Environmental Impact Assessment Report

Volume 1, Chapter 18: Infrastructure and Other Marine Users

MarramWind Offshore Wind Farm

December 2025

MarramWind

Document code:	MAR-GEN-ENV-REP-WSP-000026
Contractor document number:	852346-WEIS-IA-O1-RP-I6-194858
Version:	Final for Submission
Date:	08/12/2025
Prepared by:	WSP UK Limited
Checked by:	WSP UK Limited
Accepted by:	MarramWind Limited

Contents

18. Infrastructure and Other Marine Users

18.1 Introduction

18.1.1.1 This infrastructure and other marine users chapter of the Environmental Impact Assessment (EIA) Report presents the results of the assessment of the likely significant effects on infrastructure and other marine users that may arise from the construction, operation and maintenance (O&M) and decommissioning of the offshore Project seaward of Mean High Water Springs (MHWS). It should be read in conjunction with the project description provided in **Chapter 4: Project Description** and the relevant parts of the following chapters and appendices:

- **Chapter 6: Marine Geology, Oceanography and Physical Processes:** Changes to marine geology, oceanography and physical processes have the potential to directly and / or indirectly impact infrastructure and other marine user receptors and therefore the information from that chapter will be used to inform this infrastructure and other marine users assessment.
- **Chapter 14: Commercial Fisheries:** The commercial fisheries aspect will include activities that cross over with the infrastructure and other marine users assessment and therefore should be considered together.
- **Chapter 15: Shipping and Navigation:** The shipping and navigation aspect will include activities (such as use of vessels) that cross over with the infrastructure and other marine users assessment and therefore should be considered together.
- **Chapter 30: Socio-Economics:** This includes an assessment of the impacts of coastal tourism and therefore has ties with this infrastructure and other marine users assessment.
- **Chapter 31: Civil and Military Aviation:** This aspect includes other military activities that are not covered within this infrastructure and other marine users assessment and therefore should be read together.

18.1.1.2 This Chapter describes:

- the legislation, planning policy, guidance and other documentation that has informed the assessment (**Section 18.2: Relevant legislation and policy context and technical guidance**);
- the outcome of consultation and engagement that has been undertaken to date, including how matters relating to infrastructure and other marine users have been addressed (**Section 18.3: Consultation and engagement**);
- the scope of the assessment for infrastructure and other marine users (**Section 18.4: Scope of the assessment);**
- the data sources and methods used for gathering baseline data including surveys where appropriate (**Section 18.5: Methodology for baseline data gathering**);
- the overall environmental baseline (**Section 18.6: Baseline conditions**);
- the basis for the EIA Report (**Section 18.7: Basis for EIA Report**);
- methodology for EIA Report (**Section 18.8: Methodology for EIA Report**);
- the assessment of infrastructure and other marine users effects (**Section 18.9: Assessment of effects: Construction** ; **Section 18.10: Assessment of effects:**

Operation and maintenance ; and **Section 18.11: Assessment of effects: Decommissioning**);

- summary of effects (**Section 18.12: Summary of effects**);
- consideration of transboundary effects (**Section 18.13: Transboundary effects**);
- consideration of inter-related effects and cumulative effects (**Section 18.14: Inter-related effects** and **Section 18.15: Cumulative effects assessment**);
- a summary of residual effects for infrastructure and other marine users (**Section 18.16: Summary of residual likely** significant effects);
- a reference list is provided (**Section 18.17: References**); and
- a glossary and abbreviations is provided (**Section 18.18: Glossary and abbreviations**).

18.2 Relevant legislative and policy context and technical guidance

18.2.1 Legislative and policy context

18.2.1.1 This Section identifies the relevant legislation and policy context that has informed the scope of the infrastructure and other marine users assessment. Further information on policies relevant to the EIA and their status is set out in **Chapter 2: Legislative and Policy Context**, which provides an overview of the relevant legislative and policy context for the Project. **Chapter 2** is supported by **Volume 3, Appendix 2.1: Planning Policy Framework**, which provides a detailed summary of international, national, marine and local planning policies of relevance to the EIA. Individual policies of specific relevance to this assessment and associated appendices have been taken into account.

18.2.1.2 This summary provides a foundation for understanding the specific requirements that this Chapter must address in terms of assessing and mitigating impacts on receptors and relevant environmental issues.

18.2.1.3 The legislation and international agreements relevant to infrastructure and other marine users includes:

- Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- The Marine Strategy Regulations 2010, which transposed into UK law the Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive);
- Marine (Scotland) Act 2010;
- Marine and Coastal Access Act 2009; and
- International Regulations for the Safety of Life at Sea (International Maritime Organisation, 1974).

18.2.1.4 The policy relevant to infrastructure and other marine users includes:

- Draft Updated Sectoral Marine Plan 2025 (Scottish Government, 2025);
- NPS EN-3 2023 National Policy Statement for Renewable Energy Infrastructure (Department for Energy Security and Net Zero, 2023);

- Sectoral Marine Plan for Offshore Wind 2020 (Scottish Government, 2020);
- Scottish National Marine Plan 2015 (Scottish Government, 2015); and
- UK Marine Policy Statement 2011 (HM Government, 2011).

18.2.2 Relevant technical guidance

18.2.2.1 Other information and technical guidance relevant to the assessment undertaken for infrastructure and other marine users includes:

- International Cable Protection Committee (ICPC) Recommendations (ICPC, 2024).
- European Subsea Cable Association (ESCA) Guideline No.06: The Proximity of Offshore Renewable Energy Installations and Subsea Cable Infrastructures (ESCA, 2023).
- International Association of Marine Aids to Navigation and Lighthouse Authorities, (IALA) Recommendation O-139 on the marking of manmade offshore structures, Edition 3 (IALA, 2021).
- Maritime and Coastguard Agency (MCA) Marine Guidance Note (MGN) 654 Safety of Navigation Offshore Renewable Energy Installations – Guidance on UK Navigational Practice, Safety and Emergency Response (MCA, 2021).
- The Crown Estate Export transmission cables for offshore renewable installations – Principles of cable routeing and spacing (The Crown Estate, 2012).
- Assessment of Impact of Offshore Wind Energy Structure on the Marine Environment (Marine Institute, 2000).

18.3 Consultation and engagement

18.3.1 Overview

18.3.1.1 This Section describes the consultation and stakeholder engagement undertaken on the Project in relation to infrastructure and other marine users. This includes stakeholder engagement throughout the EIA process, the outcome of and response to the Scoping Opinions (Scottish Government, 2023a; Aberdeenshire Council 2023) in relation to the infrastructure and other marine users assessment, and the findings of the Project's Statutory Consultation. An overview of engagement undertaken for the Project as a whole can be found in Section 5.5 of **Chapter 5: Approach to the EIA**.

18.3.2 Key issues

18.3.2.1 A summary of the key issues raised during statutory consultation and engagement, specific to infrastructure and other marine users, is outlined below in **Table 18.1**, together with how these issues have been considered in the production of this EIA Report.

Table 18.1 Stakeholder issues responses – infrastructure and other marine users

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
MD-LOT	369	12 May 2023, Marine Directorate - Licensing Operations Team (MD-LOT) Scoping Opinion (Scottish Government, 2023a).	"*5.14.1* *The Scottish Ministers are broadly content with the study area as defined in Figure 5.13.1 of the Scoping Report and the baseline data gathered for the assessment is appropriate*".	This comment is acknowledged. **Section 18.6** provides further detail on the current and future baselines.
MD-LOT	371	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023a).	"*5.14.3* *In addition to the cumulative effects noted in section 5.13.53, the Developer should consider the likely cumulative and in-combination effects on shipping routes as well as the proximity to other wind farm developments, other infrastructure, and the impact on safe navigable sea room within the EIA Report. This is in line with the representations from UK CoS, SSEN, Green Volt Offshore Windfarm and the Salamander Offshore Windfarm*."	Navigational issues for other marine users are considered within **Volume 3, Appendix 15.1: Navigational Risk Assessment** and in **Chapter 15: Shipping and Navigation**. Recreational craft are also included in **Chapter 30: Socio-Economics**. The cumulative effect assessment for infrastructure and other marine users is within **Chapter 33: Cumulative Effects Assessment**.
MD-LOT	389	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023a).	"*5.19.4* *The Scottish Ministers highlight the representation from BT which states the Proposed Development will not likely cause interference to BT's current and presently planned radio network*".	This comment is acknowledged.
BT	401	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023a).	"*We have studied this proposal with respect to EMC and related problems to BT point-to-point microwave radio links. The conclusion is that, the offshore infrastructure should not cause interference to BT's current and presently planned radio network*".	This comment is acknowledged.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Scottish Hydro Electric Power Distribution	626	12 May 2023, MD-LOT Scoping Opinion, Appendix I: Consultation Responses & Advice (Scottish Government, 2023a).	"*Thank you for consulting with Scottish Hydro Electric Power Distribution (SHEPD) on this proposal. This response relates only to SHEPD Subsea cables. The proposed project is not in proximity to any SHEPD subsea assets and as such we have no further comments to make*".	This comment is acknowledged.
Ministry of Defence (MOD)	688	12 September 2023, MD-LOT Scoping Opinion Addendum (Scottish Government, 2023b).	"***Practice and Exercise Areas (PEXA)*** *Practice and Exercise Areas also known as PEXA, are designated areas of the sea where military exercises can be undertaken. Paragraph 5.13.25 of Chapter 5.13 Infrastructure and Other Marine users, states that no military PEXAs overlap the array. The MOD agrees with this statement in relation to PEXA*".	This comment is acknowledged.
MOD	689	12 September 2023, MD-LOT Scoping Opinion Addendum (Scottish Government, 2023b).	"***Unexploded Ordnance*** *The potential for unexploded ordnance (UXO) to be present within the development area and the necessity for clearance should be considered. The potential presence of UXO and disposal sites should be a consideration during the installation and decommissioning of turbines, cables, and any other infrastructure, or where other intrusive works are necessary*".	The potential presence of UXO and disposal sites has been fully considered as part of the infrastructure and other marine users assessment. **Table 18.3** outlines the potential effects to disposal sites and UXO receptors and **Table 18.9** describes the maximum design scenario for the impacts. **Sections 18.9** and **18.11** provide the impact assessment of disposal sites and UXO.

18.4 Scope of the assessment

18.4.1 Overview

18.4.1.1 This Section sets out the scope of the EIA for infrastructure and other marine users. This scope has been developed as the Project's design has evolved and responds to stakeholder feedback received to-date, as set out in **Section 18.3**.

18.4.2 Spatial scope and study area

18.4.2.1 The spatial scope of the infrastructure and other marine users assessment is defined as the Option Agreement Area (OAA) and the offshore export cable corridor up to MHWS, plus a 10 nautical mile (nm) (18.5km) zone of influence (ZOI). This has formed the basis of the study area described in this Section.

18.4.2.2 The ZOI aligns with the maximum buffer used in the assessment of shipping and navigation (see **Chapter 15: Shipping and Navigation**), in accordance with best practice, to account for the movement of other mobile marine activities. The study area for the infrastructure and other marine users is presented in **Volume 2, Figure 18.1: Infrastructure and other marine users study area**.

18.4.3 Temporal scope

18.4.3.1 The temporal scope of the assessment of infrastructure and other marine users is the entire lifetime of the Project, which therefore covers the construction, O&M, and decommissioning stages.

18.4.3.2 It is anticipated that the construction of the Project will commence in 2030, with the first phase becoming fully operational by 2037. It is anticipated that the second phase of the Project would become fully operational by 2040 and the third phase by 2043. The operational lifetime of the Project for each phase is expected to be 35 years.

18.4.4 Identified receptors

18.4.4.1 The spatial and temporal scope of the assessment enables the identification of receptors that may experience a change as a result of the Project. The receptors identified that may experience likely significantly effects for infrastructure and other marine users are outlined in **Table 18.2**.

Table 18.2 Identified receptors for infrastructure and other marine users

Receptor group	Receptors included within group
Offshore wind farm developments (array sites)	Offshore Wind Farm array sites, including: Flora (Innovation and Targeted Oil & Gas (INTOG) 4) Offshore Wind Farm; Hywind Scotland Pilot Park; Green Volt (INTOG 6) Offshore Wind Farm; and Salamander (INTOG 3) Offshore Wind Farm.
Other energy developments	Acorn carbon capture and storage; and Wave energy and tidal streams.

Receptor group	Receptors included within group
Telecommunications and subsea cables	**Subsea cables, including:** Buchan Oil Field Electrification; Eastern Green Link 2; NorthConnect; and Spittal to Peterhead subsea cable routes. **Telecommunication cables, including:** Tampnet Central North Sea Fibre Optic Cable. **Offshore wind farm subsea cables, including:** Buchan Offshore Wind Farm (Plan Option (PO) E8); Cenos (INTOG 11) Floating Offshore Wind Farm; Green Volt (INTOG 6) Floating Offshore Wind Farm; Hywind Scotland Pilot Park; Muir Mhór Floating Offshore Wind Farm (PO E2); and Salamander (INTOG 3) Offshore Wind Farm.
Marine dredging and disposal	**Dredging disposal sites including:** Fraserburgh (CR060); Middle Buchan Ness (CR090); Middle Buchan Ness B (CR095); North Buchan (CR080); Peterhead (CR070); Peterhead Harbour (CR071); South Buchan Ness (CR100); and South Buchan Ness B (CR105).
UXO	Highly constrained UXO areas.

18.4.5 Potential effects

18.4.5.1 Potential effects on infrastructure and other marine users receptors that have been scoped in for assessment are summarised in **Table 18.3**.

Table 18.3 Potential effects for infrastructure and other marine users

Receptor	Activity or impact	Potential effect
Construction stage		
Offshore wind farms	Temporary obstruction to offshore wind farms.	Potential to disrupt construction or O&M activities at the surrounding offshore wind farm sites from cable crossings; offshore export cable corridor installation activities and increased vessel activity.
Subsea cables and utilities	Temporary obstruction to subsea cables and utilities.	Cumulative effects from cable crossings; offshore export cable corridor installation activities and increased vessel activity.

Receptor	Activity or impact	Potential effect
Open disposal sites	Temporary obstruction of licensed disposal sites.	Potential for likely significant effects from cable placement (if within feature); offshore export cable corridor installation activities; and increased vessel activity to other marine users.
UXO areas	Disturbance of UXO within identified areas or discovery of unexpected UXO.	Potential for likely significant effects from offshore export cable installation.
Operation and maintenance stage		
Offshore wind farms	Temporary obstruction to offshore wind farms.	Potential to disrupt offshore wind farm activities from increased vessel activity to and from the OAA and major component replacement (MCR) to the offshore export cable corridor.
Subsea cables and utilities	Obstruction to subsea cables and utilities.	Potential to disrupt offshore wind farm activities from increased vessel activity to and from the OAA and MCR to the offshore export cable corridor.
Open disposal sites	Obstruction of licensed disposal sites.	Potential to disrupt offshore wind farm activities from increased vessel activity to and from the OAA and MCR to the offshore export cable corridor.
Decommissioning stage		
Offshore wind farms	Temporary obstruction to offshore wind farms.	Potential to disrupt O&M or decommissioning activities at the surrounding offshore wind farm sites from offshore export cable decommissioning activities and increased vessel activity to and from the OAA.
Subsea cables and utilities	Temporary obstruction to subsea cables and utilities.	Cumulative effects from decommissioning activities and increased vessel activity to and from the OAA.
Open disposal sites	Temporary obstruction of licensed disposal sites.	Potential for likely significant effects from offshore export cable decommissioning activities and increased vessel activity to and from the OAA.
UXO areas	Disturbance of UXO within identified areas of discovery of unexpected UXO.	Potential for likely significant effects from offshore export cable decommissioning activities.

18.4.6 Effects and receptors scoped out of assessment

18.4.6.1 A number of potential effects have been scoped out from further assessment, resulting from a conclusion of no likely significant effect. These conclusions have been made based on the knowledge of the baseline environment, the nature of planned works and the professional judgement on the potential for impact from such projects more widely. The conclusions follow (in a site-based context) existing best practice. Each scoped out activity or impact is considered in turn in **Table 18.4**.

18.4.6.2 Some receptor groups have also been scoped out of further assessment, as a result of not being identified spatially within the study area (see **Volume 2, Figure 18.1**) or after consideration via the Scoping Report and agreed in the Scoping Opinion as not being relevant to the study area. Marine and coastal recreational activities and water sports have not been considered within this Chapter and are instead covered within **Chapter 15: Shipping and Navigation** and **Chapter 30: Socio-Economics**. In addition, the onshore infrastructure and other users receptors associated with the Project are covered in **Chapters 19** to **31**.

18.4.6.3 The following offshore receptors have been scoped out of the infrastructure and other marine users assessment:

- wave and tidal renewable energy (no receptors found within the infrastructure and other marine users ZOI);
- marine aggregate extraction (no receptors found within the infrastructure and other marine users ZOI);
- marine and coastal recreational activities (see **paragraph 18.4.6.2**);
- water sports (see **paragraph 18.4.6.2**); and
- oil and gas infrastructure (see **Table 18.4**).

Table 18.4 Activities or effects scoped out of assessment

Activity or impact	Rational for scoping out
Temporary obstruction to other renewable energy projects (construction and decommissioning)	There are no wave or tidal renewable energy developments and / or associated activities located within the infrastructure and other marine users study area. As a consequence of this it is highly unlikely that the projects would interact and provide any form of obstruction, therefore this is proposed to be scoped out.
Obstruction to other renewable energy projects (O&M)	
Temporary obstruction of military and defence activities (construction, O&M and decommissioning)	Likely significant effects are unlikely to occur in relation to obstruction of military and defence activities due to the distance between the Project and military Practice and Exercise (PEXA) sites. The nearest PEXA site is approximately 14km outside the Scoping Boundary and consists of a small firing danger area off the coast of Aberdeenshire to the south of the Project and the Moray Firth practice and exercise areas to the north. Therefore, this is proposed to be scoped out. The MOD agreed within the Scoping Opinion (Scottish Government, 2023b) that no military PEXAs overlap the Scoping boundary and agree with the statement.

Activity or impact	Rational for scoping out
Temporary obstruction of oil and gas infrastructure (construction and decommissioning)	Due to the implementation of embedded measures, namely routing to avoid such features and the need to agree crossing agreements with the owners of the operational and / or decommissioned oil and gas assets within the Red Line Boundary, it is proposed to scope out this aspect. **Chapter 31: Civil and Military Aviation** considers the helicopter operations in support of the oil and gas industry. For context the oil and gas infrastructure within the Offshore Red Line Boundary are outlined in **Volume 2, Figure 18.6: Hydrocarbons infrastructure in relation to the Project**.
Disturbance of UXO within identified areas or discovery of unexpected UXO (O&M)	Due to the application of embedded measures (namely routing of the offshore export cable and application of a UXO Management Plan), likely significant effects from UXO are unlikely, and subsequently is proposed to be scoped out. The MOD agreed within the Scoping Opinion (Scottish Government, 2023b) that disturbance of UXO within identified areas of discovery of unexpected UXO during the O&M stage was not required, only for the installation and decommissioning (see **Table 18.3**).
Temporary obstruction of carbon capture and storage projects (construction, O&M and decommissioning)	There are no existing carbon capture and storage projects within the infrastructure and other marine users study area.

18.5 Methodology for baseline data gathering

18.5.1 Overview

18.5.1.1 Baseline data collection has been undertaken to obtain information over the study area described in **Section 18.4: Scope of the assessment**. The current and future baseline conditions are presented in **Section 18.6: Baseline conditions.**

18.5.1.2 There were no site-specific surveys completed in order to inform this assessment. This is because receptor information and data related to this topic can be readily collected through desk-based review and engagement with relevant stakeholders.

18.5.1.3 It should be noted that vessel traffic surveys were completed to inform the Navigational Risk Assessment in compliance with Marine Guidance Note 654 (MCA, 2021). Further information can be found in **Volume 3, Appendix 15.1**.

18.5.2 Desk study

18.5.2.1 The data sources that have been collected and used to inform this infrastructure and other marine users assessment are summarised in **Table 18.5**.

Table 18.5 Data sources used to inform the infrastructure and other marine users chapter

Source	Date	Summary	Coverage of study area
Centre for Environment, Fisheries and Aquaculture Science (Cefas) UK Disposal Site Layer (2023)	2023	Spatial data layers showing the extents of the licensed marine disposal sites for all of UK.	Full coverage of study area.
Crown Estate Scotland (CES) Spatial Hub	2025	Spatial data layers for aquaculture, cables and pipelines, offshore renewable energy infrastructure and mineral resources.	Full coverage of study area.
European Marine Observation and Data Network	2025	Spatial data layers for aquaculture, aggregate, disposal sites; oil and gas; offshore renewable energy infrastructure, pipelines, and subsea cables.	Full coverage of study area.
Kingfisher Information Service – Offshore Renewable and Cable Awareness	2025	Spatial data layers of offshore renewable energy infrastructure and subsea cables.	Full coverage of study area.
Marine Directorate Information: Marine Licence applications (Scottish Government, 2025)	2025	Provides access to records of marine licence applications submitted to the Marine Directorate for marine activities requiring a licence, including: • offshore energy infrastructure; • dredging and disposal; • subsea cable and pipelines; • coastal protection works; and • marine construction and decommissioning. Provides location and spatial extent of licensed activities; and status (for example submitted, under review, or approved); and type and nature of activity.	Full coverage of study area.
Marine Directorate National Marine Plan Interactive	2025	Spatial data layers of marine tourism, offshore energy, subsea cables and pipelines, and disposal sites.	Full coverage of study area.

Source	Date	Summary	Coverage of study area
Scottish Government Productive Energy and Mineral Resources Aggregate (Scottish Government, 2020a)	2020 Accessed 2025	Highlights the resource potential for marine aggregates in Scotland.	Full coverage of study area.

18.5.3 Data limitations

18.5.3.1 Several potential sites near the Project are still at an early stage of planning, with limited or uncertain information available. As a result, the infrastructure and other marine users assessments has adopted a precautionary approach by considering a reasonable worst-case scenario in order to reduce the risk of late design modifications falling outside of the assessment envelope.

18.6 Baseline conditions

18.6.1 Current baseline

18.6.1.1 This Section of the Chapter outlines the existing environment in relation to the infrastructure and other marine users. This includes the Offshore Red Line Boundary, which incorporates the OAA, offshore export cable corridor and landfall zones. Further information is provided in **Chapter 4: Project Description**.

18.6.1.2 Only receptors that are operational or under construction are considered part of the base assessment with those proposed or in planning considered in **Chapter 33: Cumulative Effects Assessment**.

18.6.1.3 A six-month cut-off before has been agreed with MD-LOT for considering any new other developments (and the planning status) for the impact assessment (see Table 33.2 in **Chapter 33: Cumulative Effects Assessment**). Any reasonably foreseeable[1] other developments will be considered in Section 33.5.12 of **Chapter 33: Cumulative Effects Assessment**.

Offshore wind farm developments

18.6.1.4 There is only one operational offshore renewable energy project within the infrastructure and other marine users study area. This is illustrated in **Volume 2, Figure 18.2: Offshore wind farm developments in relation to the Project**. The Hywind Scotland Pilot Park has an installed capacity of 30 megawatts (MW) and covers approximately 4km^2. Hywind array is 66.8km southwest of the OAA and 4km southeast of the offshore export cable corridor.

18.6.1.5 There are also several offshore wind farm projects within the infrastructure and other marine users study that are currently in the planning stages at the time of writing and as such, do not form part of the infrastructure and other marine users baseline but are discussed in the future baseline (see **Section 18.6.2**); shown in **Volume 2, Figure 18.2** for context; and considered in **Chapter 33: Cumulative Effects Assessment**. These include three INTOG sites (Green Volt (INTOG 6), Salamander (INTOG 3), and Flora (INTOG 4) offshore wind farms).

Telecommunications and subsea cables

18.6.1.6 There are two *in situ* operational telecommunication and subsea cables in the infrastructure and other marine users study area, as shown in **Volume 2, Figure 18.3: Subsea cables and pipelines in relation to the Project**. These cables are used for telecommunications

[1] Reasonably foreseeable projects are identified in development plans; projects in other plans and programmes as may be relevant, offshore renewable energy projects that have The Crown Estate (TCE) Agreement for Lease (AfL) / Crown Estate Scotland (CES) AfL, offshore renewable projects that have been scoped. A major infrastructure or national project (as defined by Aberdeenshire Council) that requires consent under the TCPA and is accompanied by an EIA.

and the export of power. The distances between these third-party assets and the infrastructure and other marine users study area are shown in **Table 18.6**.

Table 18.6 Operational telecommunication and subsea cables within the infrastructure and other marine users study area

Telecommunication and subsea cables	Distance from OAA	Distance from offshore export cable corridor
Hywind Scotland Pilot Park export cables	68km	Overlaps with offshore export cable corridor.
Tampnet Central North Sea Fibre Telecommunications Company fibre optic cable	50km	8km

18.6.1.7 There are several proposed subsea cables within the infrastructure and other marine users study area that are currently in the planning stages (at the time of writing) and as such, do not form part of the infrastructure and other marine users baseline but are discussed in the future baseline (see **Section 18.6.2**); shown in **Volume 2, Figure 18.3** for context; and considered in **Chapter 33: Cumulative Effects Assessment**.

18.6.1.8 No oil and gas pipelines have been considered within the baseline as obstruction to oil and gas receptors was scoped out (see **Table 18.4**).

Disposal sites

18.6.1.9 **Table 18.7** provides information on the eight disposal sites (Cefas, 2023) that are located within the infrastructure and other marine users study area and are shown in **Volume 2, Figure 18.4: Licenced marine disposal sites in relation to the Project**.

Table 18.7 Licensed disposal sites within the infrastructure and other marine users study area

Licensed disposal site	Status	Distance from offshore export cable corridor
Fraserburgh (CR060)	Disused	12km
Middle Buchan Ness (CR090)	Closed	Overlaps with offshore export cable corridor (extends beyond).
Middle Buchan Ness B (CR095)	Closed	0.7km
North Buchan Ness (CR080)	Open	Overlaps with offshore export cable corridor (extends beyond).
Peterhead (CR070)	Closed	Overlaps with offshore export cable corridor (extends beyond).
Peterhead Harbour (CR071)	Open	1.5km
South Buchan Ness (CR100)	Closed	2.0km

Licensed disposal site	Status	Distance from offshore export cable corridor
South Buchan Ness B (CR105)	Closed	3km

18.6.1.10 There are four disposal sites within 1km of the offshore export cable corridor (Middle Buchan Ness (CR090) Middle Buchan Ness B (CR095),North Buchan Ness (CR080) and Peterhead (CR070)). Of these sites one is currently open Middle Buchan Ness B, which overlaps with the offshore export cable corridor.

Unexploded ordnance sites

18.6.1.11 There is only one high UXO constraint area within the infrastructure and other marine users study area, which is 60km from the OAA and 6km from the offshore export cable corridor (as shown in **Volume 2, Figure 18.5: High UXO constraint areas in relation to the Project**).

18.6.1.12 This UXO constraint area does not overlap with the Red Line Boundary for the Project. Therefore, no baseline research has been undertaken in relation to unexploded ordnance. However, items of UXO are regularly encountered within the North Sea and rarely become inert or lose their explosive effectiveness with age. There is therefore, a potential risk that UXO could be encountered within the Offshore Red Line Boundary. A technical report and UXO Management Plan will be produced as part of the Project development process post-consent to ensure:

- UXO risk management is followed;
- best practice measures to manage all of the risks posed by the UXO; and
- protect the Project itself from the risks of UXO.

Oil and gas infrastructure

18.6.1.13 Within the northeast region of Scotland, there is a well-established oil and gas industry and the Project overlaps with existing licence blocks. The Option Agreement Area (OAA) avoids all major hydrocarbon infrastructure apart from one active pipeline (Golden Eagle to Claymore oil export) and several decommissioned wells located in the south of the OAA (as shown in **Volume 2, Figure 18.6**).

18.6.1.14 There is one active oil and gas well within the Offshore Red Line Boundary (see **Volume 2, Figure 18.6**).

18.6.1.15 There are also multiple pipeline which are located within the Offshore Red Line Boundary (see **Volume 2, Figure 18.6**). Several of these converge towards the shoreline north of the Offshore Red Line Boundary.

18.6.1.16 A standard safety zone of 500m has been adopted around any well or pipeline regardless of their operational status. As stated in **Section 18.4.6** oil and infrastructure receptors have been scoped out.

18.6.2 Future baseline

18.6.2.1 An assessment of the future baseline conditions in the absence of the Project has been carried out and is described in this Section.

18.6.2.2 Scotland holds considerable potential for expanding its offshore wind energy sector. The Scottish Government has outline ambitions to boost offshore wind capacity to 11 gigawatts (GW) by the year 2030. In June 2020, CES initiated the first ScotWind leasing round, aimed at supporting commercial-scale offshore wind developments in Scottish Waters (Scottish Government, 2020b). Through this leasing process, 20 prospective sites (including NE7 as progressed by the Project) were granted Option for Lease agreements, amounting to a combined generating capacity of nearly 27.6GW. There are no ScotWind offshore wind farm array sites within the infrastructure and other marine users study area but many proposed offshore export cables (see **paragraph 18.6.2.4**).

18.6.2.3 The INTOG leasing round allowed developers to apply for seabed rights to develop offshore wind projects that either reduce emissions from the North Sea oil and gas sector (by supplying renewable energy directly to oil and gas infrastructure (TOG)) or consists of small-scale innovation projects (IN) of 100MW or less. There are three INTOG sites (Green Volt (INTOG 6), Salamander (INTOG 3), and Flora (INTOG 4)) within the infrastructure and other marine users study area. Green Volt is being developed by Flotation Energy Plc. and was consented in April 2024. Salamander is being developed by Orsted, Simply Blue Group and Subsea 7, and was consented in August 2025. Flora is being developed by BP Alternative Energy Investments and is in early planning stages.

18.6.2.4 In relation to future baseline for subsea cables, there is potential for export cables from ScotWind and INTOG projects to be located within the infrastructure and other marine users study area (see **Table 18.8** and **Volume 2, Figure 18.3**). Additionally, there is a power to shore cable from the Buchan oil field (in planning), the NorthConnect interconnector between Scotland and Norway; the Spittal to Peterhead subsea cable connecting Spittal in Caithness to Peterhead; the EGL2; and EGL3 subsea high voltage direct current link between Peterhead and Drax in North Yorkshire. The NorthConnect interconnector and the EGL2 project have been consented but offshore works have yet to commence at the time of writing.

18.6.2.5 **Table 18.8** provides the distances between these proposed subsea cables and the infrastructure and other marine users study area.

Table 18.8 Proposed telecommunication and subsea cables within the infrastructure and other marine users study area

Telecommunication and subsea cables	Distance from OAA	Distance from offshore export cable corridor
Buchan Offshore Wind Farm (PO NE8) export cables	24km	Overlaps with offshore export cable corridor (extends beyond).
Buchan Oil Field Electrification	28km	8km
Cenos (INTOG 11) export cables	53km	Overlaps with offshore export cable corridor (extends beyond).
Eastern Green Link 2	81km	3km
Eastern Green Link 3	80.7km	1.6km
Green Volt (INTOG 6) Offshore Wind Farm export cables	19km	Overlaps with offshore export cable corridor (extends beyond).

Telecommunication and subsea cables	Distance from OAA	Distance from offshore export cable corridor
Muir Mhór Floating Wind Farm (PO E2) export cables	54km	Overlaps with offshore export cable corridor (extends beyond).
NorthConnect	14km	Overlaps with offshore export cable corridor (extends beyond).
Salamander (INTOG 3) Offshore Wind Farm export cables	52km	Overlaps with offshore export cable corridor (extends beyond).
Spittal to Peterhead Subsea cable routes	53km	600m

18.6.2.6 In relation to future carbon capture and storage projects, there is potential for the Acorn Carbon Capture and Storage site to be located within the infrastructure and other marine users study area (see **Volume 2, Figure 18.6**). The Project is in early planning stages at the time of writing.

18.6.2.7 At present, there are no active marine aggregate extraction licences within the infrastructure and other marine users study area. As a result, it is anticipated that the existing conditions related to marine aggregate activity near the Project will remain stable. Nonetheless, future extraction could increase due to rising demand for aggregates, particularly for use in gravity-based foundations for marine renewable energy projects and in the construction of coastal defences (Scottish Government, 2015). The future baseline for marine disposal sites is expected to evolve gradually as additional projects are proposed and new sites are designated.

18.6.2.8 If the Project were not to go ahead, there would be no changes to the baseline level of vessel movements in the infrastructure and other marine users study area. There would also be no risk of impacts caused by temporary obstruction to other offshore wind farms, subsea and utilities, licenced disposal sites and / or disturbance of UXO caused by the Project during its construction, O&M and decommissioning stages.

18.7 Basis for EIA Report

18.7.1 Maximum design scenario

18.7.1.1 The process of assessing using a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the planning application, marine licences applications and s.36 consent.

18.7.1.2 The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse effect and as a result effects of greater adverse significance would not arise should any other scenario (as described in **Chapter 4: Project Description**) to that assessed within this Chapter be taken forward in the final scheme design.

18.7.1.3 The maximum design scenario parameters that have been identified to be relevant to infrastructure and other marine users are outlined in **Table 18.9** and are in line with the project design envelope (**Chapter 4: Project Description**).

Table 18.9 Maximum design scenario for impacts on infrastructure and other marine users

Impact / activity	Maximum design scenario parameter	Justification
Construction		
Impact C1: Temporary obstruction to offshore wind farms.	**Seabed Preparation:** • geophysical surveys; • UXO clearance; • pre-lay grapnel run across entire length or all cables; • boulder clearance campaign; and • bedform clearance (e.g. sandwaves). **Construction / installation of:** • 225 WTGs; • 225 floating units with surface dimensions of 100m x 120m; • 225 array cables of 680km combined length; • 45 subsea distribution centre units with maximum dimensions of 18m x 18m x 5m for each subsea distribution centre unit; • 4 subsea substations with maximum dimension of 22m x 20m x 16m for each subsea substation; • 4 offshore substations with topside dimensions of 106m x 70m; • 5 offshore export cable trenches, each of up to 140km and 700km combined length; • up to 2 reactive compensation platforms (RCPs) with topside dimensions of 50m x 50m; • use of 500m construction safety zones;	This scenario contains parameters that represent the greatest obstructions to offshore wind farms in the study area based on the greatest number of project infrastructure, number of vessel movements and period of construction.

Impact / activity	Maximum design scenario parameter	Justification
	• 28 crossings for the offshore export cables; and • 10 construction vessels on site simultaneously at any one time, and approximately 3,838 individual vessel trips overall during construction.	
Impact C2: Temporary obstruction to subsea cables and utilities.	Refer to Impact C1.	This scenario contains parameters that represent the greatest obstructions to subsea cables and utilities in the study area based on the greatest number of project infrastructure, number of vessel movements and period of construction.
Impact C3: Temporary obstruction of licensed disposal sites.	Refer to Impact C1.	This scenario contains parameters that represent the greatest obstruction to licenced disposal sites in the study area during the construction phase based on the greatest number of project infrastructure, number of vessel movements and period of construction.
Impact C4: Disturbance of UXO within identified areas or discovery of unexpected UXO.	Refer to Impact C1.	This scenario contains parameters that represent the greatest obstruction to UXO in the study area during the construction phase based on the greatest number of project infrastructure, number of vessel movements and period of construction.
Operation and maintenance		
Impact O1: Temporary obstruction to offshore wind farms.	**Operation and maintenance of:** • 225 WTGs; • 225 floating units with surface dimensions of 100m x 120m; • 225 array cables of 680km combined length; • 45 subsea distribution centre units with maximum dimensions of 18m x 18m x 5m for each subsea distribution centre units;	This scenario contains parameters that represent the greatest obstruction to offshore wind farms in the study area based on the greatest number of project infrastructure, number of vessel movements and period of operation.

Impact / activity	Maximum design scenario parameter	Justification
	• 4 subsea substations with maximum dimension of 22m x 20m x 16m for each subsea substation; • 4 offshore substations with topside dimensions of 106m x 70m • 5 offshore export cables, each of up to 140km length, so 700km combined length; • up to 2 RCPs with topside dimensions of 50m x 50m; • use of 500m safety zones during maintenance activities; • 28 crossings for the offshore export cables; and • up to 7 O&M vessels on site with up to 364 round trips to port per year.	
Impact O2: Obstruction to subsea cables and utilities.	Refer to Impact O1.	This scenario contains parameters that represent the greatest obstruction to subsea cables and utilities in the study area based on the greatest number of project infrastructure, number of vessel movements and period of operation.
Impact O3: Obstruction of licensed disposal sites.	Refer to Impact O1.	This scenario contains parameters that represent the greatest obstruction to licensed disposal sites in the study area based on the greatest number of project infrastructure, number of vessel movements and period of operation.
Decommissioning		
Impact D1: Temporary obstruction to offshore wind farms.	To be determined but assumed to include the reverse of construction activities (refer to Impact C1). Anchors for the WTG floating units and OSP foundations will be cut below the natural level of the seabed and removed. The approach to	This scenario contains parameters that represent the greatest obstruction to subsea cables and utilities in the study area based on the greatest number of project infrastructure, number of vessel movements and period of decommissioning.

Impact / activity	Maximum design scenario parameter	Justification
	decommissioning cables and scour/cable protection will be considered in the final Decommissioning Programme. Up to 42 vessels offshore.	
Impact D2: Temporary obstruction to subsea cables and utilities.	To be determined but assumed to include the reverse of construction activities (refer to Impact C2). Up to 42 vessels offshore.	This scenario contains parameters that represent the greatest obstruction to subsea cables and utilities in the study area based on the greatest number of project infrastructure, number of vessel movements and period of decommissioning.
Impact D3: Temporary obstruction of licensed disposal sites.	To be determined but assumed to include the reverse of construction activities (refer to Impact C3). Up to 42 vessels offshore.	This scenario contains parameters that represent the greatest obstruction to licensed disposal sites in the study area based on the greatest number of project infrastructure, number of vessel movements and period of decommissioning.
Impact D4: Disturbance of UXO within identified areas or discovery of unexpected UXO.	To be determined but assumed to include the reverse of construction activities (refer to Impact C4). Up to 42 vessels offshore.	This scenario contains parameters that represent the greatest obstruction to UXO in the study area during the construction phase based on the greatest number of project infrastructure, number of vessel movements and period of decommissioning.

18.7.2 Embedded environmental measures

18.7.2.1 As part of the Project design process, a number of embedded environmental measures have been adopted to reduce the potential for adverse impacts on infrastructure and other marine users. These embedded environmental measures have evolved over the development process as the EIA has progressed and in response to consultation.

18.7.2.2 These measures also include those that have been identified as good or standard practice and include actions that would be undertaken to meet existing legislation requirements. As there is a commitment to implementing these embedded environmental measures, and also to various standard sectoral practices and procedures, they are considered inherently part of the design of the Project and are set out in the EIA Report.

18.7.2.3 **Table 18.10** sets out the relevant embedded environmental measures within the design and how these affect the infrastructure and other marine users assessment.

Table 18.10 Relevant infrastructure and other marine users embedded environmental measures

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
M-028	An **Outline Scour Protection Plan** has been submitted within this Application (**Volume 4**), and includes details of the need, type, quantity and installation methods for scour protection. A Final Scour Protection Plan will be completed prior to construction commencing and will include measures during the O&M phase such as periodic inspection and maintenance requirements and will be submitted to MD-LOT for approval.	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	The Scour Protection Management Plan aims to minimise potential impacts on infrastructure and other marine users on the Projects cables and / or cable crossings.
M-029	An **Outline Cable Plan** has been submitted within this Application (**Volume 4**), and includes details of the need, type, quantity and installation methods for cabling. A Final Cable Plan will be completed prior to construction commencing and submitted to MD-LOT for approval. The Final Cable Plan will include: a) the vessel types, location, duration and cable laying techniques for export and array cables; b) the finalised location of the export cable route; c) the results of monitoring or data collection work (including geophysical, geotechnical and benthic surveys); d) technical specification of the cables, including a desk based assessment of attenuation of electromagnetic field strengths and shielding; e) a CBRA, to ascertain burial depths and where necessary alternative protection measures; f) methods to be used to mitigate the effects of EMF; g) methodologies and timetable for post-construction and operational surveys (including inspection, over trawl, post-lay) for the cables through its operational life; h) measures to address and report to the Licensing Authority any exposure of cables or risk to users of the sea from cables; and	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	The Cable Plan ensure that cable installation, routing and protection are planned to avoid conflicts with existing seabed infrastructure.

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
	g) methodologies for cable inspection with measures to address and report to Scottish Ministers, any exposure of array cables.			
M-030	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.	Scoping	s.36 conditions and marine licences conditions.	Advanced warning and location details will allow infrastructure and other marine users receptors to undertake activities elsewhere and minimise the risk of collision or disruption from Project vessels. Notice to mariners will ensure that infrastructure and other marine suers receptors are informed of activities and reduce disturbance.
M-031	A **Safety Zone Statement** has been submitted with this Application. An application for and use of rolling Safety Zones of up to 500m during construction and O&M stages will be submitted MD-LOT for approval. No permanent operational safety zone is proposed. The safety zone application will include the following: - pre-commissioning safety zones: 50m - construction stage: 500m safety zones around active construction works and evidenced by the presence of a construction vessel; - construction stage: 50m safety zones around partially or fully completed structure prior to the overall wind farm commissioning; and - O&M stage: 500m safety zone around the site of major maintenance works. No safety zones are currently proposed for the decommissioning stage, a separate application would be made prior to decommissioning where considered necessary. Where appropriate, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact that poses a risk to surface	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	Safety zones will minimise the risks to infrastructure and other marine users receptors during construction, O&M and decommissioning activities.

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
	navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards."			
M-038	An **Outline Lighting and Marking Plan** (LMP) has been submitted with this Application (**Volume 4**). The Final LMP will be completed prior to construction commencing and submitted to MD-LOT for approval. The LMP will confirm compliance with Northern Lighthouse Board requirements and in Line with IALA Recommendation G1162 (IALA, 2021) with regards to shipping, navigation and aviation marking and lighting during construction and operational and maintenance phase of the works.	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	The LMP ensures the safety of navigation and aviation by minimising collision risks with offshore infrastructure.
M-039	An **Outline Vessel Management and Navigational Safety Plan** has been submitted with this Application (**Volume 4**). The Final Vessel Management and Navigation Safety Plan will be completed prior to construction commencing and submitted to MD-LOT for approval. The Final Plan will: a) confirm the types and numbers of vessels that will be engaged on the Project; b) consider vessel coordination including indicative transit route planning; d) describe measures put in place by the Project related to navigational safety, including information on Safety Zones, charting construction buoyage, temporary lighting and marking; and e) provide a means of notification of Project activity to other sea users (e.g. via Notice to Mariners).	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	The VMNSP will address aspects of vessel management and navigational safety.
M-040	Marine coordination and communication will occur to manage project vessel movements. Proactive Kingfisher notifications and other navigational warnings will be published in a timely manner in addition to distribution to the UKHO.	Scoping	Company Marine Operations Manual and Aids to Navigation Plan, inclusion in Admiralty	This measure helps to minimise the risk of spatial conflicts, navigational hazards and unplanned interactions between the Project's vessels and existing

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
			charts by KHO; condition on the s.36 consent and / or marine licences.	infrastructure and marine users receptors.
M-044	Compliance with regulatory expectations on moorings for floating wind and marine devices (HSE and MCA, 2017).	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	Compliance with MGN 654 ensures that search and rescue protocols are in place, enhancing the safety of infrastructure and other marine users receptors.
M-050	Any objects dropped on the seabed during works associated with the Project will be reported and objects will be recovered where they pose a hazard to other marine users and where recovery is possible.	Scoping	s.36 conditions and marine licences conditions.	This measure helps to prevent interference with existing seabed assets and supports the safe co-existence of the marine environment,
M-054	A detailed Cable Burial Risk Assessment (CBRA) will be undertaken to enable informed judgements about burial depth. This should reduce the risk of buried cables reemerging whilst also limiting the amount of sediment disturbance to that which is necessary. The array and export cables will typically be buried at a target burial depth between 1 to 2m below the seabed surface. The final depth of the cable will be dependent on the seabed mobility and CBRA. The CBRA will manage and mitigate risks from loading and sediment transport across the seabed. The CBRA will be included within the Final Cable Plan.	Scoping Amended at EIA Report.	s.36 conditions and marine licences conditions.	A CBRA helps ensure that cables are buried at appropriate depths to minimise the risk of exposure, reducing hazards to infrastructure and other marine users receptors.
M-106	The development of and adherence to a Decommissioning Programme. The Decommissioning Programme will outline measures for the decommissioning of the Project. The Decommissioning Programme would be submitted prior to construction commencing to MD-LOT and approved by Scottish Ministers prior to construction.	Scoping Amended at EIA Report.	Required under Section 105 (Energy Act 2004) and marine licences consent conditions.	The Decommissioning Programme ensures that project infrastructure is safely removed or appropriately decommissioned at the of its operational life, reducing long-term risks of

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
				obstruction or interference with existing infrastructure and other marine users receptors.
M-115	The UXO Management Plan will mitigate any potential for UXO within the offshore construction area and also disposal once encountered.	Scoping	s.36 conditions and marine licences conditions.	The UXO Management Plan will ensure the identification,. Mitigation and safe disposal of UXO within the offshore construction areas. This reduces the risk of accidental detonation, safeguarding existing infrastructure and other marine users receptors.
M-120	An **Outline Construction Method Statement** (CMS) has been submitted with this Application (**Volume 4**). The Final CMS will be completed prior to construction commencing and submitted to MD-LOT for approval. The Final CMS will include: a) details of the commence dates, duration and phasing of key elements of construction, working areas, the construction procedures and good working practices; b) details of the roles and responsibilities; and c) details of how the construction related mitigation step proposed are to be delivered.	EIA Report	s.36 conditions and marine licences conditions.	The CMS will provide clarity on construction timelines, activities and mitigation measures, helping infrastructure and other marine users receptors plan operations to avoid conflict with the Project's proposed works.
M-186	Crossing or laying of cables over or adjacent to known or future cables will be subject to crossing and / or proximity agreements.	EIA Report	Secured by commercial agreements with pipeline and cable operators.	Crossing agreements will minimise direct impacts to subsea cables that may be affected by the Project's proposed works.

ID	Environmental measure proposed	Project stage measure introduced	How the environmental measures will be secured	Relevance to infrastructure and other marine users assessment
M-187	Where offshore export cables must cross third party infrastructure, such as existing cables and pipelines, both the third-party asset and the installed cables will be protected.	EIA Report	Secured by commercial agreements with pipeline and cable operators.	This will ensure the protection of existing third-party infrastructure where crossings occur.

18.7.2.4 Further detail on the embedded environmental measures in **Table 18.10** is provided in the **Volume 3, Appendix 5.2: Commitments Register**, which sets out how and where particular embedded environmental measures will be implemented and secured.

18.8 Methodology for EIA Report

18.8.1 Introduction

18.8.1.1 The project-wide approach to assessment is set out in **Chapter 5: Approach to the EIA.** Whilst this has informed the approach that has been used in this infrastructure and other marine users assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of the infrastructure and other marine users assessment.

18.8.2 Significance evaluation methodology

Overview

18.8.2.1 The significance level attributed to each effect has been assessed based on the value of the affected receptor and the magnitude of change resulting from the Project. The level of significance has then been determined by the combination of value and magnitude.

18.8.2.2 The terms used to define value and sensitivity of receptor and the magnitude of impact for infrastructure and other marine users are based on those described in further detail in **Chapter 5: Approach to the EIA**.

Value of receptor

18.8.2.3 The value of infrastructure and other marine users receptors are defined by their potential vulnerability to an impact from the Project, their recoverability and the value or importance of the receptor. The definition of terms of relating to the sensitivity of infrastructure and other marine users receptors is detailed in **Table 18.11**.

Table 18.11 Definition of term relating to receptor sensitivity or value

Sensitivity / value	Definition used in this Chapter
High	Receptor is of high value or importance, with critical importance to the local, regional or national economy. Receptor is highly vulnerable to impacts that may arise from the Project and recoverability is long-term or not possible.
Medium	Receptor is of medium value or importance, with reasonable contribution to the value of the local, regional or national economy. Receptor is moderately vulnerable to impacts that may arise from the Project and has moderate to high levels of recoverability.
Low	Receptor is of minor value or importance with small levels of contribution to the value of the local, regional or national economy. Receptor is not generally vulnerable to impacts that may arise from the Project and / or has high recoverability.
Negligible	Receptor is of very low value or importance, with negligible contribution to the value of the local, regional or national economy. Receptor is not

Sensitivity / value	Definition used in this Chapter
	vulnerable to impacts that may arise from the Project and / or has high recoverability.

Magnitude of changes

18.8.2.4 The magnitude of potential impacts is defined by a series of factors including the spatial extent of any potential interaction, the likelihood, duration, frequency and reversibility of a potential impact. The definition of the levels of magnitude used within this assessment are shown below in **Table 18.12**.

Table 18.12 Definition of terms relating to magnitude of impact

Magnitude	Definition used in this Chapter
High	Total loss of ability to carry on activities. Impact is of extended temporal or physical extent and of long-term duration (total life of Project) and / or frequency of repetition is continuous and / or effect is not reversible.
Medium	Loss or alteration to significant portions of key components of current activity leading to a reduction in the level of activity that may be undertaken and / or physical extent of impact is moderate and / or medium-term duration (operational period) and/ or frequency of repetition is medium to continuous and / or effect is not reversible.
Low	Slight change from baseline condition and / or physical extent of impact is negligible and / or short-term duration (construction period) and / or frequency of repetition is negligible to continuous and / or effect is reversible.
Very low	Very minor to no change from baseline conditions.

Significant evaluation

18.8.2.5 The significance of the effect on infrastructure and other marine users receptors will be determined by correlating the sensitivity / value of the receptor and the magnitude of the impact. The method employed for this preliminary assessment is presented in **Table 18.13**, with the final assessment for each effect based upon expert judgement.

Table 18.13 Significance assessment matrix for the significance of residual effect

		Magnitude of change			
		High	**Medium**	**Low**	**Very Low**
Value / Sensitivity	**High**	**Major (Significant)**	**Major (Significant)**	**Moderate (Potentially Significant)**	**Minor (Not Significant)**
	Medium	**Major (Significant)**	**Moderate (Potentially Significant)**	**Minor (Not Significant)**	**Minor (Not Significant)**
	Low	**Moderate (Potentially Significant)**	**Minor (Not Significant)**	**Minor (Not Significant)**	**Negligible (Not Significant)**
	Very Low	**Minor (Not Significant)**	**Minor (Not Significant)**	**Negligible (Not Significant)**	**Negligible (Not Significant)**

18.9 Assessment of effects: Construction stage

18.9.1 Introduction

18.9.1.1 This Section provides an assessment of the effects for infrastructure and other marine users from the construction of the offshore elements of the Project.

18.9.1.2 The assessment methodology set out in **Section 18.8** has been applied to assess effects to infrastructure and other marine users from the Project.

18.9.2 Impact C1: Temporary obstruction to offshore wind farms

Overview

18.9.2.1 The maximum assessment scenario relating to the temporary obstruction to offshore wind farms are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.9.2.2 Temporary disruption to the operation of existing offshore wind farms located near the Project may occur during the construction stage. This may be due to pre-construction activities such as unexploded ordnance and marine surveys, the establishment of safety zones, and the presence of partially completed infrastructure during construction works. Depending on the port chosen as an engineering and construction base, movements of vessels contracted to undertake construction activities associated with the Project have the potential to interfere with the routine operations and activities of existing offshore wind farms.

18.9.2.3 As stated in **paragraph 18.6.1.2** only offshore wind farm receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other

projects. Therefore, at the time of writing, the Hywind Scotland Pilot Park is the only operational offshore wind farm project within the infrastructure and other marine user study area.

18.9.2.4 Hywind Scotland Pilot Park is forecast for decommissioning in the mid-2030s and would be complete in 2037. Therefore, the final few years of the Project's construction programme there could be temporary obstruction to Hywind Scotland Pilot Park decommissioning activities.

Sensitivity or value of receptor

18.9.2.5 The OAA of the Hywind Scotland Pilot Park is 4km southeast from the offshore export cable corridor for the Project. The Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm is operational, it is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. The sensitivity of Hywind Scotland Pilot Park is considered to be **high**.

Magnitude of impact

18.9.2.6 Pre-construction works such as UXO clearance and site surveys, along with construction activities, partially installed infrastructure, and an increased presence of vessels within the offshore export cable corridor, may temporarily impact the ongoing operations and potential decommissioning activities of the Hywind Scotland Pilot Park. These impacts could include limited access to critical infrastructure required for maintenance. Such effects are expected primarily during the pre-construction and construction stages of the Project, with activities within the offshore export cable corridor presenting the highest potential for interaction with Hywind Scotland Pilot Park. The installation of offshore export cables is anticipated to be completed in three phases within the 12 year construction programme, with activities unlikely to be continuous.

18.9.2.7 During the construction period, it is estimated that up to 10 vessels may be present at the site simultaneously. However, most of these vessels will either be transiting through or operating within the OAA, located further offshore, and therefore are expected to have minimal interference with operations at the Hywind Scotland Pilot Park, which lies closer to shore.

18.9.2.8 As outlined in **Table 18.10**, embedded environmental measures included for the Project that will reduce the risk of impact associated with temporary obstruction include a Cable Plan (M-029) which will confirm the final offshore cable route and burial method; a detailed CBRA (M-054); and a Construction Method Statement (M-120), which will confirm construction methods.

18.9.2.9 **Table 18.10** also includes embedded environmental measures associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039) procedure for dropped objects (M-050) and search and rescue checklists (M-0444). Regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the Hywind Scotland Pilot Park. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.9.2.10 Overall, the effect on access to the Hywind Scotland Pilot Park is expected to represent a minor shift from baseline conditions. The impact will be temporary but continuous throughout the construction stage, with a short- to medium-term duration. As the Hywind Scotland Pilot Park array is not within the Project's Red Line Boundary, the effects will be

minimal. Therefore, the magnitude of the impact that construction activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **very low**.

Significance of residual effect

18.9.2.11 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of Hywind Scotland Pilot Park. Overall, it is predicted that the sensitivity of the Hywind Scotland Pilot Park is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.9.2.12 No additional embedded environmental measures are considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is concluded to be **Not Significant** in EIA terms.

18.9.3 Impact C2: Temporary obstruction to subsea cables and utilities

Overview

18.9.3.1 The maximum assessment scenario relating to the temporary obstruction to subsea cables and utilities are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.9.3.2 In addition to obstruction of other subsea cable 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.

18.9.3.3 As set out in **Table 18.6**, there are two operational subsea cables within the infrastructure and other marine users study area, with the offshore export cable corridor for the Project to only overlaps the Hywind Scotland Pilot Park export cables. Although there is an overlap of the offshore export cable corridor of the Project and the offshore export cable for Hywind Scotland Pilot Park, it is anticipated that the Hywind Scotland Pilot Park cables will not be crossed by the offshore export cables of the Project.

18.9.3.4 The final few years of the Project's construction programme there could be temporary obstruction to Hywind Scotland Pilot Park decommissioning activities (see **paragraph 18.9.2.4**).

18.9.3.5 As stated in **paragraph 18.6.1.2** only subsea cable and utilities receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other projects. Therefore, at the time of writing, no further other subsea cables and utilities receptors are considered for the infrastructure and other marine users assessment at the time of writing.

Sensitivity or value of receptor

18.9.3.6 As stated in **paragraph 18.9.2.5**, the Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm is presumed to be within the O&M then decommissioning phase, it is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. Therefore, sensitivity of the receptor is therefore considered to be **high**.

Magnitude of impact

18.9.3.7 Pre-construction works such as UXO clearance and site surveys, along with construction activities, partially installed infrastructure, and an increased presence of vessels within the offshore export cable corridor, may lead to effects on the O&M and / or decommissioning activities of the export cables associated with the Hywind Scotland Pilot Park, including effects on, or restriction of access to, infrastructure maintenance activities as well as potential damage to cables.

18.9.3.8 Such effects are expected primarily during the pre-construction and construction stages of the Project, with activities within the offshore export cable corridor presenting the highest potential for interaction with Hywind Scotland Pilot Park. The installation of offshore export cables is anticipated to be completed in three phases within the 12 year construction programme, with activities unlikely to be continuous.

18.9.3.9 During the construction period, it is estimated that up to 10 vessels may be present at the site simultaneously. However, most of these vessels will either be transiting through or operating within the OAA, located further offshore, and therefore are expected to have minimal interference with other subsea cable located closer inshore.

18.9.3.10 As described in **Table 18.10**, embedded environmental measures included for the Project that will reduce the risk of impact associated with temporary obstruction include: a Cable Plan (M-029), which will confirm the final offshore cable route and burial method; a detailed CBRA (M-054); and a Construction Method Statement (M-120), which will confirm construction methods.

18.9.3.11 **Table 18.10** also includes embedded environmental measures associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039); procedure for dropped objects (M-050); and search and rescue checklists (M-044). Regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the Hywind Scotland Pilot Park. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.9.3.12 Additionally, regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the Hywind Scotland Pilot Park. Additional notifications, including Kingfisher bulletins and other maritime advisories will be distributed to inform mariners of the works taking place.

18.9.3.13 **Table 18.10** includes an embedded environmental measure that makes the commitment that cables to be crossed by the export cables associated with the Project would be covered by a crossing agreement with the relevant operator so that there would not be an impediment to asset maintenance operations (M-186). This is a formal arrangement that establishes the responsibilities and obligations of both parties and to allow operations to be managed safely. **Table 18.10** also describes where offshore export cables from the Project must cross third party infrastructure, such as subsea cables, both the third-party asset and the installed cables will be protected (M-187).

18.9.3.14 The impact is predicted to cause a slight shift away from the baseline, leading to a reduction of access to the Hywind Scotland Pilot Park export cables for decommissioning activities, and for a short to medium term duration. The frequency of repetition is continuous although temporary during construction. Given the potential for this reduction of access to occur during the decommissioning phase of the Hywind Scotland Pilot Park when marine activity

there will be elevated, the magnitude of the impact that construction activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **low**.

Significance of residual effect

18.9.3.15 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance; crossing agreement with the relevant operator so that there will not be an impediment to asset maintenance operations (M-186); and third party cables and the Project's cables to be protected (M-187).

18.9.3.16 It is predicted that the sensitivity of Hywind Scotland Pilot Park is **high**, and the magnitude is **low**. The effect is of **Moderate** (**Potentially Significant**) in EIA terms.

18.9.3.17 The basis of the assessment at the time of writing is the timing of decommissioning activities for Hywind Scotland Pilot Park, as outlined in **paragraph 18.9.2.4**. The Applicant would liaise with the developers on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the effect is reduced to **Minor** (**Not Significant**) in EIA terms.

18.9.4 Impact C3: Temporary obstruction of licensed disposal sites

Overview

18.9.4.1 The maximum assessment scenario relating to the temporary obstruction of licensed disposal sites are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.9.4.2 The construction of the Project has the potential to interact with the vessel operations of the existing marine disposal sites, with these sites located in the nearshore area in the vicinity of Peterhead. As such, the potential interaction is likely to be associated with the installation of the export cables within the nearshore.

18.9.4.3 As set out in **Table 18.7**, there are eight marine disposal sites within the infrastructure and other marine users study area, four within 1km of the Project. These four are scoped into the assessment with the other four located at distances greater than 1km from the Project scoped out as disposal works are expected to be spatially discrete. This is as there will be no physical overlap between the Project (including construction safety zones) and the marine disposal activities and no activities.

18.9.4.4 Of the four sites within 1km of the Project, North Buchan Ness (CR080) disposal site is currently open. As such, only this site is taken forward into the assessment.

Sensitivity or value of receptor

18.9.4.5 Open disposal sites can be nationally important as they provide an area where waste dredge material can be deposited, however, it is challenging to give an economic value to disposal sites as the trends are occasional.

18.9.4.6 North Buchan Ness (CR080) has been used for the deposition of dredge spoil material including dredged harbour material from Peterhead and / or Boddam Harbour. The disposal site is of high regional value due to the importance of navigational dredging to the maintenance and operation of Peterhead and Boddam Harbour The disposal site is

somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. Therefore, the sensitivity of the receptor is considered to be **medium**.

Magnitude of impact

18.9.4.7 Pre-construction activities for the wind farm such as, site surveys and UXO clearance along with construction activities like cable installation, may potentially effect the operations of nearby disposal sites. These impacts could arise from sediment dispersion settling within disposal areas, or from vessel movements and Project-related infrastructure disrupting established navigation routes used to access these sites.

18.9.4.8 Such effects are expected primarily during the pre-construction and construction stages of the Project, with activities within the offshore export cable corridor presenting the highest potential for interaction with disposal sites. The installation of offshore export cables is anticipated to be completed in three phases within the 12 year construction programme, with activities unlikely to be continuous.

18.9.4.9 During the construction period, it is estimated that up to 10 vessels may be present at the site simultaneously. However, most of these vessels will either be transiting through or operating within the OAA, located further offshore, and therefore are expected to have minimal interference with operations at the disposal site, which lies closer to shore.

18.9.4.10 As outlined in **Table 18.10**, embedded environmental measures included for the Project that will reduce the risk of impact associated with temporary obstruction include a Cable Plan (M-029) which will confirm the final offshore cable route and burial method; a detailed CBRA (M-054); and a Construction Method Statement (M-120) which will confirm construction methods.

18.9.4.11 **Table 18.10** also includes embedded environmental measures associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039) procedure for dropped objects (M-050) and search and rescue checklists (M-044). Regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the disposal sites. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.9.4.12 The impact is predicted to cause a minor shift away from the baseline, leading to a reduction of access to the disposal sites, and for a short to medium term duration. The frequency of repetition is continuous although temporary during the construction. Therefore, the magnitude of the impact that construction activities relating to the Project will have on disposal sites is considered to be **very low**.

Significance of residual effect

18.9.4.13 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of disposal sites. Overall, it is predicted that the sensitivity of the receptor is **medium**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.9.4.14 No additional infrastructure and other marine users embedded environmental measures is considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.9.5 Impact C4: Disturbance of UXO within identified areas or discovery of unexpected UXO

Overview

18.9.5.1 The maximum assessment scenario relating to the disturbance of UXO within identified areas or discovery of unexpected UXO are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.9.5.2 It is anticipated that it will be possible to avoid UXO through micro-siting / micro-routeing. However, where UXO are identified within the Red Line Boundary which cannot be avoided or pose a genuine threat to safe completion of construction works, clearance will be undertaken as necessary. Any required clearance, whilst deemed unlikely, would be subject to a separate marine licence application and associated environmental assessment to be determined by MD-LOT in consultation with relevant stakeholders.

Sensitivity or value of receptor

18.9.5.3 The sensitivity of the UXO is considered to be **high**, reflecting that UXO provides a health and safety hazard.

Magnitude of impact

18.9.5.4 As outlined in **Table 18.10**, a UXO Management Plan to mitigate any potential for UXO within the offshore construction area and also disposal once encountered (M-115) will be produced for the Project. Taking the embedded environmental measure into account, and the relatively low risk of UXO near the Project, any disruption caused by the UXO inspection and clearance activities during the construction stage will be minimal, highly localised and result in only a minor loss of access (if at all). A Construction Method Statement (M-120) will be produced that which will confirm construction methods.

18.9.5.5 Therefore, the magnitude of the impact that construction activities relating to the Project will have on disposal sites is considered to be **very low**.

Significance of residual effect

18.9.5.6 The Project embedded environmental measures (as shown in **Table 18.10**) include producing an UXO Management Plan to mitigate any potential for UXO within the offshore construction area and also disposal once encountered (M-115) overall, it is predicted that the sensitivity of the receptor is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.9.5.7 A summary of the residual effects arising from the construction stage of the Project are provided in **Table 18.14**.

18.9.5.8 No additional infrastructure and other marine users embedded environmental measures is considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.9.5.9 A summary of the significance of effects arising from the construction stage of the Project is provided in **Table 18.14**.

18.10 Assessment of effects: Operation and maintenance stage

18.10.1 Introduction

18.10.1.1 This Section provides an assessment of the effects for infrastructure and other marine users from the O&M of the offshore elements of the Project.

18.10.1.2 The assessment methodology set out in **Section 18.8** has been applied to assess effects to infrastructure and other marine users from the Project.

18.10.2 Impact O1: Temporary obstruction to offshore wind farms

Overview

18.10.2.1 The maximum assessment scenario relating to the temporary obstruction to offshore wind farms are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.10.2.2 Infrastructure associated with the Project could present a potential obstruction to operations at the Hywind Scotland Pilot Park, given their proximity to the Project. The selection of a port for O&M activities will influence vessel traffic patterns, and vessels supporting the Project's O&M stage may have potential to disrupt routine operations and activities of the Hywind Scotland Pilot Park. MCR may be necessary and may require the use of large vessels and the use of temporary 500m safety zones.

18.10.2.3 As stated in **paragraph 18.6.1.2** only offshore wind farm receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other projects. Therefore, at the time of writing, the Hywind Scotland Pilot Park is the only operational offshore wind farm project within the infrastructure and other marine user study area.

Sensitivity or value of receptor

18.10.2.4 The OAA of the Hywind Scotland Pilot Park is 4km southeast from the offshore export cable corridor for the Project. The Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm is operation, it is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. The sensitivity of Hywind Scotland Pilot Park is considered to be **high**.

Magnitude of impact

18.10.2.5 O&M activity, infrastructure and increased numbers of vessel in the vicinity of the offshore export cable corridor may lead to effects on the decommissioning activities of the Hywind Scotland Pilot Park. These impacts could include limited access to critical infrastructure required for decommissioning. This could occur for the duration of the approximately 35 year operational life of the Project, although O&M activities within the offshore export cable corridor would cause the highest potential for interaction with Hywind Scotland Pilot Park.

18.10.2.6 During the O&M stage of the Project, the offshore export cables will be periodically inspected for any maintenance and repair needs which are expected to be routinely

scheduled. MCR (for instance damage to the cable) may be required and may necessitate the use of larger vessels and the use of a temporary 500m safety zone.

18.10.2.7 Table 4.27 in **Chapter 4: Project Description** provides the annual average across the lifetime of the Project and worst-case design scenario for vessel movements during O&M. Due to the nature of unplanned maintenance, specific years may require more activity than others.

18.10.2.8 As outlined in **Table 18.10**, embedded environmental measures included for the Project associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039) procedure for dropped objects (M-050) and search and rescue checklists (M-044). Regular Notices to Mariners will be issued during the O&M stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the Hywind Scotland Pilot Park. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.10.2.9 With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility. Therefore, the magnitude of the impact that O&M activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **very low**.

Significance of residual effect

18.10.2.10 The Project embed environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of Hywind Scotland Pilot Park, overall, it is predicted that the sensitivity of the receptor is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.10.3 Impact O2: Obstruction to subsea cables and utilities

Overview

18.10.3.1 The maximum assessment scenario relating to the obstruction to subsea cables and utilities are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.10.3.2 O&M activities associated with the Project, as well as any temporary safety zones around MCR activities (for example removal and replacement of cables), and increased vessel traffic have the potential to lead to the temporary reduction of access to offshore export cables during decommissioning activities for Hywind Scotland Pilot Park.

18.10.3.3 During phase 1 of the O&M stage for the Project there would be temporary obstruction to Hywind Scotland Pilot Park decommissioning activities (which are expected to be completed in 2037,see **paragraph 18.9.2.3**). By phase 2 of the O&M stage of the Project, Hywind Scotland Pilot Park will be forecast to be decommissioned. It is possible that the Hywind Scotland Pilot Park could be repowered at the end of its operational life and as such, the presence of the Hywind Scotland Pilot Park is considered as the worst-case for assessment. Any repowering would likely need a new consent and / or licence, as such the Project would likely be assessed as part of the baseline for that application.

18.10.3.4 As stated in **paragraph 18.6.1.2** only subsea cable and utilities receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other projects. Therefore, at the time of writing, no further other subsea cables and utilities receptors are considered for the infrastructure and other marine users assessment at the time of writing.

Sensitivity or value of receptor

18.10.3.5 As stated in **paragraph 18.9.2.5**, the Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm is operation, it is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. Therefore, sensitivity of the receptor is therefore considered to be **high**.

Magnitude of impact

18.10.3.6 During the O&M stage of the Project, access to key subsea infrastructure, such as the decommissioning activities Hywind Scotland Pilot Park may be temporarily restricted. This could occur due to the presence of safety zones and advisory passing distances established during MCR activities, especially in areas where the Project's offshore export cables intersect with existing assets.

18.10.3.7 It is anticipated that offshore export cable repairs during the O&M stage will occur infrequently. When such interventions are necessary, the nature of the impacts would resemble those experienced during the construction stage, though they would typically be more localised and of shorter duration. MCR activities may require large vessels and the implementation of temporary 500m safety zones.

18.10.3.8 Any temporary limitations on access to nearby subsea infrastructure caused by Project-related maintenance works are expected to be spatially constrained and occur infrequently throughout the Project's operational lifespan.

18.10.3.9 As described in **Table 18.10**, cables to be crossed by the export cables associated with the Project will be covered by a crossing agreement with the relevant operator so that there will not be an impediment to asset maintenance operations (M-186). These agreements are intended to ensure the future maintenance of the third-party crossings can proceed without obstruction.

18.10.3.10 **Table 18.10** also includes embedded environmental measures associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039) procedure for dropped objects (M-050) and search and rescue checklists (M-044). Regular Notices to Mariners will be issued during the O&M stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the Hywind Scotland Pilot Park export cables. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.10.3.11 Additionally, regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support the planning of decommissioning activities for the Hywind Scotland Pilot Park export cables. The impact is predicted to cause a slight shift away from the baseline, leading to a reduction of access to the Hywind Scotland Pilot Park export cables for decommissioning activities, and for a short term duration. The frequency of repetition is intermittent with high reversibility. Therefore,

the magnitude of the impact that O&M activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **low**.

Significance of residual effect

18.10.3.12 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of Hywind Scotland Pilot Park, Green Volt (INTOG 6) Offshore Wind Farm and Salamander (INTOG 3) Offshore Wind Farm and crossing agreements with third party cable operators.

18.10.3.13 It is predicted that the sensitivity of Hywind Scotland Pilot Park is **high**, and the magnitude is **low**. The effect is or **Moderate** (**Potentially Significant**) in EIA terms.

18.10.3.14 The basis of the assessment at the time of writing is the timing of decommissioning activities for Hywind Scotland Pilot Park, as outlined in **paragraph 18.9.2.4**. The Applicant would liaise with the developers on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the effect is reduced to **Minor** (**Not Significant**).

18.10.4 Impact O3: Obstruction of licensed disposal sites

Overview

18.10.4.1 The maximum assessment scenario relating to the temporary obstruction of licensed disposal sites are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.10.4.2 The O&M stage of the Project has the potential to interact with the vessel operations of the open North Buchan Ness (CR080) disposal site, with this site located in the nearshore area to the north-east of Peterhead. As such, the potential interaction is likely to be associated with the installation of the export cables within the nearshore area.

Sensitivity or value of receptor

18.10.4.3 North Buchan Ness (CR080) has been used for the deposition of dredge spoil material including dredged harbour material from Peterhead and Boddam Harbour. The disposal site is of high regional value due to the importance of navigational dredging to the maintenance and operation of Peterhead and Boddam Harbour. The disposal site is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. Therefore, the sensitivity of the receptor is considered to be **medium**.

Magnitude of impact

18.10.4.4 Increased vessel traffic (transiting crew, monitoring surveys and maintenance vessels) has potential to disrupt vessels accessing marine disposal sites. Vessel traffic during O&M is unconfirmed at this stage as it will depend on the technologies used for the WTGs, substations, anchors and mooring systems.

18.10.4.5 It is anticipated that offshore export cable repairs during the O&M stage will occur infrequently. When such interventions are necessary, the nature of the impacts would resemble those experienced during the construction stage, though they will typically be

more localised and of shorter duration. MCR activities may require large vessels and the implementation of temporary 500m safety zones.

18.10.4.6 The majority of the vessels will be transiting to or working within the OAA, and these will pose a lesser disruption to works at the North Buchan Ness (CR080) closer inshore.

18.10.4.7 **Table 18.10** also includes embedded environmental measures associated with navigational safety, such as use of safety zones (M-031); lighting and marking (M-038); adherence to a Navigational Safety Plan and Vessel Management Plan (M-039); procedure for dropped objects (M-050); and search and rescue checklists (M-044). Regular Notices to Mariners will be issued during the pre-construction and construction stages (M-039), providing details on the timing, location, and type of activities associated with the Project. These communications will support effective planning for ongoing activities at the disposal sites. Additional notifications, including Kingfisher bulletins and other maritime advisories, will be distributed to inform mariners of the works taking place (M-030).

18.10.4.8 With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility. Therefore, the magnitude of the impact that O&M activities relating to the Project will have on disposal sites is considered to be **very low**.

Significance of residual effect

18.10.4.9 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of disposal sites. Overall, it is predicted that the sensitivity of the receptor is **medium**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.10.4.10 No additional embedded environmental measures are considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.10.4.11 A summary of the significance of effects arising from the O&M stage of the Project is provided in **Table 18.14**.

18.11 Assessment of effects: Decommissioning stage

18.11.1 Introduction

18.11.1.1 This Section provides an assessment of the effects for infrastructure and other marine users from the decommissioning of the offshore elements of the Project.

18.11.1.2 The assessment methodology set out in **Section 18.8** has been applied to assess effects to infrastructure and other marine users from the Project.

18.11.2 Impact D1: Temporary obstruction to offshore wind farms

Overview

18.11.2.1 The maximum assessment scenario relating to the temporary obstruction to offshore wind farms are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.11.2.2 The presence of partially decommissioned infrastructure may result in the obstruction to the Hywind Scotland Pilot Park within the vicinity of the Project. Movements of vessels contracted to undertake decommissioning activities, and the associated decommissioning works related to the Project have the potential to interfere with the routine operations and activities of the Hywind Scotland Pilot Park.

18.11.2.3 Hywind Scotland Pilot Park is forecast for decommissioning in 2037. As a result, the Hywind Scotland Pilot Park is likely to no longer be present at the time of decommissioning of the Project and therefore no impacts would be predicted to occur. It is possible that the Hywind Scotland Pilot Park could be repowered at the end of its operational life and as such, the presence of the project is considered as the worst-case for assessment. Any repowering would likely need a new consent and / or licence, as such the Project would likely be assessed as part of the baseline for that application.

18.11.2.4 As stated in **paragraph 18.6.1.2** only subsea cable and utilities receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other projects. Therefore, at the time of writing, no further other subsea cables and utilities receptors are considered for the infrastructure and other marine users assessment at the time of writing.

Sensitivity or value of receptor

18.11.2.5 The OAA of the Hywind Scotland Pilot Park overlaps the offshore export cable corridor for the Project. The Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm is operation, it is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. The sensitivity of Hywind Scotland Pilot Park is considered to be **high**.

Magnitude of impact

18.11.2.6 The effects of decommissioning activities associated with the Project are expected to be the same or similar to the effects from construction.

18.11.2.7 As outlined in **Table 18.10**, a Decommissioning Programme will be developed and adhered to (M-106), which will outline measures for the decommissioning of the Project. Embedded environmental measures similar to those employed during construction and O&M are likely to be implemented during decommissioning, though this will be informed by relevant guidance and best practice closer to the time.

18.11.2.8 Overall, the effect on access to the Hywind Scotland Pilot Park is expected to represent a minor shift from baseline conditions. The impact will be temporary but continuous throughout the decommissioning stage, with a short- to medium-term duration. Therefore, the magnitude of the impact that construction activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **very low**.

Significance of residual effect

18.11.2.9 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of Hywind Scotland Pilot Park. Overall, it is predicted that the sensitivity of the Hywind Scotland Pilot Park is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.11.3 Impact D2: Temporary obstruction to subsea cables and utilities

Overview

18.11.3.1 The maximum assessment scenario relating to the temporary obstruction to subsea cables and utilities are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.11.3.2 Decommissioning activities and increased vessel traffic associated with the Project have the potential to lead to the temporary reduction of access to the Hywind Scotland Pilot Park offshore export cables, if these cables are still operational at the time of the decommissioning of the Project.

18.11.3.3 As stated in **paragraph 18.6.1.2** only subsea cable and utilities receptors that are operational or under construction are considered in this assessment. **Paragraph 18.6.1.3** outlines that a six-month cut-off before submission has been agreed for any new planning status' for other projects. Therefore, at the time of writing, no further other subsea cables and utilities receptors are considered for the infrastructure and other marine users assessment at the time of writing.

Sensitivity or value of receptor

18.11.3.4 As stated in **paragraph 18.9.2.5**, the Hywind Scotland Pilot Park is of high value to the national economy, and as the offshore wind farm may be operational (as a worst-case), it is somewhat vulnerable to impacts that may arise from the decommissioning activities of the Project and recoverability is limited. Therefore, sensitivity of the receptor is therefore considered to be **high**.

Magnitude of impact

18.11.3.5 The effects of decommissioning activities associated with the Project are expected to be the same or similar to the effects from construction.

18.11.3.6 As outlined in **Table 18.10**, a Decommissioning Programme will be developed and adhered to (M-106), which will outline measures for the decommissioning of the Project. Embedded environmental measures similar to those employed during construction and O&M are likely to be implemented during decommissioning, though this will be informed by relevant guidance and best practice closer to the time.

18.11.3.7 Overall, the effect on access to the Hywind Scotland Pilot Park, is expected to represent a minor shift from baseline conditions. The impact will be temporary but continuous throughout the decommissioning stage, with a short- to medium-term duration. Therefore, the magnitude of the impact that construction activities relating to the Project will have on Hywind Scotland Pilot Park is considered to be **very low**.

Significance of residual effect

18.11.3.8 The Project's embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance and crossing agreements with the relevant operator so that there would not be an impediment to asset maintenance operations (M-186). It is predicted that the sensitivity of Hywind Scotland Pilot Park offshore

export cables is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.11.3.9 No additional embedded environmental measures are considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.11.4 Impact D3: Temporary obstruction of licensed disposal sites

Overview

18.11.4.1 The maximum assessment scenario relating to the temporary obstruction of licensed disposal sites are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.11.4.2 The decommissioning stage of the Project has the potential to interact with the vessel operations of the open North Buchan Ness (CR080) disposal site, with these sites located within the inshore area to the north-west of Peterhead. As such, the potential interaction is likely to be associated with the installation of the export cables within the nearshore area.

Sensitivity or value of receptor

18.11.4.3 North Buchan Ness (CR080) has been used for the deposition of dredge spoil material including dredged harbour material from Peterhead and Boddam Harbour. The disposal site is of high regional value due to the importance of navigational dredging to the maintenance and operation of Peterhead and Boddam Harbour. The disposal site is somewhat vulnerable to impacts that may arise from the Project and recoverability is limited. Therefore, the sensitivity of the receptor is considered to be **medium**.

Magnitude of impact

18.11.4.4 The effects of decommissioning activities associated with the Project are expected to be the same or similar to the effects from construction.

18.11.4.5 As outlined in **Table 18.10**, a Decommissioning Programme will be developed an adhered to (M-106), which will outline measures for the decommissioning of the Project. Embedded environmental measures similar to those employed during construction and O&M are likely to be implemented during decommissioning, though this will be informed by relevant guidance and best practice closer to the time.

18.11.4.6 The impact is predicted to cause a minor shift away from the baseline, leading to a reduction of access to the disposal sites for a short- to medium-term duration. The frequency of repetition is temporary during the decommissioning stage. Therefore, the magnitude of the impact that construction activities relating to the Project will have on disposal sites is considered to be **very low**.

Significance of residual effect

18.11.4.7 The Project embedded environmental measures (as shown in **Table 18.10**) include Notices to Mariners (M-039), to minimise the disturbance of disposal sites. Overall, it is predicted that the sensitivity of the receptor is **medium**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.11.4.8 No additional infrastructure and other marine users embedded environmental measures is considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.11.5 Impact D4: Disturbance of UXO within identified areas or discovery of unexpected UXO

Overview

18.11.5.1 The maximum assessment scenario relating to the disturbance of UXO are presented in **Table 18.9**. Where predicted effects are identified, an assessment of the magnitude of change for each effect has been completed based on the methodology provided in **Section 18.8.2**. The magnitude of change, and hence the significance of potential effects has been assessed on the assumption that the embedded environmental measures from **Table 18.10** have been implemented as part of the Project.

18.11.5.2 It is anticipated that it will be possible to avoid UXO through micro-siting / micro-routeing. However, where UXO are identified within the Red Line Boundary that cannot be avoided, or that pose a genuine threat to safe completion of construction works, clearance will be undertaken as necessary. Any required clearance, whilst deemed unlikely, would be subject to a separate marine licence application and associated environmental assessment to be determined by MD-LOT in consultation with relevant stakeholders.

Sensitivity or value of receptor

18.11.5.3 As stated in **paragraph 18.9.5.3**, the sensitivity of the UXO is considered to be **high**, reflecting that UXO provides a health and safety hazard.

Magnitude of impact

18.11.5.4 The effects of decommissioning activities associated with the Project are expected to be the same or similar to the effects from construction.

18.11.5.5 As outlined in **Table 18.10**, a Decommissioning Programme will be developed an adhered to (M-106), which will outline measures for the decommissioning of the Project. Embedded environmental measures similar to those employed during construction and O&M are likely to be implemented during decommissioning, though this will be informed by relevant guidance and best practice closer to the time.

18.11.5.6 Taking the embedded environmental measure into account, and the relatively low risk of UXO near the Project, any disruption caused by the UXO inspection and clearance activities during the construction stage will be minimal, highly localised and result in only a minor loss of access (if any at all). Therefore, the magnitude of the impact that construction activities relating to the Project will have on disposal sites is considered to be **very low**.

Significance of residual effect

18.11.5.7 The Project embedded environmental measxures (as shown in **Table 18.10**) include producing an UXO Management Plan to mitigate any potential for UXO within the offshore decommissioning area and also disposal once encountered (M-115). Overall, it is predicted that the sensitivity of the receptor is **high**, and the magnitude is **very low**. The effect is of **Minor** (**Not Significant**) in EIA terms.

18.11.5.8 No additional embedded environmental measures are considered necessary because the likely effect in the absence of further mitigation (beyond the measures outlined in **Table 18.10**) is **Not Significant** in EIA terms.

18.11.5.9 A summary of the significance of effects arising from the construction, operation and decommissioning stage of the Project are provided in **Table 18.14**.

18.12 Summary of effects

18.12.1.1 A summary of effects arising from the construction, O&M and decommissioning stages of the Project in relation to infrastructure and other marine users are summarised in **Table 18.14**.

Table 18.14 Summary of effects during the construction, operation and maintenance and decommissioning stages of the Project on infrastructure and other marine users

Receptor	Sensitivity / value	Activity and potential effect	Embedded environmental measures	Magnitude of effect	Significance of effects
Construction					
Offshore Wind Farms: • **Hywind Scotland Pilot Park**	**High**	Temporary obstruction to offshore wind farm from pre-construction activities, offshore export cable corridor installation and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	**Very low**	**Minor** (**Not Significant**).
Subsea cables and utilities: • **Hywind Scotland Pilot Park offshore export cables**	**High**	Temporary obstruction to subsea cables from pre-construction activities, offshore export cable corridor installation, and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187	**Low**	**Moderate** (**Potentially Significant**).
Licence Disposal sites: • **North Buchan Ness (CR080)**	**Medium**	Temporary obstruction of licensed disposal sites from pre-construction activities, offshore export cable corridor installation and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054	**Very low**	**Minor** (**Not Significant**).

Receptor	Sensitivity / value	Activity and potential effect	Embedded environmental measures	Magnitude of effect	Significance of effects
			M-120		
UXO sites	**High**	Disturbance of UXO within identified areas or discovery of unexpected UXO.	M-115 M-120	**Very low**	**Minor** (**Not Significant**).
Operation and maintenance					
Offshore Wind Farms: • **Hywind Scotland Pilot Park**	**High**	Temporary obstruction to offshore wind farm from increased presence of vessels and MCR for the offshore export cable corridor.	M-030 M-031 M-038 M-039 M-044 M-050	**Very low**	**Minor** (**Not Significant**).
Subsea cables and utilities: • **Hywind Scotland Pilot Park**	**High**	Temporary obstruction to obstruction to subsea cables from increased presence of vessels and MCR for the offshore export cable corridor.	M-030 M-031 M-038 M-039 M-044 M-050 M-186	**Low**	**Moderate** (**Potentially Significant**).
Licence Disposal sites: • **North Buchan Ness (CR080)**	**Medium**	Temporary obstruction of licensed disposal sites from O&M activities at the offshore export cable corridor and increased presence of vessels.	M-030 M-031 M-038 M-039 M-044 M-050	**Very low**	**Minor** (**Not Significant**).

Receptor	Sensitivity / value	Activity and potential effect	Embedded environmental measures	Magnitude of effect	Significance of effects
Decommissioning					
Offshore Wind Farms: • **Hywind Scotland Pilot Park**	**High**	Temporary obstruction to offshore wind farm from offshore export cable corridor decommissioning activities and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-106	**Very low**	**Minor** (**Not Significant**).
Subsea cables and utilities: • **Hywind Scotland Pilot Park**	**High**	Temporary obstruction to subsea cables from decommissioning activities and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-106 M-186	**Very low**	**Minor** (**Not Significant**).
Licence Disposal sites: • **North Buchan Ness (CR080)**	**Medium**	Temporary obstruction of licensed disposal sites from decommissioning activities at the offshore export cable corridor and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-106	**Very low**	**Minor** (**Not Significant**).
UXO sites	**High**	Disturbance of UXO within identified areas or discovery of unexpected UXO.	M-106 M-115	**Very low**	**Minor** (**Not Significant**).

18.13 Transboundary effects

18.13.1.1 Transboundary effects arise when impacts from a development with one European Economic Area (EEA) State affects the environment of another EEA State(s). A screening of transboundary effects have been carried out and is presented in Appendix 4B of the Scoping Report (MarramWind Ltd., 2023).

18.13.1.2 Based on the established baseline environment, the defined nature and scale of the proposed works, and a robust body of evidence from comparable offshore wind farm developments, such as the Caledonia Offshore Wind Farm, Green Volt Offshore Wind Farm, Muir Mhór Offshore Wind Farm and Salamander Offshore Wind Farm, no transboundary effects are anticipated on infrastructure and other marine users receptors. This conclusion is supported by the findings of the transboundary screening (MarramWind Limited, 2023), which confirms that the ZOI remains confined to UK waters and does not extend into the jurisdiction of other EEA states.

18.14 Inter-related effects

18.14.1.1 A description and assessment of the likely inter-related effects arising from the Project on infrastructure and other marine users is provided in **Chapter 32: Inter-Related Effects**.

18.15 Assessment of cumulative effects

18.15.1.1 A description and assessment of the cumulative effects arising from the Project on infrastructure and other marine users is provided in **Chapter 33: Cumulative Effects Assessment**.

18.16 Summary of residual likely significant effects

18.16.1.1 **Table 18.15** presents a summary of the residual likely significant effects on infrastructure and other marine users receptors assessed in this Chapter.

Table 18.15 Summary of assessment of residual likely significant effects for infrastructure and other marine users

Receptor	Sensitivity or value	Activity and potential effect	Embedded environmental measures	Magnitude of effect	Significance	Additional measures	Assessment of residual likely significant effects
Construction							
Hywind Scotland Pilot Park	**High**	Temporary obstruction to subsea cables from pre-construction activities, offshore export cable corridor installation and increased presence of vessels.	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187	**Low**	**Moderate** (**Potential Significant**).	The Applicant would liaise with the developers on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained.	**Minor** (**Not Significant**).
Operation and maintenance							
Hywind Scotland Pilot Park	**High**	Temporary obstruction to offshore wind farm from increased presence of vessels and MCR for the offshore export cable corridor.	M-030 M-031 M-038 M-039 M-044 M-050 M-186	**Low**	**Moderate** (**Potential Significant**).	The Applicant would liaise with the developers on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained.	**Minor** (**Not Significant**).

18.17 References

Aberdeenshire Council, (2023*). Aberdeenshire Council's Scoping Opinion for Offshore Wind Farm Project at MarramWind Offshore Wind Farm*. [online] Available at: https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=RPB0TVCA04U00 [Accessed: 23 April 2025].

Centre for Environment, Fisheries and Aquaculture Science (Cefas), (2023). *Cefas Data portal - UK Disposal Site Layer.* [online] Available at: https://data.cefas.co.uk/view/407 [Accessed 7 July 2025].

Crown Estate Scotland (CES), (2024). *CES Spatial Hub.* [online] Available at: https://crown-estate-scotland-spatial-hub-coregis.hub.arcgis.com/ [Accessed 7 July 2025].

European Marine Observation and Data Network (EMODnet), (2025). *EMODnet Map Viewer.* [online] Available at: https://emodnet.ec.europa.eu/geoviewer/#!/ [Accessed 7 July 2025].

European Subsea Cable Association (ESCA), (2023). *Guideline No.06: The Proximity of Offshore Renewable Energy Installations and Subsea Cable Infrastructures.* [online] Available at: https://escaeu.org/download/?Id=123&source=guidelines [Accessed 7 July 2025].

International Association of Marine Aids to Navigation and Lighthouse Authorities, (IALA) (2021). *IAIA Recommendation O-139 on the marking of man made offshore structures, Edition 3.* [online] Available at: https://www.iala.int/content/uploads/2021/10/C74-10.3.2-Revised-Recommendation-R0139-0-139-The-Marking-of-Man-made-Structures-Ed3.0-1.pdf [Accessed 7 July 2025].

International Cable Protection Committee (ICPC), (2024). *International Cable Protection Committee (ICPC) Recommendations.* [online] Available at: https://www.iscpc.org/publications/recommendations/ [Accessed 7 July 2025].

International Convention for the Safety of Life at Sea (SOLAS), (1974). *International Regulations for the Safety of Life at Sea (SOLAS) (International Maritime Organisation (IMO))*. [online] Available at: https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx#:~:text=The%20Convention%20in%20force%20today%20is%20sometimes%20referred ,and%20operation%20of%20ships,%20compatible%20with%20their%20safety [Accessed 7 July 2025].

Kingfisher Information Service – Offshore Renewable and Cable Awareness (KIS-ORCA), (2025). *KIS-OCRA Interactive map.* [online] Available at: https://kis-orca.org/ [Accessed 7 July 2025].

Marine and Coastal Access Act 2009. [online] Available at: https://www.legislation.gov.uk/ukpga/2009/23/contents [Accessed 7 July 2025].

Marine Directorate – Licensing Operations Team (MD-LOT), (2023). *MarramWind Offshore Wind Farm Environmental Impact Assessment – Scoping Opinion.* [online] Available at: https://marine.gov.scot/node/23928 [Accessed 22 June 2025].

Marine Institute, (2000). *Assessment of Impact of Offshore Wind Energy Structure on the Marine Environment.* [online] Available at: https://oar.marine.ie/bitstream/handle/10793/579/Assessment%20of%20Impact%20of%20Offshore%20Wind%20Energy%20Structures.pdf;jsessionid=E379642FADCCA09F04D7C64214B0FE55?sequence=1 [Accessed 7 July 2025].

Marine Strategy Regulations 2010. [online] Available at: https://www.legislation.gov.uk/uksi/2010/1627/contents [Accessed 7 July 2025].

Maritime and Coastguard Agency (MCA), (2021). *Marine Guidance Note (MGN) 654 Safety of Navigation Offshore Renewable Energy Installations (OREIS) – Guidance on UK Navigational Practice, Safety and Emergency Response.* [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1157005/MGN_654.pdf#:~:text=This%20Marine%20Guidance%20Note%20highlights%20issues%20that%20need,renewable%20energy%20installation%20developments%20(wind,%20wave%20a nd%20tidal) [Accessed 7 July 2025].

MarramWind Limited, (2023). *MarramWind Offshore Wind Farm Environmental Impact Assessment – Scoping Report.* [online] Available at: https://marramwind.co.uk/scoping-report [Accessed: 2 July 2025].

Department for Energy Security & Net Zero, (2023). *National Policy Statement for Renewable Energy Infrastructure (EN-3).* [online] Available at: https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf [Accessed 7 July 2025].

Scottish Government, (2015). *Scottish National Marine Plan.* [online] Available at: https://www.gov.scot/publications/scotlands-national-marine-plan/ [Accessed 7 July 2025].

Scottish Government, (2020a). *Productive: Energy and Mineral Resources – Aggregates*. [online] Available at: https://marine.gov.scot/sma/assessment/aggregates [Accessed 10 July 2025].

Scottish Government, (2020b). *Sectoral Marine Plan for Offshore Wind.* [online] Available at: https://www.gov.scot/publications/sectoral-marine-plan-offshore-wind-energy/ [Accessed 7 July 2025].

Scottish Government, (2023a). *MarramWind Offshore Wind Farm Environmental Impact Assessment – Scoping Opinion.* [online] Available at: https://marine.gov.scot/node/23928 [Accessed: 6 August 2025].

Scottish Government, (2023b). *MarramWind Offshore Wind Farm Environmental Impact Assessment – Scoping Opinion Additional Consultation Responses Advice.* [online] Available at: https://marine.gov.scot/sites/default/files/additional_-_consultation_responses_advice.pdf [Accessed: 6 August 2025].

Scottish Government, (2025). *Marine Directorate Information: Marine Licence applications.* [online] Available at: https://marine.gov.scot/marine-licence-applications [Accessed 7 July 2025].

The Crown Estate, (2012). *Export transmission cables for offshore renewable installations – Principles of cable routeing and spacing.* [online] Available at: https://www.thecrownestate.co.uk/media/1781/ei-km-in-pc-cables-export-transmission-cables-for-offshore-renewable-installations.pdf [Accessed 7 July 2025].

The European Commission, (2008). *Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive (MSFD)).* [online] Available at: https://www.eumonitor.eu/9353000/1/j4nvk6yhcbpeywk_j9vvik7m1c3gyxp/vitgbgiogxml#:~:text=The%20marine%20strategy%20framework%20directive%20%28MSFD%29%20sets%20out,use%2C %20by%20means%20of%20an%20ecosystem%20-based%20approach [Accessed 7 July 2025].

The Water Environment (Controlled Activities) (Scotland) Regulations 2011. [online] Available at: https://www.legislation.gov.uk/ssi/2011/209/contents/made [Accessed 7 July 2025].

Her Majesty's Government, (2011). *UK Marine Policy Statement 2011.* [online] Available at: https://assets.publishing.service.gov.uk/media/5a795700ed915d042206795b/pb3654-marine-policy-statement-110316.pdf [Accessed 7 July 2025].

18.18 Glossary and abbreviations

18.18.1 Abbreviations

Acronym	Definition
CBRA	Cable Burial Risk Assessment
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CES	Crown Estate Scotland
EEA	European Economic Area
EIA	Environmental Impact Assessment
ESCA	European Subsea Cable Association
GW	Gigawatts
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ICPC	International Cable Protection Committee
INTOG	Innovation and Targeted Oil & Gas
MCA	Maritime and Coastguard Agency
MCR	Major Component Replacement
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High Water Springs
MOD	Ministry of Defence
MW	Megawatts
nm	nautical miles
O&M	Operation & Maintenance
OAA	Option Agreement Area
PEXA	Practice and Exercise Areas
PO	Plan Option
SHEPD	Scottish Hydro Electric Power Distribution
UXO	Unexplored Ordnance
ZOI	Zone of Influence

18.18.2 Glossary of terms

Term	Definition
Safety Zone	An area around a structure associated with an Offshore Renewable Energy Installation where entry is prohibited under the Energy Act 2004.
Unexploded Ordnance	Explosive weapons (e.g. bombs, shells, grenades, land mines, naval mines) that did not explode when they were employed or discarded and still pose a risk of detonation, potentially many decades later.

MarramWind