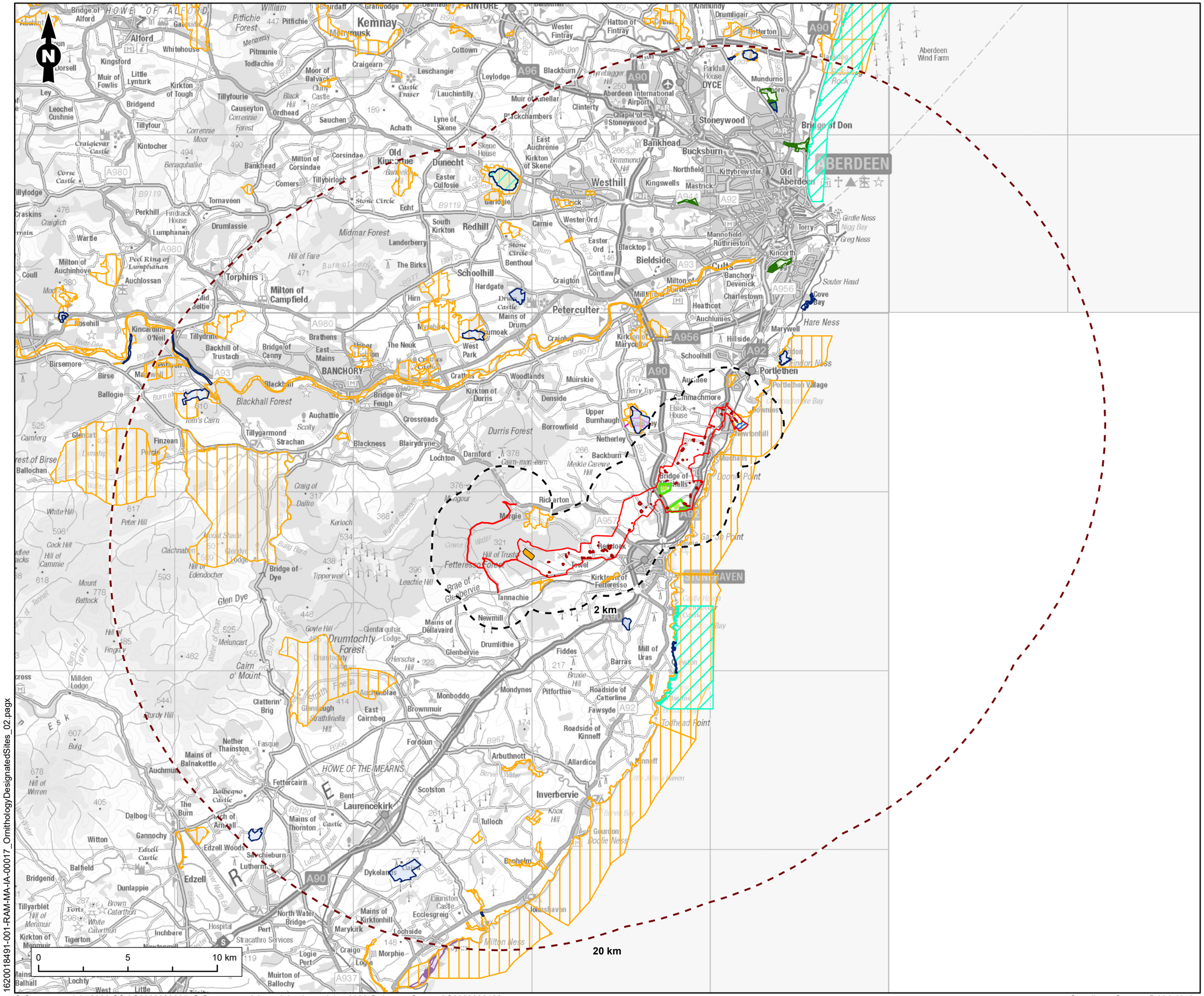
9.6.4 There are two SSSI within 2 km of the Scoping Boundary, the closest of which is Garron Point SSSI which lies 1.37 km to the east. Both are noted for habitats which are suitable for notable breeding and wintering birds but do not pertain to birds specifically. There are no NNR or National Parks within 2 km of the Scoping Boundary.

9.6.5 Details of the statutory designated sites within the search radii are presented in **Table 9.2** below and are illustrated on **Figure 9.2**.

Table 9.2: Statutory designated sites within Study Area

Name	Distance from Scoping Boundary	Reason for Designation
Fowlsheugh SPA	**4.37 km SE**	*Article 4.2:* Regularly supports in excess of 2, individual seabirds. The colony regularly supports 145, seabirds. Regularly supports populations of European importance of the following migratory species: Common guillemot *Uria aalge* (56,45 individuals, 5% of GB population, 1.7% of Western European population), Black-legged kittiwake *Rissa tridactyla* (36,65 pairs, 7.5% of the GB population, 1.2% of World population). (The colony also regularly supports nationally important populations of razorbill *Alca torda* (5,8 individuals, 3.9% of the GB population), Northern fulmar *Fulmarus glacialis* (1,17 pairs, .2% of the GB population), and herring gull *Larus argentatus* (3,19 pairs, 2% of the GB population)).
Ythan Estuary, Sands of Forvie and Meikle Loch SPA	**12.24 km NE**	*Article 4.1:* In the breeding season the area regularly supports: Sandwich tern *Sterna sandvicensis* (up to 7% of the GB population, mean peak 1989 to 1991) Common tern *Sterna Hirundo* (up to 2% of the GB population, mean peak 1989 to 1993)

Name	Distance from Scoping Boundary	Reason for Designation
		Little tern *Sterna albifrons* (up to 2% of the GB population, mean peak 1989 to 1993) *Article 4.2:* Over winter the area regularly supports: Pink footed goose *Anser brachyrhynchus* (9% of the Eastern Greenland/Iceland/UK biogeographic population, peak mean 1988/89 to 1992/93) An internationally important assemblage of birds - in the non-breeding season the area regularly supports 26,4 individual waterfowl (peak mean 1988/89 to 1992/93) including: Pink-footed goose *Anser brachyrhynchus* Common eider *Somateria mollissima*. 51265 individual waterfowl (peak mean 1991/92 to 1995/96) including: Common redshank *Tringa tetanus* and Northern lapwing *Vanellus vanellus*.
Loch of Skene SPA	**16.64 km NW**	*Article 4.2*: Regularly supports populations of European importance of the migratory species: Greylag goose *Anser anser* (an average of 5,5 individuals, over 5% of the Iceland/UK/Ireland biogeographic population) Goldeneye *Bucephala clangula* (15 individuals, 1% of the GB population) Goosander *Mergus merganser* (11 individuals, over 2% of the GB population).
Loch of Skene Ramsar	**16.64 km NW**	*Ramsar Criterion 4:* Supports the following waterbird species at a critical stage in their life cycles: Goldeneye *Bucephala clangula* (15 individuals, 1% of the GB population), Goosander *Mergus merganser* (11 individuals, over 2% of the GB population). *Ramsar Criterion 6* Regularly supports 1% or more of the individuals in a population of waterbirds: Greylag goose *Anser anser* (an average of 5,5 individuals, over 5% of the Iceland/UK/Ireland biogeographic population).



Legend

- Scoping Boundary
- Exclusion Zone (Residential Property)
- Ornithology Study Area (Statutory Designated Sites: National and Local, Non-statutory Designated Sites and Protected and Noteworthy Species) (2 km Buffer from Scoping Boundary)
- Ornithology Study Area (Statutory Designated Sites: International) (20 km Buffer from Scoping Boundary)
- Landfall Area
- Indicative Substation Development Sites
- Representative Substation Platform Areas
- Grid Connection Point

Designated Sites

- Site of Special Scientific Interest (Biological) (SSSI)
- Special Protection Area (SPA)
- Local Nature Conservation Site
- Scottish Wildlife Trust Reserve
- Local Nature Reserve
- National Nature Reserve
- Ramsar

Figure Title
Ornithology Designated Sites

Project Name
Aspen Offshore Wind Farm - Onshore Transmission Connection

Project No./Filery ID
1620018491 / REH2026N02003

Date	Figure No.	Revision
May 2026	9.2	1.0

Prepared By	Scale
CW	1:200,000 @A3

Client
Cerulean Winds Aspen Project Limited

RAMBOLL

1620018491-001-RAM-MA-IA-00017_OrnithologyDesignatedSites_02.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

9.6.6 The above statutory sites will be fully considered within the EIA Report in respect of the potential for effects from the Proposed Development and, where required, to set out appropriate avoidance, and mitigation measures in line with the mitigation hierarchy. For international sites, this will be informed by a Shadow Habitats Regulations Assessment (sHRA) which is to be submitted alongside the EIA Report.

Non-statutory sites

9.6.7 Seven LNCS are located within 2 km of the Scoping Boundary based on information from NESBReC. Just one of these pertains to birds, but all contain habitats suitable for notable wintering and/or breeding birds. These are listed in **Table 9.3** and illustrated on **Figure 9.1**. No further designated sites are present within 2 km of the Scoping Boundary.

Table 9.3: Non-statutory designated sites within Study Area

Name	Distance (from Scoping Boundary)	Reason for Designation
Elfhill	**95 m S**	This small site forms a fairly steep-sided river valley, with semi natural broadleaved woodland, gorse scrub and acid grassland. Good diversity of plant species and particularly important for the native bluebell *Hyacinthoides non-scripta*
Fetteresso	**830 m S**	This site contains broadleaved woodland on the slopes of the railway line, down to the Carron Water. Neutral grassland and gorse scrub are also present. The site has a good woodland flora including the locally uncommon wood stitchwort *Stellaria nemorum*.
Mergie	**700 m N of main Scoping Boundary and 740 m S of the on-road section of the scoping area – eastern extent**	Neutral and acid grassland, broadleaved and coniferous woodland, wet heath, scrub, bracken, bog, pond, rivers and rush pasture alongside the Cowie Water. Locally important species such as lesser twayblade *Neottia cordata* and bog myrtle *Myrica gale*.
Muchalls to Stonehaven Bay	**c. 95 m E at closest point.**	Coastal site comprising rocky cliffs and shore with a rich coastal flora. Species associated with base-rich soils are present. Key site for invertebrates of base rich habitats. Rare whorl snail at Garron Point. Outcrop of Highland Boundary Fault. (Includes Garron Point SSSI see **Table 9.2**.)
Portlethen Moss	**930 m N**	Lowland raised bog which is remnant of much larger area with rush pasture, gorse scrub and planted woodland. Good diversity of heathland and wetland species
Portlethen to Muchalls Coast	**Partly within Scoping Boundary, to east of Landfall Search Area.**	This coastal site is made up of cliffs, coastal grassland, heathland and gorse scrub. These habitats support a good diversity of coastal and heathland plant species and the cliffs are important for nesting birds.
Red Moss Netherley	**1.9 km NW**	A relatively large area of lowland raised bog with associated habitats of fen, rush pasture, wet woodland and birch woodland. The site supports a rich diversity of plant species including coralroot orchid lesser twayblade *Neottia cordata*.

9.6.8 The above non-statutory sites will be fully considered within the EIA Report in respect of the potential for effects from the Proposed Development and, where required, to set out appropriate avoidance, and mitigation measures in line with the mitigation hierarchy.

Survey Results to Date

2024/25 Surveys (Intertidal Surveys)

9.6.9 APEM Ltd was commissioned by Cerulean Winds Ltd to undertaken five months of intertidal surveys covering the landfall location associated with the Proposed Development. Surveys were undertaken to determine the abundance, distribution and behaviour of seabirds within the intertidal and nearshore areas surrounding the landfall. Surveys consisted of six visits between November 2024 and March 2025. Surveys covered all intertidal habitat within 500 m of the landfall location and extended 1.5 km offshore from the Mean High-Water Springs (MHWS) mark. A high-level constraints analysis was then undertaken, with peak hourly counts which are above 1% of the estimated local Aberdeenshire non-breeding season population of each species, based on The British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) data records. Species with peak counts above these thresholds on the section of the bird surveys closest to the Landfall are as follows:

- Black throated diver *Gavia arctica*;
- Kittiwake; and
- Herring gull.

2026 Surveys (Wintering Bird Survey)

9.6.10 Wintering bird surveys have been undertaken within the Study Area between February and March 2026, with three surveys undertaken during this time. These surveys were undertaken to identify potential usage of the Study Area by wintering birds, including foraging of goose species associated with the Ythan Estuary, Sands of Forvie and Meikle Loch SPA and Loch of Skene SPA. These surveys identified low levels of foraging from greylag goose and flight activity of pink-footed goose. The following species were also identified during these surveys:

- Herring gull;
- Greater black-backed gull *Larus marinus*;
- Yellowhammer Emberiza citrinella;
- Linnet Linaria cannabina;
- Skylark Alauda arvensis;
- Buzzard Buteo buteo;
- Common gull *Larus canus*;
- Jay Garrulus glandarius;
- Goldfinch Carduelis carduelis;
- Grey partridge *Perdix perdix*;
- Lapwing;
- Stonechat Saxicola rubicola;
- Kestrel Falco tinnunculus;
- Starling Sturnus vulgaris;

- Cormorant Phalacrocorax carbo;
- Mallard Anas platyrhynchos; and
- Red kite Milvus milvus.

Future Baseline Conditions

9.6.11 The EIA process will consider the future baseline conditions (as far as reasonably practicable) of relevance to the assessment for this topic based on a 35-year operational lifetime. Potential changes include, but are not limited to, changes in land use and management, and climate change.

9.6.12 In the longer term, climate change is likely to be the single most prevalent factor when attempting to predict the future baseline of an ecosystem or species community. It will affect Terrestrial Ornithology in various ways including changes in species distribution and abundance, the timing of seasonal events and habitat use and changes to the composition of plant and animal communities. The distributions of many species are shifting northwards in response to the changing climate, while some species are seen to be utilising habitats at a higher altitude than known previously.

9.6.13 In the short to medium term, and within the envisaged 35-year operational lifetime of the Proposed Development, changes in land management and land use are key drivers of the future baseline. It is assumed that in the absence of development, land use and management within the Scoping Boundary would continue largely as it is currently with a mix of agricultural farming practises, and woodland, hedgerow and scrub management, and that successional changes of more open habitats to scrub and eventually woodland are unlikely on any significant scale.

9.7 Embedded Mitigation

9.7.1 The Proposed Development will undergo design iterations and evolution in response to constraints identified as part of the baseline studies to avoid and/or minimise potential effects on receptors where possible. The design of the Proposed Development will aim to minimise loss, modification or damage to priority habitats and important wintering, breeding and/or foraging sites used by birds, and the requirement for and feasibility of mitigation measures will be consulted upon with statutory consultees throughout the EIA process. The following embedded mitigation, relevant to Terrestrial Ornithology, would be implemented:

9.7.2 The construction phase will be completed in accordance with an outline Construction Environmental Management Plan (CEMP) which will detail all mitigation measures to be undertaken during construction. The Proposed Development shall comply with all legal requirements as identified in the outline CEMP.

9.7.3 The outline CEMP will also include precautionary measures to protect any wildlife that may be present to avoid the risk of disturbance of WCA Schedule 1 bird nests, or damage to or destruction of any active nest, and to ensure compliance with the relevant legislation. Habitat clearance within sensitive areas will be overseen by an Ecological Clerk of Works (ECoW).

9.7.4 Relevant industry guidance includes the various Guidance for Pollution Prevention (GPP)[5] which contain a mix of regulatory requirements and good practice advice. Other sources of best construction practice and environmental management include CIRIA[6] guidance and the various NatureScot guidelines[7]. Mechanisms to avoid pollution will be implemented to ensure all forms of

[5] https://www.netregs.org.uk/tools/guidance-for-pollution-prevention-gpp-documents/
[6] https://www.ciria.org/
[7] https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-good-practice-construction

pollution will be prevented/contained within the construction sites including airborne particles, dust and ground/water contamination wherever possible.

9.7.5 Fencing and signage will be installed within construction works areas to demarcate sensitive areas and prevent accidental incursion by works, plant and personnel, with this managed by the ECoW. Construction materials will be appropriately stored in designated areas away from sensitive habitats and root protection zones will be established and clearly demarcated to prevent damage to trees, woodland and hedgerows.

9.7.6 Biosecurity measures will be included within the outline CEMP to ensure invasive non-native species (INNS) and disease are not introduced as a result of movement of plant, vehicles, personnel and any import of materials. Should baseline surveys find INNS to be present within the Scoping Boundary (as indicated by the data search results), an Invasive Non-Native Species Management Plan will be produced as part of the outline CEMP to ensure the works do not exacerbate their spread.

9.7.7 Construction lighting at night will be controlled as detailed in the outline CEMP such that light spill onto retained habitats of value to birds, including woodland, hedgerows, trees, particularly any found to have suitability for, or confirmed to support notable birds is mitigated against. Mitigation measures for bats will be in line with those given by the Institution of Lighting Professionals and Bat Conservation Trust[8] and will also be of benefit to nocturnal bird species. Measures will include restriction of lighting levels at night to the minimum required for safe working, use of directional lighting, the use of warm tone LED lighting and the locations of temporary site compounds and lay down areas to be used at night away from any areas of sensitive habitat.

9.7.8 For birds, as a minimum, precautionary measures will include clearance works taking place outside of the nesting season (March to September) where possible. Where this is not possible for example due to clashes with sensitive timings for other protected species, a pre-works check for breeding birds will be carried out by an experienced ecologist immediately prior to clearance, to confirm that no active bird nests are present, followed by clearance works carried out under the supervision of a suitably experienced ECoW. If an active nest is observed, the nest and a suitable buffer zone established by the ECoW will be protected until chicks have fledged and the nest is no longer active. If WCA Schedule 1 birds are suspected to be nesting within the works area, extra caution will be advised and a suitable buffer established to avoid the risk of disturbance.

9.7.9 Land associated with the installation of the Onshore Transmission Cables, including temporary construction compounds, will be reinstated to previous land uses. There will be replanting of forestry and vegetation and landscaping (screening) as required, and including biodiversity enhancement measures.

9.7.10 Any standard post-development monitoring of mitigation and compensation measures associated with protected species mitigation licences would be considered embedded within the Proposed Development.

9.8 Potential Impacts of the Proposed Development

9.8.1 Following the implementation of embedded mitigation, a series of potential impacts as a result of the construction, operation and maintenance, and decommissioning of the Proposed Development have been identified in relation to Terrestrial Ornithology.

Construction

9.8.2 As set out in **Chapter 3: The Proposed Development**, the construction phase of the Proposed Development is anticipated to last up to 3 years (excluding commissioning). Construction in

[8] https://theilp.org.uk/resource/gn08-bats-and-artificial-lighting-pdf.html

relation to the Onshore Transmission Cables would be predominantly transient in nature with works completed sequentially along the span of the Onshore Transmission Cable Corridor and therefore substantially less than the total assumed duration. Works may also run concurrently at more than one location, e.g., at both the Landfall Area and at the Substation. For the purposes of scoping, two potential substation locations are considered.

9.8.3 The potential for the following likely impacts to arise during the construction phase will be considered within the EIA Report (scoped in):

- Negative effects on statutory and non-statutory designated sites presented in **Tables 9.2** and **9.3**, including, but not limited to, the following impact pathways:
  - Direct habitat loss, damage and degradation to habitats within designated sites;
  - Direct loss, damage, degradation and fragmentation of habitat functionally linked to (internationally and nationally) designated sites;
  - Disturbance and displacement of qualifying interest features and/or species within site citations of the designated sites (noise, light, visual, vibration);
  - Water quality effects (including pollution to surface water, groundwater, changes to flow regime, temperature, turbidity, sedimentation effects);
  - Air quality effects (including dust deposition, NOx, Ndep, NH3); and
  - Introduction of INNS and disease.
- Loss, degradation and/or fragmentation of habitats with suitability for birds, and ornithological features outwith designated sites due to construction activities such as habitat clearance and site preparation, demolition, excavation and trenching, trenchless techniques such as horizontal directional drilling (HDD) and construction of infrastructure within the Scoping Boundary and its ZoI. This will include, but not be limited to, damage/degradation and destruction and contamination (e.g. through release of pollutants, dust and emissions) of notable habitats (including SBL, LBAP, AWI habitats), and damage and destruction of bird nests and wintering bird foraging areas.
- Where there is potential for notable bird species to be present within the Scoping Boundary and its ZoI (to be determined by the Scoping Survey and detailed analysis of the data search results), damage and destruction to supporting habitats and features will also be considered within the EIA Report following detailed survey (where required) and/or evaluation. Such species may include corncrake *Crex crex*, quail *Coturnix coturnix*, Scottish crossbill *Loxia scotica*, fieldfare *Turdus pilaris* and redwing *Turdus iliacus*.
- Disturbance to breeding WCA Schedule 1 species within the Scoping Boundary and its ZoI through construction activities as a result of noise, light vibration and the movement and presence of people and machinery. Where there is potential for breeding WCA Schedule 1 birds to be present within the Scoping Boundary and its ZoI (to be determined by the Scoping Survey and detailed analysis of the data search results), disturbance and displacement will be considered within the EIA report following detailed survey (where required) and/or evaluation.
- Direct harm (killing/injury/destruction) to/of breeding birds and their nests within the Scoping Boundary and ZoI through construction activities such as habitat clearance and site preparation, demolition, excavation and trenching, horizontal directional drilling (HDD) and construction of infrastructure. This will be determined by the Scoping Survey and detailed analysis of the data search results. Direct harm will be considered within the EIA Report following detailed survey (where required) and/or evaluation.

- Direct harm (killing/injury) of notable birds of the wider landscape through collision with above-ground infrastructure (Substation). Risks to be assessed through analysis of field and desktop data.
- Introduction and spread of INNS and disease to the wider environment that may affect birds and their habitat, through construction activities including import/export of materials, movement of spoil, vehicles and personnel, and vegetation clearance.

Operation and Maintenance

9.8.4 Activities associated with the operation and maintenance of the Proposed Development are expected to be limited to equipment maintenance and servicing, replacement of any components that fail, periodic fence inspections, vegetational management, and monitoring if and where required to ensure continued effective operation.

9.8.5 The proposed Onshore Transmission Cables and the Substation are anticipated to be operated and monitored remotely. Operation and maintenance staff would visit the Substation and carry out inspection of the Onshore Transmission Cables as and when required.

9.8.6 The potential for the following likely impacts to arise during the operational phase of the Proposed Development and will be considered within the EIA Report (scoped in):

- Disturbance to and displacement of notable ornithological receptors within the Scoping Boundary and its ZoI through external lighting, and the movement and presence of people and vehicles;
- Killing/injury of qualifying interest features and/or species within site citations of the designated sites, and other notable species of the wider environment, including through collision with above-ground structures (Substation); and,
- Long-term positive effects of habitat creation and enhancement and landscaping, with respect to NPF4.

Decommissioning

9.8.7 On a precautionary basis, it is considered that, should the Proposed Development be decommissioned after 35 years, the potential impact pathways will be similar to the construction phase above, whereby there will be a need to consider effects from the removal of buildings, including the Substation and above-ground infrastructure (it is expected that the Onshore Transmission Cables will remain *in situ* to minimise environmental effects).

Table 9.4: Summary of Potential Terrestrial Ornithology Related Impacts Proposed to be Scoped In

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
Designated sites which pertain to birds: Direct habitat loss, damage and degradation to habitats within or functionally linked to statutory designated sites, and negative effects on populations of the qualifying species they support (e.g. breeding or notable wintering birds).	✓	✕	✓	There are no statutory designated sites within the Scoping Boundary. Impact pathways to consider limited to: • Potential damage and degradation of foraging habitats related to species from Fowlsheugh, Ythan Estuary, Sands of Forvie and Meikle Loch and Loch of Skene SPAs through water quality effects (including pollution/contamination to surface water, groundwater, changes to flow regime, temperature, turbidity, sedimentation effects) where hydrological connectivity exists. • Potential damage and degradation of foraging habitats related to species from Fowlsheugh, Ythan Estuary, Sands of Forvie and Meikle Loch and Loch of Skene SPAs through air quality effects from e.g. dust deposition, NOx, Ndep, acid dep, NH_3 as a result of increased plant and traffic movement, including routes to site, demolition, excavation, movement and storage of materials, and operational emissions.	Water Quality: Desktop study drawing on information on relevant designated sites from JNCC, NatureScot SiteLink and Magic, as well as interrogation of SEPA River Catchment data and other relevant habitat and geological datasets to determine hydrological connectivity and scope for impact. Where credible impact pathways are found to exist, a sHRA will be undertaken for international sites to assess likely significant effects and, where necessary, set out appropriate mitigation, and conclusions of the Adverse Effect on Site Integrity (AEOSI) text in consultation with the NatureScot. This will inform the EIA Report for these sites. For nationally designated sites, a similar process of assessment and consultation will be undertaken within the EIA Report following CIEEM (2018)[9] guidance. Air Quality: Interrogation of Air Pollution Information Service (APIS)[10] for presence of pollutant sensitive habitats and species, alongside designated sites information from NatureScot's SiteLink and JNCC to determine likelihood of significant impact pathways. Obtain traffic and vehicle movement data, including roues to site to establish Affected Road Network (ARN) and changes to Average Annual Daily Traffic (AADT), and undertake air quality modelling where

[9] CIEEM (2018) CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester. Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

[10] APIS - Air Pollution Information System | APIS

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
					necessary, alongside production of CEMP and establishment of good site practice measures to inform impact assessment and mitigation with respect to dust and emissions. Where credible impact pathways are found to exist, a sHRA will be undertaken for international sites to assess likely significant effects and, where necessary, set out appropriate mitigation, and conclusions of the AEOSI text in consultation with the relevant SNCO. This will inform the EIA Report for these sites. For nationally designated sites, a similar process of assessment and consultation will be undertaken within the EIA Report following CIEEM (2018) guidance.
Introduction of INNS and disease	✓	✕	✓	Japanese knotweed has been recorded within the Scoping Boundary. Unmitigated, there is some potential for movement of materials and vehicles/plant to and from the site during construction and decommissioning to exacerbate spread of INNS and disease to nearby designated sites and within the wider landscape. This could negatively affect habitat for breeding or notable wintering birds.	Desktop study and site survey to establish/verify presence of INNS on site and assess likely risk and impact of spread within EIA Report. Provision of appropriate mitigation and biosecurity measures, where required, within CEMP.
Temporary or permanent disturbance/displacement of breeding or notable wintering birds	✓	✓	✓	Legally protected and noteworthy species such as active bird nests including those of WCA Schedule 1 bird and notable wintering birds (e.g. WCA Schedule 1, BoCC Red or Amber) may present within the Study Area and may be subject to disturbance within places of shelter and breeding through noise, external and security lighting, vibration or visual	Desktop study and bird surveys using appropriate survey guidance and buffers. Identify presence of key resources (nests and winter foraging areas) through survey. Where likely significant effects are identified, appropriate mitigation will be outlined to avoid and/or minimise the effects, including requirement for mitigation licensing.

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
				disturbance from increased presence and movement of people, plant and vehicles. Disturbance may cause nest abandonment or displacement from key foraging grounds. Potential effects on fitness and breeding success at the individual and population level.	
Temporary or permanent loss or damage to winter foraging or nest sites for protected and noteworthy species as well as all breeding birds	✓	✕	✓	Habitat clearance to facilitate construction and decommissioning has the potential to result in the loss of trees, scrub, field-edge, arable land and buildings with breeding birds or winter foraging habitat present, and damage or destroy nests. Several buildings and trees are within the provisional footprint of the platform of Substation - Site A. Key winter foraging and nesting locations may be lost, affecting access to resources, dispersal and genetic interchange between populations. Direct losses to the Onshore Transmission Cable installation will be phased and are likely to be temporary, with land use reinstated once construction is complete; however, for the purposes of Scoping it is assumed that the cable corridor will be 200 m at its widest point and thus loss of foraging areas could be significant in the short-medium term. Losses to other infrastructure likely to last at least for duration of lifetime of Proposed Development (35 years).	As above.
Collision risk with above ground infrastructure with potential to affect qualifying species of	✕	✓	✕	For the purposes of the EIA Report, the substation is assumed to be 20 m in height which, depending on local bird movements and flight lines, the design of the structure,	The locations of designated sites and any likely functionally linked land would be mapped. Together with an assessment of field and desktop data, and local topography, an assessment would be made of

Potential Impact	Phase of Proposed Development*			Justification	Summary of the Proposed Approach to Assessment
	C	O&M	D		
nearby designated sites and birds of the wider environment.				and other parameters such as lighting, may present a collision risk for some bird species. Given the proximity of sites designated for ornithological interest and potential presence of functionally linked land, within the Study Area, this impact is scoped in for further assessment.	whether or not the Substation site lies on a likely flight line for key species. If it is considered to lie within a high traffic location, the design of the structure (height, proposed materials and lighting) would be considered to inform an assessment of risk. And potential need for mitigation. Targeted surveys to assess flight heights of key species would be undertaken at the appropriate times of year to inform assessment, where necessary.
Mid to long-term positive effects of habitat creation and enhancement	✕	✓	✕	Potential for landscaping/habitat creation/ enhancement to provide a long-term benefit to Terrestrial Ornithology in the mid to long-term by providing additional or enhanced habitats and foraging, breeding and commuting resources to species.	Suitable habitat creation/ enhancement will be identified within the EIA following detailed assessment of impact and necessary compensatory/reinstatement measures. In line with NPF4 Policy 3b[11], measures to enhance biodiversity and nature networks, targeting locally and nationally important species and habitats will be explored.

*Phase of Proposed Development refers to construction (C), operation and maintenance (O&M), and decommissioning (D).

[11] Scottish Government (2023). Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf

Table 9.5: Summary of Potential Terrestrial Ornithology Related Impacts Proposed to be Scoped Out

Potential Impact	Justification
Construction/decommissioning disturbance and killing/injury effects on ornithology related qualifying features of three internationally designated sites within the Study Area (Ythan Estuary, Sands of Forvie and Meikle Loch SPA, Loch of Skene SPA, Loch of Skene Ramsar), excluding herring gull, greylag goose and pink-footed goose.	It is considered that there is negligible scope for disturbance/ displacement or killing/injury of ornithology related interest features of the internationally designated sites (for example sandwich, common and little tern, greylag goose, goldeneye and goosander) as a result of activities at any stage of the Proposed Development. This is due to the nature of the habitats within the Scoping Boundary and their connectivity to designated sites, as well as the low likelihood of these interest features utilising the site due to their preferred habitat types. Herring gull, greylag goose and pink-footed goose associated with the relevant designated site, shall be scoped into the assessment.
Operational impacts from the Onshore Transmission Cables	As the Onshore Transmission Cables would be underground, operational maintenance is expected to be of limited scale (both spatially and temporally), there is not considered to be any potential for significant (population-level) effects on any breeding birds or birds with additional protections.
Operational impacts on habitats of low ornithological value	All habitats which are of low ecological value e.g., amenity grassland are not considered to be significantly affected by the Proposed Development and therefore are scoped out of further assessment.
Operational impacts on statutory designated sites over 20 km	Assessment of statutory designated sites (which have a qualifying ecological feature) that are located outwith 20 km of the Proposed Development are scoped out, due to lack of connectivity between the designated site and between the designated site and the Proposed Development.

9.9 Proposed Assessment Methodology

Determination of the Baseline

9.9.1 The baseline for the Terrestrial Ornithology EIA Report chapter will be informed by a number of bird surveys and assessments. A PEA to comprise a UK Habitat Classification (UKHab) and Habitat Condition Assessment (HCA) survey will be undertaken across the Scoping Boundary in April/May 2026, which will aid in identifying focus areas for breeding or notable birds. Concurrent with this, Breeding Bird Surveys are also to be undertaken to identify and record any evidence of use, where possible. Wintering Bird Surveys were conducted within the Scoping Boundary during the winter of 2025 to 2026. Methodology and timings are set out in **Table 9.6**. Intertidal surveys undertaken as part of the Proposed Offshore Development (separate application) will also be available for use within the EIA Report.

9.9.2 The Scoping Survey conclusions, desktop study and any preliminary bird survey results will inform the requirement for further bird surveys including targeted species surveys or flight heights. As set out in **Section 9.3.4**, consultation with NatureScot and Aberdeenshire Council will be sought on the full scope of surveys in advance of the EIA Report. Further surveys required to inform the EIA Report for the PPiP application would be undertaken at the appropriate time of year in 2026 and/or in subsequent years as required to inform detailed application as design plans evolve.

UKHab and Scoping Survey

9.9.3 A UKHab and scoping survey will be undertaken over several visits to the Study Area to establish the baseline, alongside the desk study incorporating data obtained from NESBReC and other data sources as described. The scoping survey will assess the potential of the site to support protected and notable species and their potential as a constraint to the Proposed Development. This, alongside any subsequent targeted species and habitat survey and desktop study data, will enable an evaluation of the importance of the Site and its ecological receptors, including ornithology.

Shadow Habitat Regulations Assessment (sHRA)

9.9.4 A shadow Habitat Regulations Assessment (sHRA) will be undertaken for the Site with reference to the approach provided in Assessment of Plans and Projects Significantly Affecting European Sites and will be in accordance with CIEEM (2018) and Holman *et al*. (2020). The report will provide a preliminary screening assessment to inform design and consultation at an early stage in an iterative process of assessment. This will be updated as further design and assessment information becomes available. The sHRA will examine survey and desktop data to assess the likelihood of significant effects on qualifying bird interest within both the designated sites and on any potential functionally-linked land outwith the designated site boundaries, to include potential flight lines between breeding, roosting, foraging or wintering grounds.

Protected and notable species

9.9.5 Dedicated surveys for the relevant ornithological receptors have been/will be undertaken to inform the EIA Report, including:

Table 9.6: Survey methods and timings

Receptor	Survey type	Justification	Methods and Timings
Wintering Birds	Winter Bird Surveys	Records for various notable wintering birds were returned in the data search, the Scoping Boundary contains potentially suitable foraging habitat for such species is present within the, such as woodland, scrub and winter cereals. Wintering birds have the potential to be negatively affected by the Proposed Development through habitat removal, disturbance and killing/injury.	A predetermined transect will be followed on the site (reversing the direction between visits) and will incorporate regular Vantage Points. All birds recorded will be annotated on field maps with particular reference to qualifying species associated with the nearby designated sites and Birds of Conservation Concern (Stanbury *et al.,* 2021). Three visits were undertaken between February and March 2026. In addition, intertidal surveys have been undertaken for the Proposed Offshore Development (separate application) over winter 2024/2025 and data are available for use within the EIA Report.
Breeding Birds	Breeding Bird Surveys	Records for various notable birds which could breed within habitats within the Scoping Boundary were returned in the data search. Breeding birds have the potential to be negatively affected by the	Four breeding bird surveys will be undertaken between April and early July 2026. The surveys will cover all land parcels within the Scoping Boundary. A defined transect route will be walked within 50m of suitable habitat features to assess the

Receptor	Survey type	Justification	Methods and Timings
		Proposed Development through habitat removal, disturbance and killing/injury.	breeding bird assemblage and all species and activity recorded using standard BTO codes.
Notable Bird Species	Species-targeted Bird Surveys	Records for various notable birds were returned in the data search. The UKHab and Scoping Survey and ongoing breeding/wintering bird surveys will help identify if any further, species-targeted bird surveys are required.	Dependent on species targets.

Assessment Methodology

9.9.6 The effect of the Proposed Development on ornithological features and attributes will be assessed with reference to the Guidelines for Ecological Impact Assessment (EcIA) CIEEM (2018). This will include:

- Establishment of the zone(s) of influence of the Proposed Development, defined by the area within which potential ornithological impacts are considered likely to occur. This includes the physical extent of land-use associated with the proposals as well as indirect or exported effects of pollution and light or noise disturbance that may affect a wider area. The scope of assessment is determined for each impact based on its likely spatial and temporal extent and the distribution of ornithological features likely to be affected.
- Assignation of a geographic scale of importance to each ecological feature/receptor. In descending level of importance, features assessed to be 'important' will be categorised as: International; national; regional; county or other local authority-wide area; and local. Features of less than local level of importance will be classified as being of importance at the Site level, where they have ornithological importance within the ZoI of the Proposed Development, or otherwise as being of negligible importance.
- Predicting the magnitude of impact across the stages of the Proposed Development. An assessment of likely ornithological impacts will be undertaken in accordance with CIEEM guidelines (2018) for receptors assessed as 'important' and only where clear evidence is available to substantiate and justify the findings. In the absence of such evidence, the precautionary principal will be applied and the effect included as significant in the absence of evidence to the contrary. Impacts will be assessed initially without mitigation in accordance with the approach adopted by CIEEM (2018). Following identification of the scale and magnitude of impacts, mitigation measures will then be proposed that are commensurate with the impacts identified. The impact assessment will then be reapplied to determine the scale of any residual impacts to each ecological receptor, to determine potential residual effects. Only those receptors for which effects are considered significant will be carried through to the next stage.
- A level of significance will be assigned to each predicted effect, taking the importance of the receptor and magnitude of impact together. The geographic scale of the effects will be estimated on the same geographic scale as above. Where an ecological feature falls into more than one category of scale (e.g., a site designated at both the international and national level), then the highest category will be selected for evaluation purposes.

- In accordance with CIEEM guidelines, the following factors will be taken into account for each identified impact on each relevant ornithological feature:
  - Positive or negative;
  - Extent;
  - Magnitude (size/amount/intensity/volume);
  - Duration (short, medium or long-term, permanent or temporary);
  - Timing/frequency (occurring at a critical stage in lifecycle, regular or irregular); and
  - Reversibility (reversible or irreversible).
- Taking the importance of the receptor and magnitude of impact together to assess the significance of effect.

Mitigation & Design Principles

9.9.7 As the collection and analysis of baseline data is ongoing, mitigation measures will be developed in response to survey findings and iterative scheme design, alongside consultation with stakeholders as required. In general, it will follow the principles of the mitigation hierarchy to retain and enhance valued habitats where possible, avoid/minimise adverse effects, and provide connected and biodiverse spaces, to offset losses.

9.9.8 Built-in mitigation, such as am outline Construction Environment Management Plan (CEMP) and standard design features, will influence the assessment of significance.

9.9.9 Where effects are considered potentially significant in EIA terms, additional mitigation measures will be designed and applied as part of a residual significance assessment.

9.10 Potential Cumulative Effects

Potential Intra-Project Cumulative Effects

9.10.1 Potential inter-project cumulative effects will be considered as part of the Terrestrial Ornithology assessment with details presented within the EIA Report. This will include the consideration of both project lifetime effects and receptor-led effects in accordance with the approach set out within **Chapter 4: Approach to Scoping and EIA**. There is potential for intra-project cumulative effects to occur in relation to the following other environmental topics:

- Terrestrial Ecology (**Chapter 8**):
  - Any mitigation and enhancement measures targeted at terrestrial ecology interest may also benefit terrestrial ornithology. Where any conflict in recommended timings of operations exists, this will require careful consideration to ensure needs of ecology and ornithology are met. For example, clearance of vegetation in winter to avoid nesting birds could affect hibernating non-avian species.
- Landscape and Visual (**Chapter 10**):
  - Areas of native planting used to screen the Proposed Development and integrate it into its setting would give greater variety and provide increased biodiversity and habitat. All existing hedgerows, woodland and individual trees are to be retained where possible and shall be protected during the construction phase in accordance with BS:5837 2012 ‘Trees in relation to design, demolition and construction – Recommendations’.

- Archaeology and Cultural Heritage (**Chapter 11**):
  - Archaeological investigations have the potential to affect terrestrial ornithology through habitat clearance and excavation, noise and disturbance. Embedded mitigation and timings within CEMP will minimise risk of effects on protected species and habitats.
- Geology, Soils and Peat (**Chapter 12**):
  - Soil loss, compaction, contamination and other changes to soil quality during construction has the potential to impact terrestrial ornithology. Potential loss and alteration of soil characteristics may influence vegetation composition and structure and suitability of habitat for ornithological receptors. Local geology will influence hydrological regime of Proposed Development. Any trial pits to investigate soil/ground conditions have the potential to affect terrestrial ornithology through habitat clearance and excavation. Embedded mitigation and timings within CEMP will minimise risk of soil/peat loss and damage and effects on bird species.
- Hydrology and Flood Risk (**Chapter 13**):
  - The effects of excavations on groundwater, increased surface water run-off and flooding, and construction-related water contamination and changes to flow regime and other parameters on and off-site may impact on terrestrial ornithology in terms of availability and quality of nest-sites, foraging and roosting areas. Any trial pits to investigate ground conditions/drainage have the potential to affect terrestrial ornithology through habitat clearance and excavation. Embedded mitigation and timings within CEMP will minimise risks of contamination and pollution effects on hydrology and effects on bird species.
- Air Quality (**Chapter 15**):
  - Dust deposition and air emissions from construction traffic (including routes to site) during construction and decommissioning of the Proposed Development may have an impact on terrestrial ornithology by virtue of the effect on supporting habitats within the Study Area. Embedded mitigation within the CEMP will minimise risk of dust and emissions effects on terrestrial ornithology.
- Noise and Vibration (**Chapter 16**):
  - Noise and vibration disturbance during construction and decommissioning works may have an impact on terrestrial ornithology due to the presence of suitable breeding and wintering habitat within the Study Area. Schedule 1 birds may be present and would require avoidance measures to ensure compliance with the WCA. Embedded mitigation within the CEMP will avoid/minimise risk of disturbance events.

Potential Inter-Project Cumulative Effects

9.10.2 Cumulative effects with the Proposed Offshore Development will be considered, together with cumulative effects with other developments, where relevant.

9.10.3 The inter-project cumulative effects assessment will follow the approach set out within **Chapter 4: Approach to Scoping and EIA**.

9.11 Limitations and Assumptions

9.11.1 Data search results used within the desktop study reflect the Scoping Boundary (plus a 2 km buffer around it) at the time of request from NESBReC. Minor changes to this have since occurred and may do so in the future as the EIA process evolves. The 2 km buffer around the Scoping Boundary ensures that records are unlikely to be missed unless changes are very substantial and it is considered unlikely that this is a significant limitation.

9.11.2 The desk study will take into account of records provided by the NESBReC. However, even where data for a particular species group are provided, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ornithological interest, the area may simply be under-recorded, or records may not have been submitted.

9.11.3 As per NatureScot Guidance[12], ornithological survey data should be considered to be valid for up to five years, unless there are any significant changes to habitats within the site.

9.11.4 An accelerated programme for the submission of the planning application presents potential limitations with respect to the survey window for certain ecological receptors and the establishment of the baseline.

9.11.5 Individual birds and different bird species differ in their behaviour and detectability, with some species more cryptic than others. It is possible some species present will not be detectable at the time of survey.

9.11.6 Breeding bird surveys should be carried out between March and September. An absence of surveys later in the season may result in a lack of information on the importance of the Proposed Development for breeding birds. A precautionary approach will be taken within the EIA Report with respect to the importance of the Proposed Development for birds, drawing on desktop study information as well as field survey results. Further surveys will be undertaken at a later stage to provide more information for assessment of the detailed application, when design plans are refined.

9.11.7 By its nature, the PPiP application will not include all details of the Proposed Development, with fixed design parameters, timings and working methods. The EIA will be based on the scope provided and will assume a worst-case scenario where necessary. Any limitations or assumptions will be set out clearly in the EIA Report, with an assessment of certainty or reliability of any conclusions drawn.

9.12 Summary of Proposed Scope

9.12.1 The scoping exercise has concluded that because of potential ornithological impacts arising from the Proposed Development during the construction, operational and decommissioning phases that a Terrestrial Ornithology Chapter should be scoped into the EIA Report.

9.12.2 The following potential impacts (and associated potential effects) have been scoped into the EIA:

- Construction and Decommissioning: Potential impacts on designated sites, including habitat loss, damage or degradation within or functionally linked to statutory designations, leading to negative effects on qualifying bird species (including breeding and notable wintering populations);
- Construction and Decommissioning: Risk of introducing invasive non-native species (INNS) and disease, potentially affecting habitats and bird populations;
- Construction, Operation & Maintenance and Decommissioning: Disturbance or displacement of birds, either temporarily or permanently, with potential effects on breeding and notable wintering birds;
- Construction and Decommissioning: Temporary or permanent loss or damage to winter foraging or nest sites for protected and noteworthy species as well as all breeding birds; and
- Operation and Maintenance: Positive impacts in the medium to long term, due to habitat creation and enhancement.

[12] NatureScot (2025) Recommended Bird Survey Methods to Inform Impact Assessment on Onshore Windfarms (March 2025), available at: Recommended bird survey methods to inform impact assessment of onshore windfarms | NatureScot

9.12.3 It is to be noted that uncertainty remains regarding the nature of the decommissioning phase. As a precaution, decommissioning effects will be scoped into the EIA Report on the assumption that effects will be no greater than the construction phase; however, they could be significantly less.

9.12.4 The following potential impacts have been scoped out of the EIA:

- Construction and Decommissioning: Disturbance and killing/injury effects on ornithology related qualifying features of three internationally designated sites within the Study Area;
- Operation and Maintenance: Impacts from the Onshore Transmission Cables;
- Operational and Maintenance: Impacts on habitats of low ornithological value;
- Operational and Maintenance: Impacts on statutory designated sites located beyond 20 km.