Cenos Offshore Windfarm Limited

# Cenos EIA

## Appendix 3 – Offshore Crossings Schedule

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# REVISIONS & APPROVALS



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# CONTENTS

# ACRONYMS

| ACRONYM | DEFINITION |
|---|---|
| CNSE | Central North Sea Electrification Project |
| EIA | Environmental Impact Assessment |
| EIAR | Environmental Impact Assessment Report |
| EICC | Export/Import Cable Corridor |
| EMP | Environmental Management Plan |
| IAC | Inter-Array Cables |
| km | kilometre |
| m | Metre |
| MAA | Military Aviation Authority |
| MD-LOT | Marine Directorate – Licensing Operations Team |
| MLA | Marine Licence Application |
| Met | Meteorological |
| NM | Nautical Mile |
| OWF | Offshore Wind Farm |
| SG | Scottish Government |
| UK | United Kingdom |
| UXO | Unexploded Ordnance |
| WTG | Wind Turbine Generator |

# GLOSSARY

| TERM | DEFINITION |
|---|---|
| 2023 Scoping Opinion | Scoping Opinion received in June 2023, superseded by the 2024 Scoping Opinion. |
| 2023 Scoping Report | Environmental Impact Assessment (EIA) Scoping Report submitted in 2023, superseded by the 2024 Scoping Report. |
| 2024 Scoping Opinion | Scoping Opinion received in September 2024, superseding the 2023 Scoping Opinion. |
| 2024 Scoping Report | EIA Scoping Report submitted in April 2024, superseding the 2023 Scoping Report. |
| Area of Opportunity | The area in which the limits of electricity transmission via High Voltage Alternating Current (HVAC) cables can reach oil and gas assets for decarbonisation. This area is based on assets within a 100 kilometre (km) radius of the Array Area. |
| Array Area | The area within which the Wind Turbine Generators (WTGs), floating substructures, moorings and anchors, Offshore Substation Converter Platforms (OSCPs) and Inter-Array Cables (IAC) will be present. |
| Cenos Offshore Windfarm ('the Project') | 'The Project' is the term used to describe Cenos Offshore Windfarm. The Project is a floating offshore windfarm located in the North Sea, with a generating capacity of up to 1,350 Megawatts (MW). The Project which defines the Red Line Boundary (RLB) for the Section 36 Consent and Marine Licence Applications (MLA), includes all offshore components seaward of Mean High Water Springs (MHWS) (WTGs, OSCPs, cables, floating substructures moorings and anchors and all other associated infrastructure). The Project is the focus of this Environmental Impact Assessment Report (EIAR). |
| Cenos Offshore Windfarm Ltd. (The Applicant) | The Applicant for the Section 36 Consent and associated marine licences. |
| Cumulative Assessment | The consideration of potential impacts that could occur cumulatively with other relevant projects, plans, and activities that could result in a cumulative effect on receptors. |

| TERM | DEFINITION |
|---|---|
| **Developer** | Cenos Offshore Windfarm Ltd., a Joint Venture between Flotation Energy and Vårgrønn As (Vårgrønn). |
| **Environmental Impact Assessment (EIA)** | The statutory process of evaluating the likely significant environmental effects of a proposed project or development. Assessment of the potential impact of the proposed Project on the physical, biological and human environment during construction, operation and maintenance and decommissioning. |
| **Environmental Impact Assessment Regulations** | This term is used to refer to the Environmental Impact Assessment Regulations which are of relevance to the Project. This includes the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended); and the Marine Works (Environmental Impact Assessment) Regulations 2007. |
| **Environmental Impact Assessment Report** | A report documenting the findings of the EIA for the Project in accordance with relevant EIA Regulations. |
| **Export/Import Cable** | High voltage cable used to export/import power between the OSCPs and Landfall. |
| **Export/Import Cable Bundle (EICB)** | Comprising two Export/Import Cables and one fibre-optic cable bundled in a single trench. |
| **Export/Import Cable Corridor (EICC)** | The area within which the Export/Import Cable Route will be planned and the Export/Import Cable will be laid, from the perimeter of the Array Area to MHWS. |
| **Export/Import Cable Route** | The area within the Export/Import Export Corridor (EICC) within which the Export/Import Cable Bundle (EICB) is laid, from the perimeter of the array area to MHWS. |
| **Floating Turbine Unit (FTU)** | The equipment associated with electricity generation comprising the WTG, the floating substructure which supports the WTG, mooring system and the dynamic section of the IAC. |
| **Flotation Energy** | Joint venture partner in Cenos Offshore Windfarm Ltd. |

| TERM | DEFINITION |
|---|---|
| Habitats Regulations | The Habitats Directive (Directive 92/43/ECC) and the Wild Birds Directive (Directive 2009/147/EC) were transposed into Scottish Law by the Conservation (Natural Habitats &c) Regulations 1994 ('Habitats Regulations') (up to 12 NM); by the Conservation of Offshore Marine Habitats and Species Regulations 2017 ('Offshore Marine Regulations') (beyond 12 NM); the Conservation of Habitats and Species Regulations 2017 (of relevance to consents under Section 36 of the Electricity Act 1989); the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001; and the Wildlife and Countryside Act 1981. The Habitats Regulations set out the stages of the Habitats Regulations Appraisal (HRA) process required to assess the potential impacts of a proposed project on European Sites (Special Areas of Conservation, Special Protection Areas, candidate SACs and SPAs and Ramsar Sites). |
| Habitats Regulations Appraisal | The assessment of the impacts of implementing a plan or policy on a European Site, the purpose being to consider the impacts of a project against conservation objectives of the site and to ascertain whether it would adversely affect the integrity of the site. |
| High Voltage Alternating Current (HVAC) | Refers to high voltage electricity in Alternating Current (AC) form which is produced by the WTGs and flows through the IAC system to the OSCPs. HVAC may also be used for onward power transmission from the OSCPs to assets or to shore over shorter distances. |
| High Voltage Direct Current (HVDC) | Refers to high voltage electricity in Direct Current (DC) form which is converted from HVAC to HVDC at the OSCPs and transmitted to shore over longer distances. |
| Horizontal Directional Drilling (HDD) | An engineering technique for laying cables that avoids open trenches by drilling between two locations beneath the ground's surface. |
| Innovation & Targeted Oil and Gas (INTOG) | In November 2022, the Crown Estate Scotland (CES) announced the Innovation & Targeted Oil and Gas (INTOG) Leasing Round, to help enable this sector-wide commitment to decarbonisation. INTOG allowed developers to apply for seabed rights to develop offshore windfarms for the purpose of providing low carbon electricity to power oil and gas installations and help to decarbonise the sector. Cenos is an INTOG project and in November 2023 secured an Exclusivity Agreement as part of the INTOG leasing round. |
| Inter-Array Cable (IAC) | The cables which connect the WTGs to the OSCPs. WTGs may be connected with IACs into a hub or in series as a 'string' or a 'loop' such that |

| TERM | DEFINITION |
|---|---|
| | power from the connected WTGs is gathered to the OSCPs via a single cable. |
| Joint Venture | The commercial partnership between Flotation Energy and Vårgrønn, the shareholders which hold the Exclusivity Agreement with CES to develop the Cenos site as an INTOG project. |
| Landfall | The area where the Export/Import Cable from the Array Area will be brought ashore. The interface between the offshore and onshore environments. |
| Marine Licence | Licence required for certain activities in the marine environment and granted under the Marine and Coastal Access Act 2009 and/or the Marine (Scotland) Act 2010. |
| Marine Protected Area (MPA) | Marine sites protected at the national level under the Marine (Scotland) Act 2010 out to 12 NM, and the Marine and Coastal Access Act 2009 between 12-200 NM. In Scotland MPAs are areas of sea and seabed defined so as to protect habitats, wildlife, geology, underseas landforms, historic shipwrecks and to demonstrate sustainable management of the sea. |
| Marine Protected Area (MPA) Assessment | A three-step process for determining whether there is a significant risk that a proposed development could hinder the achievement of the conservation objectives of an MPA. |
| Mean High Water Springs (MHWS) | The height of Mean High Water Springs is the average throughout the year, of two successive high waters, during a 24-hour period in each month when the range of the tide is at its greatest. |
| Mean Low Water Springs (MLWS) | The height of Mean Low Water Springs is the average throughout a year of the heights of two successive low waters during periods of 24 hours (approximately once a fortnight). |
| Mitigation Measures | Measures considered within the topic-specific chapters in order to avoid impacts or reduce them to acceptable levels.<br>• Primary mitigation - measures that are an inherent part of the design of the Project which reduce or avoid the likelihood or magnitude of an adverse environmental effect, including location or design;<br>• Secondary mitigation – additional measures implemented to further reduce environmental effects to 'not significant' levels (where appropriate) and do not form part of the fundamental design of the Project; and |

| TERM | DEFINITION |
|---|---|
| | • Tertiary mitigation – measures that are implemented in accordance with industry standard practice or to meet legislative requirements and are independent of the EIA (i.e. they would be implemented regardless of the findings of the EIA).<br><br>Primary and tertiary mitigation are referred to as embedded mitigation. Secondary mitigation is referred to as additional mitigation. |
| **Mooring System** | Comprising the mooring lines and anchors, the mooring system connects the floating substructure to the seabed, provides station-keeping capability for the floating substructure and contributes to the stability of the floating substructure and WTG. |
| **Nature Conservation Marine Protected Area (NCMPA)** | MPA designated by Scottish Ministers in the interests of nature conservation under the Marine (Scotland) Act 2010. |
| **Offshore Substation Converter Platforms (OSCPs)** | An offshore platform on a fixed jacket substructure, containing electrical equipment to aggregate the power from the WTGs and convert power between HVAC and HVDC for export/import via the export/import cable to/from the shore. The OSCPs will also act as power distribution stations for the Oil & Gas platforms. |
| **Onward Development** | Transmission projects which are anticipated to be brought forward for development by 3rd party oil and gas operators to enable electrification of assets via electricity generated by the Project. All Onward Development will subject to separate marine licensing and permitting requirements. |
| **Onward Development Area** | The area within which oil and gas assets would have the potential to be electrified by the Project. |
| **Onward Development Connections** | Oil and gas assets located in the waters surrounding the Array Area will be electrified via transmission infrastructure which will connect to the Project's OSCPs. These transmission cables are referred to as Onward Development Connections. |
| **Project Area** | The area that encompasses both the Array Area and EICC. |
| **Project Design Envelope** | A description of the range of possible elements that make up the Project design options under consideration and that are assessed as part of the EIA for the Project. |

| TERM | DEFINITION |
|---|---|
| **Study Area** | Receptor specific area where potential impacts from the Project could occur. |
| **Transboundary Assessment** | The consideration of impacts from the Project which have the potential to have a significant effect on another European Economic Area (EEA) state's environment. Where there is a potential for a transboundary effect, as a result of the Project, these are assessed within the relevant EIA chapter. |
| **Transmission Infrastructure** | The infrastructure responsible for moving electricity from generating stations to substations, load areas, assets and the electrical grid, comprising the OSCPs, and associated substructure, and the Export/Import Cable. |
| **Vårgrønn As (Vårgrønn)** | Joint venture partner in Cenos Offshore Windfarm Ltd. |
| **Wind Turbine Generator (WTG)** | The equipment associated with electricity generation from available wind resource, comprising the surface components located above the supporting substructure (e.g., tower, nacelle, hub, blades, and any necessary power transformation equipment, generators, and switchgears). |
| **Worst-Case Scenario** | The worst-case scenario based on the Project Design Envelope which varies by receptor and/or impact pathway identified. |

# 18 OFFSHORE CRSOSSING SCHEDULE

## 18.1 Offshore Crossing Schedule

*Table 18-1 How to read the Cenos Offshore Windfarm Crossing Schedule*

| HEADING IN CROSSING SCHEDULE | EXPLANATION |
|---|---|
| Cenos Project Crossing Identification Number | This is the identification number that is given to each of the crossings that the Cenos Offshore Windfarm Project will encounter. |
| Type of Obstacle | Description of the obstacle being crossed. |
| Project being crossed | Other projects that Cenos Offshore Windfarm will encounter |
| Asset Owner | Known owner of the asset being crossed. |

*Table 18-2 Offshore Crossing Schedule for Cenos Offshore Wind Farm*

| X COORDINATE | Y COORDINATE | CENOS PROJECT CROSSING ID | TYPE OF OBSTACLE | PROJECT BEING CROSSED | ASSET OWNER | LOCATION |
|---|---|---|---|---|---|---|
| 217338.0117 | 6380850.557 | ECRC01 | CABLE | Eastern Green Link 2 | Eastern Green Link 2 | Within 12NM |
| 217639.1185 | 6381159.756 | ECRC02 | CABLE | CNSE | Central North Sea Electrification Project | Within 12NM |
| 217840.4122 | 6381366.435 | ECRC03 | CABLE | Eastern Green Link 3 | Eastern Green Link 3 | Within 12NM |

| X COORDINATE | Y COORDINATE | CENOS PROJECT CROSSING ID | TYPE OF OBSTACLE | PROJECT BEING CROSSED | ASSET OWNER | LOCATION |
|---|---|---|---|---|---|---|
| 220789.6174 | 6384394.447 | ECRC04 | CABLE | HYWIND EXPORT CABLE | STATOIL | Within 12NM and Southern Trench MPA |
| 222466.7123 | 6386114.208 | ECRC05 | CABLE | Muir Mhor Offshore Export Cable Corridor (Estimated) | Muir Mhòr Offshore Wind Farm | Within 12NM and Southern Trench MPA |
| 224346.7905 | 6387138.525 | ECRC06 | CABLE | Salamander | Salamander Offshore Wind Farm | Within 12NM and Southern Trench MPA |
| 226944.0321 | 6388670.889 | ECRC07 | PIPELINE | 20" GAS FULMAR A - ST. FERGUS (PL208) | SHELL PLC | Within 12NM and Southern Trench MPA |
| 242072.059 | 6390132.887 | ECRC08 | CABLE | Salamander | Salamander Offshore Wind Farm | 12NM to MPA |
| 255990.7986 | 6385625.962 | ECRC09 | PIPELINE | FORTIES C TO CRUDEN BAY (PL721) | INEOS FPS LTD | 12NM to MPA |
| 256018.4052 | 6385535.555 | ECRC10 | PIPELINE | FORTIES C TO CRUDEN BAY (PL8) | INEOS FPS LTD | 12NM to MPA |
| 256031.0932 | 6385494.004 | ECRC11 | CABLE | TAMPNET CNSFTC | TAMPNET | 12NM to MPA |
| 327343.3851 | 6376554.929 | ECRC12 | PIPELINE | DURWARD MANIFOLD TO DAUNTLESS OIL LINE (PL1304) | HESS LIMITED | 12NM to MPA |
| 327370.9046 | 6376553.319 | ECRC13 | PIPELINE | DURWARD MANIFOLD TO DAUNTLESS WATER (PL1306) | HESS LIMITED | 12NM to MPA |

| X COORDINATE | Y COORDINATE | CENOS PROJECT CROSSING ID | TYPE OF OBSTACLE | PROJECT BEING CROSSED | ASSET OWNER | LOCATION |
|---|---|---|---|---|---|---|
| 327399.9328 | 6376551.62 | ECRC14 | PIPELINE | DURWARD MANIFOLD TO DAUNTLESS GAS (PL1305) | SPIRIT ENERGY | 12NM to MPA |
| 332462.5143 | 6374407.175 | ECRC15 | PIPELINE | 20" GAS FULMAR A - ST. FERGUS (PL208) | SHELL PLC | 12NM to MPA |
| 339178.6377 | 6370729.965 | ECRC16 | CABLE | CNSE | Central North Sea Electrification Project | 12NM to MPA |
| 360033.6216 | 6359477.877 | ECRC17 | PIPELINE | 20" GAS FULMAR A - ST. FERGUS (PL208) | SHELL PLC | 12NM to MPA |
| 366535.7285 | 6362505.164 | ECRC18 | CABLE | CNSE | Central North Sea Electrification Project | 12NM to MPA |
| 393025.8277 | 6351903.107 | ECRC19 | PIPELINE | LANGELED PIPELINE (PL2071) | GASSCO AS | Within East of Gannet and Montrose Fields MPA |
| 400034.6593 | 6343018.1 | ECRC20 | PIPELINE | CATS PIPELINE (PL774) | WOOD GROUP | Within East of Gannet and Montrose Fields MPA |

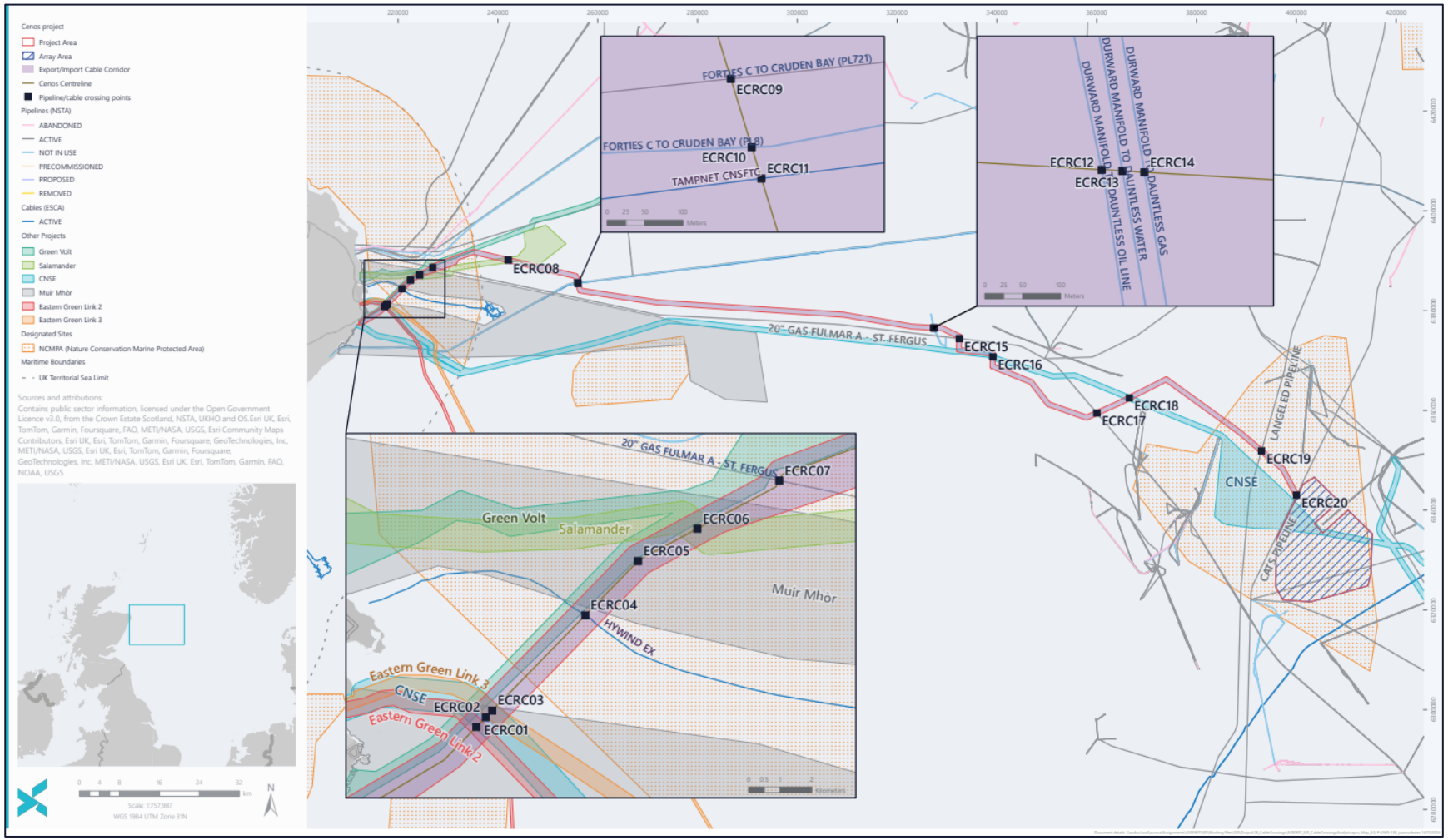


*Figure 1-1 Cenos Crossings*