Salamander Offshore Wind Farm

Offshore EIA Report

Volume ER.A.3, Chapter 18: Other Users of the Marine Environment

SALAMANDER

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Simply Blue Group

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Glossary

Term	Definition
Applicant	Salamander Wind Project Company Limited (formerly called Simply Blue Energy (Scotland) Limited), a joint venture between Ørsted, Simply Blue Group, and Subsea7.
Cumulative effects	The combined effect of Salamander Project in combination with the effects from a number of different projects, on the same single receptor/resource.
Cumulative impact	Impacts that result from changes caused by other past, present or reasonably foreseeable actions together with the Salamander Project.
Detailed Study Area	Study Area for the assessment of Other Users of the Marine Environment which includes the Offshore Development Area and the addition of a 2 km buffer around the Offshore Development Area to capture the potential for direct physical overlap with mobile receptor groups.
Offshore Development Area	The total area comprising the Offshore Array Area and the Offshore Export Cable Corridor.
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Inter-Related Effect (or Inter Relationships)	The likely effects of multiple impacts from the proposed development on one receptor. For example, noise and air quality together could have a greater effect on a residential receptor than each impact considered separately.
INTOG Leasing Round	The Innovation and Targeted Oil and Gas (INTOG) leasing round where developers apply for the rights to build offshore wind farms specifically for the purpose of providing low carbon electricity to power oil and gas installations and help to decarbonise the sector.
Landfall	The generic term applied to the entire landfall area between Mean Low Water Spring (MLWS) tide and the Transition Joint Bay (TJB) inclusive of all construction works, including the offshore and onshore Export Cable Corridor, intertidal working area and landfall compound, where the offshore cables come ashore north of Peterhead.

Term	Definition
Offshore Array Area	The offshore area within which the wind turbine generators, foundations, mooring lines and anchors, and inter-array cables and associated infrastructure will be located.
Offshore Development	The entire Offshore Development, including all offshore components of the Salamander Project (WTGs, Inter-array and Offshore Export Cable(s), floating substructures, mooring lines and anchors, and all other associated offshore infrastructure) required across all Salamander Project phases from development to decommissioning, for which the Applicant is seeking consent.
Offshore Export Cable(s)	The export cable(s) that will bring electricity from the Offshore Array Area to the Landfall. The cable(s) will include fibre optic cable(s).
Offshore Export Cable Corridor	The area that will contain the Offshore Export Cable(s) between the boundary of the Offshore Array Area and Mean High Water Springs (MHWS).
Other Users of the Marine Environment Study Area	Study Area for the assessment of Other Users of the Marine Environment which includes the Offshore Development Area and the addition of a 10 nautical mile (18 km) buffer around the Offshore Development Area, to capture activities associated with other offshore infrastructure.
Receptor	Any physical, biological or anthropogenic element of the environment that may be affected or impacted by the Salamander Project. Receptors can include natural features such as the seabed and wildlife habitats as well as man-made features like fishing vessels and cultural heritage sites.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works/ construction area under the Energy Act 2004.
Salamander Project	The proposed Salamander Offshore Wind Farm. The term covers all elements of both the offshore and onshore aspects of the Salamander Project.

Acronyms

Term	Definition
AIS	Automatic Identification System
bp	British Petroleum
BR	Business Radio
CCS	Carbon Capture and Storage
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CES	Crown Estate Scotland
CMP	Construction Management Plan
CNOOC	China National Offshore Oil Corporation
CNS	Central North Sea
CNSE	Central North Sea Electrification
CO2	Carbon Dioxide
COLREGs	International Regulations for the Prevention of Collision at Sea
COLREGS	International Regulations for the Prevention of Collisions at Sea
DECC	Department for Energy and Climate Change
ECC	Export Cable Corridor
EEA	Exclusive Economic Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EBI	Energy Balancing Infrastructure

Term	Definition
EPS	European Protected Species
ERCoP	Emergency Response Cooperation Plan
ERM	Environmental Resources Management Limited
ESCA	European Subsea Cables Association
FIR	Fisheries Industry Representative
FLO	Fisheries Liaison Officer
FLO	Fisheries Liaison Officer
FLOW	Floating Offshore Wind Farm
FM	Frequency Modulation
FMMS	Fisheries Management and Mitigation Strategy
HVAC	High Voltage Alternative Current
HVDC	High Voltage Direct Current
ICPC	International Cable protection Committee
INTOG	Innovation and Targeted Oil and Gas
JIP	Joint Industry Project
JV	Joint Venture
km	kilometres
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High Water Springs
MHz	Mega Hertz
Military PEXA	Military Exercise Areas and Danger Areas

Term	Definition
MPCP	Marine Pollution Contingency Plan
MW	megawatts
nm	Nautical Miles
NMPi	National Marine Plan Interactive
NSTA	North Sea Transition Authority
NtM	Notice to Mariners
OAA	Offshore Array Area
Offshore ECC	Offshore Export Cable Corridor
OMP	Operation and Maintenance Programme
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OREI	Offshore Renewable Energy Infrastructure
OWF	Offshore Wind Farm
PAC	Pre-application Consultation
RYA Scotland	Royal Yachting Association Scotland
SAS	Surfers Against Sewage
SBES	Simply Blue Energy (Scotland) Ltd
SIS	Spectrum Information System
SOLAS	Safety of Life at Sea
SWPC	Salamander Wind Project Company Ltd (formerly called SBES)
TCE	The Crown Estate
TS	Transport Scotland
UKHO	United Kingdom Hydrographic Office

Term	Definition
UXO	Unexploded Ordnance
VMP	Vessel Management Plan
WTG	Wind Turbine Generator
WWI	World War One
WWII	World War Two

18 Other Users of the Marine Environment

18.1 Introduction

18.1.1.1 The Applicant, Salamander Wind Project Company Ltd. (SWPC), a joint venture (JV) partnership between Ørsted, Simply Blue Group and Subsea7, is proposing the development of the Salamander Offshore Wind Farm (hereafter 'Salamander Project'). The Salamander Project will consist of the installation of a floating offshore wind farm (up to 100 megawatts (MW) capacity) approximately 35 kilometres (km) east of Peterhead. It will consist of both offshore and onshore infrastructure, including an offshore generating station (wind farm), export cables to landfall, and connection to the electricity transmission network (please see **Volume ER.A.2, Chapter 4: Project Description** for full details on the Salamander Project Design).

18.1.1.2 This chapter of the Environmental Impact Assessment (EIA) Report (EIAR) presents the results of the EIA of potential effects of the Salamander Project on Other Users of the Marine Environment. Specifically, this chapter considers the potential impact of the Salamander Project seaward of Mean High Water Springs (MHWS) during the Construction, Operation and Maintenance, and Decommissioning phases of the Offshore Development.

18.1.1.3 The chapter provides an overview of the existing environment for the proposed Offshore Development Area, followed by an assessment of significance of effect on Other Users of the Marine Environment receptors, as well as an assessment of potential cumulative effects with other relevant projects and effects arising from interactions on receptors across topics.

18.1.1.4 This chapter should be read alongside and in consideration of the following:

- **Volume ER.A.3, Chapter 13: Commercial Fisheries;**
- **Volume ER.A.3, Chapter 14: Shipping and Navigation;** and
- **Volume ER.A.3, Chapter 19: Socio-economics, Tourism and Recreation.**

18.1.1.5 This chapter has been authored by Environmental Resources Management (ERM) Ltd. Further competency details of the authors of this chapter are outlined in **Volume ER.A.4, Annex 1.1: Details of the Project Team.**

18.2 Purpose

18.2.1.1 The primary purpose of this EIAR is for the application for the Salamander Project satisfying the requirements of Section 36 of the Electricity Act 1989 and associated Marine Licences. This EIAR chapter describes the potential environmental impacts from the Offshore Development and assesses the significance of their effect.

18.2.1.2 The EIAR has been finalised following the completion of the pre-application consultation (**Volume RP.A.4, Report 1: Pre-Application Consultation (PAC) Report**) and the Salamander EIA Scoping Report (SBES, 2023) and takes account of the relevant advice set out within the Scoping Opinion from Marine Directorate - Licensing Operations Team (MD-LOT) (MD-LOT, 2023) relevant to the Offshore Development. Comments relating to the Energy Balancing Infrastructure (EBI) will be addressed within the Onshore EIAR. The Offshore EIAR will accompany the application to MD-LOT for Section 36 Consent under the Electricity Act 1989, and Marine Licences under the Marine (Scotland) Act 2010 and Marine and Coastal Access Act 2009.

18.2.1.3 This EIAR chapter:

- Outlines the existing environmental baseline determined from assessment of publicly available data, project-specific survey data and stakeholder consultation;

- Presents the potential environmental impacts and resulting effects arising from the Salamander Project on Other Users of the Marine Environment receptors;
- Identifies mitigation measures designed to prevent, reduce, or offset adverse effects and enhance beneficial effects on the environment; and
- Identifies any uncertainties or limitations in the methods used and conclusions drawn from the compiled environmental information.

18.3 Planning and Policy Context

18.3.1.1 The preparation of the Other Users of the Marine Environment Chapter has been informed by the following policy, legislation, and guidance outlined in **Table 18-1**.

Table 18-1 Relevant policy, legislation and guidance relevant to the Other Users of the Marine Environment assessment

Relevant policy, legislation, and guidance
Policy
Scotland's National Marine Plan (Scottish Government, 2015a)
Legislation
Marine and Coastal Access Act 2009
Guidance
Assessment of Impact of Offshore Wind Energy Structures on the Marine Environment (Byrne Ó Cléirigh Ltd *et al.*, 2000)
Guidance on Environmental Impact Assessment of Offshore Renewable Energy Development on Surfing Resources and Recreation (SAS, 2009)
Sectoral Marine Plan - Offshore Wind for Innovation and Targeted Oil and Gas (INTOG) Decarbonisation (Marine Scotland (now Marine Directorate), 2022a)
The Royal Yachting Association's (RYA Scotland) Position on Offshore Renewable Energy Developments – Wind Energy (Rya Scotland, 2019a)
European Subsea Cables Association (ESCA) Guideline No.6, The Proximity of Offshore Renewable Energy Installations and Submarine Cable Infrastructure in UK Waters (ESCA, 2016)
International Cable Protection Committee (ICPC) recommendations (ICPC, 2021)
Oil and Gas UK, Pipeline Crossing Agreement and Proximity Agreement Pack (Oil and Gas UK, 2015)
The Crown Estate (TCE) Guidance: Export transmission cables for offshore renewable installations – Principles of cable routeing and spacing (TCE, 2012a)
Renewable UK Offshore Wind and Marine Energy Health and Safety Guidelines (Renewable UK, 2014)

Relevant policy, legislation, and guidance
TCE Guidance: Submarine cables and offshore renewable energy installation – Proximity study (TCE, 2012b)

18.3.1.2 Further details on the requirements for EIA are presented in **Volume ER.A.2, Chapter 2: Legislative Context and Regulatory Requirements**.

18.4 Consultation

18.4.1.1 Consultation is a key part of the application process. It has played an important part in ensuring that the baseline characterisation and impact assessment is appropriate to the scale of development as well as meeting the requirements of the regulators and their advisors.

18.4.1.2 An overview of the Salamander Project consultation process is outlined in **Volume ER.A.2, Chapter 5: Stakeholder Consultation**. Consultation regarding Other Users of the Marine Environment has been conducted through issue of the Salamander EIA Scoping Report (SBES,2023), where various stakeholders were given the opportunity to respond via the Scoping Opinion.

18.4.1.3 The issues raised during consultation specific to Other Users of the Marine Environment are outlined in **Table 18-2,** including consideration of where the issues have been addressed within the EIAR.

Table 18-2 Consultation Responses Specific to Other Users of the Marine Environment

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
MD-LOT	21 June 2023; Scoping Opinion	The Scottish Ministers are content with the data sources listed in Table 9-18 of the Scoping Report. In Table 9-20 of the Scoping Report the Developer summarises the potential impacts on other marine users during different phases of the Proposed Development to be scoped in and out. Advise that the advice from TS must be fully addressed by the Developer. In particular, the Scottish Ministers highlight the comments from Transport Scotland (TS) regarding abnormal loads and advise that a full abnormal loads assessment report and a swept path analysis must be undertaken and included in the EIA Report.	A list of data sources used to establish the baseline environment and inform the assessment of Other Users of the Marine Environment are listed in **Table 18-3, Section 18.6.1** of this chapter. Advice from TS is relevant to the Onshore EIAR which will be submitted at a later date. This advice will be addressed within the Traffic and Transport chapter of the Onshore EIAR.
		The Scottish Ministers agree with the potential impacts on other users during the different phases of the Proposed Development to be scoped out from further assessment within the EIA Report however, would emphasise the importance of engaging with other marine users, including developers of ScotWind projects, throughout all phases of the Proposed Development. The Scottish Ministers draw the Developers attention to the representations from the North Sea Transition Authority and Green Volt Offshore Wind Farm which must be fully considered within the EIA Report.	Impacts scoped out of the assessment are listed in **Table 18-7**, **Section 18.8.2** of this chapter. The need for further consultation with developers and asset owners is established within **Table 18-8** and **Section 18.8.3**. of this chapter.
		The Scottish Ministers highlight the representation from the Maritime and Coastguard Agency (MCA) addressed above in Section 5.9 and advise that detail on the potential impact of the Proposed Development on navigational issues for other marine users, including	Impacts to navigation are addressed **in Volume ER.A.3, Chapter 14: Shipping and Navigation**.

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
		commercial and recreational craft, must be included in the EIA Report.	
		With regard to the embedded mitigation to be considered within the EIA Report within Table 9-19 of the Scoping Report, the Scottish Ministers are content that these provide a suitable means for managing and mitigating the potential effects of the Proposed Development at this stage.	This is noted.
Green Volt Offshore Wind Farm	21 June 2023; comments on EIA Scoping Report	Offshore Aspects In addition to the Green Volt offshore export cable route being <1 km from the Salamander Offshore Wind Farm site, the two projects have identified a similar landfall location. Green Volt's primary option (St Fergus South) is in the vicinity of the Salamander Project proposed landfall at Scotstown Beach between Lunderton and Kirkton. Therefore, there is the potential for interactions between the two project's offshore export cable corridors, including possible cable crossings	The potential for obstruction to the Green Volt Offshore Wind Farm and indicative export cable route as well as the potential for interactions at the landfall is assessed within **Sections 18.13.2.6**, **18.13.5** and **18.13.6** of this chapter.
		Based on these potential interactions with Green Volt, we would anticipate that the offshore EIA for the proposed Salamander Offshore Wind Farm would consider the following impacts on the offshore elements of the Green Volt Offshore Windfarm project, including:	The potential for obstruction to the Green Volt Offshore Wind Farm and indicative export cable route as well as the potential for interactions at the landfall is assessed within **Sections 18.13.2.6**, **18.13.5** and **18.13.6** of this chapter.

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
		Windfarm site; Offshore export corridor between the offshore substation to the landfall, particular the St Fergus South (north of Peterhead) primary option, Increased vessel traffic and from the physical presence of Salamander infrastructure that may lead to interactions with activities related to Green Volt.	
		Green Volt has an operational target date of 2027 and should be included in any cumulative assessments.	Included within the future baseline, **Section 18.7.2** and the Cumulative Effect Assessment, **Section 18.13**.
Ministry of Defence (MoD)	21 June 2023; comments on EIA Scoping Report	The applicant should be advised to take account of the current published MOD Practice and Exercise Areas (PEXA) in preparation of their development proposal. The MOD has highly surveyed routes which maybe relevant to the installation of the export cables & associated infrastructure. MOD should be consulted at the next stage of any application.	The Salamander Project Team have consulted the MoD who have confirmed neither the Offshore Array Area or the Offshore ECC will affect any of their Highly Surveyed Routes, and as such they have no concerns relating to interactions between the Offshore Development (including how the export cable is installed on the seabed, i.e. rock protection) and their Highly Surveyed Routes.
NatureScot (offshore)	21 June 2023; comments on EIA Scoping Report	We are concerned with the likelihood of multiple offshore export cables making landfall in the area around Peterhead and the potential for cumulative impacts arising from construction and associated geophysical, geotechnical and environmental survey programmes. Therefore, we recommend that this is considered further. We welcome the recent consultation to collaborate with Muir Mhor	Cumulative impacts are assessed within **Section 18.13** of this chapter. The need for further consultation with developers and asset owners is established within **Table 18-8** and **Section 18.8.3**. of this chapter.

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
		Wind Farm to reduce the number of geotechnical / geophysical surveys.	
		Wet storage Section 4.6.2 (Floating Substructures) refers to the potential for wet storage of the substructures prior to their installation within the array area, either at the initial assembly site, the wind turbine integration site or a separate dedicated storage location. Section 4.7.1 (Floating Assembly) also indicates that once operational the substructures and WTGs will form an integrated assembly piece – the replacement of any major component parts of which is expected to be achieved by towing the assembly to port. Wet storage could represent a significant impact. Consideration of the potential impacts on all receptors needs to be addressed with the EIAR and HRA. We would welcome further discussion on this as and when further details are confirmed, noting the intention to seek a separate Marine Licence application for any requirements for wet storage outwith the array area.	Wet storage of the floating substructures (and integrated Wind Turbine Generators (WTGs)) prior to tow-out to the Offshore Array Area (OAA) is considered to be outside the scope of this EIA and the Marine Licence applications for the Offshore Development. This is due to the fact that at this stage of the Salamander Project it is not known which port(s) will be used for wet storage and therefore it is challenging to undertake a meaningful assessment of impacts related to wet storage. The intent is that the Salamander Project will utilise the services of a port(s) that offer wet storage sites, which will have appropriate consents (obtained by the port authority) for wet storage of floating substructures, fabrication and assembly with the WTGs. To enable the availability of this option for the Salamander Project within the required timeframe, an owner of Salamander Wind Project Company Ltd. (SWPC) is an official member of the TS-FLOW UK-North Joint Industry Project (JIP) exploring the challenges of wet storage and identifying the opportunities and potentially suitable locations for these activities. This JIP is in collaboration with relevant ports and other floating offshore wind developers. Separate Marine Licences and associated impact assessments for wet storage areas outwith the Offshore Development Area will be applied for and undertaken as appropriate.

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
NatureScot	21 June 2023; comments on EIA Scoping Report	Wet storage Section 4.6.2 (Floating Substructures) refers to the potential for wet storage of the substructures prior to their installation within the array area, either at the initial assembly site, the wind turbine integration site or a separate dedicated storage location. Section 4.7.1 (Floating Assembly) also indicates that once operational the substructures and WTGs will form an integrated assembly piece – the replacement of any major component parts of which is expected to be achieved by towing the assembly to port. Wet storage could represent a significant impact. Consideration of the potential impacts on all receptors needs to be addressed with the EIAR and HRA. We would welcome further discussion on this as and when further details are confirmed, noting the intention to seek a separate marine licence application for any requirements for wet storage outwith the array area.	Wet storage of the floating substructures (and integrated WTGs) prior to tow-out to the OAA is considered to be outside the scope of this EIA and the Marine Licence applications for the Offshore Development. This is due to the fact that at this stage of the Salamanader Project it is not known which port(s) will be used for wet storage and therefore it is challenging to undertake a meaningful assessment of impacts related to wet storage. The intent is that the Salamander Project will utilise the services of a port(s) that offer wet storage sites, which will have appropriate consents (obtained by the port authority) for wet storage of floating substructures, fabrication and assembly with the WTGs. To enable the availability of this option for the Salamander Project within the required timeframe, an owner of SWPC is an official member of the TS-FLOW UK-North Joint Industry Project (JIP) exploring the challenges of wet storage and identifying the opportunities and potentially suitable locations for these activities. This JIP is in collaboration with relevant ports and other floating offshore wind developers. Separate Marine Licences and associated impact assessments for wet storage areas outwith the Offshore Development Area will be applied for and undertaken as appropriate.
North Sea Transition Authority (NSTA)	21 June 2023; comments on EIA Scoping Report	As noted in the Scoping Report there is potential for the export cable to interact with a number of active pipelines entering the St Fergus terminal, most likely appears to be the Fulmar A – St Fergus gas pipeline. The applicant should engage with pipeline owners about any interactions at the earliest possible point, this will allow the	Impacts to oil and gas activities and pipelines are assessed within **Sections 18.11.2, 18.11.2.32** and **18.11.4** of this chapter.

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
		pipeline owners to approach the NSTA and OPRED to check what updates to existing pipeline consents may be required where interactions occur.	The Salamander Project Team have commenced engagement with asset owners around survey operations and pipeline crossing requirements.
		The applicant should also be aware of interactions with blocks currently on offer as part of the Offshore Oil and Gas 33rd Licence Round, namely Block 19/15 which part of the windfarm application area is within. Applications are currently being reviewed by the NSTA and any potential interactions with planned windfarm developments are being discussed and addressed with Crown Estate Scotland. Awards from the Round are expected from Q3 2023.	Block 19/15 is acknowledged in the baseline environment, **Section 18.7.1** and assessed within **Sections 18.11.2, 18.11.2.32** and **18.11.4** of this chapter.
OFCOM	21 June 2023; comments on EIA Scoping Report	The windfarm process as originally developed was aimed at putting a windfarm developer and potentially impacted fixed link licensees in contact with each other. Beyond this Ofcom did/does not have any further involvement or enter into the co-ordination / planning discussions between the concerned parties.	Noted
		The same applies now that the fixed link licence information in the Ofcom managed and co-ordinated bands is provided via the Spectrum Information System. i.e. Ofcom does not enter into the discussions between windfarm and fixed link operators.	Noted
		It should also be noted that while Ofcom provides information via the Spectrum Information System (SIS) there are a number of bands that	Noted

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
		are now awarded on a block basis i.e. these bands are managed and assigned by the licensees themselves and the individual link information is not published on the SIS.	
		Further information on these bands and the licensees' details can be found here: https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/mobile-wireless-broadband/above-5gh	Baseline information on telecommunications has been included within **Section 18.7.1** of this chapter. The Automatic Identification System (AIS) and Business Radio (BR) Tech Assigned telecommunications identified within the Study Area do not operate at frequencies considered to be susceptible to interference from wind farms. These operators are therefore not considered to interact with the Offshore Development and no further assessment is undertaken for these receptors.
		The location of published licences is located on the Wireless Telegraphy Register so you should perform your search there however not all fixed links masts are detailed on this service as above.	Baseline information on telecommunications has been included within **Section 18.7.1** of this chapter. The AIS and BR Tech Assigned telecommunications identified within the Study Area do not operate at frequencies considered to be susceptible to interference from wind farms. These operators are therefore not considered to interact with the Offshore Development and no further assessment is undertaken for these receptors.
		If you have any further queries please do not hesitate to contact the Spectrum Licensing Team on 020 7981 3131 or via email at spectrum.licensing@ofcom.org.uk	Noted

Consultee	Date and Forum	Comment	Where it is addressed within this EIAR
Royal Yachting Association (RYA) Scotland	21 June 2023; comments on EIA Scoping Report	RYA Scotland agreed to a range of relevant parts in the Scoping Report and provided some suggestions.	All comments from RYA Scotland have been noted and addressed within **Volume ER.A.3, Chapter 14: Shipping and Navigation**, where relevant.
		RYA should be RYA Scotland.	This has been amended within this chapter and **Volume ER.A.3, Chapter 14: Shipping and Navigation**.

18.5 Study Area

18.5.1.1 The Other Users of the Marine Environment Study Area has been defined as the Offshore Development Area surrounded by a 10 nm (18 km) buffer to consider the movement of other mobile users of the marine environment. The Study Area for Other Users of the Marine Environment is shown in **Figure 18-1**. As well as the Other Users of the Marine Environment Study Area, the following zones are also referred to in the Other Users of the Marine Environment chapter and shown on **Figure 18-1**:

- Offshore Array Area (OAA);
- Offshore Export Cable Corridor (ECC);
- Other Users of the Marine Environment Study Area, to include the Offshore Development Area plus a 10 nm (18 km) buffer); and
- Detailed Study Area, to include the Offshore Development Area plus a 1.08 nm (2 km) buffer.

18.5.1.2 The potential for direct physical overlap of project activities and other marine users will be highlighted within the Detailed Study Area. This will primarily include the following receptors:

- Aggregate resources and extraction areas;
- Dredge disposal sites;
- Aquaculture sites;
- Carbon Capture and Storage (CCS); and
- Recreation and tourism activities.

18.5.1.3 The potential for impacts relating to the Offshore Development over a wider area will be assessed using the Other Users of the Marine Environment Study Area. This will focus on receptors which cover a larger spatial scale, including:

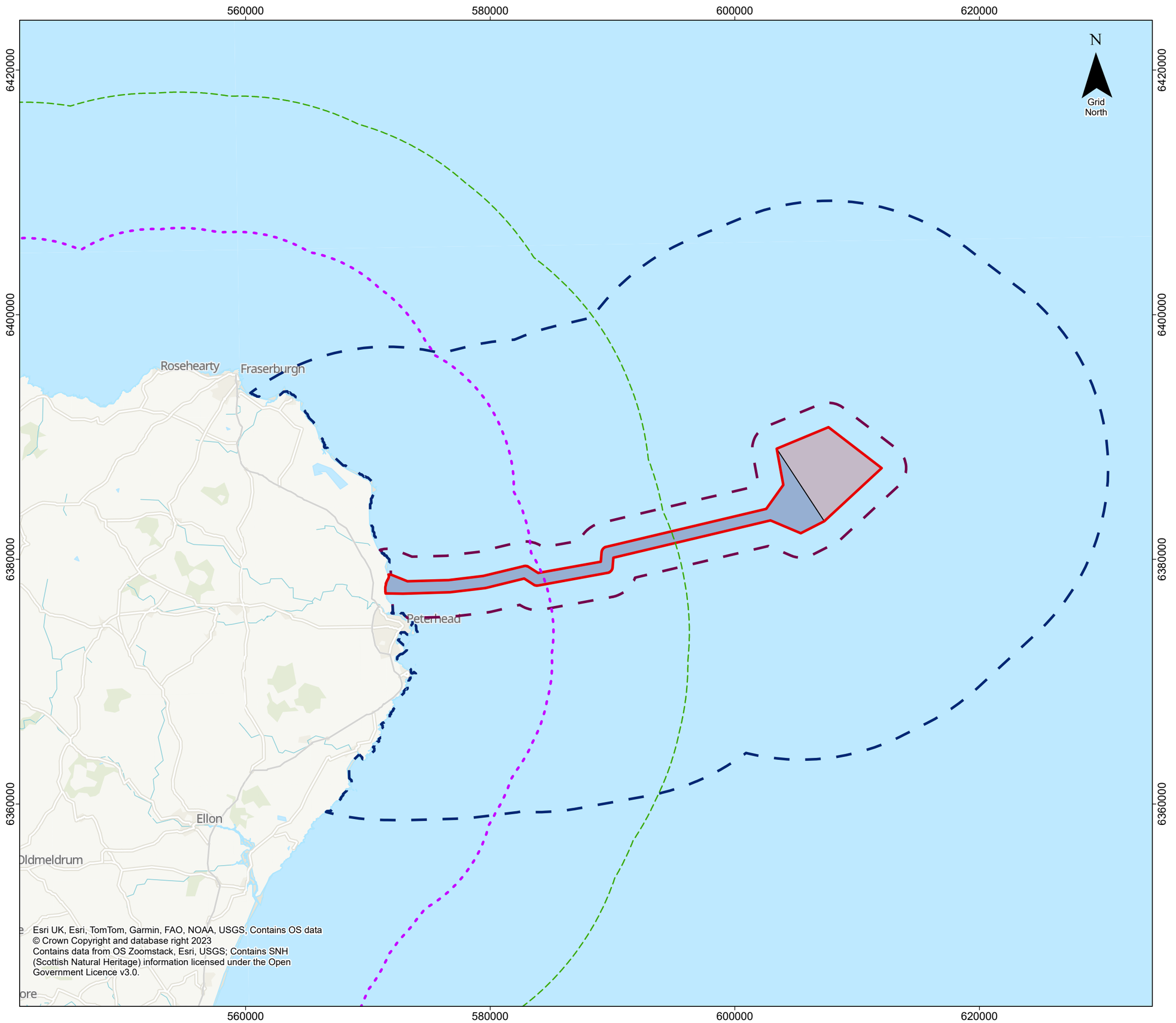
- Military Practice and Exercise Areas (PEXA);
- Offshore oil and gas infrastructure and activities;
- Other renewable energy developments; and
- Subsea cables and pipelines.

18.5.1.4 These receptors will also be assessed for potential direct physical overlap with the Detailed Study Area.

Salamander

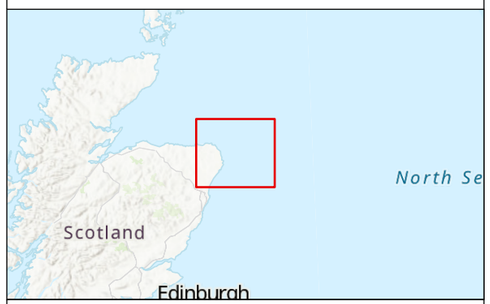
Figure 18-1

Other Users of the Marine Environment Study Area



Legend

- Offshore Export Cable Corridor
- Offshore Array Area
- Other Users of the Marine Environment Study Area (18.52km)
- Detailed Study Area 2km
- Offshore Development Area
- 6nm limit
- 12nm limit



Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:300,000

0 9 18 Kilometers

0 2.25 4.5 9 Nautical Miles

Rev	Description	Date
00	FINAL	16/04/2024
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Doc. Title : Other Users Study Area
Doc. No : SWF01ER0301
Created by : NB
Checked by : AN
Approved by : GLS

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18.6 Methodology to Inform Baseline

18.6.1 Data Sources

18.6.1.1 The data sources that have been used to inform this Other Users of the Marine Environment Chapter of the EIA Report are presented within **Table 18-3**.

Table 18-3 Summary of key publicly available datasets for Other Users of the Marine Environment

Source	Year	Spatial Coverage	Summary
Marine Scotland (now Marine Directorate) National Marine Plan Interactive (NMPi) Maps (Marine Scotland (now Marine Directorate), 2023)	2023	Scottish waters	Spatial data layers of marine tourism, offshore energy, subsea cables and pipelines, disposal sites, military areas and aquaculture.
Blue Seas – Green Energy A Sectoral Marine Plan for Offshore Wind Energy (Marine Scotland (now Marine Directorate), 2011)	2011	Scottish waters	Strategic planning spatial areas for offshore wind energy development up to 2030.
Dredge Spoil Deposit Sites – Open (Marine Scotland (now Marine Directorate), 2022b)	2022	Scottish waters	Polygon data for designated open dredge spoil deposit sites from navigational dredging.
Scotland's National Marine Plan (Marine Scotland (now Marine Directorate), 2015a)	2015	Scottish waters	A comprehensive framework for marine activities in Scottish waters.
UK Offshore Energy Strategic Environmental Assessment (SEA) (BEIS, 2016)	2016	UK waters and Exclusive Economic Zone (EEZ)	Offshore Energy SEA environmental baseline for other users.
UK Coastal Atlas of Recreational Boating (RYA Scotland, 2019b)	2019	UK waters	Heat map of AIS data of recreational boating activity.
Scottish Marine Recreation and Tourism Survey (Marine Scotland (now Marine Directorate), 2015b)	2015	Scottish waters	Spatial data layers of marine recreation and tourism activities.
North Sea Transition Authority (NSTA) offshore interactive map (NSTA, 2023)	2023	North Sea	Spatial data layers of offshore oil and gas activity and developments in the North Sea.

Source	Year	Spatial Coverage	Summary
NSTA Preliminary Decommissioning Schedules (NSTA, 2021)	2021	North Sea	Decommissioning data visibility dashboard for oil and gas assets in the North Sea.
Sectoral Marine Plan – offshore wind for INTOG Decarbonisation (Marine Scotland (now Marine Directorate), 2022b)	2022	Scottish waters	Initial plan framework of INTOG option areas.
Crown Estate Scotland (CES) Spatial Hub (CES, 2023a)	2023	Scottish waters	Spatial data layers for aquaculture, cables and pipelines, offshore renewable energy and mineral resources.
KIS-ORCA subsea cables (KIS-ORCA, 2023)	2023	UK waters	Spatial data layers of offshore renewable infrastructure and subsea cables.
ORDTEK Mine Map (ORDTEK, 2015)	2015	UK EEZ	Highlights offshore sources of Unexploded Ordnance (UXO) contamination areas.

18.6.1.2 No site specific surveys were undertaken for Other Users of the Marine Environment as sufficient data are available from open access sources to inform a detailed desk based assessment. These include review and update of information previously presented within the Salamander EIA Scoping Report (SBES, 2023) for the Other Users of the Marine Environment topic.

18.7 Baseline Environment

18.7.1 Existing baseline

18.7.1.1 Other Users of the Marine Environment that have the potential to be impacted by the Offshore Development have been identified to include:

- Offshore oil and gas activities;
- Subsea cables and pipelines
- Other renewable energy developments;
- Carbon Capture and Storage (CCS);
- Aggregate resources, extraction areas and marine dredge disposal sites;
- Unexploded Ordnance (UXO);
- Telecommunications; and
- Recreation and tourism activities.

18.7.1.2 As per the Salamander EIA Scoping Report (SBES, 2023), Military PEXA, dredge disposal sites and transboundary impacts have been scoped out. No further comments were raised by statutory or non-

statutory consultees within the Scoping Opinion regarding these receptors, therefore they will not be considered further within the EIAR.

Offshore Oil and Gas Activities

18.7.1.3 The Offshore Development is located in the Central North Sea (CNS), a well-developed area for oil and gas infrastructure (BEIS, 2016). Decommissioning of oil and gas assets in this region is likely to increase progressively over the next 35 years with an estimated 5,500 wells, 400 facilities and 10,000 km of pipeline to be decommissioned (BIES, 2016). It is therefore considered that there will be considerable temporal overlap between these decommissioning activities and the Construction and Operation and Maintenance phases of the Offshore Development.

18.7.1.4 The Offshore Development lies within quadrant 19 of the North Sea Transition Authority (NSTA) oil and gas lease areas (NSTA, 2023). Three offshore wells have been identified within the Other Users of the Marine Environment Study Area. However, these are all abandoned and the most recent having been decommissioned in 2007. Therefore, these offshore wells are not considered to interact with the Offshore Development and not considered further within the EIAR.

18.7.1.5 The Buzzard oil field is the nearest operational oil field and is located approximately 20 km from the Offshore Development Area, where the China National Offshore Oil Corporation (CNOOC) International operates the offshore platform (NSTA, 2023). The Buzzard oil field is one of the UK's most productive oil fields and is expected to continue production into the 2040s (CNOOC International, 2023). As yet no preliminary decommissioning schedules have been published for the Buzzard oil field and its associated infrastructures (NSTA, 2021).

18.7.1.6 The most recent 33rd oil and gas leasing round closed for applications in January 2023, with licencing awards due to commence in the second quartile of the year (NSTA, 2022); 27 licences have since been awarded under this round. Block 19/15, currently on offer under this leasing round, directly overlaps with the Offshore Development Area, however it currently remains unlicenced. Other blocks on offer under this leasing round that intersect the Other Users of the Marine Environment Study Area are as follows (NSTA, 2023):

- 19/10b, 5.79 km from the centre of the Offshore Development Area;
- 19/20, 13.15 km from the centre of the Offshore Development Area;
- 20/6d, 13.97 km from the centre of the Offshore Development Area;
- 20/11b, 11.80 km from the centre of the Offshore Development Area; and
- 20/16, 17.31 km from the centre of the Offshore Development Area.

18.7.1.7 Previous to this, the 32nd oil and gas leasing round was held in 2020, where 113 licences across 260 blocks were awarded (NSTA, 2022). A summary of the provisional licence awards made under this leasing round that are within the Other Users of the Marine Environment Study Area are provided in **Table 18-4**.

18.7.1.8 An overview of oil and gas activities within the Study Area can be found in **Figure 18-2**.

Table 18-4 Provisional licence awards from the 32nd oil and gas leasing round within the Other Users of the Marine Environment Study Area (North Sea Transition Authority, 2023)

Operator	Licenced Block	Distance to Offshore Array Area (km)	Distance to Offshore ECC (km)
Azinor Catalyst Ltd	20/6c	9	17
	20/11a	8	16

18.7.1.9 No licenced blocks for oil and gas from the 31st, 30th or 29th leasing rounds are identified to intersect the Other Users of the Marine Environment Study Area.

18.7.1.10 In addition to oil and gas licenced blocks there are also a number of extant petroleum blocks in the CNS, those that are within the Other Users of the Marine Environment Study Area are detailed in **Table 18-5.**

Table 18-5 Extant petroleum blocks within the Other Users of the Marine Environment Study Area (North Sea Transition Authority, 2023)

Operator	Licenced Block	Year Awarded	Distance to Offshore Array Area (km)	Distance to Offshore ECC (km)
CNOOC Petroleum Ltd.	19/10a	1998	16	20
	20/6a	1998	18	24
No Operator	20/6c	2020	9	17
	20/11a	2020	8	16

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Figure 18-2

Overview of Oil and Gas Activities

Legend

- Offshore Export Cable Corridor
- Offshore Array Area
- 33rd Round Provisional Awards
- 32nd Round Provisional Awards (ED50)
- Offshore Wells
- Petroleum Licence Blocks
- Offshore Development Area
- Other Users of the Marine Environment Study Area (18.52km)
- Detailed Study Area 2km
- 6nm limit
- 12nm limit

Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:650,000

0 20 40 Kilometers

0 5 10 20 Nautical Miles

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Subsea Cables and Pipelines

18.7.1.11 An overview of subsea cables and pipelines within the Study Area can be found in **Figure 18-3.**

Gas Pipelines

18.7.1.12 There are several gas pipelines that make landfall at St Fergus gas terminal, north of Peterhead; these are illustrated in **Table 18-6.** Of these pipelines the active 20" Gas Fulmar A – St. Fergus, operated by Shell PLC, directly crosses the Offshore Export Cable Corridor. Not all of the pipelines identified are currently active. There is potential for further pipelines resulting from the recent 32nd and 33rd oil and gas leasing rounds within the Other Users of the Marine Environment Study Area, although these will likely make landfall elsewhere, due to the limited space at St Fergus gas terminal'.

Table 18-6 Pipelines that make landfall at St Fergus gas terminal (North Sea Transition Authority, 2023)

Pipeline Name	Operator	Status	Distance to the Offshore Array Area (km)
36" Gas Brent A – St. Fergus (FLAGS) gas pipeline	Shell PLC	Active	19.6
Beryl A – St. Fergus (Sage Pipeline) gas pipeline	Wood Group	Active	7.3
Heimdal Frigg Connection (HFC) to St. Fergus South gas pipeline	GASSCO AS	Active	13.5
32" MCP01 Bypass Bundle to St Fergus Gas Plant	PX Group	Active	13.5
20" Gas Fulmar A – St. Fergus	Shell PLC	Active	5.3
Britannia to St Fergus	Harbour Energy PLC	Active	1.0
WAGES MEG chemical pipeline	Unknown	Active	14.7
16" Gas Atlantic Manifold – St. Fergus	Shell PLC	Abandoned	10.3
4" Meg St. Fergus – Atlantic Manifold	Shell PLC	Abandoned	7.2
20" Gas Goldeneye – St. Fergus	Shell PLC	Not in Use	7.2
Miller to St. Fergus	bp Exploration	Not in Use	7.2

Oil Pipelines

18.7.1.13 The Forties to Cruden Bay oil pipeline system lies approximately 6.5 km to the south of the Offshore ECC and extends in an easterly direction across the North Sea (NSTA, 2023). The pipeline was previously owned by bp but sold to INEOS FPS Ltd in 2017. This pipeline is also joined by the Buzzard (P) to Forties hot tap oil pipeline in quadrant 20, owned by CNOOC International Ltd, which links the Forties to Cruden Bay oil pipeline system to the Wellhead Platform in block 20/6a.

Subsea Cables

18.7.1.14 The TAMPNET CNSFTC fibre optic telecommunication cable (from here on referenced as 'TAMPNET') is currently the only in situ operational cable, which lies to the south of the Offshore Development Area and makes landfall into Cruden Bay (Marine Scotland (now Marine Directorate), 2023).

18.7.1.15 Additional subsea cables resulting from renewable energy projects are discussed in the following section.

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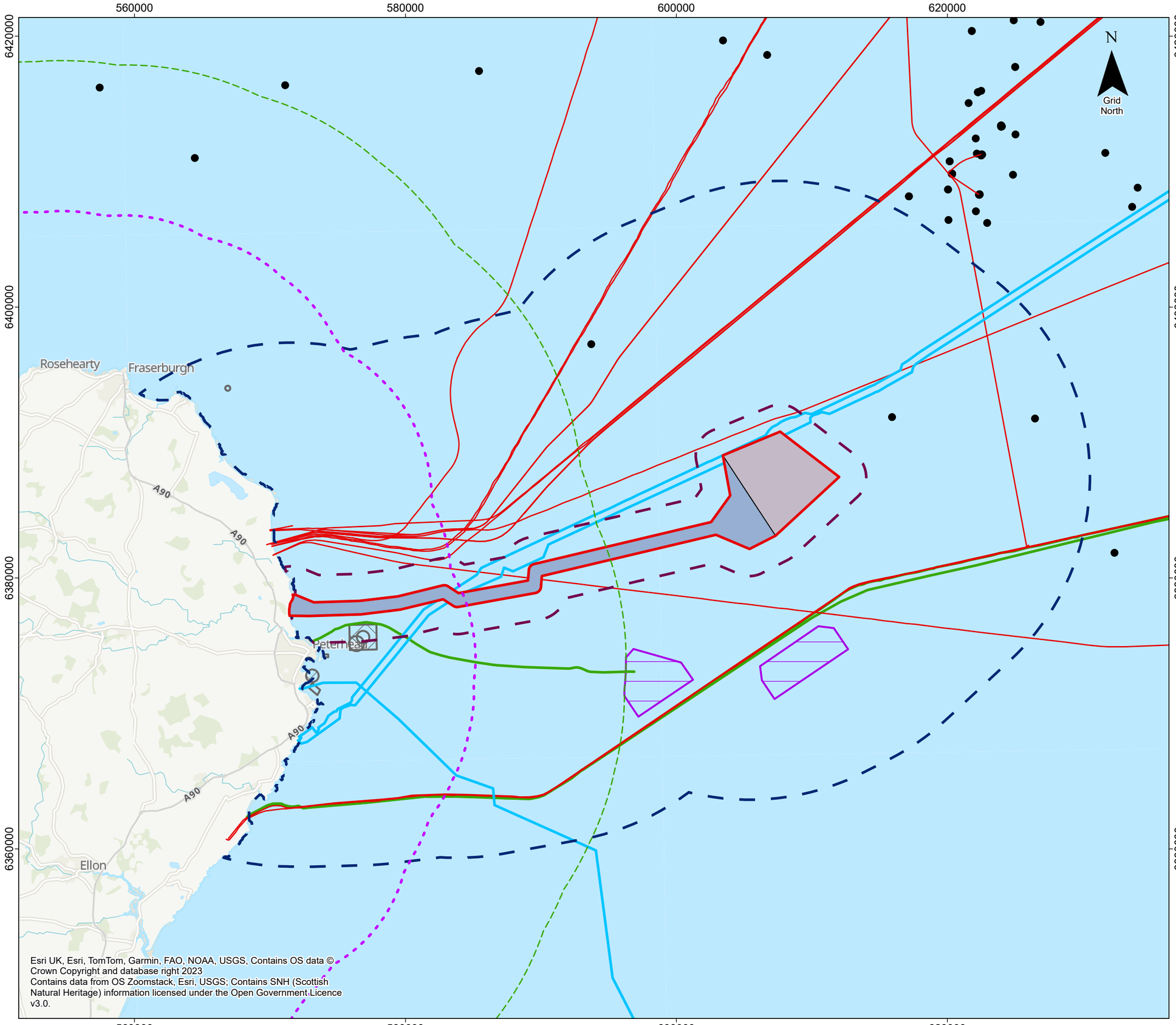
Figure 18-3

Overview of Subsea Cables and Pipelines



Legend

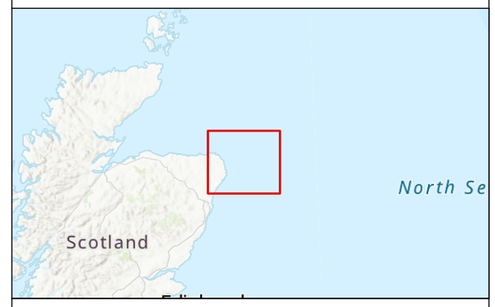
- Offshore Array Area
- Offshore Development Area
- Offshore Export Cable Corridor
- Other Users of the Marine Environment Study Area (18.52km)
- Detailed Study Area 2km
- Oil and Gas Infrastructure
- Cables
- Disposal Sites
- Offshore Wind Sites
- 6nm limit
- 12nm limit

Existing Baseline

- Pipelines

Future Baseline

- Proposed cable routes



Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:275,000

0 7.5 15 Kilometers

0 1.25 2.5 5 Nautical Miles

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Other Renewable Energy Developments

18.7.1.16 No wave or tidal energy development option areas or draft lease sites from the Sectoral Marine Plan have been identified within the Other Users of the Marine Environment Study Area (CES, 2023a and Marine Scotland (now Marine Directorate), 2023). As such, it is not expected that any wave or tidal developments will interact with the Offshore Development and therefore these will not be considered any further within the EIAR.

18.7.1.17 The Hywind Scotland Offshore Wind Farm is the only identified operational Offshore Wind Farm (OWF) within the Other Users of the Marine Environment Study Area. Hywind Scotland has been in operation since 2017 and will continue to operate up until 2038 (Statoil, 2015). It is a small scale 30 MW wind farm, consisting of five floating offshore wind (FLOW) turbines located approximately 25 km off the shore of Peterhead and 11.7 km south west of the OAA and 8.1 km from the Offshore ECC (CES, 2023a and Marine Scotland (now Marine Directorate), 2023). The Hywind Scotland ECC makes landfall at Peterhead and at the closest point lies approximately 10 m from the proposed Offshore ECC. The decommissioning of Hywind Scotland is scheduled to commence in the second to third quartile of 2038 and will be completed within five months (Equinor, 2022). This raises the likelihood that this will coincide with the Operation and Maintenance phase of the Offshore Development.

18.7.1.18 There are also a number of proposed OWFs which are discussed in more detail within **Section 18.7.2**, of the future baseline.

18.7.1.19 An overview of other renewable energy developments within the Study Area can be found in **Figure 18-4**.

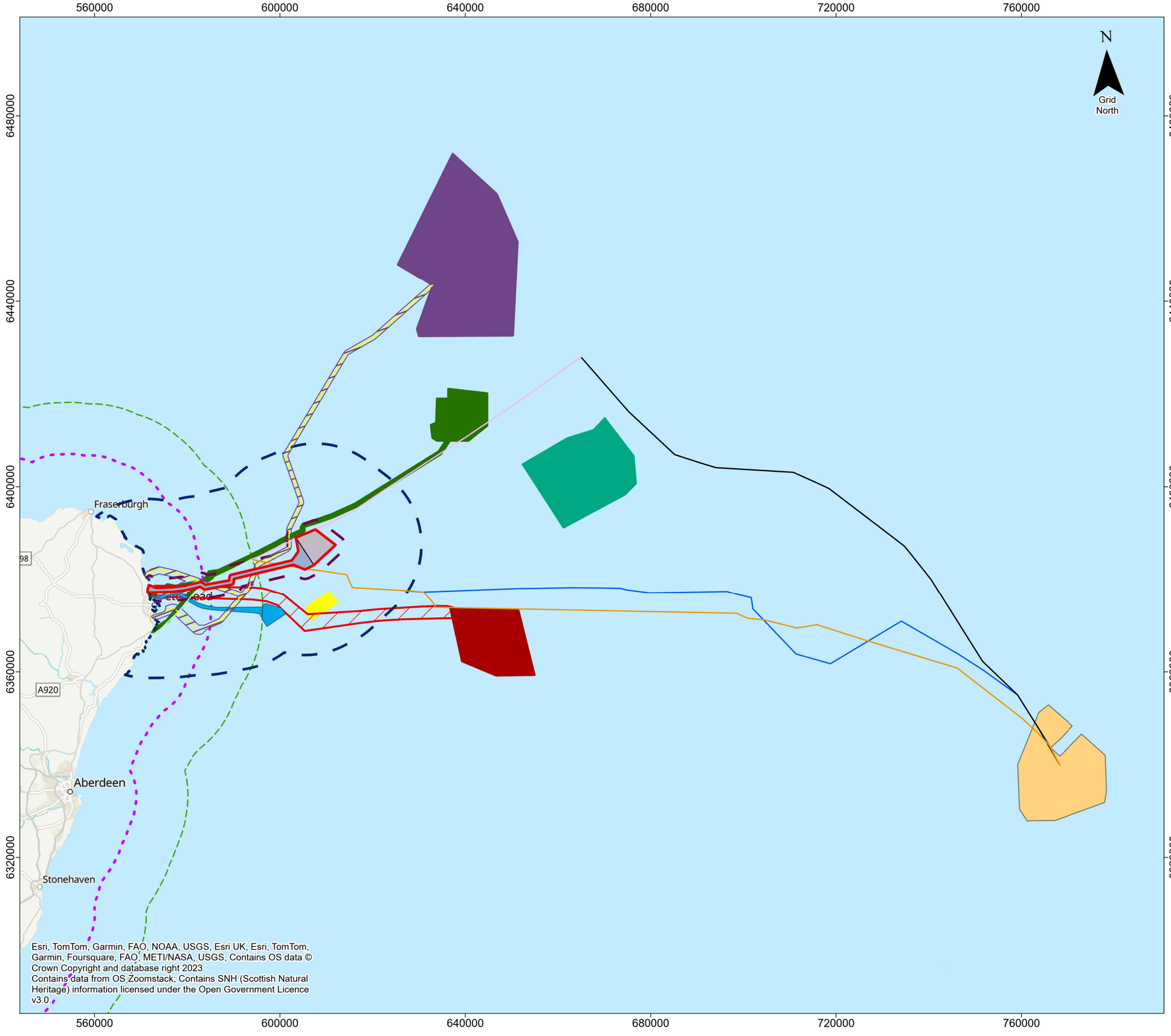

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Figure 18-4

Overview of other renewable energy developments

Legend

- Offshore Export Cable Corridor
- Offshore Array Area
- Offshore Development Area
- Detailed Study Area 2km
- Other Users of the Marine Environment Study Area (18.52km)

Existing Baseline

- Hywind Scotland Offshore Windfarm and Export Cable Corridor

Future Baseline

- Marram Wind Proposed Offshore Windfarm
- Marram Wind Proposed Export Cable Corridor
- Marram Export Cable Route Centre line
- Muir Mhor Proposed Offshore Windfarm
- Muir Mhor Proposed Export Cable Corridor
- Green Volt Proposed Offshore Windfarm
- Green Volt Export Cable Corridor
- Cenos Proposed Offshore Windfarm
- BP Alternative Energy Investments
- Beech North

Cenos Cable Routes

- Cable A
- Cable A North Connect
- Cable B.1
- Cable B.1 North Connect
- Cable B
- 6nm limit
- 12nm limit

Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:800,000

0 20 40 Kilometers

0 5 10 20 Nautical Miles

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Carbon Capture Storage

18.7.1.20 The only Carbon Capture Storage (CCS) licence area in the North Sea is held and operated by the Acorn CCS project (CES, 2023a). This is approximately 40 km northeast of the Offshore Development Area and outside of the Other Users of the Marine Environment Study Area. The first carbon storage licences were granted to the Acorn CCS project in 2018 by the NSTA (Acorn, 2023). These licences allow for repurposing of existing gas pipelines, like the Sage and Miller to St Fergus gas pipelines that intersect the CCS area and make landfall at the St Fergus gas terminal. As the Acorn CCS area is outside of the Other Users of the Marine Environment Study Area, it will not directly interact with the Offshore Development and therefore direct impacts to the Acorn CCS project will be scoped out of this assessment. Only impacts relating to gas pipelines will be considered in relation to the Acorn CCS project, which will be assessed under oil and gas activities.

Aggregate Resources and Extraction Areas and Marine Dredge Disposal Sites

18.7.1.21 Two open marine dredge disposal sites have been identified within the Other Users of the Marine Environment Study Area in coastal waters off Peterhead (Marine Scotland (now Marine Directorate), 2023). These include North Buchan Ness and Peterhead marine disposal sites, located approximately 1.6 km and 1.2 km from the Offshore ECC, respectively. Dredge disposal works are expected to be spatially discrete and as they have been identified to occur greater than 1 km away from the Offshore Development Area no project activities are expected to interact with dredge disposal works. Therefore, marine dredge disposal sites will be scoped out of this assessment.

18.7.1.22 No aggregate resource areas or extraction areas, either active or historical, have been identified within the Other Users of the Marine Environment Study Area (Marine Scotland (now Marine Directorate), 2023). This receptor will not interact with the Offshore Development Area and will therefore not be considered any further within the EIAR.

Unexploded Ordnance

18.7.1.23 No current or historic munitions disposal sites were identified within the vicinity of the OAA or Offshore ECC within the Salamander EIA Scoping Report (SBES, 2023). However, the Offshore Development Area lies within historical German World War One (WWI) and British World War Two (WWII) mining areas and WWII military armament areas (ORDTEK, 2015). Therefore, potential for unexploded ordnance (UXO) to be present within the Offshore Development Area remains, despite being unlikely. The potential impacts of the clearance of UXOs are discussed within this EIAR for completeness. However, as it is not possible at this time to precisely define the number of UXO which may require detonation, a separate Marine Licence application and EPS Licence application (with associated environmental assessments) will be submitted for the detonation of any UXO which may be identified as requiring clearance in pre-construction surveys.

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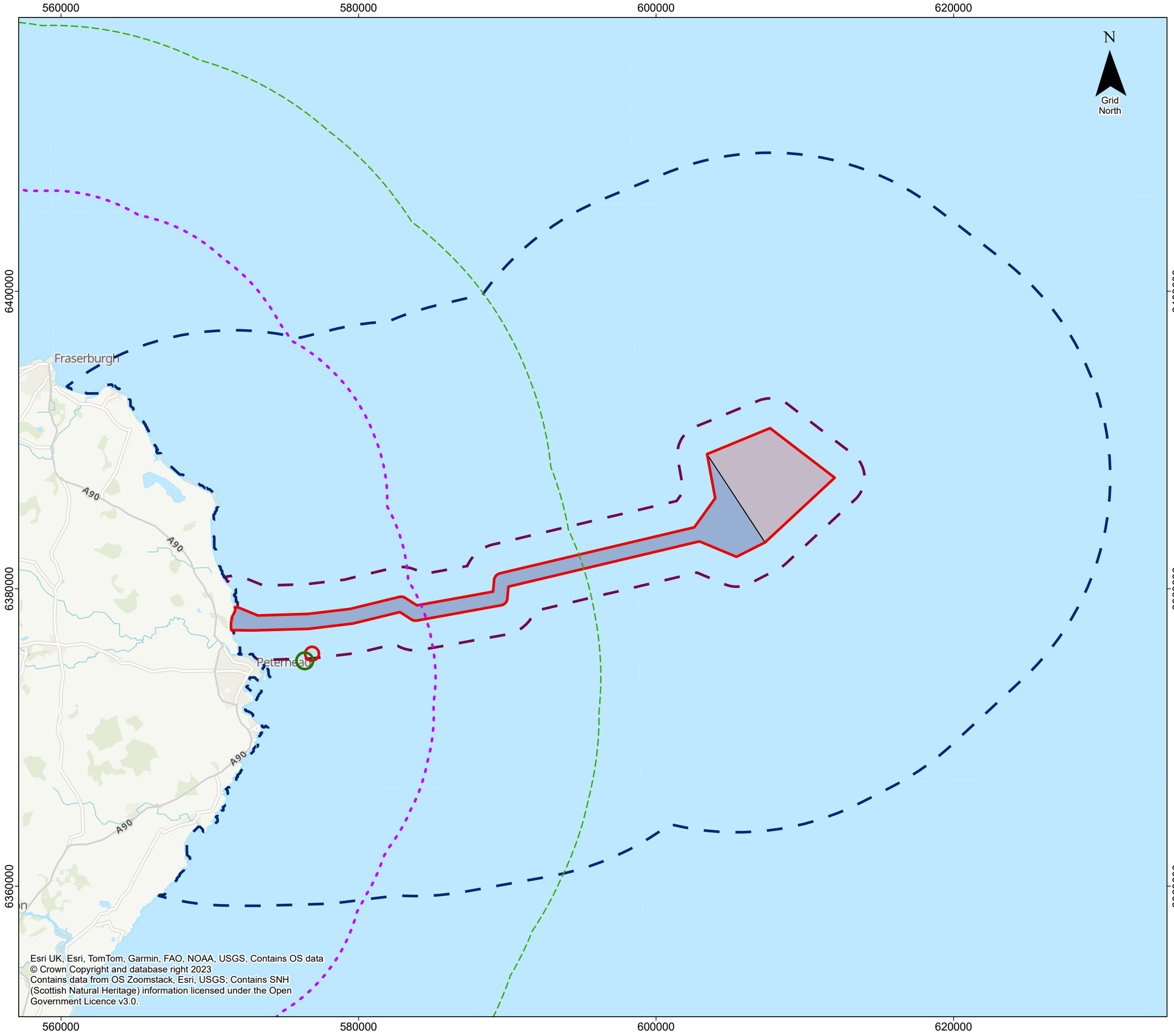
Figure 18-5

Overview of marine dredge disposal sites



Legend

- Offshore Development Area
- Offshore Array Area
- Offshore Export Cable Corridor
- Other Users of the Marine Environment Study Area (18.52km)
- Detailed Study Area 2km
- North Buchan Ness Disposal Site
- Peterhead Disposal Site
- 6nm limit
- 12nm limit

Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:250,000

0 7.5 15 Kilometers

0 1.75 3.5 7 Nautical Miles

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Telecommunications

18.7.1.24 Information on active licences for transmitters and receivers was obtained via Ofcom's SIS (Ofcom, 2023). Within the Other Users of the Marine Environment Study Area, there are two licenced Automatic Identification Systems (AIS), owned by Fugro Norway AS and Hywind Scotland Ltd, and two BR Tech Assigned Licence, owned by Statoil ASA (Ofcom, 2023). Electromagnetic frequencies within the Frequency Modulation (FM) range (87.5-108 Mega Hertz (MHz)) are generally the most susceptible to interference from wind farms. The AISs identified within the Study Area operate around 161-162 MHz, whilst the BR Tech Assigned signal operates at 454 MHz for both transmitting and receiving. Therefore, as these signals are outside of the susceptible FM frequency range, minimal disturbance to these telecommunication systems are anticipated.

18.7.1.25 Several other terrestrial fixed link and BR Tech Assigned telecommunication systems are also identified onshore, however as these are located outside of the Other Users of the Marine Environment Study Area, the Offshore Development is not considered to interact with these receptors. As such telecommunication systems will not be considered further within the EIAR.

Recreation and Tourism Activities

18.7.1.26 In general, recreational and tourism levels are highest along the west coast of Scotland; however low to medium recreation activity levels are still observed along the northeast coast of Aberdeen (Marine Scotland (now Marine Directorate), 2015b). It should be noted that tourism and recreational activities are highly seasonal; the peak tourist period occurs between June to August (LUC, 2016), during which the Scottish Marine Recreation and Tourism Survey (2015) assessed marine activity levels to be highest largely within 10 km of the coastline. Several recreational activities have been identified of particular importance along the northeast coast, these are highlighted below:

- Sea angling;
- Sailing and motor cruising;
- Yachting;
- Canoeing and kayaking;
- Surfing, wind and kite surfing;
- Paddleboarding;
- SCUBA diving; and
- Bird and wildlife watching.

18.7.1.27 There are four popular surfing beaches along the northeast coast: Fraserburgh, St Combs to Inverallochy, Sandford Bay at Peterhead and Cruden Bay (Magic Seaweed, 2023) (**Figure 18-6**). Seabird watching from the coast is also another popular activity, particularly around the Bullers of Buchan, 10 km south of Peterhead (Aberdeenshire Scotland, 2023). A number of bird species are present along the northeast coast, including *Fratercula arctica* (Atlantic puffin), *Rissa tridactyla* (black-legged kittiwake), *Uria aalge* (common guillemot) and *Alca torda* (razorbill). Additionally, a number of whale and dolphin watching tours are provided off the Aberdeenshire coast, due to its status as one of the best places in Europe for sightings of *Tursiops truncates* (bottlenose dolphins) (RSPB, 2023). Lastly, sea angling from the shore and angling trips occur at high densities year round at Peterhead, St Fergus and Cruden Bay (Marine Scotland (now Marine Directorate), 2015b). Recreational sea anglers primarily fish for Atlantic cod, common ling and coley at these

areas (Visit Scotland, 2023). Further information regarding fisheries can be found in **Volume ER.A.3, Chapter 13: Commercial Fisheries** of the EIA Report.

18.7.1.28 The major port in the Other Users of the Marine Environment Study Area is located at Peterhead with several smaller harbours identified to the south, including Boddam, and Cruden Bay harbours (Marine Scotland (now Marine Directorate), 2023). Recreational vessel density, including pleasure craft and sailing, is generally highest around the port of Peterhead and within 10 km of the coastline. Two high density passenger vessel routes which extend northwards from Aberdeen Harbour and travel along the coastline are identified to cross the Offshore ECC. Further information regarding vessel activity can be found in **Volume ER.A.3, Chapter 14: Shipping and Navigation** of the EIAR.

18.7.1.29 A more detailed review of recreational and tourism activities can be found in **Volume ER.A.3, Chapter 19: Socio-economics, Tourism and Recreation.**

560000
580000
600000
620000
6400000
6380000
6360000
N
Grid North
Peterhead
Boddam
Cruden Bay

Salamander

Figure 18-6

Overview of recreation and tourism activities

Legend

- Other Users of the Marine Environment Study Area (18.52km)
- Detailed Study Area 2km
- Popular Surfing Beaches
- Harbours
- 12nm limit

Marine Scotland Tourism Survey
Recreational and Tourism Activity Levels

- High
- Low
- 6nm limit
- 12nm limit

Coordinate System: WGS 1984 UTM Zone 30N

Scale @ A3 : 1:250,000

0 7.5 15 Kilometers

0 1.75 3.5 7 Nautical Miles

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18.7.2 Future Baseline

18.7.2.1 The future baseline environment, with respect to Other Users of the Marine Environment, is expected to undergo gradual changes primarily resulting around the construction and decommissioning of other offshore developments.

Offshore Oil and Gas Activities

18.7.2.2 Oil and gas is expected to remain an important part of the energy security as the Scottish Government transitions towards net zero emissions by 2045 (NSTA, 2022 and Scottish Government, 2023). The Buzzard oil field is expected to continue producing into 2040 (CNOOC International, 2023) and there are no current plans in place for decommissioning. Additionally, licences for the recent 33rd oil and gas leasing round have started being awarded since the second quartile of 2023 (NSTA, 2022), with 27 having been awarded so far, adding to oil and gas activities within the licensed areas.

18.7.2.3 The Acorn CCS project plans to repurpose existing oil and gas infrastructure for Carbon Dioxide (CO_2) storage and transportation into 2030 in aims to decarbonize the Scottish Cluster (Acorn, 2023). Acorn is working to develop a blue hydrogen production facility at St Fergus gas terminal. By utilizing existing infrastructure future physical development work is reduced and therefore future activities relating to this project are considered to be minimal.

Subsea cables

18.7.2.4 A scoping report for the development of the Central North Sea Electrification (CNSE) Project was submitted in May 2023 (CNSE Project, 2023). The project aims to electrify existing oil and gas infrastructure via the installation of up to two 225 km High Voltage Direct Current (HVDC) cables and up to five (High Voltage Alternative Current (HVAC) cables totaling 185 km. The proposed project is 18.1 and 4.6 km from the OAA and Offshore ECC respectively and identifies three potential landfall locations: one at Sandford Bay and two at Long Haven, thus posing potential interaction along the Offshore ECC and landfall site. Construction is targeted to commence at the beginning of 2027 for first power at the end of 2028 (CNSE Project, 2023).

18.7.2.5 Approval for the onshore components of the NorthConnect interconnector was granted by the Aberdeenshire Council in 2019 and the offshore segment within the Scottish region has also been approved by MD-LOT. There is uncertainty as to whether this project will go ahead, as construction was set to take place during 2024, and current Marine Licences are due to expire on 30th October 2024. The approved route of the NorthConnect interconnector is shown to cross the Offshore ECC and intersects the northern part of the OAA. If the Offshore Development is approved then the developers of each project would engage to ensure co-existence.

18.7.2.6 Furthermore, Flotation Energy Ltd has been awarded an initial Exclusivity Agreement by the CES for development of Cenos, a floating OWF which will make up a 'TOG' project as part of the Innovation and Targeted Oil and Gas (INTOG) leasing round (Marine Scotland (now Marine Directorate), 2022b and 2023). The Cenos array area is located 154 km from the Offshore Development Area and therefore will not pose any direct interactions with the Offshore Development. The Cenos project is currently considering three export cable route options, one of which joins the NorthConnect route northeast of the OAA and so would also pass through the north of the OAA and cross the Offshore ECC. Construction of Cenos is planned to commence in 2027 for first power in 2030 (Cenos, 2023). Similarly, engagement between the developers of each project will be undertaken to ensure co-existence. Further details on the NorthConnect interconnector cable can be found in **Volume ER.A.2, Chapter 3: Site Selection and Consideration of Alternatives.**

18.7.2.7 A Marine Licence application for the Eastern Green Link 2 HVDC Cable was granted, approving cable installation and landfall south of Peterhead, and the Offshore ECC and OAA. The proposed Eastern Green Link 2 cable will extend 436 km from Sandford Bay (Scotland) to Fraisthorpe Sands (England), and be up to 500 m wide (AECOM, 2022). Pre-installation activities are due to start in 2025, with the main cable infrastructure to be installed during 2026 to 2029, thus coinciding with the Construction of the Offshore Development.

Other Offshore Renewable Energy Developments

Innovation and Targeted Oil and Gas Exclusivity Agreements

18.7.2.8 Most notably, CES awarded Option Agreements in January 2022 to two ScotWind projects in close vicinity to the Offshore Development and announced the first developers to receive Exclusivity Agreements as part of the INTOG process in March 2023 (**Figure 18-4**). These projects are at different stages between the early planning and initial application phases and therefore construction will not commence until consent has been officially granted. However, these projects will remain in consideration under the future baseline scenario as there is the potential for project interactions due to the close proximity of a number of proposed project assets with the Offshore ECC, landfall and associated project works.

18.7.2.9 Flotation Energy Ltd has been awarded an initial Exclusivity Agreement by the CES to develop the Green Volt Offshore Wind Farm as part of the INTOG leasing round, within the Sectoral Marine Plan Area Eb (Marine Scotland (now Marine Directorate), 2022b and 2023), which is situated 31 km from the OAA. A Marine Licence application has already been submitted for the Green Volt Offshore Wind Farm as of February 2023, with construction planned to commence in Q4 2025, upon approval of the application, and for operation planned to begin in Q4 2027 (Green Volt, 2023). The Green Volt Offshore Wind Farm considered two possible landfall options, which have since been refined to the northern most option in its onshore application submission. Based on the project's estimated timeline it is likely that Green Volt's export cables will be installed prior to those of the Offshore ECC, leading to four potential cable crossings when considering two Green Volt export cables and two Salamander export cables. There is also the potential for landfall interactions with the Green Volt Offshore Wind Farm which has identified landfall at St Fergus South. Lastly, the indicative export cable route will pass approximately 0.3 km north of the OAA. Given the proposed timescales and proximity of the Green Volt Offshore Wind Farm to the Offshore Development Area, there is potential for additional vessel activities associated with construction and/or operation and maintenance activities of both projects to coincide.

18.7.2.10 Flotation Energy Ltd has additionally been awarded an Exclusivity Agreement for the development of Cenos which poses the potential to utilise part of the consented NorthConnect interconnector route, thus intersecting the OAA and crossing the Offshore ECC as discussed above in **Section 18.7.2.6**.

18.7.2.11 Cerulean Winds and Frontier Power International have also been awarded an Exclusivity Agreement within the INTOG Sectoral Marine Plan Area Eb to develop the 1,008 MW Beech North site (CES, 2023b), 31 km east of the OAA. No further details have been released by the developers regarding this project, therefore this receptor cannot be evaluated within the impact assessment.

18.7.2.12 Bp Alternative Energy Investments has been awarded an Exclusivity Agreement for a small scale 50 MW floating wind farm innovation project, 7.7 km south of the OAA (CES, 2023b). Again, no further details have been released by bp regarding this project, therefore this receptor cannot be evaluated within the impact assessment.

ScotWind Projects

18.7.2.13 Following the CES ScotWind leasing round in January 2022, ScottishPower and Shell have been awarded an option agreement for development of the MarramWind project, 47 km from the OAA (MarramWind, 2023) **(Figure 18-4**). The MarramWind scoping report was submitted in January 2023 which considers two grid connection options within the vicinity of Peterhead and an export cable route overlaps the Offshore ECC[1]. Therefore, there is the potential for interactions along the Offshore Export Cable Corridor and at the landfall location between the MarramWind project and the Salamander Project.

18.7.2.14 Additionally, Fred Olsen Seawind and Vattenfall have also been awarded an option agreement for development of the Muir Mhór project, 28.4 km from the OAA (Muir Mhór, 2023a). The Muir Mhór project is in the early planning stages and submitted a scoping report in June 2023, which considers an export cable route which overlaps the Offshore ECC and identifies two broad landfall locations around Long Haven, south of Peterhead, and St Fergus, north of Peterhead (Muir Mhór, 2023b). Therefore, there is the potential for interactions along the Offshore Export Cable Corridor and at the landfall location between the Muir Mhór project and the Salamander Project.

18.7.3 Summary of Baseline Environment

18.7.3.1 The key sensitivities highlighted as part of the baseline assessment are identified as follows:

- Oil and gas activities associated with the most recent 32nd and 33rd leasing rounds as well as an expected increase in future decommissioning of oil and gas assets in the North Sea.
- The seven active pipelines that make landfall at St Fergus, the crossing of the active gas pipeline Shell PLC 20" Gas Fulmar A – St. Fergus, and the Forties to Cruden Bay oil pipeline system that lies 4.5 km to the north of the Offshore Development Area.
- The operational wind farm Hywind Scotland, which is located 11.7 km southwest of the OAA and is expected to undergo decommissioning in 2038.
- The ECC search areas and landfall options associated with the two ScotWind projects: MarramWind and Muir Mhór, which have the potential to directly intersect the Offshore ECC and associated landfall options.
- Indicative ECCs which have the potential to directly intersect the Offshore ECC, and associated landfall options with the Green Volt Offshore Wind Farm and Cenos INTOG projects awarded to Flotation Energy Ltd.
- The proposed NorthConnect subsea electricity cable, which has the potential to directly intersect the Offshore ECC and OAA.

18.8 Limitations and Assumptions

18.8.1.1 The following assessment is based on characterisation of the current and future baseline of Other Users of the Marine Environment. However, it is acknowledged that throughout the lifetime of the Offshore Development, levels of activity by other marine users within the marine environment are likely to change. Only relevant activity currently known or likely to occur in the future has been assessed in this chapter.

[1] Distances provided for MaramWind are based on the ECC area of search, and should not be considered necessarily indicative of the route that will subsequently be proposed.

18.8.2 Impacts scoped out of the Environmental Impact Assessment Report

18.8.2.1 The Other Users of the Marine Environment assessment covers all potential impacts identified during scoping, as well as any further potential impacts that have been highlighted as the EIA has progressed as outlined in **Section 18.8.2**.

18.8.2.2 However, following consideration of the baseline environment, the project description outlined in **Volume ER.A.2, Chapter 4: Project Description**] and in line with the Scoping Opinion a number of impacts are not considered in detail within this EIAR, as illustrated in **Table 18-7**.

Table 18-7 Impacts scoped out of the Other Users of the Marine Environment assessment

Potential Impact	Project Aspect	Project Phase	Justification
Obstruction of aquaculture activities due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	There are no identified aquaculture sites or aquaculture resources areas within the Study Area.
Obstruction of dredge disposal sites due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	As per the Salamander EIA Scoping Report (SBES,2023) and in line with comments received within the Scoping Opinion, all identified dredge disposal sites are greater than 1 km away from the Offshore Development Area and so are not expected to interact with the Salamander Project.
Obstruction of Military Practice and Exercise Areas (PEXA) activities due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	As per the Salamander EIA Scoping Report (SBES,2023) and in line with comments received within the Scoping Opinion, there are low levels of military activity within the Offshore Development Area.
Transboundary Impacts	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	As per the Salamander EIA Scoping Report (SBES,2023) and in line with comments received within the Scoping Opinion, no other sea users associated with other European Economic Areas (EEA) have been identified to use the Offshore Development Area.
Obstruction of aggregate resources, extraction areas due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	No aggregate resources or extraction sites (active or historical) have been identified within the Study Area.

Potential Impact	Project Aspect	Project Phase	Justification
Obstruction of Carbon Capture and Storage (CCS) due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	The only identified CCS licence is 40 km away from the Offshore Development Area and will therefore not directly interact with the Offshore Development Area. The Acorn CCS project will utilise existing gas pipelines scoped in and assessed under oil and gas activities.
Obstruction of offshore wells due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	The only identified offshore well within the Study Area is designated as abandoned and has been decommissioned since 2004.
Obstruction of wave and tidal renewable resources due to the presence of safety zones and vessels associated with construction and/or operation and maintenance activities.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	No wave or tidal energy development option areas or draft lease sites from the Sectoral Marine Plan have been identified within the Study Area.
Obstruction of telecommunications infrastructure due to the presence of WTGs associated with the operation of the Offshore Development.	OAA and Offshore ECC	Construction, Operation and Maintenance, Decommissioning	The AIS and BR Tech Assigned telecommunications identified within the Study Area do not operate at frequencies susceptible to interference from wind farms and therefore are not considered to interact with the Offshore Development.

18.8.2.3 It is possible that some infrastructure components will be assembled outside of the Offshore Development Area, such as at an operational port or harbour, and stored for a period of time prior to being towed to the OAA. Infrastructure may include, but is not necessarily limited to, the floating substructures and WTGs.

18.8.2.4 Wet storage of the floating substructures (and integrated WTGs) prior to tow-out to the OAA is considered to be outside the scope of this EIA and the Marine Licence applications for the Offshore Development. This is due to the fact that at this stage of the Salamander Project it is not known which port(s) will be used for wet storage and therefore it is challenging to undertake a meaningful assessment of impacts related to wet storage. The intent is that the Salamander Project will utilise the services of a port(s) that offer wet storage sites, which will have appropriate consents (obtained by the port authority) for wet storage of floating substructures, fabrication and assembly with the WTGs. To enable the availability of this option for the Salamander Project within the required timeframe, an owner of SWPC is an official member of the TS-FLOW UK-North JIP exploring the challenges of wet storage and identifying the opportunities and potentially suitable locations for these activities. This JIP is in collaboration with relevant ports and other floating offshore wind developers.

18.8.2.5 Therefore, wet storage has been scoped out of this EIAR for all receptors; separate Marine Licences and associated impact assessments for wet storage areas outwith the Offshore Development Area will be applied for and undertaken as appropriate.

18.8.3 Embedded Mitigation

18.8.3.1 The embedded mitigation relevant to the Other Users of the Marine Environment assessment is presented in **Table 18-8.**

Table 18-8 Embedded Mitigation for the Other Users of the Marine Environment assessment

Potential Impact and Effect	Mitigation ID	Mitigation	Project Aspect	Project Phase
Tertiary				
Navigational safety impacts to local and commercial vessels	Co24	Standard 500 m safety zones will be applied around substructure elements during construction, decommissioning and major maintenance works and safety zones of up to 50 m during pre-commissioning works. Additionally, 500 m advisory safe passing distance will also be requested around all project vessels undertaking major works and restriction of navigation rights within the Offshore Array Area will be considered under Section 36A.	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning
Navigational safety impacts to local and commercial vessels	Co9	Construction Environmental Management Plan (CEMP) will be developed and will include details of: - A Marine Pollution Contingency Plan (MPCP) to address the risks, methods and procedures to protect the Offshore Development Area from potential polluting events associated with the Salamander Project; - A chemical risk review to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance; - A biosecurity plan (offshore) detailing how the risk of introduction and spread of invasive non-native species will be minimised; - Waste management and disposal arrangements; and - Protocol for management of Dropped Objects.	Offshore ECC and OAA	Construction

Potential Impact and Effect	Mitigation ID	Mitigation	Project Aspect	Project Phase
Navigational safety impacts to local and commercial vessels	Co25	As per required consent conditions, the details of the Offshore Development will be promulgated in advance of, and during, construction via channels such as Notices to Mariners and Kingfisher bulletins to ensure shipping and navigation users are informed about ongoing and upcoming works.	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning
Navigational safety impacts to local and commercial vessels	Co11	A Vessel Management Plan (VMP) will be developed and include details of: - Vessel routing to and from construction sites and ports, - Vessel notifications including Notice to Mariners and Kingfisher Bulletin; and - Code of conduct for vessel operators including for the purpose of reducing disturbance and collision with marine fauna.	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning
Damage to infrastructure	Co26	Adherence to relevant cable crossing plans and protocols, whereby all crossings of infrastructure will follow standard industry practice by OGUK (2015) and cable proximity and crossing agreements will be implemented.	Offshore ECC and OAA	Construction
Navigational safety impacts to local and commercial vessels and potential damage to infrastructure	Co27	Consultation with owners and operators of other offshore infrastructure will occur to manage any works undertaken during the construction, operation and maintenance and decommissioning phases of the Salamander Project.	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning
Navigational safety impacts to local and commercial vessels	Co19	Development and adherence to a Fisheries Management and Mitigation Strategy (FMMS) e.g. appointment of Fisheries Liaison Officer (FLO) and Fisheries Industry Representative (FIR), implementation of gear claim procedures and use of Guard vessels where required.	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning
Navigational safety impacts to local and commercial vessels	Co18	All vessels will comply with relevant best practice navigational safety guidance from the International Regulations for the Prevention of Collisions at Sea	Offshore ECC and OAA	Construction, Operation and Maintenance, and Decommissioning

Potential Impact and Effect	Mitigation ID	Mitigation	Project Aspect	Project Phase
		(COLREGS) and the International Regulations for the Safety of Life at Sea (SOLAS).		
Navigational safety impacts to local and commercial vessels	Co28	A Decommissioning Programme will be developed and adhered to for the decommissioning phase of the Salamander Project, however the plan will be further developed and updated to reflect best practice at the time of decommissioning.	Offshore ECC and OAA	Decommissioning

18.9 Project Design Envelope Parameters

18.9.1.1 Given that the realistic worst-case scenario is based on the design option (or combination of options) that represents the greatest potential for change, as set out in **Volume ER.A.2, Chapter 4: Project Description**, a confidence can be taken that development of any alternative options within the Project Design Envelope parameters will give rise to no effects greater or worse than those assessed in this impact assessment. The Project Design Envelope parameters relevant to the Other Users of the Marine Environment assessment are outlined in **Table 18-9**.

Table 18-9 Project Design Envelope parameters for Other Users of the Marine Environment

Potential Impact and Effect	Project Design Envelope parameters
Construction	
Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities.	The offshore construction period has a window of 2.5 years, however, construction will only take place over a period of 18 months (excluding pre-construction surveys). Pre-construction surveys will occur prior to the 18 month construction period. 500 m safety zones will be applied around active construction areas and 50 m safety zones around incomplete infrastructure. Indicatively, the busiest period during construction would be up to 12 vessels and a support barge in a given 5 km^2 area. This level of activity is unlikely to occur across the entire project area but may be expected to occur simultaneously within two areas of 5 km^2 across the OAA and Offshore ECC. <u>Offshore Array Area</u> •The total area of the OAA will be up to 33.25 km^2 •Up to seven floating WTG with minimum spacing of 1,000 m •Up to eight catenary, semi-taut or taut mooring lines and up to eight anchors per floating substructure (up to 56 mooring lines in total), each of total radius up to 1,500 m •Up to eight inter-array cables of a total length up to 35 km
Obstruction of electricity cable installation activities due to the presence of safety zones and construction vessels during installation activities.	
Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation.	
Obstruction of recreational and tourism due to the presence of safety zones and construction vessels during installation.	

Potential Impact and Effect	Project Design Envelope parameters
	Offshore ECC •Up to two export cables with a total combined length of up to 85 km • Width of individual cable installation corridors will be up to 40 m •Up to 24 cable/pipeline crossings of third party infrastructure, requiring a total area of cable crossing protection of up to 158,160 m². Landfall •The duration of landfall installation will be up to five months per cable (up to a total of eight months) east of Lunderton
Operation and Maintenance	
Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during operation and maintenance activities.	Duration 35 years. During the operational life of the Salamander Project, there will be a maximum of up to 12 O&M vessels in the OAA and Offshore ECC on any given day. Offshore Array Area •The total area of the OAA will be up to 33.25 km² •Up to seven floating Wind Turbine Generators (WTG) with minimum spacings of 1,000 m • Up to eight catenary, semi-taut or taut mooring lines and up to eight anchors per floating substructure (up to 64 mooring lines in total), each of lengths up to 1,650 m.
Obstruction of electricity cable installation activities due to the presence of safety zones and construction vessels during operation and maintenance activities.	
Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during operation and maintenance activities.	
Obstruction of recreational and tourism activities the presence of safety zones and construction vessels during operation and maintenance activities.	

Potential Impact and Effect	Project Design Envelope parameters
	Cable Repair •Up to eight cable repair and replacement events within the OAA and up to six cable repair and replacement events within the Offshore ECC. •The total area of new cable protection for cable repair and replacement events will be up to 36,000 m²
Decommissioning	
Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during decommissioning activities.	Currently realistic worst-case and likely scenarios for decommissioning operations will involve full removal of all infrastructure, therefore, similar impacts to the Construction phase and magnitude of seabed disturbance have been considered. This assumption is subject to best practice methods and technology appropriate at the time of decommissioning.
Obstruction of electricity cable installation activities due to the presence of safety zones and vessels during decommissioning activities.	
Obstruction of oil and gas activities due to the presence of safety zones and vessels during decommissioning.	
Obstruction of recreational and tourism activities due to the presence of safety zones and vessels during decommissioning.	

18.10 Assessment Methodology

18.10.1.1 **Volume ER.A.2, Chapter 6: EIA Methodology** sets out the general approach to the assessment of potential significant effects that may arise from the Salamander Project.

18.10.1.2 Whilst **Volume ER.A.2, Chapter 6: EIA Methodology** provides a general framework for identifying impacts and assessing the significance of their effects, in practice the approaches and criteria applied across different topics vary.

18.10.1.3 The proposed approach to the Other Users of the Marine Environment assessment that has been addressed in the EIA is outlined below.

18.10.1.4 An impact assessment will be carried out for all impact pathways scoped into the EIAR. Determination of effect significance will be informed by the magnitude of change to the baseline conditions that are expected to occur as a result of the Offshore Development, and consideration of the sensitivity of identified receptor groups relevant to the Other Users of the Marine Environment chapter. Where proposed future projects have already submitted Marine Licence applications at the time of writing, these projects will also be included within the impact assessment. These receptor groups are:

- Oil and gas infrastructure and asset owners, including oil and gas leasing rounds and licenced blocks, gas pipelines and oil pipelines;
- Subsea cables, including the TAMPNET Fibre Optic cable;
- Other offshore renewable developments; and
- Marine recreational users and ports and harbours.

18.10.1.5 The assessment process will be based on expert judgment and consider the likelihood that potential impacts may have an adverse effect on the environment. The overall magnitude of effect and sensitivity of receptors for each impact will be described using the definitions provided in **Table 18-10** and **Table 18-11.**

18.10.1.6 The magnitude of impact is defined based on the spatial extent, and the duration and nature of the impact (**Table 18-11**). The receptor sensitivity is defined based on adaptability, tolerance, recoverability and importance/value of the receptor to other sea users/asset owners (**Table 18-10**).

Table 18-10 Definition of receptor sensitivity for Other Users of the Marine Environment

Sensitivity of Receptor	Definition
High	The receptor cannot adapt or tolerate change and will not recover from the impact. The receptor is of national to international importance or of high value to other users of the marine environment.
Medium	The receptor has limited adaptability, can tolerate minor changes and will recover within weeks of the impact. The receptor is of regional importance or of medium value to other users of the marine environment.
Low	The receptor can easily adapt, tolerate medium changes and can recover within days of the impact. The receptor is of local importance or of low value to other users of the marine environment.
Negligible	The receptor can fully adapt, tolerate high changes and can recover immediately. The receptor is of little to no importance or value to other users of the marine environment.

Table 18-11 Definition of magnitude of impact for Other Users of the Marine Environment

Magnitude of Impact	Definition
High	There is 80-100% overlap between the Project activities and other sea users. The impact will be permanent and long term (>10 years).
Medium	There is a near whole overlapping spatial extent (50-80%) between Project activities and other sea users. The impact will be temporary and short to medium term (2-5 years).
Low	There is partly overlapping spatial extent (≤50%) between Project activities and other sea users. The impact will be of low frequency and short term (<2 years).
Negligible	There is very minor loss or detrimental alteration to one or more characteristics, features or elements, e.g. no spatial overlap and any impact will be intermittent and/or short term (≤2 months).
No Change	There is no change or changes are indistinguishable from the existing baseline environment as a result of the Salamander Project.

18.10.1.7 Consideration of the magnitude of impact and receptor sensitivity will determine the evaluation of significance for impact pathways scoped into the EIAR. An outline of how the magnitude of impact and receptor sensitivity will be used to inform the significance of effect is provided in **Table 18-12**.

18.10.1.8 Any impact determined as having a 'moderate' or 'major' significance of effect is considered 'significant' in EIA terms. Categorisation of the significance of effects are defined in **Table 18-13**.

Table 18-12 Significance of effect table

Significance of Effect		Sensitivity of Receptor			
		Negligible	*Low*	*Medium*	*High*
Magnitude of Impact	*Negligible*	Negligible	Negligible	Negligible	Negligible
	Low	Negligible	Negligible	Minor	Minor
	Medium	Negligible	Minor	Moderate	Moderate
	High	Negligible	Minor	Moderate	Major

Table 18-13 Definition of significance of effect

Significance of Effect	Definition
Negligible	No detectable change or changes are within the natural level of variation to the environment or receptor resulting in no significant effect.
Minor	A detectable but non-material change to the environment or receptor resulting in no significant effect or small-scale temporary changes.
Moderate	A material but non-fundamental change to the environment or receptor, resulting in a significant effect.
Major	A fundamental change to the environment or receptor, resulting in a significant effect.

18.11 Impact Assessment

18.11.1.1 Impacts for Other Users of the Marine Environment are assessed separately for the Construction, Operation and Maintenance and Decommissioning phases of the Salamander Project.

18.11.2 Construction

18.11.2.1 Under the construction phase, the following potential impacts have been assessed:

- Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities;
- Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities;
- Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation activities; and
- Obstruction of recreational and tourism activities.

18.11.2.2 The duration of Construction will be up to 18 months (excluding pre-construction surveys), during which installation of the Offshore Development will cover a total area of up to 36.65 km², encompassing the OAA of up to 33.25 km², and Offshore ECC of up to 3.4 km² (two export cables with a combined length of up to 85 km and a cable installation corridor up to 40 m). This will result in one pipeline crossing and up to 23 possible future third party cable crossings of the Offshore ECC, thus requiring up to 158,160 m² total area of cable crossing protection. The total number of potential crossings has been calculated based on two Salamander export cables and either one pipeline, two Green Volt export Cables, or three Muir Mhòr and Cenos export cables, each. This is described in more detail in **Volume ER.A.4, Annex 4.2 Crossing Schedule**. The Offshore ECC will make landfall east of Lunderton, and each cable is expected to take up to five months to install. Additionally, up to eight inter-array cables of a total length up to 35 km will be installed within the OAA. Within the OAA up to seven floating WTGs will be installed with a minimum spacing of 1,000 m. The WTGs will have up to eight catenary, semi-taut or taut mooring lines and up to eight anchors per floating substructure (up to 56 mooring lines in total), each of total radius up to 1,500 m.

18.11.2.3 Safety zones of 500 m will be implemented around all Offshore Renewable Energy Infrastructure (OREI) during Construction and additional advisory 500 m safety zones will be implemented around vessels

carrying out major installation works. During the Construction period up to twelve project vessels and a support barge may be present across the Offshore Development Area at any one time.

18.11.2.4 During Construction, vessel traffic may be increased from baseline due to installation activities and all third-party vessels will be excluded from safety zones within the Offshore Development Area, in order to minimise collision risk. This has the potential to disrupt vessel traffic associated with other infrastructure and users of the marine environment.

18.11.2.5 Primary mitigation, such as the timely promulgation of information via Notice to Mariners (NtM) and Kingfisher Bulletins, will inform other sea users of vessel activities and works associated with the Offshore Development. Where appropriate, all permanent project infrastructure will also be marked on admiralty charts and the UKHO will be notified of all relevant Offshore Development activities. Additionally, other asset owners and users of the marine environment will be consulted prior to Construction to understand and agree on potential procedures. This will be key to minimise project disruption for all parties as far as practicably possible.

Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities

Receptor Sensitivity

Hywind Scotland

18.11.2.6 As Hywind Scotland is already operational it is considered that the receptor cannot adapt or tolerate change. Additionally, this receptor is of high commercial value and is therefore considered to be of **High** sensitivity.

Magnitude of Impact

Hywind Scotland

18.11.2.7 At present, Hywind Scotland is the only operational OWF within the Study Area, located 11.7 km from the OAA and 8.1 km from the Offshore ECC. Hywind Scotland is set to continue operating up until 2038, after which it will then commence its Decommissioning Programme (Statoil, 2015). Activities associated with the operation and maintenance of Hywind Scotland will coincide with the Construction of the Offshore Development Area, which is due to commence in Q2 2027 for a duration of 18 months.

18.11.2.8 There is no direct spatial overlap of the OAA and the Hywind Scotland array area, which is located greater than 2 km from the OAA, outside of the Detailed Study Area. Therefore, impacts to this receptor will only be considered in reference to the Offshore ECC.

18.11.2.9 The Hywind Scotland export cable is located less than 2 km from the Offshore ECC. Although the export cable routes do not directly intersect there is potential for vessel activities between the projects to partially overlap (≤50%) within the Detailed Study Area; this takes into account the reduced vessel trips required during the operation of Hywind Scotland in comparison to that of Construction. This impact will be temporary and short term (<2 years). Therefore, the magnitude of impact of obstruction to the Hywind Scotland development is considered to be **Low**.

Significance of Effect

18.11.2.10 The significance of effect for obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities is assessed to be **Minor** for Hywind

Scotland, which is **Not Significant** in EIA terms. A summary of the significance of effects for Construction is provided in **Table 18-14**.

Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities.

18.11.2.11 In addition to obstruction of other subsea cable installation and/or maintenance activities due to safety zones and increased vessel traffic, there is also a risk of damage to other subsea cables where cable crossings are expected to occur. Subsea cable asset owners will be consulted prior to Construction. This will allow all parties to understand and agree on potential procedures to minimise project disruption for all parties as far as practicably possible. This will also include approval of cable crossing and proximity agreements.

Receptor Sensitivity

TAMPNET Fibre Optic Cable

18.11.2.12 As the TAMPNET fibre optic cable is already active and installed it is considered that the receptor cannot adapt or tolerate change. Additionally, this receptor is of high commercial value and is therefore considered to be of **High** sensitivity.

Magnitude of Impact

TAMPNET Fibre Optic Cable

18.11.2.13 The active TAMPNET fibre optic telecommunication cables lies 9.9 km to the south of the Offshore Development. Cable maintenance and repair activities have the potential to coincide with the Construction of the Offshore Development, however these are likely to be intermittent and very short term (≤2 months). Additionally, there is no direct spatial overlap of the Offshore Development Area and TAMPNET fibre optic cable, therefore, the magnitude of impact is considered to be **Negligible**.

Significance of Effect

18.11.2.14 The significance of effect for obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and construction vessels during Salamander installation activities is assessed to be **Negligible** for the TAMPNET fibre optic cable, which is **Not Significant** in EIA terms. A summary of the significance of effects during Construction are provided in **Table 18-14**.

Impact C3: Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation activities

18.11.2.15 In addition to obstruction of oil and gas activities due to safety zones and increased vessel traffic, there is also a risk of damage to pipelines where cable crossings are expected to occur. Asset owners will be consulted prior to Construction. This will allow all parties to understand and agree on potential procedures to minimise project disruption for all parties as far as practicably possible. This will also include approval of pipeline crossing and proximity agreements.

Receptor Sensitivity

Oil and Gas Leasing Rounds and Licenced Blocks

18.11.2.16 Oil and gas vessel activities within licenced blocks are considered able to easily adapt and tolerate moderate diversions, due to their mobility and as they are not associated with any fixed infrastructure. No oil fields

are yet identified within the blocks intersecting the Other Users of the Marine Environment Study Area and therefore this receptor is of **Low** sensitivity.

Gas Pipeline Crossings

18.11.2.17 As the Fulmar A to St Fergus gas pipeline is currently operational it is considered that this receptor has no capacity to adapt or tolerate change. Additionally, this receptor is of high commercial value and is therefore considered to be of **High** sensitivity.

Other Gas Pipelines

18.11.2.18 As the six gas pipelines identified are currently operational it is considered that this receptor has no capacity to adapt or tolerate change. Additionally, this receptor is of high commercial value and is therefore considered to be of **High** sensitivity.

Oil Pipelines

18.11.2.19 As the two oil pipelines are currently operational it is considered that the receptor has no capacity to adapt or tolerate change. Additionally, this receptor is of high commercial value and is therefore considered to be of **High** sensitivity.

Magnitude of Impact

Oil and Gas Leasing Rounds and Licenced Blocks

18.11.2.20 Within the 33rd oil and gas leasing round, there are six blocks on offer that intersect the Other Users of the Marine Environment Study Area, of which, block 19/15 directly overlaps with the OAA, however it remains unlicenced. The remaining five blocks on offer are currently licenced under previous oil and gas leasing rounds. No blocks currently on offer under this round have been identified to intersect the Offshore ECC. There are a further seven blocks which have been awarded provisional licences during the 32nd leasing round which have been identified within the Study Area, none of which directly overlap with the Offshore Development Area. Further to licenced blocks for oil and gas, there are an additional eight extant petroleum licences within the Other Users of the Marine Environment Study Area.

18.11.2.21 Any obstruction to oil and gas vessels servicing licenced blocks that did occur during the Construction phase of the Offshore Development Area will be short term (<2 years) and temporary. In addition, given that only one oil and gas block (which has not yet been awarded a licence) has been identified to partly overlap with the OAA, the magnitude of impact is considered to be **Low**.

Gas Pipeline Crossings

18.11.2.22 The Fulmar A to St Fergus Gas Pipeline has the potential to be crossed twice, once by each of the two proposed Salamander export cables, posing the potential for damage of third party infrastructure. Additionally, obstruction of oil and gas vessel activities is considered to partly overlap (≤50%) with the Construction of the Offshore Development, which will be of short term (<2 years) duration. The one pipeline crossing expected to occur will be permanent; however, assuming a pipeline crossing and proximity agreement is approved as part of the primary mitigation measures and consultation with Shell PLC is continued, in addition to adhering to all tertiary mitigation, the magnitude of impact is considered to be **Low**.

Other Gas Pipelines

18.11.2.23 Within the Other Users of the Marine Environment Study Area, six active gas pipelines are identified to make landfall at St Fergus gas terminal. Of these, the Britannia to St Fergus pipeline passes the closest at

approximately 1 km north of the OAA, within the Detailed Study Area. Given these pipelines are already installed only a limited number of vessels servicing these assets are expected. Obstruction of oil and gas vessel activities is therefore considered to partly overlap (≤50%) with the Construction of the Offshore Development, which will be of short term (<2 years) duration. Therefore, the magnitude of impact to other gas pipelines is considered to be **Low**.

Oil Pipelines

18.11.2.24 Two oil pipelines are located within the Other Users of the Marine Environment Study Area, one to the south and one to the east of the Offshore Development Area. Again, given these pipelines are already installed it is expected that only a small number of vessel visits will be required for the purpose of asset servicing during the Construction of the Offshore Development, which will be of short term (<2 years) duration. There is also no direct spatial overlap of the oil pipelines with the Offshore Development Area. The magnitude of impact is therefore considered to be **Negligible**.

Significance of Effect

18.11.2.25 The significance of effect for obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation is assessed to be **Minor** for the Fulmar A to St Fergus gas pipeline crossing, **Minor** for crossing of all other gas pipelines and **Negligible** for oil and gas licenced blocks and crossing of oil pipelines. These are all **Not Significant** in EIA terms. A summary of the significance of effects during Construction are provided in **Table 18-14**.

Impact C4: Obstruction of recreational and tourism activities

Receptor Sensitivity

Recreational Users

18.11.2.26 It is considered that recreational users can easily adapt and tolerate moderate levels of disruption, due to the highly seasonal nature of activities and large spatial area which they can be undertaken within. The northeast coast is not generally considered as a tourism 'hot spot' and therefore is deemed to be of local importance. This receptor group is therefore considered to have a **Low** sensitivity.

Ports and Harbours

18.11.2.27 It is considered that Peterhead Harbour is adaptable and tolerant to medium increases in vessel traffic given its prominence in the region. This receptor is assessed to be of regional to international importance and is therefore considered to have a **Medium** sensitivity.

Magnitude of Impact

Recreational Users

18.11.2.28 The most popular activities identified in Aberdeenshire include sea angling, sailing and motor cruising, surfing and wildlife watching, the majority of which occurs within 10 km of the coastline. Other recreational activities identified within the region include canoeing and kayaking, yachting, paddleboarding, wind and kite surfing and SCUBA diving. At least two known visits by recreational SCUBA divers to wrecks identified within the Offshore ECC are known to have occurred. Installation of the Offshore ECC and landfall activities will therefore pose the greatest disruption and displacement risk to such activities, which could take up to 8 months in total. Although recreational activities directly overlap with the Study Area, given the large spatial area available for them to take place and highly seasonal tourism period it is not considered that the

impact will last for the duration of Construction; it is considered to be intermittent and short term (≤4 months). The magnitude of impact is therefore considered to be **Low**.

Ports and Harbours

18.11.2.29 Peterhead Harbour, approximately 4 km south of the landfall location, is identified as the major harbour in the area. The harbour is a hub for sailing and motor cruising activities, as well as a number of sea angling and wildlife watching tour companies which operate from it. During the Construction of the Offshore Development this harbour may experience increased vessel traffic associated with installation activities and/or due to displacement of third party vessels from other ports utilised by the Salamander Project. Two high density coastal passenger vessel routes are also noted to cross the Offshore ECC. Impacts to shipping and navigation will be assessed in detail in **Volume ER.A.3, Chapter 14: Shipping and Navigation** of the EIAR.

18.11.2.30 Construction of the Offshore Development will be short term (<2 years), during which Peterhead Harbour, and any other ports identified by the Salamander Project, will be temporarily subject to increased vessel activities, with partly overlapping spatial extents (≤50%). The magnitude of impact is therefore considered to be **Low**.

Significance of Effect

18.11.2.31 The significance of effect for obstruction of recreational and tourism activities is assessed to be **Minor** for ports and harbours and **Negligible** for recreational users, which is **Not Significant** in EIA terms. A summary of the significance of effects during Construction are provided in **Table 18-14**.

Summary of Significance of Effects for Construction

18.11.2.32 A summary of the impacts and effects identified during Construction for the Other Users of the Marine Environment assessment is outlined in **Section 18.11.5, Table 18-14**.

18.11.3 Operation and Maintenance

18.11.3.1 Under the operation and maintenance phase, the following potential impacts have been assessed:

- Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during installation activities;
- Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase;
- Obstruction of oil and gas activities due to the presence of safety zones and vessels during the operation and maintenance phase; and
- Obstruction of recreational and tourism activities during the Operation and Maintenance phase.

Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase

18.11.3.2 The operational life of the Offshore Development is assumed to be up to 35 years. During this time any maintenance activities are expected to be temporary, intermittent and very short term (≤2 months) in nature, with up to a total of 210 vessel trips per year predicted during the operation and maintenance phase, with a maximum of up to 12 vessels to occur within the Offshore Development Area per day. Safety zones of 500 m will apply around vessels carrying out any major maintenance works, and all vessels will comply with best practice navigational safety guidance outlined in COLREGS and SOLAS. Additionally, primary mitigation measures, including timely promulgation of information via NtM and Kingfisher

Bulletins, will inform other sea users of vessel activities and works associated with the Offshore Development. All project infrastructure will also be marked on admiralty charts and the UKHO will be notified of all relevant Offshore Development activities.

18.11.3.3 Within the OAA standard 500 m safety zones will be implemented around moorings and anchors during replacement events, of which there will be up to 40 during the operation and maintenance phase. These activities have the potential to restrict and disrupt vessel traffic within the OAA, leading to vessel displacement. Additionally, across the Offshore Development Area there will be up to 14 cable repair and replacement events will occur during the operation and maintenance phase, where the implementation of standard safety zones will also provide further potential for vessel displacement.

Receptor Sensitivity

18.11.3.4 Receptor sensitivity for the operation and maintenance phase is determined to be the same as for the Construction phase, detailed in **Section 18.11.2.** Hywind Scotland is therefore considered to be of a **High** sensitivity.

Magnitude of Impact

Hywind Scotland

18.11.3.5 Hywind Scotland is set to undergo decommissioning in 2038 (Statoil, 2015), coinciding with the Operational and Maintenance of the Offshore Development. There is no direct spatial overlap of the Offshore Development Area and the Hywind Scotland ECC and array. However, due to the close proximity of these development sites there is potential for partial overlap (≤50%) of vessel activities. Operation and maintenance activities are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact of obstruction to Hywind Scotland is considered to be **Low**.

Significance of Effect

18.11.3.6 The significance of effect for obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during the operation and maintenance phase is assessed to be **Minor**, which is **Not Significant** in EIA terms. A summary of the significance of effects during the operation and maintenance phase is provided in **Table 18-14**.

Impact O&M2: Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase

18.11.3.7 The extent of any obstruction of electricity cable installation and maintenance due to the presence of safety zones and maintenance vessels during the operation phase are considered to be the same as discussed for Impact O&M1, described in **Section 18.11.3.2**.

Receptor Sensitivity

18.11.3.8 Receptor sensitivity during the operation and maintenance phase is considered to be the same as for the Construction phase, detailed in **Section 18.11.2**. The TAMPNET fibre optic cable is therefore assessed as a **High** sensitivity.

Magnitude of Impact

TAMPNET Fibre Optic

18.11.3.9 There is no direct spatial overlap of the Offshore Development and TAMPNET fibre optic cable and operation and maintenance activities are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact of obstruction to vessel activities is considered to be **Negligible**.

Significance of Effect

18.11.3.10 The significance of effect for obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and vessels during installation and maintenance activities is assessed to be **Negligible** for the TAMPNET fibre optic cable, which is **Not Significant** in IEA terms. A summary of the significance of effects during the operation and maintenance phase are provided in **Table 18-14**.

Impact O&M3: Obstruction of oil and gas activities due to the presence of safety zones and vessels during the operation and maintenance phase

18.11.3.11 The extent of impacts to the obstruction of oil and gas activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase are considered to be the same as discussed for Impact O&M1, described in **Section 18.11.2**.

Receptor Sensitivity

18.11.3.12 Receptor sensitivity for the Operation and Maintenance phase is considered to be the same as for the Construction phase, detailed in **Section 18.11.2**. Gas and oil pipelines are therefore of a **High** sensitivity and oil and gas licensed blocks are of a **Low** sensitivity.

Magnitude of Impact

Oil and Gas Leasing Rounds and Licenced Blocks

18.11.3.13 Obstruction to oil and gas vessels servicing licenced blocks during the operational phase of the Offshore Development is expected to be temporary, intermittent and very short term (≤2 months). And as only one oil and gas block (which has not yet been awarded a licence) has been identified to partly overlap with the OAA, the magnitude of impact is considered to be **Negligible**.

Gas Pipeline Crossing

18.11.3.14 One gas pipeline, the Fulmar A to St Fergus gas pipeline, is proposed to be crossed by the Offshore ECC, resulting in up to two pipeline crossings. A pipeline crossing agreement will be agreed for the lifetime of the Offshore Development and any operation and maintenance activities associated with both the Offshore ECC and pipelines are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact is considered to be **Low**.

Other Gas Pipelines

18.11.3.15 Six gas pipelines are identified within the Other Users of the Marine Environment Study Area. Proximity agreements will be agreed for the lifetime of the Offshore Development and any operation and maintenance activities associated with both the Offshore ECC and pipelines are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact is considered to be **Negligible**.

Oil Pipelines

18.11.3.16 There is no direct spatial overlap between the two oil pipelines identified within the Study Area and Offshore Development infrastructure. Additionally, any operation and maintenance activities associated with both the Project and pipelines are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact is considered to be **Negligible**.

Significance of Effect

18.11.3.17 The significance of effect for obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation is assessed to be **Minor** for gas pipeline crossings and **Negligible** for other gas pipelines, oil and gas licensed blocks and oil pipelines. A summary of the significance of effects during the Operation and Maintenance phase are provided in **Table 18-14**.

Impact O&M4: Obstruction of recreational and tourism activities during the Operation and Maintenance phase

18.11.3.18 The extent of impacts to the obstruction of recreational and tourism activities during the Operation and Maintenance phase are considered to be the same as discussed for Impact O&M1, described in **Section 18.11.2**.

Receptor Sensitivity

18.11.3.19 Receptor sensitivity is considered to be the same during the Operation and Maintenance phase as for the Construction phase, detailed in **Section 18.11.2**. Recreational and tourism activities are therefore considered to be of **Low** sensitivity and ports and harbours as **Medium** sensitivity.

Magnitude of Impact

Recreational Users

18.11.3.20 Both export cables will be lowered to a minimum target depth of 0.6 m where technically feasible, and/or subject to appropriate cable protection measures (rock placement, concrete mattress, rock bag, or frond mattress) if it is not technically feasible to bury them to an appropriate depth, therefore recreational activity will be able to resume within the Offshore ECC during the Operation and Maintenance phase. As most recreational activities occur within 10 km of the coastline, it is expected there is minimal pathway for interaction between this receptor and the OAA. Any Operation and Maintenance activities associated with the Offshore Development are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the magnitude of impact is considered to be **Negligible**.

Ports and Harbours

18.11.3.21 A final decision is yet to be concluded for the use of ports and harbours during the Operation and Maintenance phase, however maintenance vessels associated with the Offshore Development are expected to utilise the selected O&M harbour base on a temporary, intermittent and very short term (≤2 months) basis, as it is a major port within the region. All export cable infrastructure will also be buried or have cable protection in areas where burial is not technically feasible, allowing passenger vessel routes to continue unobstructed. Therefore, the magnitude of impact is considered to be **Negligible**.

Significance of Effect

18.11.3.22 The significance of effect for obstruction of recreational and tourism activities is assessed to be **Negligible** for both recreational users and ports and harbours. A summary of the significance of effects during the Operation and Maintenance phase are provided in **Table 18-14**.

Summary of Significance of Effects for Operation and Maintenance

18.11.3.23 A summary of the impacts and effects identified during Operation and Maintenance for the Other Users of the Marine Environment assessment is outlined in **Table 18-14**.

18.11.4 Decommissioning

18.11.4.1 Under the decommissioning phase, the following potential impacts have been assessed:

- Obstruction of marine renewable energy activities due to the presence of safety zones and vessels during Decommissioning activities;
- Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and vessels during Decommissioning activities;
- Obstruction of oil and gas activities due to the presence of safety zones and vessels during Decommissioning activities; and
- Obstruction of recreational and tourism activities during Decommissioning activities.

18.11.4.2 As a Decommissioning Programme has not yet been defined for the Offshore Development, for the purposes of this impact assessment it is therefore considered that impacts arising from Decommissioning will be the same as for Construction, detailed in **Section 18.11.2**, but in reverse.

18.11.4.3 Advisory 500 m safety zones will be implemented around vessels carrying out decommissioning works. During the Decommissioning period there will be up to a total of 516 vessel trips with up to 21 simultaneous vessels to occur on site at any one time. Third party vessels will be excluded from standard 500 m safety zones surrounding OREI and advised to maintain safety distances from all project vessels in order to minimise collision risk. This has the potential to disrupt vessel traffic associated with Other Users of the Marine Environment.

18.11.4.4 Primary mitigation, such as the timely promulgation of information via NtM and Kingfisher Bulletins, will inform other sea users of vessel activities and works associated with the Decommissioning of the Offshore Development. In line with the Scottish Government's position on the Decommissioning of OREI at the end of the operational lifetime of the Offshore Development, it is anticipated that all structures above the seabed or ground level will be completely removed. However, the approach employed at Decommissioning will take account of changing best practice and new technologies and will be compliant with the legislation and policy requirements at the time of Decommissioning. Additionally, other infrastructure owners will be consulted to understand and agree on potential procedures to minimise project disruption for all parties as far as practicably possible.

Impact D1: Obstruction of marine renewable energy activities due to the presence of safety zones and vessels during Decommissioning activities

18.11.4.5 Hywind Scotland is set to undergo decommissioning in 2038. As a result, this receptor will no longer be present at the time of Decommissioning of the Offshore Development. Therefore, no impacts are predicted to occur on Hywind Scotland and it is not discussed further in this section.

Impact D2: Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and vessels during Decommissioning activities

18.11.4.6 As per the impacts from Construction, the magnitude of impact is considered to be **Negligible** for the TAMPNET fibre optic cable (**Section 18.11.2**), which is considered to be of a **High** sensitivity.

Significance of Effect

18.11.4.7 The significance of effect for obstruction of electricity cable maintenance activities due to the presence of safety zones and vessels Decommissioning activities is assessed to be **Negligible** for the TAMPNET fibre optic cable. A summary of the significance of effects during Decommissioning are provided in **Table 18-14**.

Impact D3: Obstruction of oil and gas activities due to the presence of safety zones and vessels during Decommissioning activities

18.11.4.8 As per the impacts from Construction, the magnitude of impact is considered to be **Low** for gas pipeline crossings, **low** for oil and gas licensed blocks and other gas pipelines and **Negligible** for oil pipelines (**Section 18.11.2**). Both oil and gas pipelines are considered to be of a **High** sensitivity and oil and gas licensed blocks are considered to be of a **Low** sensitivity.

Significance of Effect

18.11.4.9 The significance of effect for obstruction of oil and gas activities due to the presence of safety zones and vessels during Decommissioning is assessed to be **Minor** for gas pipeline crossings, **Minor** for other gas pipelines and of **Negligible** significance for oil and gas licensed blocks and oil pipelines. A summary of the significance of effects during Decommissioning are provided in **Table 18-14**.

Impact D4: Obstruction of recreational and tourism activities during Decommissioning activities

18.11.4.10 As per the impacts from Construction, the magnitude of impact is considered to be **low** for ports and harbours and **Negligible** for recreational users (**Section 18.11.2**. Ports and harbours are considered to be of a **Medium** sensitivity and recreational users are considered to be of a **Low** sensitivity.

Significance of Effect

18.11.4.11 The significance of effect for obstruction of recreational and tourism activities is assessed to be **Minor** for ports and harbours and **Negligible** for recreational users. A summary of the significance of effects during Decommissioning are provided in **Table 18-14**.

Summary of Significance of Effects for Decommissioning

18.11.4.12 A summary of the impacts and effects identified during Decommissioning for the Other Users of the Marine Environment assessment is outlined in **Table 18-14**.

18.11.5 Summary of Impact Assessment

18.11.5.1 A summary of the impacts and effects identified for the Other Users of the Marine Environment assessment is outlined in **Table 18-14**.

Table 18-14 Summary of Impacts and Effects for Other Users of the Marine Environment

Salamander Project Activity and Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude	Sensitivity	Significance of Effect	Additional Mitigation	Residual Significance of Effect	Significance in EIA Terms
Construction									
Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC and OAA	Co9, Co11, Co18, Co19 Co24, Co25, Co26 and Co27	Hywind Scotland	Low	High	Minor	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Minor	Not Significant
Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC and OAA		TAMPNET Fibre Optic	Negligible	High	Negligible		Negligible	Not Significant
Impact C3: Obstruction of oil and gas activities due to the presence of safety zones and construction	Offshore ECC and OAA		Oil and gas leasing rounds and licenced blocks	Low	Low	Negligible		Negligible	Not Significant

Salamander Project Activity and Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude	Sensitivity	Significance of Effect	Additional Mitigation	Residual Significance of Effect	Significance in EIA Terms
vessels during installation activities			Gas pipeline crossings	Low	High	Minor		Minor	Not Significant
			Other gas pipelines	Low	High	Minor		Minor	Not Significant
			Oil pipelines	Negligible	High	Negligible		Negligible	Not Significant
Impact C4: Obstruction of recreational and tourism activities	Offshore ECC and OAA		Recreational Users	Low	Low	Negligible		Negligible	Not Significant
			Ports and Harbours	Low	Medium	Minor		Minor	Not Significant
Operation and Maintenance									
Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase	Offshore ECC and OAA	Co11, Co18, Co19, Co24, Co25, Co26 and Co27	Hywind Scotland	Low	High	Minor	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table**	Minor	Not Significant
Impact O&M2: Obstruction of electricity	Offshore ECC and OAA		TAMPNET Fibre Optic	Negligible	High	Negligible		Negligible	Not Significant

Salamander Project Activity and Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude	Sensitivity	Significance of Effect	Additional Mitigation	Residual Significance of Effect	Significance in EIA Terms
cable installation and maintenance activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase							**18-8** as it was concluded that the effect was **Not Significant**.		
Impact O&M3: Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC and OAA		Oil and gas leasing rounds and licenced blocks	Negligible	Low	Negligible		Negligible	Not Significant
			Gas pipeline crossing	Low	High	Minor		Minor	Not Significant
			Other Gas pipelines	Negligible	High	Negligible		Negligible	Not Significant
			Oil pipelines	Negligible	High	Negligible		Negligible	Not Significant
Impact O&M4: Obstruction of recreational and tourism activities due to the presence of safety zones and construction vessels	Offshore ECC and OAA		Recreational Users	Negligible	Low	Negligible		Negligible	Not Significant
			Ports and Harbours	Negligible	Medium	Negligible		Negligible	Not Significant

Salamander Project Activity and Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude	Sensitivity	Significance of Effect	Additional Mitigation	Residual Significance of Effect	Significance in EIA Terms
during the operation and maintenance phase									
Decommissioning									
Impact D2: Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and vessels during decommissioning activities	Offshore ECC and OAA	Co11, Co18, Co19, Co24, Co25, Co26, Co27 and Co28	TAMPNET Fibre Optic	Negligible	High	Negligible	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Negligible	Not Significant
Impact D3: Obstruction of oil and gas activities due to the presence of safety zones and vessels during decommissioning activities	Offshore ECC and OAA		Oil and gas leasing rounds and licenced blocks	Low	Low	Negligible		Negligible	Not Significant
			Gas pipeline crossing	Low	High	Minor		Minor	Not Significant
			Other Gas pipelines	Low	High	Minor		Minor	Not Significant
			Oil pipelines	Negligible	High	Negligible		Negligible	Not Significant

Salamander Project Activity and Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude	Sensitivity	Significance of Effect	Additional Mitigation	Residual Significance of Effect	Significance in EIA Terms
Impact D4: Obstruction of recreational and tourism activities due to the presence of safety zones and vessels during decommissioning activities	Offshore ECC and OAA		Recreational Users	Negligible	Low	Negligible		Negligible	Not Significant
			Ports and Harbours	Low	Medium	Minor		Minor	Not Significant

18.12 Mitigation and Monitoring

18.12.1.1 The impact assessment for Other Users of the Marine Environment assessed all impacts to be **Minor** or below, which is **Not Significant** in EIA terms. Therefore, no additional mitigation measures have been identified for Other Users of the Marine Environment receptors beyond the embedded mitigation outlined in **Table 18-8**.

18.12.1.2 Furthermore, no ongoing or post Construction monitoring requirements are proposed for Other Users of the Marine Environment receptors.

18.13 Cumulative Effect Assessment

18.13.1.1 A Cumulative Effects Assessment (CEA) has been made based on existing and proposed developments in the Study Area **Volume ER.A.4, Annex 6.2: Cumulative Effects Assessment Technical Annex**. The approach to the CEA is described in **Volume ER.A.4, Annex 6.2: Cumulative Effects Assessment Technical Annex**. Cumulative effects are defined as those effects on a receptor that may arise when the development is considered together with other projects.

18.13.1.2 The maximum spatial extent of potential effects on Other Users of the Marine Environment as identified within this chapter are determined by the Other Users of the Marine Environment Study Area, which encompasses a 10 nm (18 km) buffer around the Offshore Development Area. Areas beyond this range are unlikely to experience any measurable change. As such, only plans or projects with potential to overlap spatially or temporally will be included in the cumulative assessment.

18.13.1.3 On this basis, the projects considered within this cumulative assessment are proposed projects in the early planning and application stages which have the potential to overlap both spatially and temporarily with the Other Users of the Marine Environment Study Area in the future. The proposed Beech North OWF and BP Alternative Energy Investment Project were awarded exclusivity agreements in March 2023, however, have not yet submitted a scoping report. Therefore, as insufficient information on the projects is available, these proposed projects are not included in the CEA.

18.13.1.4 The Hywind Offshore Wind Farm and the Peterhead (CR070) and North Buchan Ness (CR080) dredge disposal sites are located within the 10 nm Study Area. However, these projects are operational, and have been considered within **Section 18.11** for project effects alone. Given the low level of ongoing impact associated with operation and maintenance activities for these projects, it is considered there is negligible risk of cumulative impacts and as such they have not been taken forward for further assessment.

18.13.1.5 A list of projects included within the CEA is provided within **Table 18-15**.

Table 18-15 External projects identified within the 10 nm (18 km) Other Users of the Marine Environment Study Area

Development	Type	Project Phase	Closest distance from Project		Reasons for Inclusion
			Array	ECC	
NorthConnect	Interconnector	Consent granted 2019	0 km	0 km	The NorthConnect Project overlaps with the OAA and ECC respectively.
Eastern Green Link 2 (EGL2)	Interconnector	Consent granted 2023	26.78 km	2.86 km	Potential for temporal overlap of construction timelines.
Central North Sea Electrification (CNSE) Project	Platform Electrification	Scoping report submitted May 2023	18.1 km	4.6 km	Potential for temporal overlap of construction timelines, proposed cable is within 4.1 km of the Offshore Development.
Green Volt Floating Offshore Wind Farm Export Cable	Floating Offshore Wind Farm	Onshore and Offshore EIAR submitted 2023	0.3 km	0 km	There is potential for temporal overlap of the construction timelines and the OAA is within 1 km of the Green Volt export cable. Additionally, the Salamander export cables may cross the Green Volt export cables, resulting in up to four crossings.
Cenos Floating Offshore Wind Farm Export Cable	Floating Offshore Wind Farm	Scoping report submitted February 2023	0 km	0 km	There is potential for temporal overlap of the construction timelines (2027-2030) and overlap with the Offshore ECC and OAA. Additionally, the Salamander export cables may cross the Cenos export cables, resulting in up to 12 crossings.
MarramWind Offshore Wind Farm Export Cable[2]	Floating Offshore Wind Farm	Scoping report submitted January 2023	1.5 km	0 km	The proposed project is likely to be installed post construction of the Salamander Project, however, could result in up to eight cable crossings of the Offshore ECC.

[2] Distances provided for MaramWind are based on the ECC area of search, and should not be considered necessarily indicative of the route that will subsequently be proposed.

Development	Type	Project Phase	Closest distance from Project		Reasons for Inclusion
			Array	ECC	
Muir Mhór Floating Wind Farm Export Cable	Floating Offshore Wind Farm	Scoping report submitted June 2023	5.53 km	0 km	Potential for temporal overlap of construction timelines (2027-2030) and, depending on which project is installed first, there is the potential for up to 6 cable crossings (if the two Salamander export cables cross the three Muir Mhór cables, or vice versa)
Buchan Floating Offshore Wind Farm	Floating Offshore Wind Farm	Scoping report submitted September 2023	1.44 km	0 km	The Buchan project's array is 66.3 km and 69.3 km from the OAA and Offshore ECC respectively. The Buchan project's ECC search area is 1.44 km from the OAA and touches, but does not cross, the Offshore ECC.

18.13.1.6 Further information on these projects is outlined in **Volume ER.A.4, Annex 6.2: Cumulative Effects Assessment Project Technical Annex**.

18.13.2 Potential Cumulative Effects

18.13.2.1 The first stage of the CEA is to identify the potential for effects assessed for the Offshore Development alone to have cumulative pathways with other projects. In terms of Other Users of the Marine Environment, cumulative effects resulting from the proposed Offshore Development primarily relate to navigational safety and obstruction to vessels. The combined effects of increased vessel activity associated with the Construction, Operation and Maintenance and Decommissioning phases of the Offshore Development as well as with other developments in the region has the potential to increase navigational safety risks, cause vessel displacement and restricted access for vessels.

18.13.2.2 Additionally, there are up to 24 potential crossings of cables/pipelines which would require a total area of cable crossing protection material on the seabed of up to 158,160 m², posing the potential for damage of third party infrastructure. Of these potential cable crossings, up to 22 are related to other OWFs which have the potential to be built before the Offshore Development, including the Green Volt Floating Offshore Windfarm, Cenos Floating Offshore Windfarm and Muir Mhór Offshore Wind Farm. Given the construction timeline of MarramWind Offshore Windfarm it is unlikely that the MarramWind ECC will be installed prior to that of the Salamander Project, as stated in the MarramWind Scoping Statement: "*grid connection dates are still to be confirmed but are anticipated to be provided between 2030 and 2035*". As such, their construction period is considered to be after the Salamander Project and the MarramWind ECC would cross the Offshore ECC rather than the other way round. Therefore, these potential cable crossings have not been counted within the realistic worst-case scenario for projects assessed (in **Section 18.13.3**), as it is not expected that the Salamander Project will cross the MarramWind ECC.

18.13.2.3 The potential cumulative effects scoped into the assessment are outlined in **Table 18-16**.

Table 18-16 Potential cumulative effects relating to the Other Users of the Marine Environment Chapter

Effect Assessed Alone	Potential for Cumulative Effect	Rationale
Construction phase		
Cumulative Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities	Yes	There is potential for landfall interactions and obstruction of vessels during installation due to close proximity of a number of proposed export cables servicing offshore wind farms
Cumulative Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities	Yes	There is potential for landfall interactions and obstruction of vessels during installation due to close proximity of three proposed subsea cables

Effect Assessed Alone	Potential for Cumulative Effect	Rationale
Cumulative Impact C3: Obstruction of oil and gas activities due to the presence of safety zones and construction vessels during installation activities	No	There is potential for additional pipelines and infrastructure to be installed associated with the 32nd and 33rd oil and gas leasing rounds, however as insufficient information on such activities is available this is scoped out of the CEA.
Cumulative Impact C4: Obstruction of recreational and tourism activities	Yes	There is potential for obstruction of recreational activities associated with proposed construction of other offshore wind farms, subsea cables and the Salamander Project.
Operation and Maintenance phase		
Cumulative Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase	Yes	There is potential for obstruction of vessels due to the close proximity of a number of proposed export cables servicing offshore wind farms
Cumulative Impact O&M2: Obstruction of electricity cable installation and maintenance activities due to the presence of safety zones and maintenance vessels during the operation and maintenance phase	No	It is assumed that once installed, there will be minimal vessels associated with subsea cable maintenance and therefore obstruction to vessels is considered negligible
Cumulative Impact O&M3: Obstruction of oil and gas activities due to the presence of safety zones and vessels during the operation and maintenance phase	No	There is potential for additional pipelines and infrastructure to be installed associated with the 32nd and 33rd oil and gas leasing rounds, however as insufficient information on such activities is available this is scoped out of the CEA.
Cumulative Impact O&M4: Obstruction of recreational and tourism activities due to the presence of safety zones and vessels during the operation and maintenance phase	No	As most recreational activity occurs within 10 km of the coastline it is assumed that the only potential for cumulative effects to arise is from subsea cables. It is assumed that once installed, there will be minimal vessels associated with subsea cable maintenance and therefore obstruction to recreation is considered negligible
Decommissioning phase		
It is expected that all effects associated with Decommissioning assessed alone, and therefore also cumulatively, are similar and of lower magnitude as those identified within the Construction phase of the Salamander Project. This assumption is subject to best practice methods and technology appropriate at the time of Decommissioning.		

18.13.2.4 The second stage of the CEA is to assess the significance of each potential cumulative effect in relation to relevant external projects considered within the CEA. Please refer to **Volume ER.A.4, Annex 6.2: Cumulative Effects Assessment Project Technical Annex**. For detailed information regarding the external projects with potential for spatial and temporal overlap with the Offshore Development.

18.13.2.5 The following CEA will therefore exclusively assess potential cumulative effects (identified within **Table 18-16**) of interactions with the projects highlighted i**n Table 18-15**. As the projects outlined within this assessment are also receptors of the Other Users of the Marine Environment, potential impacts on these future projects from the Offshore Development are first assessed individually in **Section 18.13.3.1**. This is followed by a cumulative assessment of the Offshore Development and the cumulative projects on the Other Users of the Marine Environment receptor groups in **Section 18.13.8** (where scoped in, in accordance with **Table 18-16**).

18.13.2.6 The CEA assumes all primary mitigation measures, such as the timely promulgation of information via NtM and Kingfisher Bulletins, will be employed to minimise navigational impacts resulting from cumulative effects. Best practice navigational safety guidelines, COLREGS and SOLAS, will be adhered to at all times by Salamander Project vessels to minimise the risk to navigational safety. All relevant cable crossing plans and protocols will be adhered to, and all crossings of infrastructure will follow standard industry practice by OGUK (2015) and cable proximity and crossing agreements will be implemented and agreed with other asset owners. Finally, consultation with other offshore wind developers, oil and gas assets owners and recreational users will be undertaken throughout the lifetime of the Offshore Development, in order to understand project timelines and agree on potential procedures to minimise disruption for all parties as far as practicably possible.

18.13.3 Potential Effects Assessment of the Salamander Project on Future Projects

18.13.3.1 As projects associated with marine renewable energy activities and other electricity cables are identified as individual receptors of the Other Users of the Marine Environment, potential impacts of the Offshore Development on future and proposed projects outlined in **Table 18-15** are also assessed individually during the Construction, Operation and Maintenance and Decommissioning phase and detailed below (**Sections 18.13.2.6, 18.13.5** and **18.13.6**).

18.13.4 Construction

Cumulative Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities

Receptor Sensitivity

Green Volt Indicative ECC

18.13.4.1 As the Green Volt Floating Offshore Windfarm has submitted its Marine Licence application it is considered that this receptor has limited ability to adapt and can tolerate minor changes. As construction of this project is yet to commence there is no physical infrastructure in place, despite this, this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

Cenos Indicative ECC

18.13.4.2 As the Cenos Floating Offshore Windfarm has submitted a scoping report in February 2023, it is considered that this receptor has limited ability to adapt and can tolerate minor changes. As construction of this project is yet to commence there is no physical infrastructure in place, despite this, this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

MarramWind Indicative ECC

18.13.4.3 As the MarramWind project has submitted a scoping report it is considered that this receptor has limited ability to adapt and can tolerate minor changes. As construction of this project is yet to commence there is no physical infrastructure in place, despite this, this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

Muir Mhór Indicative ECC

18.13.4.4 As the Muir Mhór project has submitted a scoping report it is considered that this receptor has limited ability to adapt and can tolerate minor changes. As construction of this project is yet to commence there is no physical infrastructure in place, despite this, this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

Buchan Floating Offshore Wind Farm Indicative ECC

18.13.4.5 As the Buchan Floating Offshore Wind Farm project has submitted a scoping report it is considered that this receptor has limited ability to adapt and can tolerate minor changes. As construction of this project is yet to commence there is no physical infrastructure in place, despite this, this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

Magnitude of Impact

Green Volt Offshore Windfarm Indicative ECC

18.13.4.6 The Green Volt Floating Offshore Windfarm proposed array area lies outside of the Other Users of the Marine Environment Study Area. Therefore, possible future impacts to the array area are not assessed within this section.

18.13.4.7 A Marine Licence application for the Green Volt Floating Offshore Windfarm was submitted in February 2023 and both onshore and offshore EIARs have now been submitted. Construction of the Green Volt Offshore Windfarm is planned to commence in Q4 2025 and operation is planned to begin in Q4 2027 (Green Volt, 2023), however given the inherent uncertainty in construction programmes, these works may coincide with the Construction activities for the Offshore Development (2027-2028).

18.13.4.8 Two possible landfall locations have been identified, and since refined to the northern most option within Green Volt's onshore application at St Fergus South (Munro and Freeman, 2021), posing the potential for landfall interactions.

18.13.4.9 Green Volt's indicative ECC is located within the Detailed Study Area and poses the potential to cross the Offshore ECC four times (due to two Green Volt export cable and two Salamander export cables). Green Volt's indicative ECC is also proposed to pass approximately 1 km north of the OAA.

18.13.4.10 As the Green Volt Floating Offshore Windfarm indicative ECC is within the Detailed Study Area and the Construction phases of both the Green Volt Offshore Windfarm and Offshore Development may coincide, there is the potential for a near whole spatial overlap (50-80%) of installation and vessel activities associated with the Green Volt Offshore Windfarm and Offshore Development, which would be of short term duration (<2 years). Additionally, there is potential for direct physical overlap of export cable infrastructure, resulting in up to four permanent cable crossings. Assuming a cable crossing agreement is approved and there is continued consultation with the Green Volt project team, as part of the primary mitigation measures and all tertiary mitigations are adhered to, the cumulative magnitude of impact is considered to be **Low**.

Cenos Indicative ECC

18.13.4.11 The Cenos Floating Offshore Windfarm proposed array area lies outside of the Other Users of the Marine Environment Study Area. Therefore, possible future impacts to the array area are not assessed within this section.

18.13.4.12 There is potential that the proposed Cenos Floating Offshore Windfarm may use part of the consented NorthConnect cable route as their export cable route; the Cenos project is currently considering three export cable route options, one of which joins the NorthConnect route northeast of the OAA and so would also pass through the north of the OAA. The cumulative impact of this export cable and the Offshore Development has been assessed.

18.13.4.13 The Cenos export cable route is additionally proposed to intersect the Offshore ECC. This poses the potential for up to 12 potential cable crossings, from two Salamander export cables and three Cenos export cables, with up to two potential cable crossings each. Construction of Cenos is planned to commence in 2027 for completion in 2028 (Cenos, 2023).

18.13.4.14 As the Cenos Floating Offshore Windfarm indicative ECC is within the Other Users of the Marine Environment Study Area and the Construction phases of both projects may coincide, there is the potential for a near whole spatial overlap (50-80%) of installation and vessel activities associated with the projects, which would be of short term duration (<2 years). Additionally, there is potential for direct physical overlap both within the OAA and of export cable infrastructure, resulting in up to 12 permanent cable crossings. If both the Salamander Project and Cenos Floating Offshore Windfarm are approved, then the developers of each project 66ouldd engage to ensure co-existence, as such, the cumulative magnitude of impact is considered to be **Low**.

MarramWind Indicative ECC

18.13.4.15 The MarramWind proposed array area lies outside of the Other Users of the Marine Environment Study Area. Therefore, possible future impacts to the array area are not assessed within this section.

18.13.4.16 The Scoping Report for MarramWind was submitted in January 2023. Based on the anticipated grid connection dates stated in the scoping report, construction of MarramWind is expected to commence after the Construction of the Offshore Development and last up to eight years. Two landfall options within the vicinity of Peterhead are being considered, posing potential landfall interactions. Additionally, MarramWind's areas of search for their ECC overlaps into the Other Users of the Marine Environment Study Area; however, as it is unlikely MarramWind will be installed prior to the Offshore Development, the potential cable crossings of MarramWind infrastructure by the Offshore Export Cables have not been considered further in this CEA.

18.13.4.17 As the MarramWind areas of search for their ECC overlaps into the Other Users of the Marine Environment Study Area and as it is unlikely MarramWind will be installed before the Offshore Development, based on grid connection dates which extend into 2030 in the MarramWind scoping report, there is limited potential for partial overlap (≤50%) of installation and vessel activities associated with the projects, which would be of short term duration (<2 years). Therefore, the cumulative magnitude of impact to this receptor is considered to be **Low**.

Muir Mhór Indicative ECC

18.13.4.18 The Muir Mhór proposed array area lies outside of the Other Users of the Marine Environment Study Area. Therefore, possible future impacts to the array area are not assessed within this section.

18.13.4.19 The scoping report for Muir Mhór was submitted in June 2023. Construction of Muir Mhór is expected to commence in 2027 for operation in 2031. Two broad landfall locations around Longhaven, south of Peterhead, and St Fergus, north of Peterhead, are identified which will overlap into the Other Users of the Marine Environment Study Area (Muir Mhór, 2023b). Additionally, there is the potential for up to six cable crossings of Muir Mhór infrastructure to occur.

18.13.4.20 As the Muir Mhór indicative ECC overlaps into the Other Users of the Marine Environment Study Area and the Construction phases of both projects may coincide, there is the potential for a near whole spatial overlap (50-80%) of installation and vessel activities associated with the projects, which would be of short term duration (<2 years). Additionally, there is potential for direct physical overlap of export cable infrastructure, resulting in up to six permanent cable crossings. Assuming a cable crossing agreement is approved and there is continued consultation with the Muir Mhór project team, as part of the primary mitigation measures and all tertiary mitigations are adhered to, the cumulative magnitude of impact is considered to be **Low**.

Buchan Floating Offshore Wind Farm Indicative ECC

18.13.4.21 The Buchan Floating Offshore Wind Farm proposed array area lies outside of the Other Users of the Marine Environment Study Area. Therefore, possible future impacts to the array area are not assessed within this section.

18.13.4.22 The scoping report for the Buchan Floating Offshore Wind Farm was submitted in September 2023 (Buchan Offshore Wind, 2023). Construction timelines are not yet disclosed, however the Buchan project's ECC search area is located 1.44 km from the OAA and touches, but does not cross, the Offshore ECC. Additionally, Buchan Floating Offshore Wind have identified a provisional landfall area within Rattray Bay, Aberdeenshire, which is located north of the St Fergus Gas Terminal. Construction of the Buchan Floating Offshore Wind Farm is expected to commence after the Construction of the Offshore Development and last between three to five years.

18.13.4.23 As the Buchan project's ECC search area is located within the Other Users of the Marine Environment Study Area, however the Buchan project's ECC search area is not yet confirmed and does not cross the Offshore ECC. It is also unlikely Buchan Floating Offshore Wind Farm will be installed before the Offshore Development, therefore, there is limited potential for partial overlap (≤50%) of installation and vessel activities associated with the projects, which would be of short term duration (<2 years). Therefore, the cumulative magnitude of impact to this receptor is considered to be **Low**.

Significance of Cumulative Effect

18.13.4.24 The overall significance of cumulative effects of obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities is assessed as **Minor** for the Green Volt, Cenos, MarramWind, Muir Mhór and Buchan Floating Offshore Wind Indicative ECCs, where the cumulative magnitude of impact is considered to be **Low** and receptor sensitivity is considered to be **High**.

Cumulative Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities

Receptor Sensitivity

Eastern Green Link 2

18.13.4.25 As installation for the Eastern Green Link 2 has not yet commenced, no physical infrastructure is yet in place. A Marine Licence application has been granted consent; it is therefore considered that this receptor has limited ability to adapt and can tolerate minor changes. If construction goes ahead this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

CNSE Project

18.13.4.26 As installation for the CNSE Project has not yet commenced, no physical infrastructure is yet in place. A scoping report has been submitted; it is therefore considered that this receptor has limited ability to adapt and can tolerate minor changes. If construction goes ahead this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

NorthConnect

18.13.4.27 As installation for the NorthConnect interconnector has been delayed, no physical infrastructure is yet in place. A Marine Licence has however been granted, so it is considered that this receptor has limited ability to adapt and can tolerate minor changes. If construction goes ahead this receptor will be of high commercial value. Therefore, this receptor is considered to be of **High** sensitivity.

Magnitude of Impact

Eastern Green Link 2

18.13.4.28 A Marine Licence application was submitted for the Eastern Green Link 2 in June 2022 and later granted in May 2023, proposing a cable route within the Other Users of the Marine Environment Study Area and landfall location south of the Offshore Development Area. Installation for this cable is proposed to be undertaken between 2026-2029, potentially coinciding with the Construction of the Offshore Development.

18.13.4.29 Due to the potential for vessel activities associated with cable installation and Construction of the Offshore Development within the Study Area, there is potential for partially overlapping spatial extent (≤50%) and be of short term (<2 years) duration. Therefore, the cumulative magnitude of impact on this receptor is considered to be **Low**.

CNSE Project

18.13.4.30 A scoping report has been submitted for the CNSE Project in February 2023, proposing a cable route that intersects the Other Users of the Marine Environment Study Area and landfall locations south of the Offshore Development Area at Long Haven. Installation for this cable is proposed to be undertaken between 2027-2028, potentially coinciding with the Construction of the Offshore Development.

18.13.4.31 Due to the potential for vessel activities associated with cable installation and Construction of the Offshore Development within the Study Area, there is potential for partially overlapping spatial extent (≤50%) and be of short term (<2 years) duration. Therefore, the cumulative magnitude of impact on this receptor is considered to be **Low**.

NorthConnect

18.13.4.32 As explained in **Volume ER.A.2, Chapter 3: Site Selection and Consideration of Alternatives**, the approved route for the NorthConnect interconnector passes through the north of the OAA. The cumulative impact of this cable (if it were to be installed) and the Offshore Development has been assessed.

18.13.4.33 Construction of the NorthConnect interconnector cable was proposed to be undertaken between 2021 to 2024 (NorthConnect, 2018). The Offshore Development is due to commence Construction of the Offshore Development Area in 2028, therefore, as installation of the NorthConnect cable has been delayed Construction activities of both projects may still coincide. The NorthConnect interconnector cable is proposed to make landfall at Long Haven Bay, just south of Peterhead, and extends across the CNS in a northeasterly direction (NorthConnect, 2018). This has the potential to result in up to two cable crossings of the Offshore ECC, to account for two Salamander export cables crossing the proposed NorthConnect cable twice, as well as intersecting the OAA.

18.13.4.34 As the NorthConnect interconnector is proposed to intersect the Detailed Study Area, installation works are expected to result in near whole spatial overlap (50-80%) and be of short term (<2 years) duration. Additionally, the NorthConnect cable poses the potential for up to two permanent cable crossings along the Offshore ECC. If both the Salamander Project and the NorthConnect interconnector are approved, then the developers of each project would engage to ensure co-existence, as such the cumulative magnitude of impact is considered to be **Low**.

Significance of Cumulative Effect

18.13.4.35 The overall significance of cumulative effects of obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities is assessed as **Minor** for the Eastern Green Link 2, CNSE Project and NorthConnect, where the cumulative magnitude of impact is considered to be **Low** and receptor sensitivity is considered to be **High**.

18.13.5 Operation and Maintenance

Cumulative Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the Operation and Maintenance phase

Receptor Sensitivity

18.13.5.1 Receptor sensitivity for the Operation and Maintenance phase is determined to be the same as for the Construction phase, detailed in **Section 18.13.2.6.** The Green Volt, Cenos, MarramWind, Muir Mhór and Buchan Floating Offshore Wind Indicative ECCs are therefore considered to be of a **High** sensitivity.

Magnitude of Impact

Green Volt Indicative ECC

18.13.5.2 Although the ECC has not yet been fully defined for the Green Volt Floating Offshore Windfarm, the indicative export cable route indicates that there will be up to four permanent cable crossings along the Salamander Offshore ECC, due to two Salamander export cables and two Green Volt export cables. The Green Volt Floating Offshore Windfarm is expected to be operational in Q4 2027 (Green Volt, 2023), coinciding with the Operation and Maintenance phase of the Offshore Development. Cable crossing agreements will be agreed for the lifetime of the Offshore Development and any periods of increased vessel activity during Operation and Maintenance are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the cumulative magnitude of impact is considered to be **Low**.

Cenos Indicative ECC

18.13.5.3 The Cenos Floating Offshore Wind Farm is expected to be operational by 2028, coinciding with the Offshore Development and proposes an export cable route which intersects the Offshore ECC and the OAA. This poses the potential for up to 12 permanent cable crossings, from two Salamander export cables and three Cenos export cables, with up to two potential cable crossings each (Cenos, 2023). Cable crossing agreements will be agreed for the lifetime of the Offshore Development, and it is expected that any periods of increased vessel activity during Operation and Maintenance will be temporary, intermittent and very short term (≤2 months). Therefore, the cumulative magnitude of impact is considered to be **Low**.

MarramWind ECC

18.13.5.4 Again, although the ECC has not yet been fully determined for the MarramWind OWF there is potential for ECC and landfall interactions due to vessel activities associated with the installation and operation of the MarramWind project during the Operation and Maintenance phase of the Offshore Development. Cable crossing agreements will be agreed for the lifetime of the Offshore Development and any periods of increased vessel activity during Operation and Maintenance have the potential for partial overlap (≤50%) and are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the cumulative magnitude of impact of obstruction to MarramWind is considered to be **Low**.

Muir Mhór Indicative ECC

18.13.5.5 As the ECC has not yet been fully determined for the Muir Mhór OWF there is potential for up to six permanent cable crossings and landfall interactions due to vessel activities associated with the operation of the Muir Mhór project during the Operation and Maintenance phase of the Offshore Development. Cable crossing agreements will be agreed for the lifetime of the Offshore Development and any periods of increased vessel activity during Operation and Maintenance have the potential for partial overlap (≤50%) and are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the cumulative magnitude of impact of obstruction to Muir Mhór is considered to be **Low**.

Buchan Floating Offshore Wind Indicative ECC

18.13.5.6 Again, although the ECC search area has not yet been fully determined for Buchan Floating Offshore Wind there is potential for ECC and landfall interactions due to vessel activities associated with the installation and operation of the Buchan Floating Offshore Wind project during the Operation and Maintenance phase of the Offshore Development. Cable proximity agreements will be agreed for the lifetime of the Offshore Development and any periods of increased vessel activity during Operation and Maintenance have the potential for partial overlap (≤50%) and are expected to be temporary, intermittent and very short term (≤2 months). Therefore, the cumulative magnitude of impact of obstruction to Buchan Floating Offshore Wind is considered to be **Low**.

Significance of Effect

18.13.5.7 The overall significance of cumulative effects of Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the Operation and Maintenance phase is assessed as **Minor** for the proposed Green Volt, Cenos, MarramWind, Muir Mhór and Buchan Floating Offshore Wind Indicative ECCs, where the cumulative magnitude of impact is considered to be **Low** and receptor sensitivity is considered to be **High**.

18.13.6 Decommissioning

18.13.6.1 It is expected that all effects associated with Decommissioning assessed alone, and therefore also cumulatively, are similar and of lower magnitude as those identified within the Construction phase of the Offshore Development. This assumption is subject to best practice methods and technology appropriate at the time of Decommissioning.

18.13.7 Summary of the Potential Effects Assessment of the Salamander Project on Future Projects

18.13.7.1 A summary of the significance of cumulative effects assessed for the Construction, Operation and Maintenance and Decommissioning phases of the Salamander Project on individual receptors is detailed in **Table 18-17**.

Table 18-17 Summary of the significance of cumulative effects assessed for the Construction, Operation and Maintenance and Decommissioning phases of the Salamander Project on individual receptors

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
Construction									
Cumulative Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC	Co9, Co11, Co18, Co19 Co24, Co25, Co26 and Co27	Green Volt Offshore Windfarm Indicative ECC	**Low**	High	Minor	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Minor	Not Significant
	Offshore ECC		Cenos Floating Offshore Wind Farm Indicative ECC	**Low**	High	Minor		Minor	Not Significant
	Offshore ECC		MarramWind Indicative ECC	Low	High	Minor		Minor	Not Significant
	Offshore ECC		Muir Mhór Indicative ECC	Low	High	Minor		Minor	Not Significant
	Offshore ECC		Buchan Floating Offshore Wind Indicative ECC	Low	High	Minor		Minor a	Not Significant

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
Cumulative Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC	Co9, Co11, Co18, Co19 Co24, Co25, Co26 and Co27	Eastern Green Link 2	Low	High	Minor		Minor	Not Significant
			CNSE Project	Low	High	Minor		Minor	Not Significant
			NorthConnect	Low	High	Minor		Minor	Not Significant
Operation and Maintenance									
Cumulative Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and	Offshore ECC	Co11, Co18, Co19, Co24, Co25, Co26 and Co27	Green Volt Offshore Windfarm Indicative ECC	Low	High	Minor	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Minor	Not Significant
	Offshore ECC		Cenos Floating Offshore Wind Farm Indicative ECC	Low	High	Minor		Minor	Not Significant

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
maintenance vessels during the operation and maintenance phase	Offshore ECC		MarramWind Indicative ECC	Low	High	Minor		Minor	Not Significant
	Offshore ECC		Muir Mhór Indicative ECC	Low	High	Minor		Minor	Not Significant
	Offshore ECC		Buchan Floating Offshore Wind Indicative ECC	Low	High	Minor		Minor	Not Significant

Decommissioning

It is expected that all effects associated with Decommissioning assessed alone, and therefore also cumulatively, are similar and of lower magnitude as those identified within the construction phase of the Salamander Project. This assumption is subject to best practice methods and technology appropriate at the time of Decommissioning.

18.13.8 Cumulative Effects Assessment of the Salamander Project and Cumulative Projects on Combined Receptor Groups

18.13.8.1 To assess the cumulative effects of the Offshore Development and the future projects outlined in **Table 18-15**, Other Users of the Marine Environment will be considered within their respective receptor groups.

18.13.9 Construction

Cumulative Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities

Receptor Sensitivity

18.13.9.1 Consistent with the approach in **Section 18.13.4**, marine renewable energy activities are of high commercial value and are considered to be of **High** sensitivity.

Magnitude of Impact

18.13.9.2 Cumulative obstruction of marine renewable energy activities will largely occur where temporal overlap of construction timelines and spatial overlap of indicative ECCs of the proposed OWFs occurs. Despite a large degree of potential overlap of marine renewable energy activities, it is considered that increased vessel traffic and obstruction will be intermittent and temporary throughout the Construction period, resulting in an overall short term duration.

18.13.9.3 As well as obstruction related impacts from increased vessel activities associated with installation, there is also the potential for direct damage to infrastructure where cable crossings are proposed. It is assumed that the Salamander Project and all projects outlined in **Table 18-15** will follow standard industry practice by OGUK (2015), and all necessary cable crossing agreements will be approved and in place prior to Construction. As such, the magnitude of cumulative impact to marine renewable energy activities is considered to be **Low**.

Significance of Cumulative Effect

18.13.9.4 The overall significance of the cumulative effect to marine renewable energy activities is considered to be **Minor**, due to a **Low** magnitude of impact and **High** receptor sensitivity.

Cumulative Impact C2: Obstruction of other electricity cable installation and/or maintenance activities due to the presence of safety zones and construction vessels during installation activities

Receptor Sensitivity

18.13.9.5 Consistent with the approach in **Section 18.13.4**, electricity cables are of high commercial value and therefore are considered to be of **High** sensitivity.

Magnitude of Impact

18.13.9.6 Cumulative obstruction of electricity cable installation has the potential to occur within the Offshore ECC region and in the vicinity of the landfall location where there is potential for spatial and temporal overlap when Construction timelines align. Despite a large degree of potential overlap of electricity cable installation, it is considered that increased vessel traffic and obstruction will be intermittent and temporary throughout the Construction period, resulting in an overall short term duration.

18.13.9.7 As well as obstruction related impacts from increased vessel activities associated with installation, there is also the potential for direct damage to infrastructure where cable crossings are proposed. It is assumed

that the Salamander Project and all projects outlined in **Table 18-15** will follow standard industry practice by OGUK (2015), and all necessary cable crossing agreements will be approved and in place prior to Construction. As such, the magnitude of cumulative impact to electricity cable installation is considered to be **Low**.

Significance of Cumulative Effect

18.13.9.8 The overall significance of the cumulative effect to other electricity cables is considered to be **Minor**, due to a **Low** magnitude of impact and **High** receptor sensitivity.

Cumulative Impact C4: Obstruction of recreational and tourism activities

Receptor Sensitivity

18.13.9.9 Recreational activities are also considered to be easily adaptable and can tolerate moderate levels of disruption, due to the highly seasonal nature of activities and large spatial area which they can be undertaken within. The receptor sensitivity is therefore considered to be **Low**.

Magnitude of Impact

18.13.9.10 Impacts to recreational receptors for the Salamander Project alone were assessed to be **Minor**, and therefore **Not Significant**. When considering the potential cumulative effects of vessels associated with all projects outlined in **Table 18-15** that have the possibility to coincide with the Construction of the Offshore Development, vessel traffic is likely to be increased. However, as recreational receptors are generally limited to within 10 km of the coastline any increased vessel traffic within this area is anticipated to be temporary and short-term in nature. The cumulative magnitude of impact is therefore considered to be **Low**.

Significance of Cumulative Effect

18.13.9.11 The overall significance of the cumulative effect to recreational receptors is considered to be **Negligible**, due to a **Low** magnitude of impact and **Low** receptor sensitivity.

18.13.10 Operation and Maintenance

Cumulative Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance vessels during the Operation and Maintenance phase

Receptor Sensitivity

18.13.10.1 Receptor sensitivity for the Operation and Maintenance phase is determined to be the same as for the Construction phase in **Section 18.13.4**, where marine renewable energy activities are considered to be of a **High** sensitivity.

Magnitude of Impact

18.13.10.2 Obstruction of marine renewable energy activities during the Operation and Maintenance phase is considered to be lower than that assessed for the Construction phase in **Section 18.11.2**, as periods of increased vessel traffic will be limited to discrete spatial areas which require maintenance and are unlikely to overlap temporally. It is also assumed that routine maintenance events will be spread out throughout the proposed OWF's lifetime, further reducing the potential for temporal overlap. Additionally, all export

cable infrastructure will be in place with cable crossing agreements agreed the project lifetime. Therefore, the cumulative magnitude of impact is considered to be **Negligible**.

Significance of Cumulative Effect

18.13.10.3 The overall significance of the cumulative effect to marine renewable energy activities during the Operation and Maintenance phase is considered to be **Negligible**, given a **Negligible** magnitude of impact and **High** sensitivity.

18.13.11 Decommissioning

18.13.11.1 It is expected that all impacts associated with Decommissioning assessed cumulatively, are similar and of lower magnitude as those identified within the Construction phase (**Section 18.11.2**). This assumption is subject to best practice methods and technology appropriate at the time of Decommissioning.

18.13.12 Summary of Cumulative Effects Assessment of the Salamander Project and Cumulative Projects on Combined Receptor Groups

18.13.12.1 A summary of the significance of cumulative effects assessed for the Construction, Operation and Maintenance and Decommissioning phases of the Salamander Project on combined receptor groups is detailed in **Table 18-18**.

Table 18-18 Summary of the significance of cumulative effects assessed for the Construction, Operation and Maintenance and Decommissioning phases of all future plans and projects on combined receptor groups

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
Construction									
Cumulative Impact C1: Obstruction of marine renewable energy activities due to the presence of safety zones and construction vessels during installation activities	Offshore ECC	Standard 500 m safety zones will be applied during construction works and safety zones of up to 50 m during pre-commissioning works. Details of the Offshore Development will be promulgated via channels such as Notices to Mariners and Kingfisher bulletins. Adherence to relevant cable crossing plans and protocols, whereby	Marine renewable energy activities	Low	High	Minor	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Minor	Not Significant
Cumulative Impact C2: Obstruction of other electricity cable installation and/or maintenance	Offshore ECC		Other electricity cable installations	Low	High	Minor		Minor	Not Significant

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
activities due to the presence of safety zones and construction vessels during installation activities		all crossings of infrastructure will follow standard industry practice by OGUK (2015).							
Cumulative Impact C4: Obstruction of recreational and tourism activities	Offshore ECC		Recreation and tourism activities	Low	Low	Negligible		Negligible	Not Significant
Operation and Maintenance									
Cumulative Impact O&M1: Obstruction of marine renewable energy activities due to the presence of safety zones and maintenance	Offshore ECC	Standard 500 m safety zones will be applied during major maintenance works and safety zones of up to 50 m during pre-commissioning works.	Marine renewable energy activities	Negligible	High	Negligible	No additional mitigation measures have been identified for this effect above and beyond the embedded mitigation listed in **Table 18-8** as it was concluded that the effect was **Not Significant**.	Negligible	Not Significant

Impact	Project Aspect	Embedded Mitigation	Receptor	Magnitude of Effect	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Residual Effect	Significance in EIA Terms
vessels during the operation and maintenance phase		Details of the Offshore Development will be promulgated via channels such as Notices to Mariners and Kingfisher bulletins. Adherence to relevant cable crossing plans and protocols, whereby all crossings of infrastructure will follow standard industry practice by OGUK (2015).							

Decommissioning

It is expected that all effects associated with Decommissioning assessed cumulatively, are similar and of lower magnitude as those identified within the Construction phase of the Salamander Project. This assumption is subject to best practice methods and technology appropriate at the time of Decommissioning.

18.14 Assessment of Impacts Cumulatively with the Onshore Development

18.14.1.1 The Onshore Development components are summarised in **Volume ER.A.2, Chapter 4: Project Description.** These Salamander Project aspects have been considered in relation to the impacts assessed within this chapter.

18.14.1.2 The main components of the Onshore Development which have the potential to disturb receptors of Other Users of the Marine Environment include installation works at the landfall location, installation of the onshore cables and onshore substation and any additional temporary construction areas.

18.14.1.3 Receptors detailed within the impact assessment of this chapter primarily at risk of interactions with the Onshore Development include any onshore activities of mobile recreational users, as described within **Section 18.11**. Additionally, there is potential for cumulative impacts during the Construction phase of the Onshore Development with the onshore elements of the proposed Green Volt, MarramWind and Muir Mhór OWFs, detailed in **Section 18.13**.

18.14.1.4 Impacts from the Offshore Development on recreational users and cumulative impacts with other OWFs have been assessed as **Not Significant**. It is anticipated that any disruption caused by the Onshore Development will be mitigated in a similar manner to that of the Offshore Development. For example, relevant onshore stakeholders will be consulted in relation to the Salamander Project; all works will comply with health and safety regulations and adhere to standard industry good practice methods; and notices of the commencement of works will be disseminated via appropriate media outlets.

18.14.1.5 In light of the above mitigations and given the localised and temporary nature of Construction activities, **No Significant Effects** from the Onshore Development are predicted to occur on receptors of the Other Users of the Marine Environment. The Onshore Development is not expected to change the magnitude or the significance of effect of the potential impacts assessed in **Section 18.11** or **18.13**.

18.15 Transboundary Effects

18.15.1.1 Transboundary effects are defined as effects that extend into other EEA states. These may occur from the Offshore Development alone, or cumulatively with other plans or projects.

18.15.1.2 As stated in the Salamander EIA Scoping Report (SBES, 2023), there is no pathway for transboundary impacts to occur on Other Users of the Marine Environment and receptors associated with other EEA, as the Salamander Project is located wholly within UK waters. No potential other users associated with other EEA have been identified within the waters of the Offshore Development Area. As such, there is no potential for other EEA states to be affected by the Salamander Project and transboundary effects are therefore scoped out of the assessment.

18.16 Inter-related Effects

18.16.1.1 The following assessment considers the potential for inter-related effects to arise across the three project phases (i.e. project lifetime effects) as well as the interaction of multiple effects on a receptor (i.e. receptor-led effects).

- Project lifetime effects are considered to be effects that occur throughout more than one phase of the project, (Construction, Operation and Maintenance, and Decommissioning) to interact to potentially create a more significant effect on a receptor, than if just assessed in isolation in these three key project phases (e.g. Construction phase, Operation and Maintenance phase and Decommissioning).

- Receptor-led effects involve spatially or temporal interaction of effects, to create inter-related effects on a receptor or receptor group. Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

18.16.1.2 It is important to note that the inter-related effects assessment considers only effects produced by the offshore elements of the Salamander Project and not from other projects, which are considered within **Section 18.13.8.**

18.16.1.3 The significance of the individual effects, as determined in **Section 18.11** is presented herein for each receptor group. A descriptive assessment of the scope for these individual effects to interact to create a different or greater effect has then been undertaken. This assessment incorporates qualitative and, where reasonably possible, quantitative assessments. It should be noted that the following assessment does not assign significance of effect for inter-related effects; rather, any inter-related effects that may be of greater significance than the individual effects acting in isolation on a given receptor are identified and discussed.

18.16.1.4 Effects from vessel activity are short term and temporary; they cease as soon as the vessel has departed. As such, it is considered that there is no potential for effects from the Construction phase to augment those from the Operation and Maintenance phase, or for effects from the Decommissioning phase to be combine with those of the Operation and Maintenance phase to cause effects greater than those assessed for either phase alone. Impacts from vessel activity other than those discussed in this chapter may include obstruction, displacement, navigational safety risks and restricted access. These impacts are discussed further within **Volume ER.A.3, Chapter 14: Shipping and Navigation**.

18.16.1.5 Impacts specific to commercial fishing vessels, will be assessed further within **Volume ER.A.3, Chapter 13: Commercial Fisheries**.

18.16.1.6 Disruption and displacement of recreation and tourism activities is likely to be most severe during the Construction and Decommissioning phases of the Offshore Development. This has the potential to impact the local economy and amenity value of the area. These impacts are discussed further within **Volume ER.A.3, Chapter: 19 Socio-economics, Tourism and Recreation.**

18.16.1.7 The effects of the impacts identified have been considered **Minor** or **Negligible**, therefore not producing an increased likelihood of significant inter-related impacts. Inter-related effects are mostly temporary and localised in nature over the lifetime of the OWF. A summary of these inter-relationships between impacts is presented in **Table 18-19**.

Table 18-19: Salamander Project Lifetime and Receptor Based Inter-related Effects Assessment for Other Users of the Marine Environment

Project Lifetime Effects
Potential interactions that may contribute to inter-related effects over the Salamander Project lifetime primarily relate to obstruction of vessel activities of other users of the marine environment. Effects from vessel activity are short term and temporary; they cease as soon as the vessel has departed. As such, there is no pathways for temporal interaction and it is determined there is no risk of project lifetime inter-related effects of greater significance than the assessment of each individual phase.
Receptor Based Effects
Regarding receptor-led inter-related effects, an increase in the presence of safety zones, increase in vessel numbers and the displacement of vessels within the OAA, has potential to marginally increase the effect magnitude on other users of the marine environment. However, this change will be small and not sufficient to increase the overall magnitude of effect or significance level.

18.17 Conclusion and Summary

18.17.1.1 The significance of effects for Other Users of the Marine Environment were defined by assessing the magnitude and sensitivity of receptors for each impact scoped into the EIAR. This was completed for the Construction, Operation and Maintenance and Decommissioning phases of the Offshore Development. The impacts assessed are summarised below:

- Impact 1: Obstruction of marine renewable energy activities due to the presence of safety zones and vessels during all Offshore Development activities;
- Impact 2: Obstruction of electricity cable installation activities due to the presence of safety zones and vessels during all Offshore Development activities;
- Impact 3: Obstruction of oil and gas activities due to the presence of safety zones and vessels during all Offshore Development activities; and
- Impact 4: Obstruction of recreational and tourism activities due to the presence of safety zones and vessels during all Offshore Development activities.

18.17.1.2 The above impacts were assessed for the following receptors across the Offshore Development lifetime:

- Oil and gas infrastructure and asset owners, including oil and gas leasing rounds and licenced blocks, gas pipelines and oil pipelines;
- Subsea cables, including the TAMPNET Fibre Optic cable, Eastern Green Link 2, CNSE Project and NorthConnect;
- Other offshore renewable developments, including Hywind Scotland, and early application stage Green Volt Offshore Windfarm, Cenos Floating Offshore Wind Farm, Muir Mhór Offshore Wind Farm and MarramWind Offshore Wind Farm; and
- Marine recreational users and ports and harbours.

18.17.1.3 The impact assessment for Other Users of the Marine Environment assessed all impacts to be **Minor** or below, which is **Not Significant** in EIA terms. Therefore, no additional mitigation measures have been identified for Other Users of the Marine Environment receptors beyond the embedded mitigation outlined in **Table 18-8**.

18.17.1.4 Furthermore, no ongoing or post Construction monitoring requirements are proposed for Other Users of the Marine Environment receptors.

18.17.1.5 Transboundary effects on Other Users of the Marine Environment have been scoped out of this assessment as there is no pathway for transboundary impacts to occur. The Offshore Development is located wholly within UK waters and therefore there is no potential for other EEA to be affected by the Salamander Project.

18.17.1.6 Cumulative effects relating to Other Users of the Marine Environment are primarily associated with increased vessel traffic and navigational safety. The assessment of cumulative effects considered all potential future impacts and developments that may arise between the Offshore Development and Other Users of the Marine Environment. All the impacts identified were assessed to be **Minor** or below, which is **Not Significant** in EIA terms. Therefore, no additional mitigation measures have been identified in relation to the CEA beyond the embedded mitigations outlined in **Table 18-8.**

18.17.1.7 Overall, **No Significant Effects** are expected to arise from impacts to Other Users of the Marine Environment.

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