Bowdun Offshore Wind Farm, Offshore EIA Report

Volume 2, Chapter 16: Infrastructure and Other Users

TWP-BOW-RPS-OFE-RPT-00037 | April 2026

Contents

List of Tables

List of Figures

Glossary

Defined Term	Definition
Additional Mitigation	Also referred to as secondary mitigation which is defined by The Institute of Sustainability and Environmental Professionals (ISEP) (formerly Institute of Environmental Management and Assessment (IEMA)) as: Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Impact Assessment (EIA) Report (sic).
Applicant (the)	Bowdun Offshore Wind Farm Limited (BOWFL).
Array Area	The Array Area is the area in which the Offshore Generation Assets will be located.
Bowdun Offshore Wind Farm Limited (BOWFL)	A Special Purpose Vehicle (SPV) (legal entity) for the purpose of developing the Project. BOWFL are the Applicant for the Offshore Application.
Crown Estate Scotland (CES)	Public corporation accountable to Scottish Government, responsible for the management of land and property, including marine assets in Scotland owned by the monarch.
Cumulative Effects	The effects of the Proposed Development assessed together with effects from the Onshore Infrastructure forming the Project as well as one or more different projects on the same receptor/resource.
Effect	Term used to express the consequence of an impact (i.e. the result of change or changes on specific environmental resources or receptors). The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity of the receptor or resource in accordance with defined significance criteria.
Embedded Mitigation	Measures that are adopted as part of the Proposed Development and therefore assessed within the EIA. The proposed approach for the EIA for the Proposed Development is that Embedded Mitigation includes both primary mitigation and tertiary mitigation. These are defined by the ISEP as follows: Primary: Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken. Tertiary: Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
Environmental Impact Assessment (EIA)	Process for the assessment of likely significant environmental effects of a project on the physical, biological and human environment during construction, Operation and Maintenance (O&M) and decommissioning.

Defined Term	Definition
Environmental Impact Assessment Regulations (EIA Regulations)	Terminology used in this Offshore EIA Report to refer to three sets of regulations: • The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017; • The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and • The Marine Works (Environmental Impact Assessment) Regulations 2007.
Export Cable Corridor	The area seaward of MHWS which connects the Array Area with the Landfall within which the Offshore Export Cables will be installed.
Impact	A change caused by an action that occurs during a project's lifetime.
Inter-Array Cables (IAC)	Cables which link the Wind Turbines to each other and with the OSPs.
Inter-Related Effects	The potential effects of multiple impacts from the construction, O&M and decommissioning of the Project, affecting one receptor.
Interconnector Cables	Cables which will connect individual OSPs to each other to provide redundancy against cable failure elsewhere.
Landfall	The area in which the Offshore Export Cables make landfall and is also the transitional area between the Offshore Transmission Assets and the Onshore Transmission Assets. Located in the Intertidal Area at Benholm.
Likely Significant Effect (LSE)	A significant effect on a designated site that has the potential to occur as a result of the Proposed Development (as determined by the LSE Screening Report). Where a LSE cannot be ruled out, further assessment is needed as part of the AA.
Marine Directorate (MD)	The Marine Directorate of the Scottish Government, formerly known as Marine Scotland. The planning and licensing authority for Scotland's seas and custodian of Scotland's National Marine Plan (NMP). The Marine Directorate - Licensing Operations Team (MD-LOT) are specifically responsible for managing Section 36 Consent and Marine Licence Applications seaward of MHWS.
Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD)	The scientific division of the MD, which provides expert scientific, economic and technical advice and services on issues relating to marine fisheries, aquaculture, marine renewable energy, and the aquatic environment and its flora and fauna.
Marine Licence	A Marine Licence permits the undertaking of different activities in the marine environment, including construction, the deposition or removal of substances or objects, and dredging. The Marine (Scotland) Act 2010 requires Marine Licences to be obtained for licensable activities taking place within Scottish Territorial Seas (MHWS to 12 nm). The Marine and Coastal Access Act (MCAA) 2009 requires a Marine Licence to be obtained for licensable marine activities within the Scottish offshore region (12 nm – 200 nm).
Maximum Design Scenario (MDS)	The scenario within the design envelope likely to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Mean High Water Springs (MHWS)	The average tidal height throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.

Defined Term	Definition
Mean Low Water Springs (MLWS)	The average tidal height throughout the year of two successive low waters during those periods of 24 hours when the range of the tide is at its greatest.
Mitigation	Measures to avoid, prevent, reduce or control effects on the environment. See also definitions for Embedded Mitigation and Additional Mitigation.
National Grid	The national electricity transmission network.
Offshore Application	Term used to refer to the applications associated with the Proposed Development. The Applicant will apply for: • A Section 36 Consent under the Electricity Act 1989; and • Marine Licence(s) under Marine Scotland Act 2010 and Marine and Coastal Access Act 2009.
Offshore Environmental Impact Assessment (EIA) Report (hereafter, 'Offshore EIA Report')	Document prepared to report the findings of the EIA for the Proposed Development and produced in accordance with the EIA Regulations. The Offshore EIA Report is submitted to support the Offshore Application for the Proposed Development, and to comply with EIA Regulations.
Offshore Export Cables	Subsea cables used to transmit electricity generated offshore by the Wind Turbines from the OSPs to shore. The Transition Joint Bay (TJB) is the location where the Offshore Export Cables terminate, and the onshore cabling begins.
Offshore Infrastructure	All of the Offshore Infrastructure associated with the Proposed Development that is located seaward of MHWS, comprising the Offshore Generation Assets and the Offshore Transmission Assets.
Offshore Scoping Report	The report that presents the findings of the EIA scoping process undertaken for the Proposed Development with the purpose of obtaining a Scoping Opinion. The Offshore Scoping Report defines what is intended to be assessed and reported as part of the EIA.
Offshore Substation Platform(s) (OSPs)	OSPs comprise the support structure, topside and electrical components used for collecting and/or converting electricity generated by the Wind Turbines for transmission by the Offshore Export Cables.
Offshore Transmission Assets	The infrastructure of the Proposed Development required to transmit the generated electricity comprising of the OSPs, Offshore Export Cables and associated infrastructure up to MHWS.
Operation and Maintenance (O&M)	The phase of the Proposed Development following completion of construction. This phase of development includes routine inspections, repairs and replacement of infrastructure and equipment (including Interconnector Cables and IACs), Scour Protection replenishment or replacement, major component replacement, painting and/or other coating works, removal of marine growth, and replacement of access ladders.
Pathway	Describes the means or route by which a receptor (such as the seabed) can be affected by an identified impact source (such as Wind Turbine foundations).
Project (the)	An overarching term for the Bowdun Offshore Wind Farm (Bowdun OWF) comprising the offshore and onshore infrastructure required to generate and transmit electricity from the Array Area to the onshore GCP. The Project includes the Offshore Generation Assets, the Offshore Transmission Assets and the Onshore Transmission Assets.

Defined Term	Definition
Project Design Envelope (PDE)	A description of the range of possible elements that make up the design options for the Proposed Development under consideration when the exact engineering parameters are not yet known.
Proposed Development	Term used to define the Offshore Infrastructure associated with the Project seaward of MHWS for which consent is being sought. Further details of the parameters are included in Volume 1, Chapter 3: Project Description.
Safety Zones	An area extending a maximum of 500 m from the central point of a subsea installation in which other vessels are prohibited from entering, except in circumstances outlined within Section 96 of the Energy Act, 2004.
Scoping Opinion	A document produced by MD-LOT which is issued in response to submission and review of the Offshore Scoping Report. The Scoping Opinion is supported with feedback and advice from consultees, which details what is expected to be included in the Offshore EIA Report and what can be scoped out of the EIA process.
Scottish Ministers (the)	The decision makers with regard to Marine Licence(s) and Section 36 Consent applications in Scottish Offshore Waters and Scottish Marine Area.
ScotWind Leasing Round	A seabed leasing round run by CES to grant property rights for the seabed in Scottish waters for new commercial scale offshore wind project development. ScotWind Leasing must be sited within POA of the SMP.
Section 36 Consent	Scottish Ministers' consent under Section 36 of the Electricity Act 1989 required to permit the generation and operation of an energy generation station.
Sectoral Marine Plan (SMP)	A plan developed by the Scottish Government which provide the strategically planned spatial footprint for offshore wind development in Scotland.
Significance	Effect factor that is determined by the magnitude of impact along with the sensitivity of the receptor.
Site Boundary	The boundary within which all elements of the Proposed Development will be located. The Site Boundary comprises the Array Area and Export Cable Corridor which ends at MHWS.
Spring Tidal Excursion	The distance suspended sediment is transported prior to being carried back on the returning tide.
Study Area	For each environmental topic, the baseline environment will be characterised, and the potential environmental impacts will be described within a topic-specific study area. Specific study areas are defined for each topic and are based on the maximum spatial extent across which potential impacts of the Project may be experienced by the relevant receptors (i.e. Zone of Influence).
Thistle Wind Partners (TWP)	Company established for the development of the Project.
Tidal Ellipse	The illustration of the variance of tidal currents in horizontal space.
Wind Turbines	Structures comprising of a tubular tower, rotor blades, and a nacelle which houses the Wind Turbine generator.

Acronyms

Acronym	Definition
AIS	Automatic Identification System
ASYC	Aberdeen and Stonehaven Yacht Club
AtoN	Suitable Aids to Navigation
BT	British Telecommunications
CCS	Carbon Capture and Storage
CEA	Cumulative Effects Assessment
CES	Crown Estate Scotland
CNSE	Central North Sea Electrification
COLREGS	The Convention on the International Regulations for Preventing Collisions at Sea
CO_2	Carbon Dioxide
DSLP	Development Specification and Layout Plan
EGL	Eastern Green Link
EIA	Environmental Impact Assessment
ESCA	European Subsea Cables Association
HM	His Majesty's
HSE	Health and Safety Executive
HVDC	High Voltage Direct Current
IAC	Inter-Array Cable
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ICPC	International Cable Protection Committee
INTOG	Innovation and Targeted Oil and Gas
JRC	Joint Radio Company
KIS-ORCA	Kingfisher Information Service – Offshore Renewable and Cable Awareness
LMP	Lighting and Marking Plan
MCA	Maritime & Coastguard Agency
MCAA	Marine and Coastal Access Act 2009
MD	Marine Directorate
MDS	Maximum Design Scenario
MD-LOT	Marine Directorate - Licensing Operations Team
MPS	Marine Policy Statement
NLB	Northern Lighthouse Board
NMP	National Marine Plan
NMPi	National Marine Plan interactive
NNR	National Nature Reserve
NRA	Navigational Risk Assessment

Acronym	Definition
NSTA	North Sea Transition Authority
NtM	Notice to Mariners
NTS	National Transmission System
OFTO	Offshore Transmission Owners
OSP	Offshore Substation Platform
OWF	Offshore Wind Farm
OMFCL	Offshore Microwave Fixed Communication Links
O&M	Operation and Maintenance
PDE	Project Design Envelope
REWS	Radar Early Warning Systems
RYA	Royal Yachting Association
SCUBA	Self Contained Underwater Breathing Apparatus
SMP	Sectoral Marine Plan
SOLAS	International Convention for the Safety of Life at Sea
SSC	Suspended Sediment Concentration
SSE	Scottish and Southern Electricity
TWP	Thistle Wind Partners Limited
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
UKHO	United Kingdom Hydrographic Office
VTS	Vessel Traffic Survey

Table of Units

Units	Definition
%	Percent
£	Great British Pound (GBP)
g CO_2/kWh	Grams of CO_2 per kilowatt-hour
GW	GigaWatt
km	Kilometre
km²	Square kilometre
kV	Kilovolt
m	Metre
m²	Square Metre
MW	MegaWatt
nm	Nautical mile

16 Infrastructure and Other Users

16.1 Introduction

16.1.1 This chapter of the Offshore Environmental Impact Assessment (EIA) Report presents the assessment of the likely significant environmental effects on Infrastructure and Other Users, that may potentially occur as a result of the Proposed Development during the construction, Operations and Maintenance (O&M) and decommissioning phases.

16.1.2 The assessment presented is informed by the following technical chapters:

- Volume 2, Chapter 7: Physical Processes;
- Volume 2, Chapter 13: Commercial Fisheries;
- Volume 2, Chapter 14: Shipping and Navigation; and
- Volume 2, Chapter 15: Aviation and Radar.

16.1.3 Impacts relating to risk to all vessel types and safe navigation (including for port activities) will be considered within Volume 2, Chapter 14: Shipping and Navigation. The assessment presented within this chapter will only consider impacts which may affect marine activities or infrastructure within the Infrastructure and Other Users Study Area.

16.2 Infrastructure and Other Users Study Area

16.2.1 The study areas for infrastructure and other users are shown in Figure 16.1 and are defined as follows:

- the Local Infrastructure and Other Users Study Area; and
- the Regional Infrastructure and Other Users Study Area.

16.2.2 The Local Infrastructure and Other Users Study Area was accepted by the Scottish Ministers in the Scoping Opinion (Bowdun Offshore Wind Farm Scoping Opinion (Marine Directorate - Licensing Operations Team (MD-LOT), 2024), as detailed in Table 16.6, and comprises the Site Boundary with an additional 1 km buffer. This is to account for direct physical overlap between infrastructure and other user receptors, as well as the implementation of any 500 m Safety Zones around offshore renewables projects (or cables and pipeline projects) undergoing maintenance. The Local Infrastructure and Other Users Study Area encompasses the following receptors:

- recreational activities (including receptors carrying out sailing and motor cruising, recreational fishing, surfing, kayaking, coasteering and paddleboarding and beach users);
- offshore energy projects, including;
  - Offshore Wind Farms (OWFs);
  - oil and gas activities;
  - Carbon Capture and Storage (CCS).

- cables and pipelines;
- Offshore Microwave Fixed Communication Links (OMFCL); and
- Radar Early Warning Systems (REWS).

16.2.3 The Regional Infrastructure and Other Users Study Area is based on one Spring Tidal Excursion from the Site Boundary. One Spring Tidal Excursion is considered to be the maximum area within which increases in Suspended Sediment Concentrations (SSCs) could arise from activities associated with the Proposed Development. The Spring Tidal Excursion varies, ranging from 663 m from the east boundary of the Array Area to 10.3 km from the north boundary of the Array Area. The buffer from the Spring Tidal Excursion at the mid-Export Cable Corridor is 6.2 km before expanding to its greatest extent of 10.6 km parallel to its Landfall location on the east Aberdeenshire coast. The Regional Infrastructure and Other Users Study Area encompasses the following receptors:

- marine aggregate extraction and disposal sites; and
- recreational Self Contained Underwater Breathing Apparatus (SCUBA) diving.

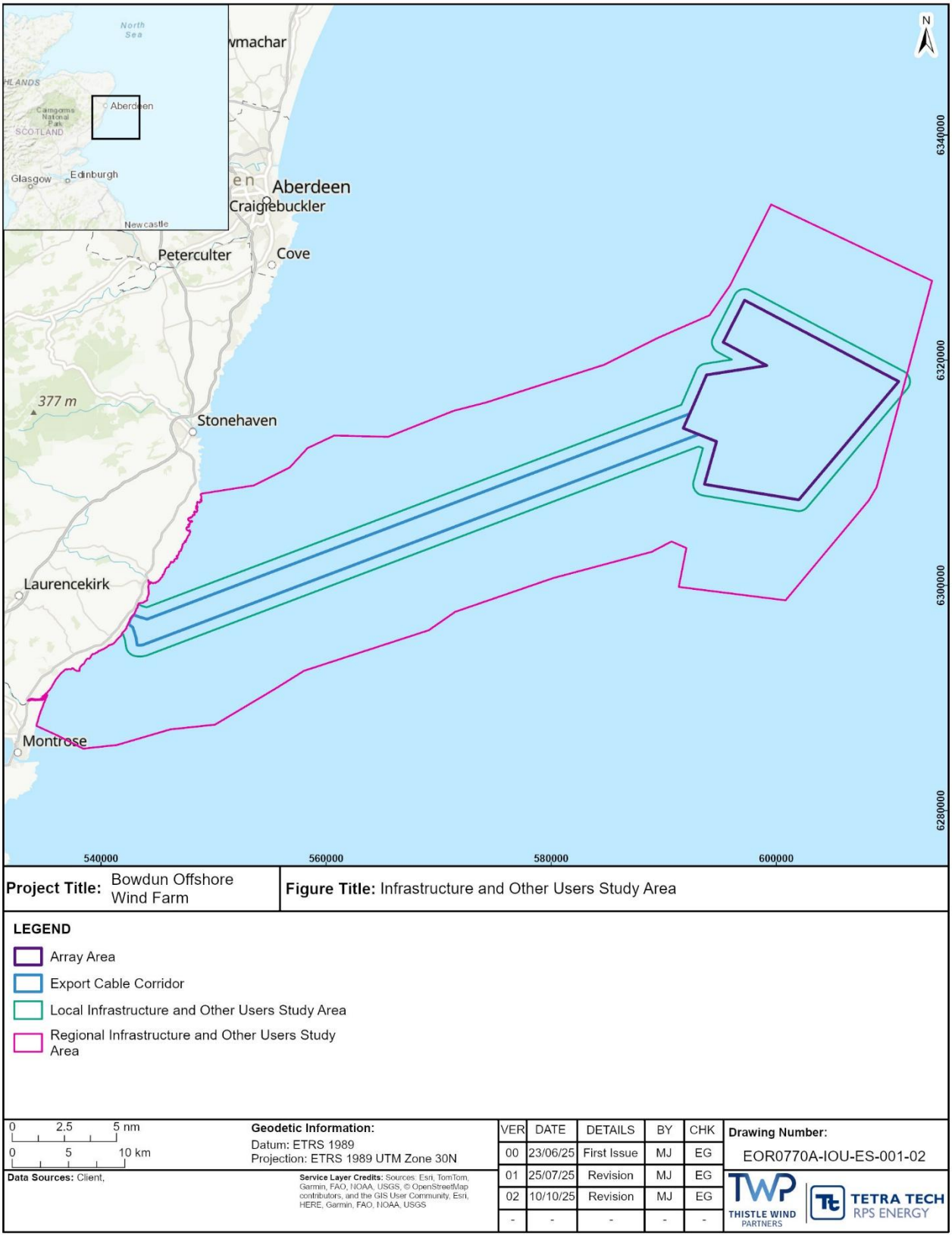

Figure 16.1: Infrastructure and Other Users Study Area

16.3 Legislative and Policy Context

16.3.1 The overarching policy and legislation applicable to the Proposed Development is presented in Volume 1, Chapter 2: Policy and Legislation. Legislation specific to infrastructure and other users, is contained in Maritime and Coastal Access Act (MCAA) (United Kingdom (UK) Government, 2009), the Energy Act 2004 (UK Government, 2004) and summarised in Table 16.1. Policy specific to infrastructure and other users is contained in the Sectoral Marine Plan (SMP) for Offshore Wind Energy (Scottish Government, 2020; Scottish Government, 2025 (update in draft)), the Scottish National Marine Plan (NMP) (Scottish Government, 2015a), the UK Marine Policy Statement (MPS) (His Majesty's (HM) Government, 2011) and the Initial Plan Framework SMP for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation (INTOG) (Scottish Government, 2022). A summary of the policy provisions from the SMP relevant to infrastructure and other users are provided in Table 16.2 below. Other relevant policies from the Scottish NMP have also been considered and the respective policy objectives set out in Table 16.3.

16.3.2 Table 16.4 and Table 16.5 detail additional policy of relevance from the UK MPS and the Initial Plan Framework for SMP.

Table 16.1: Summary of Legislation relevant to Infrastructure and Other Users

Legislation	How and Where Considered in the Offshore EIA Report
MCAA 2009 (UK Government, 2009)	Parts 3 and 4 of the MCAA 2009 introduced a new marine planning and licensing system for overseeing the marine environment and a requirement to obtain a Marine Licence for certain activities and works at sea (works between 12 nm and up to 200 nm offshore). The Proposed Development located in Scottish waters requires an application for a Marine Licence under the MCAA 2009 to be made to the MD-LOT. This licence is granted by Scottish Ministers and will require a Marine Licence for the construction works and activities associated with the Array Area and Offshore Export Cable.
Energy Act 2004 (UK Government, 2004)	Sections 95–101 provides for the establishment of Safety Zones around offshore renewable energy installations during construction, operation, and decommissioning, potentially altering navigation and recreational use. The impact of relevant Safety Zones upon infrastructure and other users receptors are considered throughout Section 16.10. Additionally, wider impacts upon navigation are fully considered within Volume 2, Chapter 14: Shipping and Navigation.

Table 16.2: Summary of SMP for Offshore Wind Energy (Scottish Government, 2020) Relevant to Infrastructure and Other Users

Summary Of Relevant Legislation	How and Where Considered in the Offshore EIA Report
General Policies	
Minimise the potential adverse effects on other marine users and economic sectors resulting from further commercial scale offshore wind development.	The potential adverse effects on other marine users are discussed in Section 16.10 of this chapter. Economic sectors are discussed in Volume 2, Chapter 18: Socio-Economic, Tourism and Recreation and Volume 3, Technical Appendix 18.1: Socio-Economic, Tourism and Recreation Baseline.
Community and Stakeholder Engagement	
Developers will be expected to undertake further and ongoing engagement with the renewables, commercial fishing, shipping, defence and aviation stakeholders. Engagement should have a particular focus on cumulative assessment, socio-economic impacts and commercial fisheries.	Other renewable projects are discussed in Section 16.12. Commercial fisheries are discussed in Volume 2, Chapter 13: Commercial Fisheries and Volume 3, Technical Appendix 13.1: Commercial Fisheries Technical Report. Shipping is discussed in Volume 2, Chapter 14: Shipping and Navigation and Volume 3, Technical Appendix 14.1: Shipping and Navigation Navigational Risk Assessment (NRA). Defence and aviation are discussed in Volume 2, Chapter 15: Aviation and Radar and Volume 3, Technical Appendix 15.1: Aviation and Radar Technical Report. Cumulative effects are discussed in Section 16.12 of this chapter and discussed further in Volume 3, Technical Appendix 4.4: Cumulative Effects Assessment - Screening and Volume 3, Technical Appendix 4.5: Transboundary Impacts - Screening.
Cumulative and In Combination Effects	
Further assessment work will be required to identify and address cumulative and in combination effects of offshore wind developments. Scheduling of work and the effects should be carefully monitored and addressed at a project level and taken into account in the iterative plan review process.	Cumulative and in combination effects of offshore wind developments are discussed in Section 16.12 of this chapter with schedules and effects at a project level addressed in Table 16.9. Further details can be found in Volume 3, Technical Appendix 4.4: Cumulative Effects Assessment - Screening and Volume 3, Technical Appendix 4.5: Transboundary Impacts - Screening.
Mitigation Measures (Scottish Government, 2025)	
Page 53 of the Draft Updated SMP for Offshore Wind Energy: Proposed mitigation measures to be implemented at project level to minimise impacts to other marine sectors include: early engagement with other sectors, ensuring sufficient cable burial depths, and utilising smaller turbines in important tourism areas.	Consultation undertaken with relevant stakeholders and marine sectors is discussed in Section 16.4. Mitigation measure proposed are described and summarised in Section 16.9.

Table 16.3: Summary of Scottish NMP (Scottish Government, 2015a) Policy Objectives Relevant to Infrastructure and Other Users

Summary of relevant policy	How and where considered in the Offshore EIA Report
Oil and Gas	
Oil and Gas Policy Objectives **1) Maximise the recovery of reserves through a focus on industry-led innovation, enhancing the skills base and supply chain growth.** **2) An industry which delivers high level risk management across all its operations and that is especially vigilant in more testing and current environments.** **3) Continued technical development of enhanced oil recovery and exploration, and the associated seismic activity carried out according to the principles of the Best Available Technique and Best Environmental Practice approach.** **4) Where possible to work with emerging sectors to transfer the experience, skills and knowledge built up in the oil and gas industry to allow other sectors to benefit and reduce their environmental impact.**	Oil and gas interests have been identified through a desktop study and are discussed in this chapter (Section 16.6).
Offshore Wind, Wave and Tidal Projects	
Offshore Wind and Marine Renewable Energy Policy Objectives **1) Sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations.** **2) Economic benefits from offshore wind, wave and tidal energy developments maximised by securing a competitive local supply chain in Scotland.** **3) Alignment of marine and terrestrial planning and efficient consenting and licensing processes including but not limited to data sharing, engagement, and timings, where possible.** **4) Aligned marine and terrestrial electricity transmission grid planning and development in Scottish waters.** **5) Contribute to achieving the renewable targets to generate electricity equivalent to 100% of Scotland's gross annual electricity consumption from renewable sources by 2020.** **6) Contribute to achieving the decarbonisation target of 50 g CO_2/kWh by 2030 (to cut carbon emissions from electricity generation by more than four - fifths).** **7) Sustainable development and expansion of test and demonstration facilities for offshore wind and marine renewable energy devices.**	Offshore wind projects and tidal projects have been identified through a desktop study and are discussed in Section 16.6.

Summary of relevant policy	How and where considered in the Offshore EIA Report
8) Coordinated government and industry wide monitoring.	
Recreation and Tourism	
Recreation and Tourism Policy Objectives **1) Position Scotland as a world class sustainable coastal and marine tourism and recreation destination through the sustainable development of coastal and marine recreation activities and industries in Scotland.** **2) Protection and enhancement of the unique, natural resources which attract visitors and which are relied upon for recreational activities.** **3) Promote diversification of the recreation and tourism sector to increase the value of assets in rural towns and exploit opportunities from future climate change.** **4) Continued and improved access to marine and coastal resources for tourism activities and recreational use.** **5) Sustainable improvement and/or development of existing or new facilities, encouraging the sharing of facilities and supporting infrastructure and the use of low carbon energy solutions.** **6) Improved data on marine and coastal recreational activities, including key recreation resources and access points, enabling better targeted and long term planning for these activities.** **7) Participation in a range of waterborne recreational activities that support participation and sport development, encourage an appreciation of the environment in which they take place, contribute to life skills and support a healthier nation and increase economic benefit.** **8) Improved education and understanding of the marine environment for recreational users, including how to enjoy the resource responsibly in accordance with the Marine Wildlife Watching Code and the Scottish Outdoor Access Code.**	Recreation and Tourism activities have been characterised in Section 16.6, and relevant impacts upon recreational receptors have been assessed in Section 16.10 and Section 16.12.
Submarine Cables	
Submarine Cable Policy Objectives **1) Protect submarine cables whilst achieving successful seabed user co - existence.** **2) Achieve the highest possible quality and safety standards and reduce risks to all seabed users and the marine environment.** **3) Support the development of a Digital Fibre Network, connecting Scotland's rural**	Submarine cables have been identified through desktop study and are discussed in Section 16.6, and included in the impact assessment in Section 16.10.

Summary of relevant policy	How and where considered in the Offshore EIA Report
and island communities and contributing to world -class connectivity across Scotland. 4) Safeguard and promote the global communications network. 5) Support the generation, distribution and optimisation of electricity from traditional and renewable sources to Scotland, UK and beyond.	

Table 16.4 Summary of UK MPS (HM Government, 2011) Relevant to Infrastructure and Other Users

Summary of relevant policy	How and where considered in the Offshore EIA Report
General Policies	
2.3.2.1 When considering potential benefits and impacts of proposals, decision makers should take into account any multiple and cumulative impacts of proposals, in the light of other projects and activities.	Cumulative effects are discussed in Section 16.12 of this chapter.
Box 1: The high level marine objectives There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets and recognition that for some island and peripheral communities the sea plays a significant role in their community.	Other marine users are discussed throughout this chapter.

Table 16.5 Summary of Initial Plan Framework SMP for Offshore Wind Energy for INTOG (Scottish Government, 2022) Relevant to Infrastructure and Other Users

Summary of relevant policy	How and where considered in the Offshore EIA Report
General Policies	
3.2 Minimise the potential adverse effects on other marine users, economic sectors and the environment resulting from further offshore wind development.	The potential adverse effects on other marine users are discussed in Section 16.10 of this chapter. Economic sectors are discussed in Volume 2, Chapter 18: Socio-Economic, Tourism and Recreation and Volume 3, Technical Appendix 18.1: Socio-Economic, Tourism and Recreation Technical Report. The potential adverse effects on the environment are discussed in several disciplines of the EIA including Volume 2, Chapter 22: Climatic Change.

16.4 Consultation

16.4.1 The approach to consultation for the Proposed Development is set out in Volume 1, Chapter 5: Consultation and Engagement. A summary of the issues raised during consultation activities undertaken to date specific to infrastructure and other users is presented in Table 16.6, together with how these issues have been considered in the production of this assessment. Further detail is presented within Volume 1, Chapter 5: Consultation and Engagement, Volume 3, Technical Appendix 5.1: Consultation Log and Volume 3, Technical Appendix 5.2: Pre-Application Consultation Report.

Table 16.6: Summary of key consultation issues raised during consultation activities undertaken for the Proposed Development relevant to Infrastructure and Other Users

Date	Consultee and Type of Consultation	Summary of Issue(s) Raised	Response to Issue Raised and/or Where Considered in this Chapter
Bowdun OWF Scoping Opinion (MD-LOT, 2024)			
16/09/2024	British Telecommunications (BT) (2024 Bowdun Offshore Wind Farm (OWF) Scoping Opinion – Scoping Response)	BT stated that "*We have studied the proposed windfarm development with respect to EMC and related problems to BT point-to-point microwave radio links. The conclusion is that, the project indicated should not cause interference to BT's current and presently planned radio network.*"	The Applicant notes this response.
02/10/2024	Royal Yachting Association (RYA) (2024 Bowdun OWF Scoping Opinion – Scoping Response)	RYA Scotland stated that "*As pointed out rather few recreational craft are likely to pass through the wind farm but some certainly will and this may be in adverse weather... An additional risk is the failure of Aids to Navigation, particularly on metocean buoys and other hazards. There have been more than a few cases where lights or AIS transmissions have failed... mitigation might include the use of virtual AtoNs.*"	The Applicant notes this response.
10/10/2024	Joint Radio Company (JRC) Scoping Representation (2024 Bowdun OWF Scoping Opinion – Scoping Response)	The JRC stated that, "*In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal. It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.*"	The Applicant notes JRC's comments raised from the Scoping Opinion and will continue to engage in addition to providing an indicative Wind Turbine layout.

Date	Consultee and Type of Consultation	Summary of Issue(s) Raised	Response to Issue Raised and/or Where Considered in this Chapter
25/11/2024	MD-LOT (2024 Bowdun OWF Scoping Opinion)	The Scottish Ministers stated that they are "*broadly content with this approach and the study areas as detailed.... are also broadly content with the data sources used by the Developer and with the baseline characterisation provided*." Additionally, the Scottish Minsters are content with those impacts scoped in and out of the assessment and the approach to the cumulative assessment.	The Applicant acknowledges this response and notes that the study areas and the impacts scoped in and out of the assessment remain unchanged. Furthermore, the assessment of effects, including cumulative effects, has been carried out in accordance with the methodology outlined in Volume 1, Chapter 4: Environmental Impact Assessment Methodology.
		The Scottish Ministers, "*are in agreement with, and refer the Developer to, the representations from UKCoS and MCA in which the need to consider the potential interactions between the Proposed Development and the other existing or planned offshore projects in the region... advise that the EIA should evaluate cumulative impacts on shipping and navigation, ensuring that vessel routes remain unobstructed and navigational risks are minimised*."	The Applicant acknowledges this response, and notes that the consideration of existing and planned offshore projects in the region is characterised in Section 16.6 of this Chapter, and assessed in Section 16.10. Additionally, the Applicant notes that all impacts upon shipping and navigation are discussed and assessed in Volume 2, Chapter 14: Shipping and Navigation.
08/10/2025	JRC Email correspondence	The JRC stated that "*This proposal is cleared within the parameters provided - with respect to radio link infrastructure operated by the local energy networks.* *JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.* *In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.* *In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately*	The Applicant notes JRC's response and welcomes the scoping out of offshore microwave links.

Date	Consultee and Type of Consultation	Summary of Issue(s) Raised	Response to Issue Raised and/or Where Considered in this Chapter
		predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted. *It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.*"	

16.5 Data Sources

16.5.1 Key literature sources have been reviewed and analysed to inform this infrastructure and other users baseline. In addition, consultation with stakeholders has been undertaken to aid the collection of baseline information.

Desktop Study

16.5.2 Information on infrastructure and other users within the Infrastructure and Other Users Study Areas was collected through a detailed desktop review of existing studies and datasets which are summarised in Table 16.7.

Table 16.7: Summary of Key Data Sources

Title	Source	Extent	Year	Author
Offshore renewable and cable awareness	Kingfisher Information Service – Offshore Renewable & Cable Awareness project (KIS-ORCA)	2025	2025	KIS-ORCA
Webmap Service – Offshore oil and gas activity	North Sea Transition Authority (NSTA)	2025	2025	NSTA
Communication Links	Via email correspondence with JRC (see Table 16.6)	2024/2025	2024/2025	JRC
Webmap service – Offshore Wind Farm	4C Offshore	2024	2024	4C Offshore
Webmap Service – Various layers	National Marine Plan interactive (NMPi)	2024	2024	NMPi
UK Coastal Atlas of Recreational Boating	RYA	2019	2019a	RYA
Scottish Marine Recreation and Tourism Survey	Scottish Government	2015	2015	Marine Directorate (MD)
Scotland's National Marine Plan	Scottish Government	2015	2015	Scottish Government

Site-Specific Surveys

16.5.3 Receptor information and data related to this topic has primarily been obtained through desktop study and data provided through stakeholder consultation. In addition to this, information from two seasonally representative 14-day Vessel Traffic Surveys (VTS) conducted at the Bowdun Array in July 2023 and January 2024 and two top-up surveys in July and December 2025, to inform Volume 2, Chapter 14: Shipping and Navigation has been incorporated where relevant.

16.5.4 Additional data and modelling studies are not considered to be required to characterise the infrastructure and other users baseline.

16.6 Baseline Environment

Overview of Baseline Environment

16.6.1 The following sections provide an overview of the infrastructure and other users baseline environment. This includes recreational boating (including sailing and motor cruising), recreational fishing, other recreational activities, offshore energy projects, offshore cables and pipelines, and oil and gas activities within the Infrastructure and Other Users Study Areas.

16.6.2 As described in Paragraph 16.2.3, marine aggregate extraction and disposal sites, CCS projects, REWS and SCUBA Diving have been scoped out of the assessment as these receptors are not present within the Infrastructure and Other Users Study Area, and there is therefore no pathway of impact. A brief consideration of these receptors has been included within this section alongside a justification for scoping out where necessary.

Ports, Harbours and Marinas

16.6.3 The nearest major port to the Array Area is Aberdeen Port, located approximately 40.63 km (21.94 nm) to the north-west of the Array Area boundary, as illustrated in Figure 16.2. Additionally, Montrose is categorised as a minor port and is located approximately 65.55 km (35.39 nm) from the Array Area.

16.6.4 The Export Cable Corridor makes Landfall between Aberdeen and Montrose, and there are four harbours along this stretch of coastline: Stonehaven harbour, Catterline Pier, Gourdon harbour and Johnshaven harbour.

16.6.5 Stonehaven, Gourdon and Johnshaven harbours are all listed on the Aberdeenshire Council website as recreational harbours, with updated contact information available to prospective users (Aberdeenshire Council, 2025). Stonehaven is cited as the largest recreational harbour in Aberdeenshire, with around 140 moorings. While there used to be a fish market, the harbour primarily serves recreational users, and only several 50-foot fishing boats remain (Aberdeenshire Council, 2025).

16.6.6 Catterline harbour and pier was historically important for the fishing industry in the 1960's, however, contemporary use is minor and includes leisure craft and water sports only (Catterline Online, 2024).

16.6.7 Additional information relating to harbours in the vicinity of the Proposed Development is presented in Volume 2, Chapter 14: Shipping and Navigation.

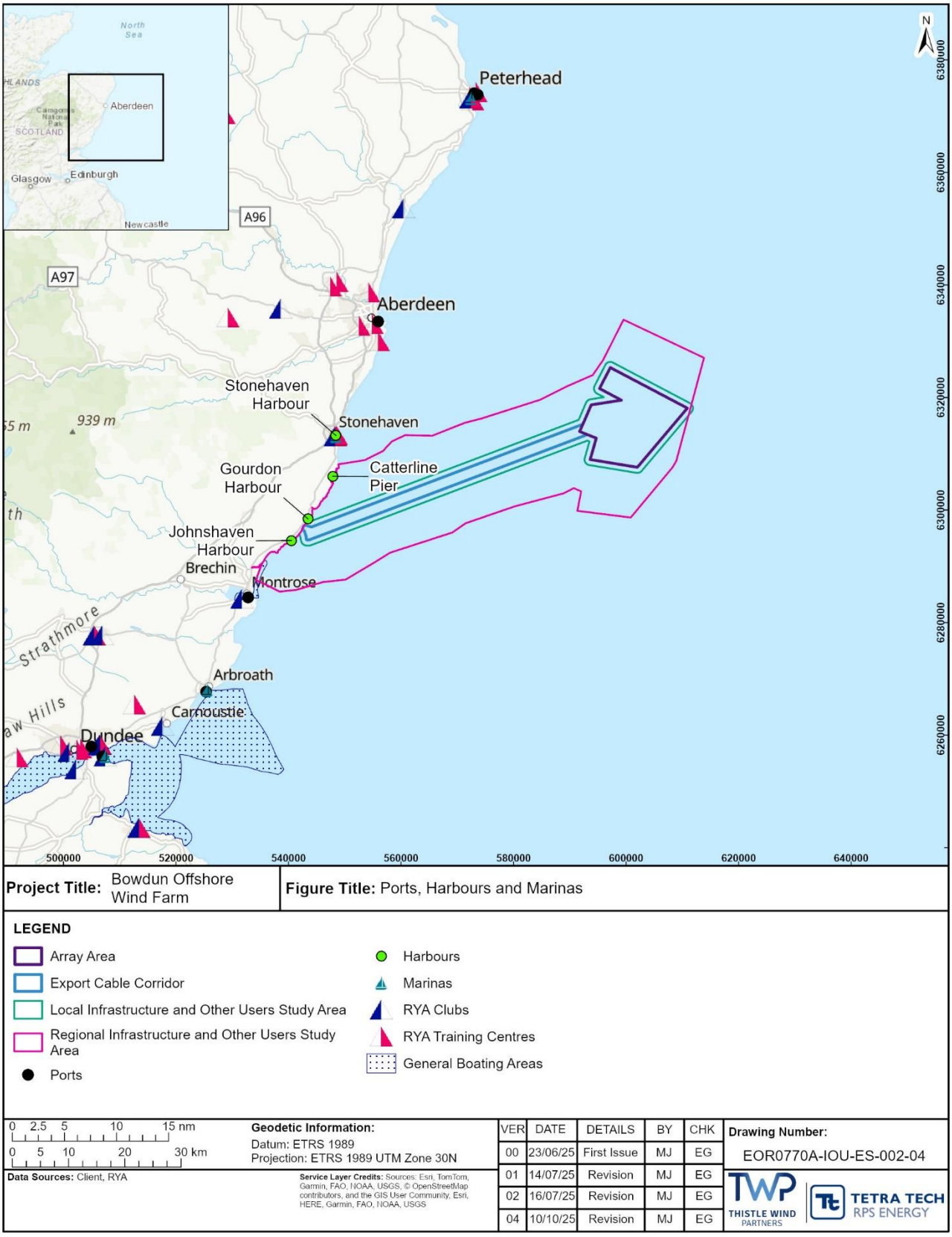

Figure 16.2: Ports, Harbour and Marinas in the Vicinity of the Infrastructure and Other Users Study Areas

Recreational Sailing, Boating and Motor Cruising

16.6.8 This section provides an overview of the recreational sailing, boating and motor cruising within the vicinity of the Proposed Development (Figure 16.2 and Figure 16.3). It should be noted that recreational sailing and motor cruising are considered in Volume 3, Technical Appendix 14.1: Shipping and Navigation Navigational Risk Assessment as a specific vessel size category, and this infrastructure and other users chapter considers receptors undertaking recreational sailing, boating and motor cruising as an activity only.

16.6.9 There exists a high degree of engagement between Scottish residents and the marine environment, with 89% of the Scottish public surveyed stating they have visited the Scottish coast in the past year (MD, 2020). Marine tourism is a key sector for Scotland, generating £594 million Gross Value Added and 28,300 jobs in 2017 (Marine Scotland, 2020). In a 2015 survey of 279 businesses involved in marine recreation and tourism, general recreation, sailing and other forms of boating was reported as the second largest category that the businesses serve (MD, 2015).

16.6.10 General boating areas are used for general day to day use by all recreational boating users, including sailboards, dinghies, watercraft and small cruisers. General boating areas include general sailing areas, sailing schools, sailing clubs and racing areas (Figure 16.2). Recreational activity can be haphazard, with activities subject to weather conditions and generally does not involve point-to-point passage as seen with larger commercial vessels (RYA, 2005). Cruising activities may involve day excursions launching from local ports and often includes a return journey to the home port on the same day. In general, recreational boating is highly seasonal, with a greater density of vessels found throughout the summer months, as well as highly diurnal, with boating activities usually occurring during the daytime (RYA, 2005).

16.6.11 Sailing tourism in Scotland is worth £130 million and supports 2,700 jobs across Scotland's four main sailing areas, the Clyde, west, north and east coasts (EKOS Limited, 2016). RYA Scotland is a membership organisation that provide facilities to members of the public, clubs and teams to learn to sail, gain experience and obtain sailing qualifications across their 180 recognised training centres in Scotland (RYA, 2021). Inshore sailing is predominantly undertaken by small recreational vessels including dinghies for either racing or cruising at leisure. Offshore sailing is usually in the form of organised offshore racing or cruising at leisure and is undertaken by yachts. RYA offers various types of sailing experiences in Scotland, including racing, sail cruising and powerboating (RYA, 2023). The sailing season typically occurs between May and August, reaching its highest level of activity in July. Aberdeen and Stonehaven Yacht Club (ASYC) runs a sailing program which includes competitive and non-competitive sailing from March to May at an inland location called Loch Skene, and from June onwards, at Stonehaven. Racing takes place on Sunday's at 2pm, Wednesday evenings, and Tuesday evenings for novices. Sailing and racing takes place near to the coast in small dinghy fleet classes, including Blazes, Lasers, RS200s and RS400s among others (ASYC, 2025).

16.6.12 Racing areas are generally used at weekends and during holiday periods by sailing, boating and motor cruising users. These areas are under the control of nearby sailing clubs and often contain temporary or permanent marker buoys. Racing routes are frequently established on the day of the event and must adhere to customised racing guidelines, while still complying with conventional collision regulations when competing vessels are involved (RYA, 2005). Further details about these collision regulations can be found in Volume 2, Chapter 14: Shipping and Navigation including Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) and International Convention for the Safety of Life at Sea (SOLAS). Racing areas are only located in coastal regions, a significant distance from the Array Area. However, there is the potential for racing activities to extend into the Local Infrastructure and Other Users Study Area at Landfall. The ASYC annual Catterline Race runs along the coastline from Stonehaven to Catterline in the second half of August.

16.6.13 Automatic Identification System (AIS) data for recreational craft identifies vessels transiting predominantly in a parallel direction to the Scottish coastline, in inshore regions (Figure 16.3). Not all small recreational craft vessels will have AIS fitted onboard as it is not a requirement but do so voluntarily for safety purposes. Based on the AIS data available, the majority of vessel tracks to the west of the Array Area depart or arrive at the major harbours of Peterhead, Aberdeen or Arbroath. Vessel tracks are found to intersect the Regional Infrastructure and Other Users Study Area closer to the shoreline.

16.6.14 Two 14-day AIS, Radar and visual observation VTS were undertaken to inform the NRA for the Proposed Development, with two additional 14-day summer and winter top-up VTS. The dataset from each VTS was supplemented with AIS collected from alternate AIS receivers to ensure optimal coverage. Data has been extracted from the VTS reports to inform the recreational vessel activity within a 10 nm buffer survey area around the Array Area. A total of six recreational vessel transits were recorded during 2023, and 81 in 2025. All recreational vessels were recorded only during the summer survey period.

16.6.15 Additional information related to recreational sailing, boating and motor cruising is presented in Volume 2, Chapter 14: Shipping and Navigation.

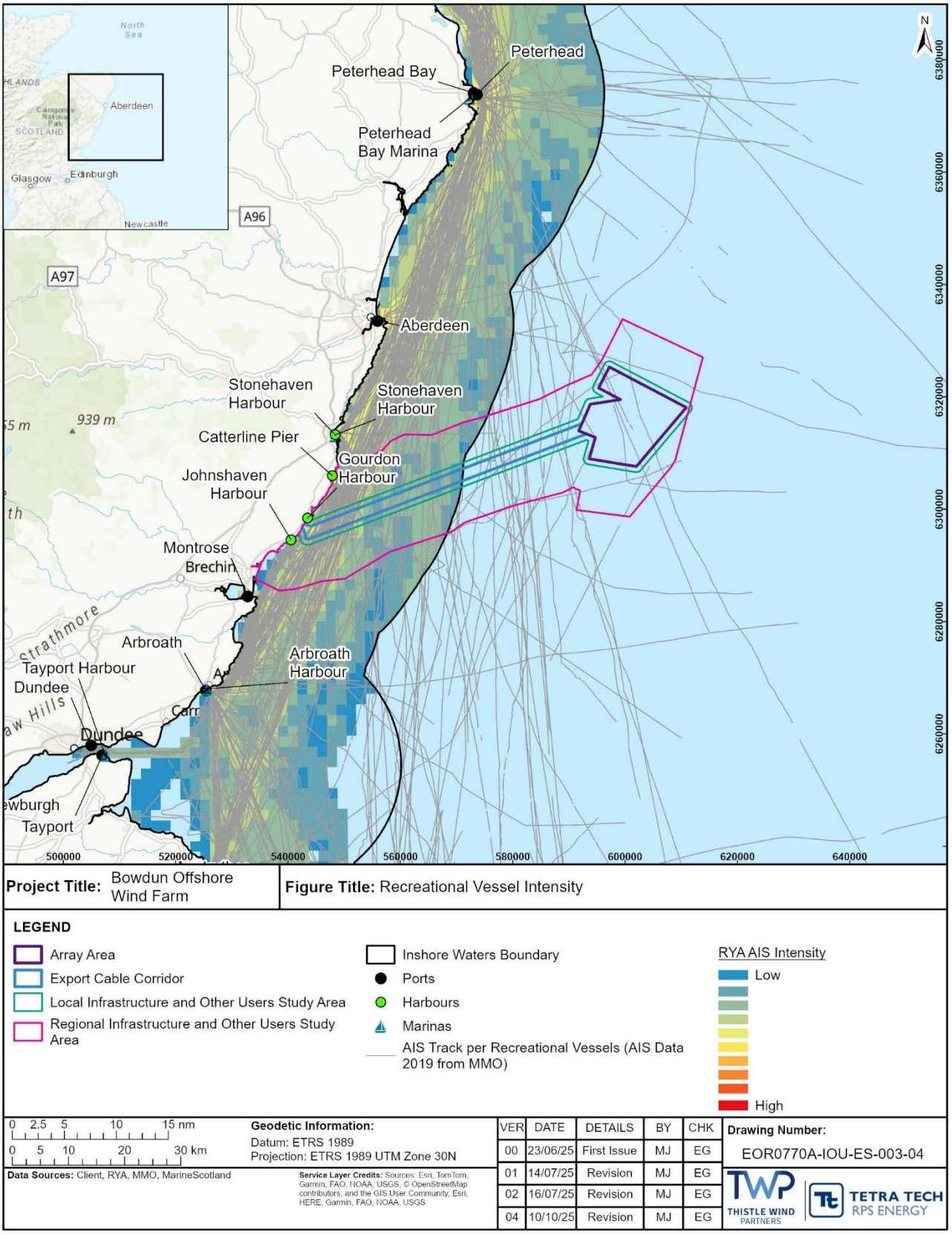

Figure 16.3: Recreational Vessel Intensity in the Vicinity of the Infrastructure and Other Users Study Areas

Recreational Fishing

16.6.16 This section provides an overview of recreational fishing activity within and around the Local Infrastructure and Other Users Study Area (i.e. fishing for pleasure rather than commercial reasons). It should be noted that recreational fishing vessels are considered in Volume 3, Technical Appendix 14.1: Shipping and Navigation Navigational Risk Assessment as a specific vessel size category, and this infrastructure and other users chapter considers receptors undertaking recreational fishing as an activity only.

16.6.17 Recreational sea angling occurs along most regions of the Scottish coastline and generates an estimated £140.9 million for the Scottish economy whilst supporting over 3,000 full time equivalent jobs (Scottish Government, 2015b). A wide range of species are targeted during recreational sea angling and can include cod *Gadus morhua*, tope *Galeothinus galeus*, bass *Dicentrarchus labrax*, pollock *Pollachius pollachius*, rays *Raja sp.*, mackerel *Scomber scombrus*, spurdog *Squalus acanthias*, Atlantic salmon *Salmo salar* and sea trout *Salmo trutta* (NMPi, 2024).

16.6.18 Sea angling from a private or chartered boat within the Local Infrastructure and Other Users Study Area is low, as illustrated in Figure 16.4. However, south of Montrose, the inshore waters are an area of high sea angling activity (MD, 2015).

16.6.19 Sea angling from the shore is relatively popular, and there is a high level of activity within the Local Infrastructure and Other Users Study Area close to the shoreline, as seen in Figure 16.4 (MD, 2015).

16.6.20 Crawton rocks south of Stonehaven, located 36.6 m (0.02 nm) from the Local Infrastructure and Other Users Study Area is a notable location for angling in both summer and winter months, with main target species of cod, wrasse *Labridae* and pollock (SeaAngler, 2021), and is located very close to the Local Infrastructure and Other Users Study Area. More generally, the beaches at Montrose are noted as good locations to catch flatfish, dab *Limanda limanda* and bass (British Sea Fishing, 2025).

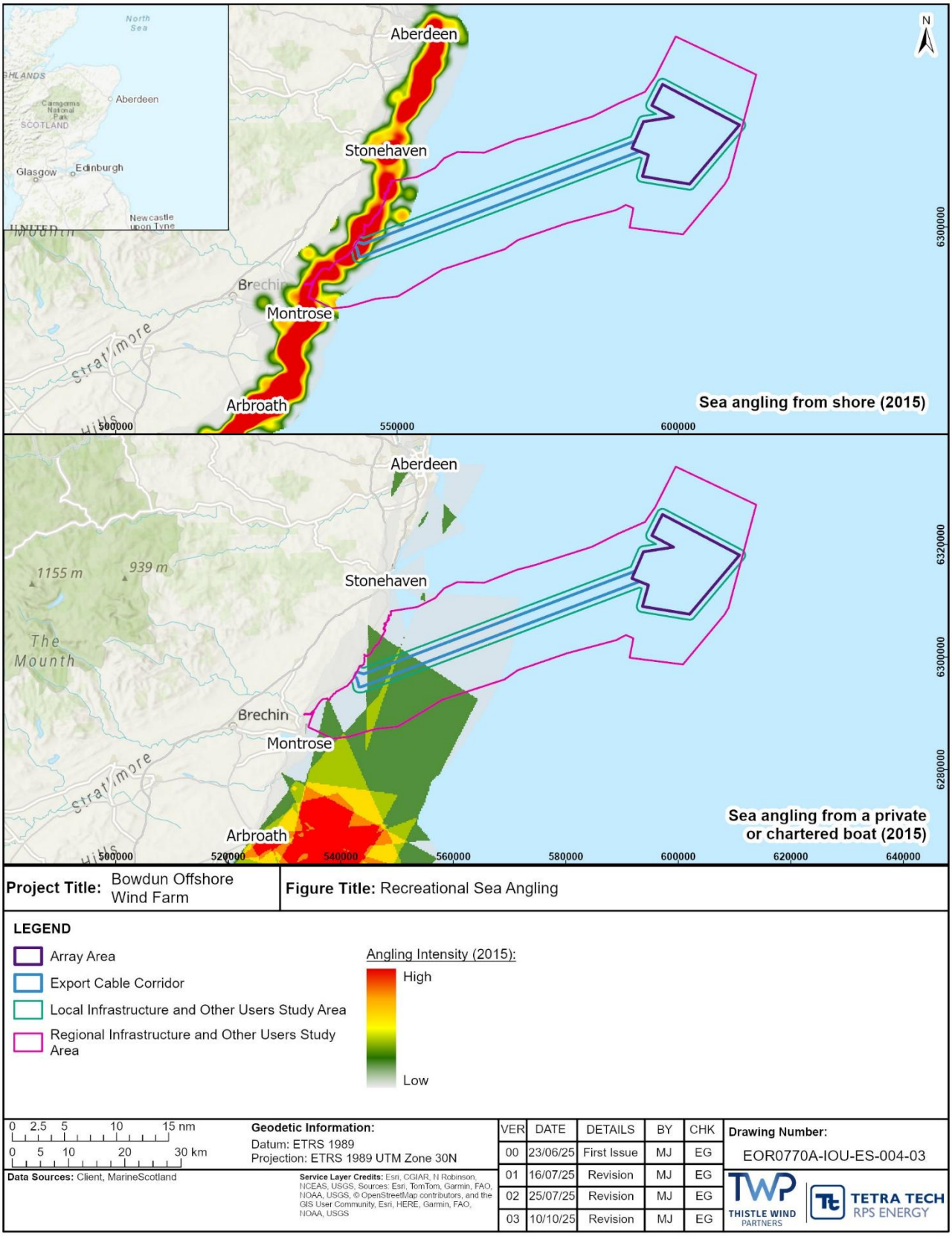

Figure 16.4: Recreational Fishing in the Vicinity of the Infrastructure and Other Users Study Areas

Other Recreational Activities

16.6.21 According to the British Marine Federation, the marine leisure industry, including waterborne recreational pursuits, supports nearly 1,800 full time equivalent jobs in Scotland (Scottish Government, 2015b). It is noted that the marine leisure industry is supported by a solid local market with contribution to the rural economy, specifically along the west coast of Scotland (Scottish Government, 2015b).

Beach Users and Bathing Waters

16.6.22 There are 87 designated and former bathing waters located in waters surrounding Scotland according to 2024 Scottish Government findings (Scottish Government, 2024). Scottish ministers determine the length of the bathing season and designate bathing waters where they expect large numbers of people to bathe. These areas are given special protection to ensure they are safe for people to swim in during the bathing season, which typically runs from 01 June to 15 September (Scottish Government, 2024). The closest designated bathing water to the Export Cable Corridor is located at Montrose, approximately 14 km south of the proposed Landfall site. There are also designated bathing water sites at Stonehaven and Aberdeen.

16.6.23 The Export Cable Corridor and the proposed Landfall location are in the vicinity of Haughs Bay, Montrose Cove, and St Cyrus Beach which may be frequented by coastal users for walking or coastal recreation; however, none overlap with the Local Infrastructure and Other Users Study Area.

16.6.24 St Cyrus Beach is three miles long and located just north of Montrose and is part of St Cyrus National Nature Reserve (NNR). The NNR is advertised as a place to spot wildlife, particularly butterflies, and there are extensive recreational facilities, including a car park and visitor centre (Visit Scotland, 2025).

Water Sports and Diving

16.6.25 As illustrated in Figure 16.5, there are no water sports activities identified within the Array Area. However, there are surfing, kayaking and paddleboarding activities taking place along the coastline and in close proximity to the Export Cable Corridor, with the highest levels of activity found around Aberdeen to the north of the proposed Landfall location. There is no coastal climbing, bouldering or coasteering within either the Local or Regional Infrastructure and Other Users Study Areas, though high levels of these activities take place near to Aberdeen. Coastal climbing, bouldering and coasteering activities are therefore not considered further within this assessment.

16.6.26 Diving activity has been recorded within the Regional Infrastructure and Other Users Study Area close to shore (Figure 16.5). DiveMap UK, an interactive resource for UK diver's highlights three recreational diving sites around Catterline, in proximity to the proposed Landfall location within the Regional Infrastructure and Other Users Study Area. These sites are: Crawton Reef and the Granero (wreck), Catterline Island, and Tod Head Lighthouse, located 11.9 km (6.43 nm), 10.3 km (5.56 nm), and 9.4 km (5.08 nm) from the proposed Landfall respectively (Dive Map UK, 2025). In addition, the Baku Standard wreck

is located 5.4 km (2.92 nm) from the proposed Landfall within the Regional Infrastructure and Other Users Study Area, however, this wreck is rarely dived (GoodDive, 2025) and these dive sites are not officially listed on the Professional Association of Diving Instructors (PADI) or UK Diving websites, and as such are assumed to be visited on an ad-hoc basis, rather than as designated sites. Therefore, recreational diving has been scoped out of the assessment on the basis that there is not a sufficient intensity of activity upon which an impact could occur.

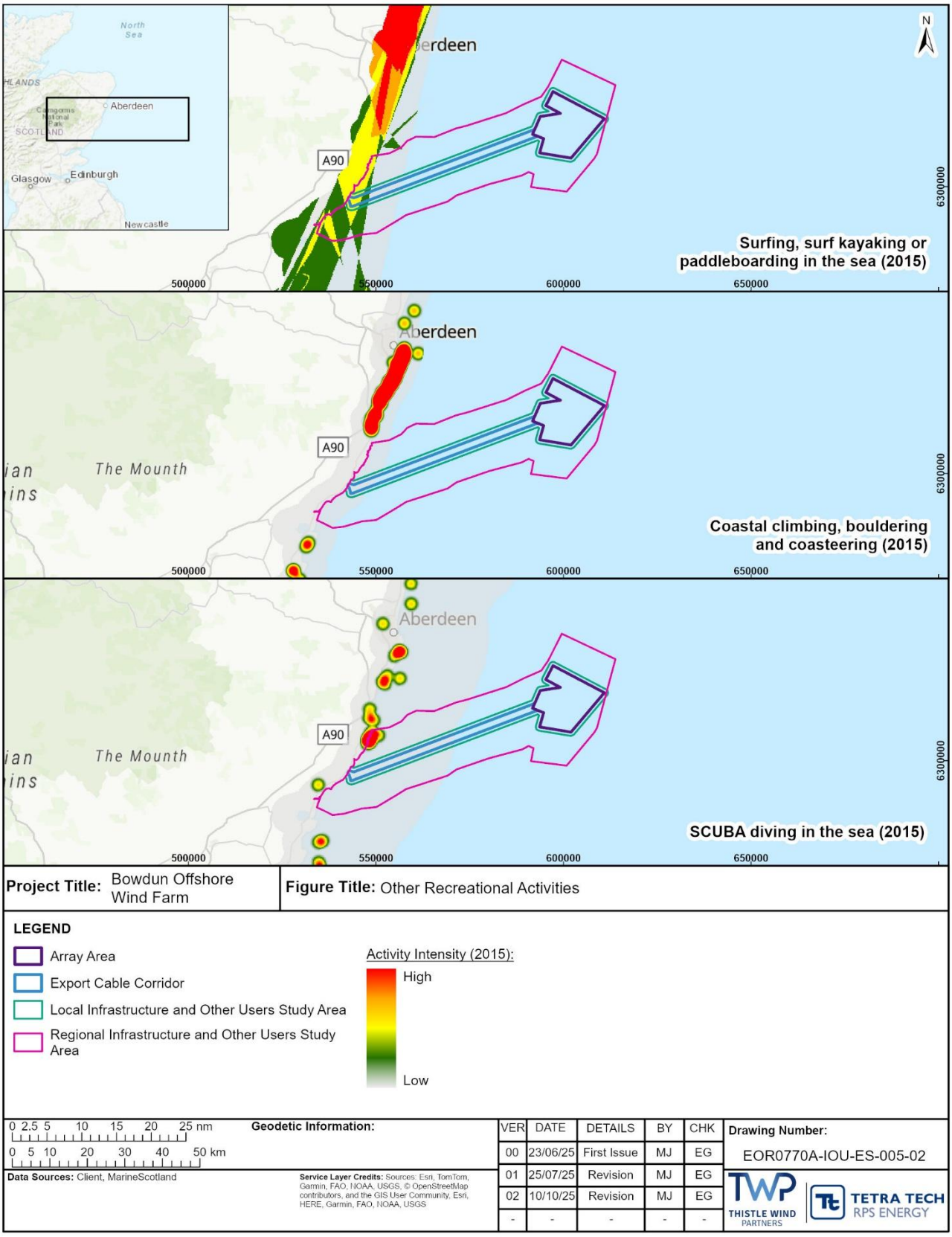

Figure 16.5: Other Recreational Activities in the Vicinity of the Infrastructure and Other Users Study Area

Offshore Renewable Energy Projects

Offshore Wind

16.6.27 There are a number of OWF projects in close proximity to the Local Infrastructure and Other Users Study Area (Figure 16.6). Table 16.8 and Figure 16.6 detail the OWF projects located within the broader marine environment around the Local Infrastructure and Other Users Study Area, defined as 100 km for illustration purposes. The nearest operational OWF is Kincardine OWF, located 20.14 km (10.87 nm) to the west of the Proposed Array Area. Figure 16.6 also shows additional wind farm projects located further than 100 km but are still in vicinity to the Array Area and should be considered as part of the baseline environment. MarramWind, Caledonia OWF, Forthwind and Methil Demo have been included with their distances at 112.04 km (60.49 nm), 121.35 km (65.52 nm), 126.27 km (68.18 nm) and 126.29 km (68.19 nm), respectively (4C Offshore, 2024).

16.6.28 The nearest at the pre-planning stage is Morven North OWF located 10.03 km (5.42 nm) to the south-east of the Proposed Development and outside of both the Local and Regional Infrastructure and Other Users Study Areas. The nearest OWF in planning is Ossian OWF, located 25.36 km (13.69 nm) from the Array Area outside of the Local and Regional Infrastructure and Other Users Study Areas (4C Offshore, 2024).

Table 16.8: Offshore Wind Energy Projects within 100km from the Array Area

Project Name	Distance from Array Area to the Array Area of each OWF (km)	Project Details	Reference
Operational			
Aberdeen OWF	38.60 (20.84 nm)	Aberdeen Offshore Wind Farm consists of up to 11 turbines at a capacity of 96.8 MW.	Vattenfall, 2025
Hywind Scotland Wind Farm (Buchan Deep Demo)	44.43 (23.99 nm)	Floating offshore wind farm with 5 Wind Turbines and 30 MW installed capacity. The wind farm started operating in 2017 with a design life of 20 years. Decommissioning is planned to be undertaken during Q2/Q3 2038.	Equinor, 2025
Kircardine Offshore Wind Farm	20.14 (10.87 nm)	Kincardine OWF is consented for up to 7 Wind Turbines, with 6 currently operational, at a capacity of 50 MW.	Principle Power, 2025
Neart Na Gaoithe Offshore Wind	80.49 (43.46 nm)	Neart na Gaoith Offshore Wind Farm is consented for up to 54 Wind Turbines with a capacity of 450 MW. 2 export cables with 220 kV	EDF Renewables, 2025

Project Name	Distance from Array Area to the Array Area of each OWF (km)	Project Details	Reference
		capacity to landfall location at Thorntonloch Beach on the East Lothian coast.	
Seagreen 1 OWF	27.87 (15.05 nm)	Seagreen 1 Offshore Wind Farm consists of up to 114 Wind Turbines at a capacity of 1,075 MW and up to 6 export cables with no maximum capacity. Seagreen was consented with permission to install 150 Wind Turbines. The remaining 36 Wind Turbines are consented but not yet constructed (Seagreen 1A project).	SSE Renewables, 2025a
Under Construction			
Inch Cape OWF	56.03 (30.25 nm)	Inch Cape Offshore Wind Farm is consented for up to 72 Wind Turbines at a capacity of 1,100 MW and 2 export cables with a capacity of 220 kV approximately 85 km in length between the landfall point at Cockenzie in East Lothian and the development area.	Inch Cape Offshore Limited, 2025
Consented			
Green Volt OWF (INTOG Site 6 Flotation Energy)	92.16 (49.76 nm)	Green Volt Offshore Wind Farm is proposed for up to 35 Wind Turbines at a capacity of 560 MW.	Green Volt Windfarm, 2025
Seagreen 1A OWF	36.30 (19.60 nm)	Seagreen 1A is made up of the 36 remaining Wind Turbines consented as part of the Seagreen 1 Offshore Wind Farm. Consent includes an export cable approximately 110 km in length to a landfall location at Cockenzie.	SSE Renewables, 2025a
Berwick Bank Wind Farm	46.53 (25.12 nm)	Berwick Bank Offshore Wind Farm is proposed for up to 307 Wind Turbines with a capacity of up to 4,100 MW.	SSE Renewables, 2025b
Salamander OWF	58.68 (31.68 nm)	Salamander Offshore Wind Farm is proposed for up to 100 MW.	Simply Blue Group, 2025

Project Name	Distance from Array Area to the Array Area of each OWF (km)	Project Details	Reference
In Planning			
Aspen	88.37 (47.71 nm)	Floating offshore wind farm proposed for up to 1,000 MW and up to 72 Wind Turbines.	Cerulean Winds, 2025
Muir Mhòr OWF	52.50 (28.35 nm)	Muir Mhòr Offshore Wind Farm is proposed for up to 67 Wind Turbines at a capacity of 798 MW.	Olsen Seawind and Vattenfall, 2025
Ossian OWF	25.36 (13.69 nm)	The Ossian Floating Wind project is proposed for up to 265 floating Wind Turbines with a capacity of 3,600 MW.	SSE Renewables, 2025c
Pre-Planning			
Morven North OWF	10.03 (5.42 nm)	Morven North Offshore Wind Farm is proposed for up to 96 Wind Turbines at a capacity of 1,500 MW.	EnBW and BP, 2025
Morven South OWF	43.61 (23.55 nm)	Morven South Offshore Wind Farm is proposed for up to 95 Wind Turbines at a capacity of 1,500 MW.	EnBW and BP, 2025
Flora Floating Wind Farm	46.83 (25.28 nm)	INTOG site 4 is proposed for up to 50 MW.	JERA and BP, 2025
Bellrock OWF	62.23 (33.60 nm)	Bellrock Offshore Wind Farm is proposed for a capacity of 1,800 MW with between 42 and 80 Wind Turbines.	BlueFloat Energy, 2025

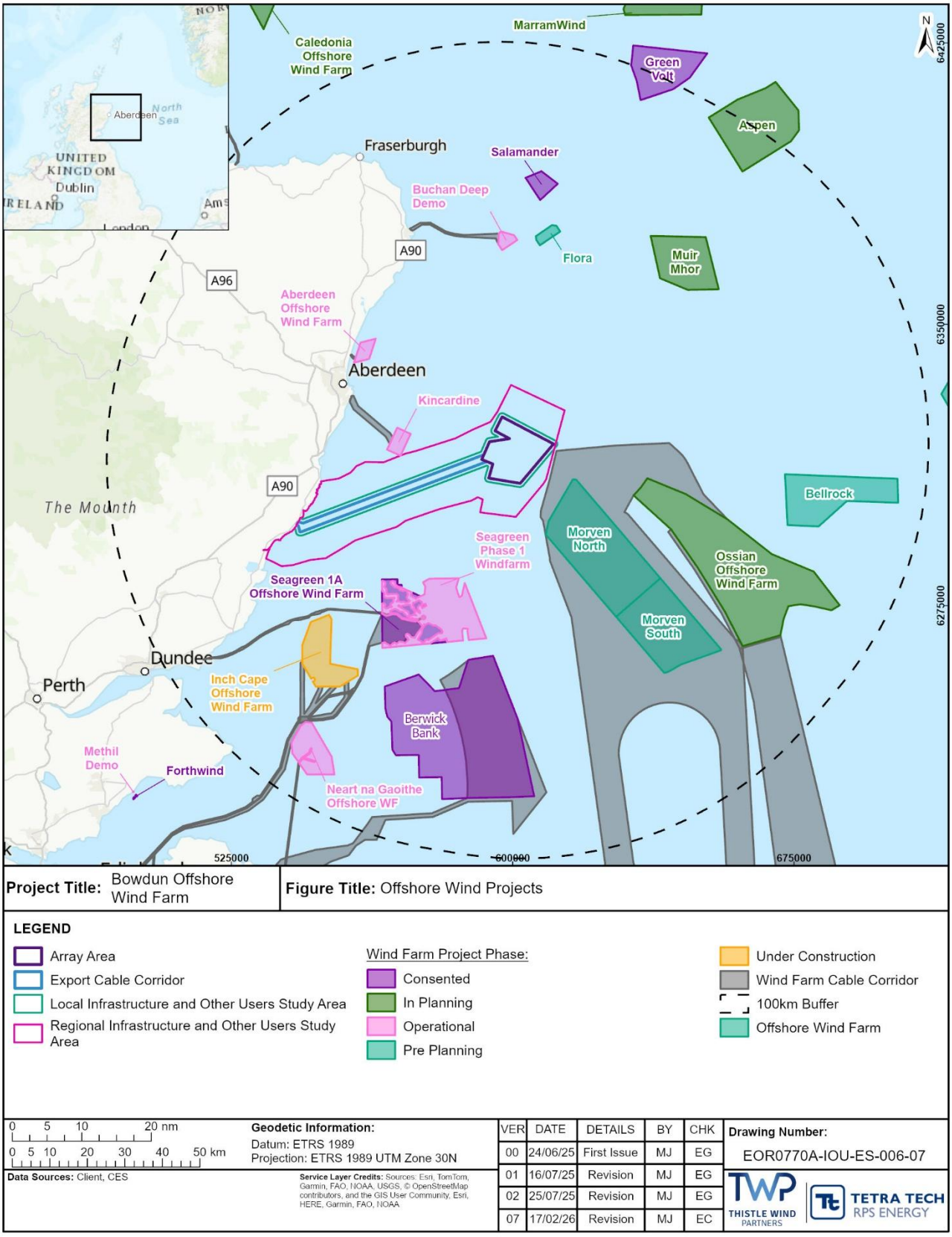

Figure 16.6: Offshore Wind Farms in the Vicinity of the Infrastructure and Other Users Study Areas

Wave and Tidal

16.6.29 There are no wave or tidal renewable energy projects within the Local or Regional Infrastructure and Other Users Study Area. The nearest wave or tidal project is located in excess of 200 km (107.99 nm) from the Array Area; therefore, these projects have not been considered further within this assessment.

Offshore Oil and Gas Activities

16.6.30 Licences for the exploration and extraction of oil and gas on the United Kingdom Continental Shelf (UKCS) have been offered since 1964 and are granted by the NSTA (formally the Oil and Gas Authority (OGA)). These licences are granted for identified geographical United Kingdom Hydrographic Office (UKHO) areas (blocks and part-blocks) in consecutive rounds.

16.6.31 There are no active hydrocarbon licence blocks which overlap with the Local Infrastructure and Other Users Study Area, as seen in Figure 16.7. The closest active licensed hydrocarbon blocks are Block 20/28 and Block 27/3a operated by North Sea Natural Resources Limited located approximately 34.84 km (18.81 nm) and 34.83 km (18.80 nm) east of the Array Area.

16.6.32 There is one decommissioned well located within the Local Infrastructure and Other Users Study Area, specifically within the Array Area. This is well top hole 26/04-1 owned by Shell UK Limited originally licensed for exploration, and has been decommissioned since 2005 (NSTA, 2025a).

16.6.33 Figure 16.8 illustrates historical hydrocarbon licence blocks, highlighting the Array Area and much of the Export Cable Corridor have been actively licensed in the past. The licences on all of these blocks have been surrendered with block end dates listed as 1986 or 2016 (NSTA, 2025a).

16.6.34 In October 2022, the NSTA launched the 33rd UK Offshore Licensing Round with 931 blocks or part-blocks on offer across the main producing areas of UKCS. The closest block on offer in the 33rd UK Offshore Licensing Round to the Proposed Development is Block 20/28 located approximately 34.84 km (18.81 nm) east of Array Area (Figure 16.8).

16.6.35 The following services are associated with the oil and gas industry:

- helicopters: the oil and gas industry rely on helicopters for personnel transfer and emergency evacuation. Helicopter and associated aviation considerations are addressed separately in Volume 2, Chapter 15: Aviation and Radar; and
- vessels: the oil and gas industry require supply or support vessels for its operations. Vessels and associated navigational considerations are addressed separately in Volume 2, Chapter 14: Shipping and Navigation.

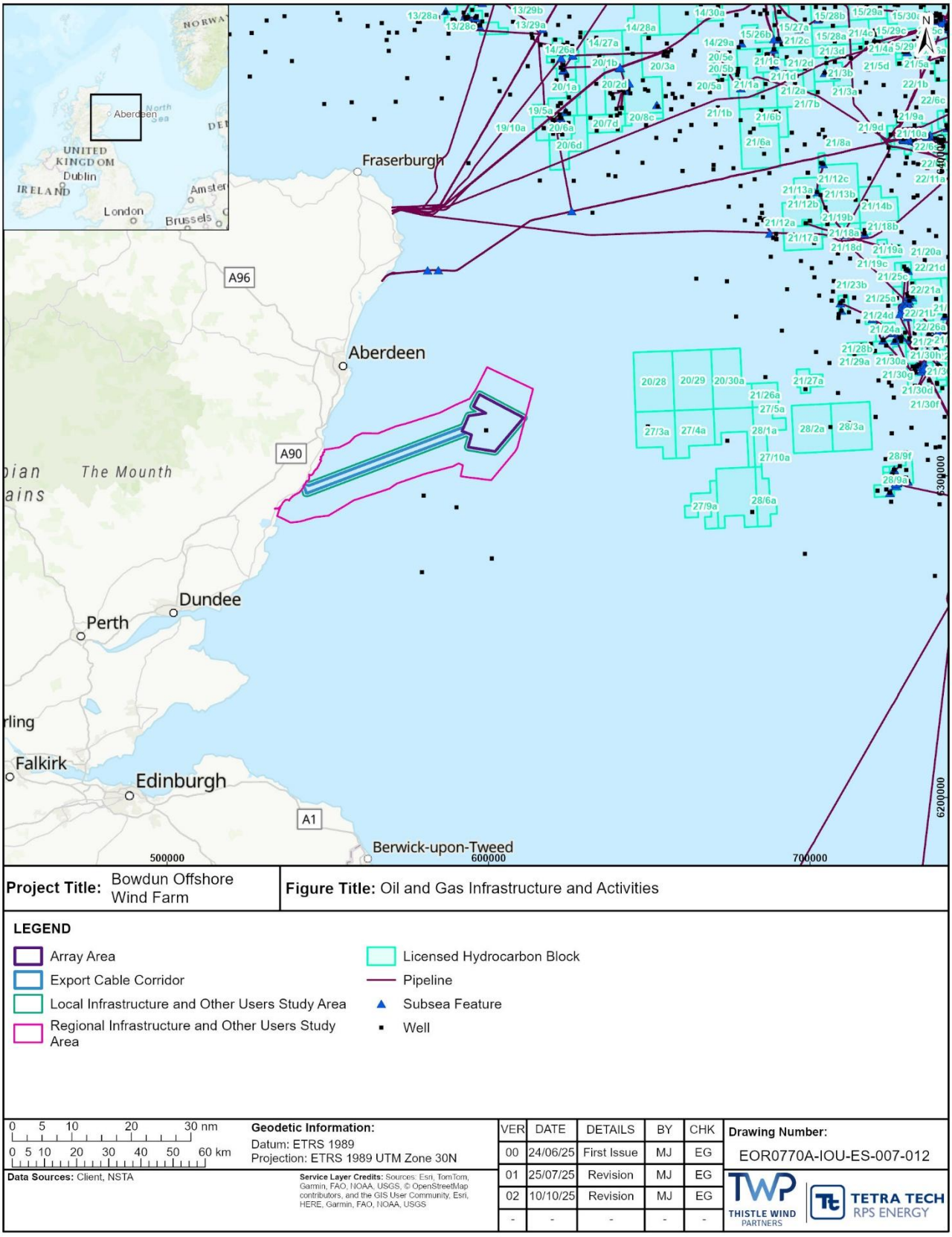

Figure 16.7: Oil and Gas Activities in the Vicinity of the Infrastructure and Other Users Study Areas

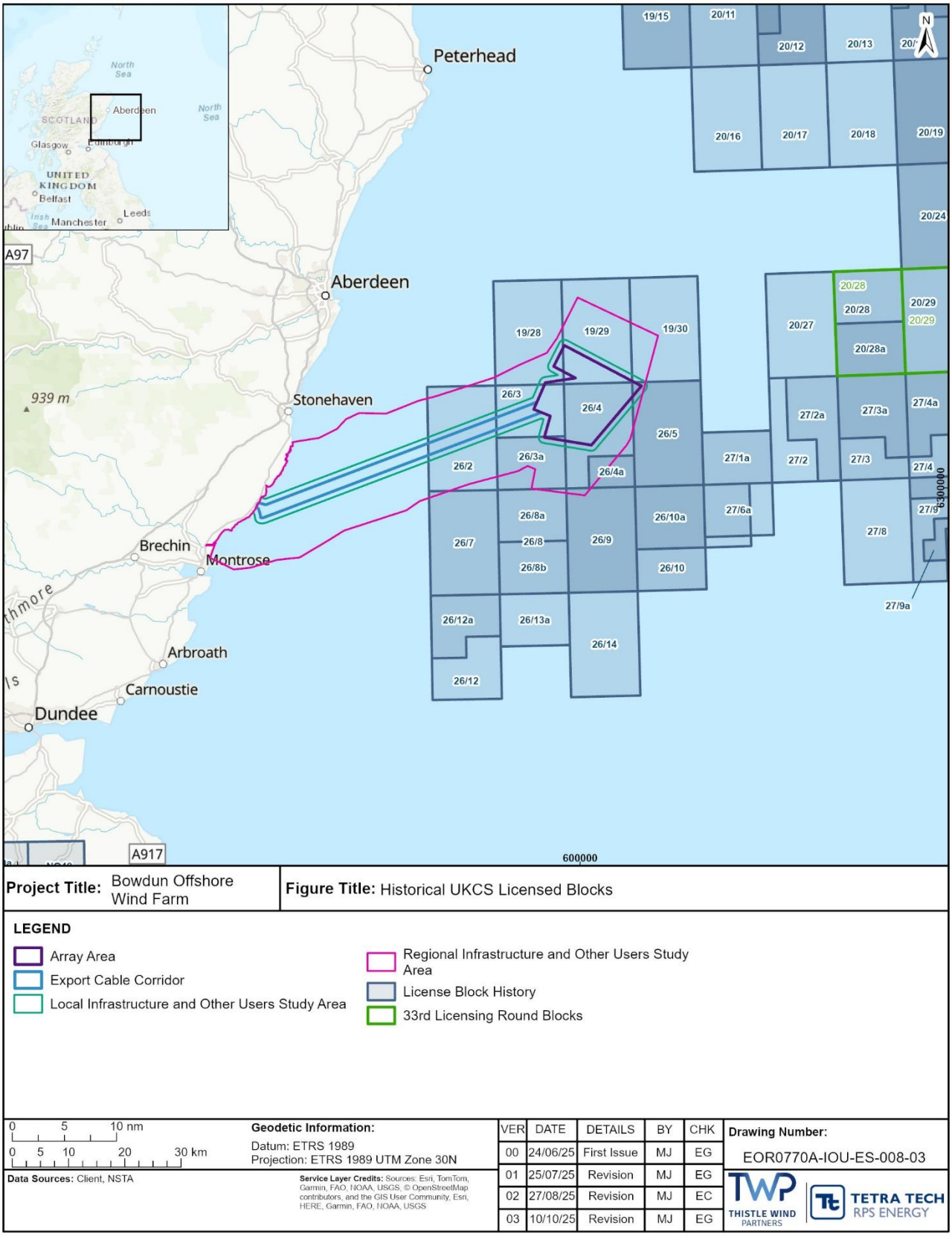

Figure 16.8 Historical UKCS Licensed Blocks in the Vicinity of the Infrastructure and Other Users Study Areas

Offshore Cables, Pipelines and Subsea Communications Infrastructure

16.6.36 There are no operational cables or pipelines located within the Local Infrastructure and Other Users Study Area, as illustrated in Figure 16.9.

16.6.37 The Eastern Green Link 2 (EGL2) High Voltage Direct Current (HVDC) cable is currently under construction, and crosses both the Array Area and the Local Infrastructure and Other Users Study Area, as illustrated in Figure 16.9. EGL2 is a 505 km, two-gigawatt cable connecting Peterhead to Drax, operated by Scottish and Southern Electricity Networks (SSEN) and National Grid Electricity Transmission (NGET). Construction began in late 2024 and is due to be complete in 2029 (National Grid, 2025). It is intended that commercial 'crossing agreements' on standard industry terms will be entered into with the asset owner, prior to construction. This is a formal arrangement that establishes the responsibilities and obligations of both parties and allows construction and operations to be managed safely.

16.6.38 The proposed Eastern Green Link 3 (EGL3) Project is currently in the pre-planning phase and consists of a subsea cable route from Peterhead to Lincolnshire with an indicative construction date of 2028 and to be fully operational by 2033 (National Grid, 2025).

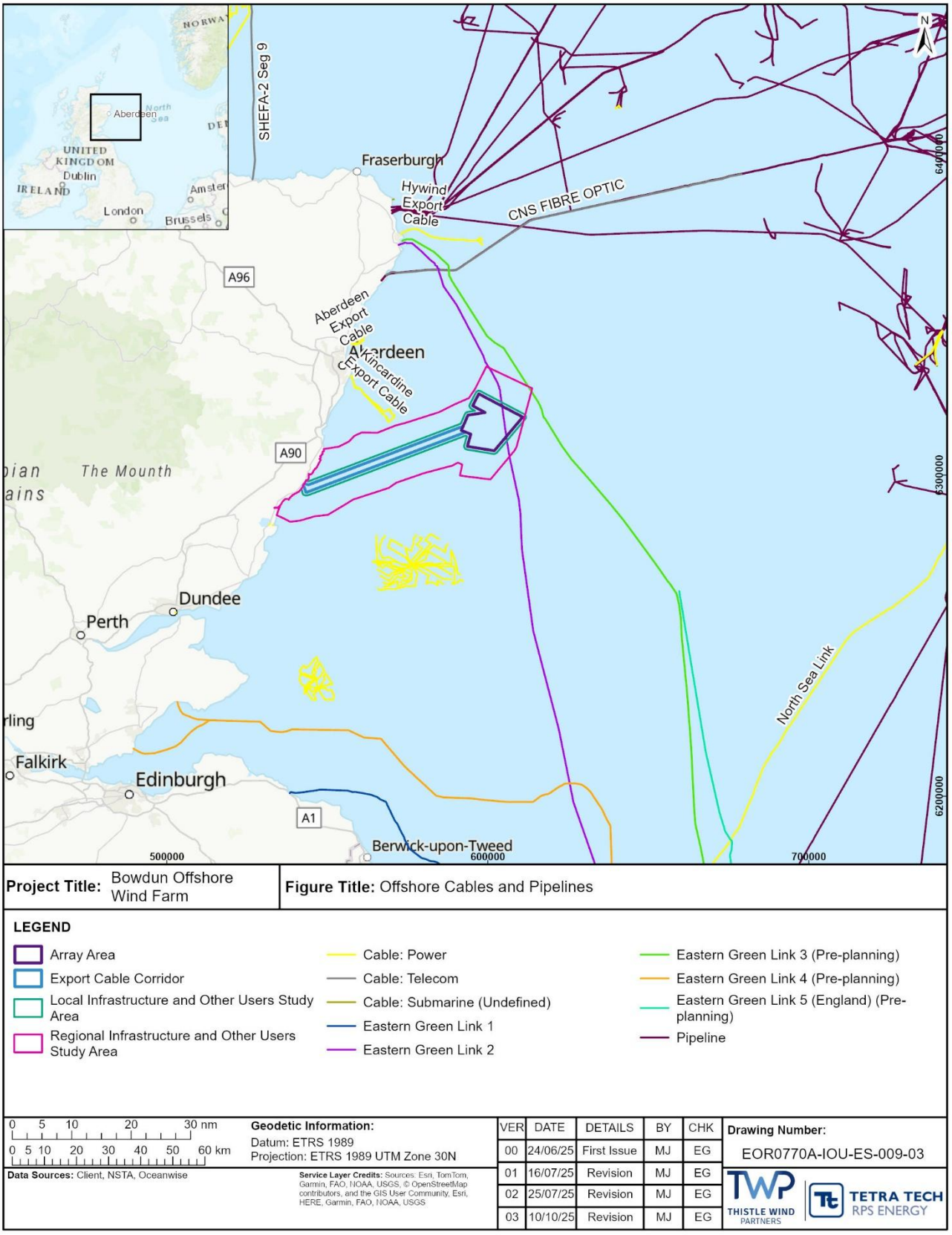

Figure 16.9 Cables and Pipelines in the Vicinity of the Infrastructure and Other Users Study Area

Natural Gas Storage, Underground Gasification and Coal Deposits

16.6.39 There are no natural gas storage sites, underground gasification sites or coal deposits located within the Regional Infrastructure and Other Users Study Area. Natural gas storage, underground gasification and coal deposits have therefore not been considered further.

Marine Aggregate Extraction and Disposal Sites

16.6.40 There is a substantial marine sand and gravel resource in Scotland, but historically the marine aggregate industry has been underdeveloped due to extensive land supplies and more readily accessible marine resources elsewhere in UK waters. Marine aggregate licences in Scotland have been issued to two sites: one in the Firth of Forth and the second in the Firth of Tay (Scottish Government, 2015a). These sites do not overlap with the Regional Infrastructure and Other Users Study Area. Therefore, marine aggregate extraction sites have not been considered further.

16.6.41 There are no active or closed marine disposal sites within the Regional Infrastructure and Other Users Study Area. Therefore, marine disposal sites have not been considered further.

Carbon Capture Storage

16.6.42 CCS is regarded as a potential abatement technology for limiting the impact of climate change. The closest CCS licensed area is in St Fergus approximately 100 km north of the Array Area. As a National Transmission System (NTS) entry point, St Fergus has been identified as an ideal location for developing low carbon hydrogen due to its delivery point, approved Carbon Dioxide (CO_2) licence and proximity to UK CO_2 storage reservoirs (Pale Blue Dot, 2019). In 2019, a feasibility study took place for the Acorn Hydrogen Project, to be developed in this licensed area in St Fergus. The project will deliver an energy and cost-efficient process for hydrogen production from North Sea gas, whilst capturing and sequestering CO_2 emissions to help prevent climate change. The project would be potentially the first operational low carbon hydrogen plant in Europe, with plans to be operational by 2030 (Pale Blue Dot, 2019). There are no CCS sites located within the Local Infrastructure and Other Users Study Area. Therefore, CCS sites have not been considered further.

16.6.43 The Scottish Ministers regulate the licensing authority of offshore carbon storage within the territorial sea adjacent to Scotland. The NSTA is responsible for regulating offshore carbon storage in all other UK territorial waters and they are the licensing authority that approve, and issue storage permits. It should be noted that, to support the drive to net zero carbon by 2050, they are committed to working with the government, industry and other relevant stakeholders to promote future opportunities for offshore CO_2 storage. Therefore, although the Carbon Dioxide Appraisal and Storage Licensing Round closed on the 05 June 2024, the NSTA held a nomination window to collect industry proposals for the next round from 14 May to the 31 July 2025. While no standalone outcomes from this nomination window have been published, the NSTA has indicated that the submissions have been evaluated and used to inform the areas offered in the second Carbon Storage Licensing Round

launched in December 2025, with applications open until March 2026, and thus there is potential for NSTA to run future licensing rounds in the near future (NSTA, 2025b).

Radar Early Warning Systems

16.6.44 REWS can be impacted by OWF development due to the physical presence of the Wind Turbines. Wind Turbines can interfere with REWS by creating high radar returns, shadowing (producing an area behind a Wind Turbine which the radar beam is unable to fully illuminate), and increased number of detections and false alarm/track generation. Oil and gas operators sometimes use REWS as part of offshore platform anti-collision safety systems.

16.6.45 The nearest manned offshore platform is Kittiwake located 107.9 km (58.26 nm) north-east from the Local Infrastructure and Other Users Study Area. At this distance, the potential that REWS could be impacted by the Proposed Development is extremely low. REWS have, therefore, not been considered further and are scoped out of the EIA.

Offshore Microwave Fixed Communication Links

16.6.46 Offshore microwave fixed links are used in the oil and gas industry to facilitate communication between offshore oil and gas platforms. It should be noted that marine navigation, communications and position-fixing equipment is presented in Volume 2, Chapter 14: Shipping and Navigation.

16.6.47 Due to the location of the Array Area being a significant distance from any oil and gas platforms (Figure 16.7), it is unlikely that microwave fixed telecommunications links between offshore oil and gas platforms cross the Local Infrastructure and Other Users Study Area. This can also be applied to radio networks in the vicinity of the Proposed Development, as no impacts have been identified during consultation with key stakeholders (Table 16.6).

Future Baseline Scenario

16.6.48 The EIA Regulations require that *"a description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort, on the basis of the availability of environmental information and scientific knowledge"* is included within the Offshore EIA Report.

16.6.49 If the Proposed Development does not come forward, an assessment of the 'without development' future baseline conditions has also been carried out and is described within this section.

16.6.50 The future baseline scenario for recreational activities is considered unlikely to change substantially from that presented above, in the absence of the Proposed Development. The future baseline scenario for recreational sailing and motor cruising, recreational fishing and other recreational activities is likely to gradually increase in line with population growth in Scotland, however this is unlikely to represent a substantial change in the short term.

16.6.51 There is potential for significant growth in offshore wind energy within Scotland, with the Scottish Government setting out plans to increase offshore wind capacity to 40 GW of energy installed by 2040 (Scottish Government, 2026). In June 2020, Crown Estate Scotland (CES) launched the first ScotWind Leasing Round for commercial scale offshore wind energy projects within Scottish waters (Scottish Government, 2020). Further details and an overview of the ScotWind Leasing Round can be found in Volume 1, Chapter 6: Site Selection and Consideration of Alternatives. As part of the ScotWind Leasing Round, 20 potential development sites, including the Proposed Development, were awarded Agreements for Lease, with a total generating capacity of just under 27.6 GW. Other renewable sources, such as wave and tidal energy devices, are in their early research and development stage.

16.6.52 Oil and gas are vital to Scotland and were responsible for nearly 90% of the country's primary energy in 2015 (Scottish Government, 2021). Although the sector is seen as a critical and integral component to the economy, support for oil and gas programs moving forward will be conditional on the sector's actions to facilitate sustainable energy transitions for the future (Scottish Government 2021). The draft Energy Strategy and Just Transition Plan (2023) sets out a route map of actions the Scottish Government will take onboard to deliver a robust net zero energy system for Scotland to become a "*renewable powerhouse*" (Scottish Government, 2023). The draft plan states that Scotland must limit its dependence on oil and gas and that "*Scotland is well positioned to do so in a way that ensures we have sufficient, secure and affordable energy to meet our needs, to support economic growth and to capture sustainable export opportunities*" (Scottish Government, 2023). The draft Energy Strategy and Just Transition Plan consultation was closed on 09 May 2023 with 1,598 responses received. Although the Scottish Government had previously indicated that the final Plan would be published by Summer 2024, it remains forthcoming and at the time of writing, has not yet been formally issued.

16.6.53 Furthermore, the INTOG 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 electricity directly to oil and gas infrastructure (TOG)) or consists of small-scale innovative projects (IN) of 100 MW or less. This distinctive offshore wind leasing is unlike any other previously carried out in the UK or in the world (CES, 2023). Further details can be found in Volume 1, Chapter 2: Policy and Legislation. Therefore, as there is a shift towards more utilisation of renewable sources of energy, the baseline environment for oil and gas activity in the vicinity of the Proposed Development is unlikely to increase as reliance on oil and gas operations is expected to decrease as the production of renewable energy increases.

16.6.54 There is currently potential for marine aggregate extraction to increase in line with the increased demand for aggregate utilisation in gravity bases for marine renewable energy infrastructure and in coastal defence construction (Scottish Government, 2015a). However, marine aggregate extraction from the seabed last occurred from two historical areas in the Firth of Forth and Firth of Tay Scottish Marine Region before 2005. There are currently no areas currently licensed for marine aggregate extraction and therefore the baseline environment for marine

aggregates mining activity in proximity to the Proposed Development is unlikely to change.

16.6.55 There were no identified or awarded CCS areas in the vicinity of the Proposed Development in the first licensing round by NSTA. In 2023, the NSTA offered for award 21 carbon storage licences at offshore sites in the North Sea, which combined could store up to 30 million tonnes of CO_2 per year by 2030 (NSTA, 2023). The volume of applications received for the first round demonstrated the industry's desire for future CCS developments (NSTA, 2023). The NSTA launched the second Carbon Storage Licensing Round on 09 December 2025, offering 14 new locations across Scottish and English waters for exploration and appraisal (NSTA, 2025b), with applications open until March 2026 and licence awards expected in 2027. Therefore, the future baseline environment for CCS is subject to gradual change as potential future licensing opportunities arise.

16.6.56 The future baseline scenario for offshore cables, natural gas storage and underground coal gasification is subject to gradual change as new projects and/or sites are further identified.

Data Limitations and Assumptions

16.6.57 The data sources used in this chapter are detailed in Table 16.7. The data used are the most up to date publicly available information which can be obtained from the applicable data sources as cited. The data are therefore limited by what is available and by what has been made available, at the time of writing this Offshore EIA Report. It is considered that the data employed in the assessment are robust and sufficient for the purposes of the assessment of effects presented.

16.7 Key Parameters for Assessment

Maximum Design Scenario

16.7.1 The Maximum Design Scenario (MDS) identified in Table 16.9 are those parameters expected to have the potential to result in the greatest effect on an identified receptor or receptor group. Any other development scenario within the Project Design Envelope (PDE), will result in the same, or less, level of environmental effect. The scenario has been selected from the details provided in Volume 1, Chapter 3: Project Description.

Table 16.9: MDS Considered for Each Potential Impact as Part of the Assessment of Likely Significant Environmental Effects on Infrastructure and Other Users

Potential Impact	Phase			Maximum Design Scenario	Justification
	C	O&M	D		
Displacement of recreational activities (including recreational sailing, cruising and recreational fishing)	✓	✓	✓	Site Preparation and Construction Phases The displacement of recreational activities during a maximum construction phase of 5 years and preceding years of pre-construction surveys can be attributed to: Reduction of access around infrastructure during construction: • MDS is based on 67 x 15 MW Wind turbines; • Offshore Substation Platforms (OSPs): up to 3; • Inter-Array Cables (IACs): up to 151 km (for 67 x 15 MW Wind Turbines), with up to 9 cable crossings; • interconnector cables: up to 3 cables of up to 12 km each, total of up to 36 km, with up to 3 cable crossings; • Export cable: up to 3 cables of up to 70 km each, total of up to 210 km, with up to 6 cable crossings; • construction Safety Zones: 500 m Safety Zones around Wind Turbines and OSPs during their construction; • construction vessels (Array): up to a total of 25 construction vessels on site at any one time, with 1,671 return trips; • construction vessels (Export Cable): up to a total of 16 construction vessels on site at any one time, with 449 return trips; and • during the construction phase the displacement of recreational activities will be gradual as the presence of infrastructure increases, reaching the MDS outlined below in the O&M phase. The MDS in terms of the presence of infrastructure would be on the completion of construction, during the operation and maintenance phase.	The MDS for this impact considers the maximum area (m^2) of displacement of recreational activities during the construction, O&M and decommissioning phases of the Proposed Development. Reduction of access around infrastructure during construction, O&M and decommissioning phases: The MDS is defined by the presence of infrastructure and associated spacing (specifically the greatest extent of Safety Zones) which restricts recreational vessels and activities from the largest area of space over all phases of the project. The combination of these factors represents the greatest potential for displacement of recreational activities. The construction of infrastructure and implementation of Safety Zones around construction activities and vessels may displace recreational vessels and activities, for example limiting or prohibiting recreational fishing or cruising within the 500 m Safety Zones.

				O&M Phase
				The displacement of recreational activities during an O&M phase of up to 30 years, can be attributed to:
				Reduction of access around infrastructure during O&M:
				• Safety Zones: 500 m around infrastructure such as a Wind Turbines during periods of major maintenance;
				• a total of 12 vessels at any one time in the Array will be involved over the duration of O&M phase (up to 30 years) making a total of up to 588 return trips per year. In addition to this, a further number of vessels will undertake another 146 return trips spread over the 30-year O&M phase;
				• a total of 8 vessels at any one time in the Export Cable Corridor will be involved over the duration of O&M phase (up to 30 years) making a total of up to 125 return trips per year. In addition to this, a further number of vessels will undertake another 114 return trips spread over the 30-year O&M phase;
				• vessels will be associated with a range operation and maintenance activities, including routine inspections, repairs and replacements, removal of marine growth, painting, and removal of fishing debris; and
				• reduction of access due to the presence of infrastructure, such as Wind Turbines, as per the construction phase above and cable repair/reburial activities:
				  • IAC: repair of up to 1 cable annually. Reburial of up to 4.915 km of cables annually. Up to 4.915 km of remedial cable protection annually; and
				  • interconnector cables: up to 1 repair event every year. Reburial of up to 2.04 km of cables annually. Up to 2.04 km of remedial cable protection annually.
				  • Export cable: up to 1 repair event annually. Reburial of up to 6.39 km of cables annually. Up to 6.39 km of remedial cable protection annually.
				
				Decommissioning Phase
				A Decommissioning Programme will be submitted to MD-LOT for consultation and approval. The Decommissioning
					Likewise, O&M and decommissioning activities may also displace recreational vessels due to presence of infrastructure and implementation of Safety Zones around infrastructure and vessels.

Potential Impact	Phase			Maximum Design Scenario	Justification
	C	O&M	D		
				Programme will be updated during the Project's lifespan to take account of changing best practice and new technologies. The approach for decommissioning is yet to be determined, however, for the purposes of this MDS total removal of all infrastructure including buried cables and cable protection has been assumed, and as such the environmental impact of decommissioning will be the same if not lower than construction.	
Impacts to early development cables or pipelines or restrictions on access to cables or pipelines	✓	✓	✓	As for 'Displacement of recreational activities (including recreational sailing, cruising and recreational fishing)'.	The construction of infrastructure and implementation of Safety Zones around construction activities and vessels may displace other operators from carrying out activities within areas overlapping the Array and Export Cable Corridor. Likewise, O&M, and decommissioning activities may also displace other operators due to presence of infrastructure and implementation of Safety Zones around infrastructure and vessels. The MDS is defined by the presence of infrastructure and associated spacing (specifically the greatest extent of Safety Zones) which restricts recreational cable operators from the largest area of space. The combination of these factors represents the greatest potential for impacts to cables and pipelines.

Impacts Scoped Out of the Assessment

16.7.2 On the basis of the baseline environment and the Project Description outlined in Volume 1, Chapter 3: Project Description, a number of impacts are scoped out of the assessment for infrastructure and other users. These impacts were proposed to be scoped out in the Bowdun Offshore Scoping Report (Bowdun Offshore Wind Farm Limited (BOWFL), 2024) and no concerns were raised by key consultees within the Scoping Opinion.

16.7.3 These impacts are outlined, together with a justification for scoping out, in Table 16.10.

Table 16.10: Impact Scoped Out of the Assessment for Infrastructure and Other Users (Tick Confirms the Impact is Scoped Out)

Potential Impact	Phase			Justification
	C	O&M	D	
Increased SSC and associated deposition affecting recreational diving sites	✓	✓	✓	There are no official recreational diving sites within the Regional Infrastructure and Other Users Study Area. As such, there are no sites that are likely subject to sufficient intensity of use and therefore, this impact is scoped out of the EIA.
Increased SSC and associated deposition affecting aggregate extraction areas	✓	✓	✓	There are no aggregate extraction areas within the Regional Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.
Alterations to sediment transport pathways affecting aggregate extraction areas	✓	✓	✓	There are no aggregate extraction areas within the Regional Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.
Impacts on marine disposal sites	✓	✓	✓	There are no marine disposal sites within the Regional Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.
Reduction or restriction of oil and gas exploration activities (including surveys, drilling and the placement of infrastructure).	✓	✓	✓	There are no active oil and gas exploration blocks within the Local Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.
Impacts on CCS	✓	✓	✓	There are no CCS projects within the Local Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.
Interference with the performance of REWS located on oil and gas platforms	✓	✓	✓	There are no REWS within the Local Infrastructure and Other Users Study Area. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA.

Potential Impact	Phase			Justification
	C	O&M	D	
Interference with OMFCL	✓	✓	✓	There is no potential for the Proposed Development to impact OMFCL as outlined through stakeholder consultation with JRC in Table 16.6. As such, there is no potential impact pathway, and therefore this impact is scoped out of the EIA

16.8 Methodology for Assessment of Effects

Overview

16.8.1 The infrastructure and other users assessment of effects has followed the methodology set out in Volume 1, Chapter 4: Environmental Impact Assessment Methodology. Specific to the infrastructure and other users assessment, the following guidance documents have also been considered:

- the RYA Scotland's Position on Offshore Renewable Energy Developments: Paper 1 (of 4) – Wind Energy, June 2019 (RYA, 2019b);
- International Cable Protection Committee (ICPC) Recommendations:
  - recommendation No.2-11B: Cable Routing and Reporting Criteria (ICPC, 2015);
  - recommendation No.3-10C: Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria (ICPC, 2014); and
  - recommendation No.13-2C: The Proximity of Offshore Renewable Wind Energy Installations and Submarine Cable Infrastructure in National Waters (ICPC, 2013).
- European Subsea Cables Association (ESCA) Guideline No. 6, The Proximity of Offshore Renewable Energy Installations and Submarine Cable Infrastructure in UK Waters (ESCA, 2023).

Criteria for Assessment

16.8.2 When determining the significance of effects, a process is used which involves defining the magnitude of the potential impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 4: Environmental Impact Assessment Methodology.

16.8.3 The criteria for defining magnitude in this chapter are outlined in Table 16.11. Each assessment considered the spatial extent, duration, frequency and reversibility of impact when determining magnitude which are outlined within the magnitude section of each impact assessment (e.g. a duration of hours or days would be considered for most receptors to be of short term duration, which is likely to result in a low magnitude of impact).

Table 16.11: Definition of Terms relating to Magnitude of Impact

Magnitude of Impact	Definition
High	Total loss of ability to carry on activities and/or impact is of extended physical extent and/or long term duration (i.e. total lifetime of project) and/or frequency of repetition is continuous and/or effect is not reversible for the project (Adverse).
Medium	Loss or alteration to significant portions of key components of current activity and/or physical extent of impact to moderate and/or medium-term duration (i.e. operational period) and/or frequency of repetition is medium to continuous and/or effect is not reversible for project phase (Adverse).
Low	Minor shift away from baseline, leading to a reduction in level of activity that may be undertaken and/or physical extent of impact is low and/or short to medium-term duration (i.e. construction period) and/or frequency of repetition is low to continuous and/or effect is not reversible for project phase (Adverse).
Negligible	Very slight change from baseline condition and/or physical extent of impact is negligible and/or short term duration (i.e. less than two years) and/or frequency of repetition is negligible to continuous and/or effect is reversible (Adverse).

16.8.4 The criteria for defining sensitivity in this chapter are outlined in Table 16.12.

Table 16.12: Definition of Terms Relating to the Sensitivity of the Receptor

Magnitude of Impact	Definition
Very High	Receptor or the activities of the receptor is of very high value to the local, regional or national economy and/or the receptor or the activities of the receptor is moderately vulnerable to impacts that may arise from the project and/or recoverability is very slow and/or very costly.
High	Receptor or the activities of the receptor is of high value to the local, regional or national economy and/or the receptor or the activities of the receptor is generally vulnerable to impacts that may arise from the project and/or recoverability is slow and/or costly.
Medium	Receptor or the activities of the receptor is of moderate value to the local, regional or national economy and/or the receptor or the activities of the receptor is somewhat vulnerable to impacts that may arise from the project and/or has moderate to high levels of recoverability.
Low	Receptor or the activities of the receptor is of low value to the local, regional or national economy and/or the receptor or the activities of the receptor is not generally vulnerable to impacts that may arise from the project and/or has high recoverability.
Negligible	Receptor or the activities of the receptor is of negligible value to the local, regional or national economy and/or the receptor or the activities of the receptor is not vulnerable to impacts that may arise from the project and/or has recoverability.

16.8.5 The magnitude of the impact and the sensitivity of the receptor are combined when determining the significance of the effect upon the receptor. The particular method employed for this assessment is presented in Table 16.13 and Table 16.14.

16.8.6 Where a range is suggested for the significance of effect, for example, minor to moderate, it is possible that this may span the significance threshold. The technical specialist's professional judgement will be applied to determine which outcome defines the most likely effect, which takes in to account the sensitivity of the receptor and the magnitude of impact. Where professional judgement is applied to quantify final significance from a range, the assessment will set out the factors that result in the final assessment of significance. These factors may include the likelihood that an effect will occur, data certainty and relevant information about the wider environmental context.

16.8.7 The EIA Regulations require the identification and reporting of significant environmental effects. For the purposes of this assessment:

- a level of moderate or more will be considered a 'significant' effect in terms of the EIA Regulations; and
- a level of minor or less will be considered 'not significant' in terms of the EIA Regulations.

Table 16.13: Matrix Used for the Assessment of the Significance of the Effect

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

Table 16.14: Definition of Significance

Impact	**Justification**
Negligible	No effects or those that are beneath levels of perception, within normal bounds of variation, or within the margin of forecasting error.
Minor	These beneficial or adverse effects are generally, but not exclusively, raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the Proposed Development.
Moderate	These beneficial or adverse effects have the potential to be important and may influence the decision-making process. The cumulative effects of such

Impact	Justification
	factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
Major	These beneficial or adverse effects are very important and are likely to be material in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national, or regional importance. However, a major change in a site or feature of local importance may also enter this category.

16.9 Embedded Mitigation

16.9.1 As part of the Proposed Development design process, a number of Embedded Mitigation measures have been proposed to reduce the potential for impacts on infrastructure and other users (see Table 16.15). They are considered at every stage of the Proposed Development through design and best practice and, as there is a commitment to implementing these measures, these have been considered in the assessment presented in Section 16.10 (i.e. the determination of magnitude and therefore significance assumes implementation of these measures). These Embedded Mitigation are considered standard industry practice for this type of development, please refer to Volume 3, Technical Appendix 4.6: Schedule of Mitigation and Commitments for more details.

Table 16.15: Embedded Mitigation Adopted as Part of the Proposed Development

ID*	Embedded Measures Adopted as Part of the Proposed Development	Justification
8	All relevant Health and Safety Executive (HSE) procedures will be followed.	Measures will be adopted to ensure that all activities undertaken in the construction, O&M and decommissioning phases are compliant with the relevant HSE guidance.
12	Advance warning and accurate location details of planned operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners (NtMs) and Kingfisher Bulletins.	To maximise awareness of the Proposed Development, allowing other vessels, sea users and marine infrastructure receptors to plan activities in advance.
13	Development of, and adherence to, a Lighting and Marking Plan (LMP). The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Decreases the risk of allision/contact with Offshore Infrastructure.
16	Application for, and use of, Safety Zones of up to 500 m during construction, major maintenance, and decommissioning phases. Advisory safe passing distances of up to 500 m will also be applied for mobile installation vessels.	In the interests of safety to infrastructure and other users receptors.
17	Any objects dropped on the seabed during works associated with the Proposed Development will be reported in line with MD-LOT procedures and objects will be recovered where they pose a hazard to other marine users and where recovery is possible.	Decreases the risk of allision/contact and collision.

ID*	Embedded Measures Adopted as Part of the Proposed Development	Justification
19	Details of any temporary obstacles associated with the Proposed Development which are of more than 91.4 m in height are to be alerted to aircrews by means of the Notice To Aviation Missions (NOTAM) system.	In the interests of safety to infrastructure and other users receptors.
20	Suitable Aids to Navigation (AtoN) lighting and marking of the Proposed Development including construction buoyage and the use of a Cable Marker Board shall be implemented complying with International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Recommendations G1162 (IALA, 2021), to be finalised and approved in consultation with the Maritime and Coastguard Agency (MCA) and Northern Lighthouse Board (NLB) through a LMP.	Decreases the risk of allision/contact with Offshore Infrastructure or collision with vessels.
22	Development of, and adherence to, an Emergency Response Cooperation Plan (ERCoP) in consultation with the MCA.	Decreases the risk of impact to Search and Rescue (SAR) capabilities.
23	Development of, and adherence to, an Operation and Maintenance Programme (OMP) in conjunction with approved post-consent construction plans.	Decreases the risk of collision.
24	Development of, and adherence to, a Development Specification and Layout Plan (DSLP). The development of the DSLP includes consultation with the relevant authorities for approval, including the MCA and NLB.	In the interests of safety to infrastructure and other users receptors.
34	Drafting and implementation of a decommissioning programme, prepared in accordance with requirements of the Energy Act 2004, which will set out the extent of infrastructure to be removed as well as the methods and processes which will be used.	A Decommissioning Programme will be developed to cover the decommissioning phase as required under Chapter 3 of the Energy Act 2004. As the decommissioning phase will be a similar process to the construction phase but in reverse (i.e. increased project vessels on site, partially deconstructed structures) the mitigation measure will be similar to those for the construction phase.
40	Creation of a Waste Management Plan (WMP), which will describe the processes for handling and managing any waste materials.	The WMP will set out procedures to ensure all waste processing and handling activities with the potential to affect the environment are appropriately managed.
41	The Proposed Development will be marked on admiralty charts including an appropriate chart note.	To maximise awareness of the Proposed Development, allowing other vessels, sea users and marine infrastructure receptors to plan activities in advance.
42	Compliance of project vessels with international marine regulations as adopted by the Flag State, including International	Decreases the risk of allision with Offshore Infrastructure or collision with vessels.

ID*	Embedded Measures Adopted as Part of the Proposed Development	Justification
	Regulations for Preventing Collisions at Sea (COLREGS) (IMO, 1972) and International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974).	
44	Where the Proposed Development cables will be required to cross an active cable or pipeline, it is intended that a commercial 'crossing agreement' will be entered into with the asset owner. This is a formal arrangement that establishes the responsibilities and obligations of both parties and allows construction and operations to be managed safely.	To reduce potential conflict at cable or pipeline crossing locations.
45	Proximity agreements will be established with relevant cable and pipeline operators, to minimise the potential for any impact in accordance with recognised industry good practice.	This will ensure close communication and planning between both parties to ensure disruption is minimised.
49	Where appropriate, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances to mitigate any impact which poses risk to surface navigation during construction, O&M and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Decreases the risk of allision/contact and collision.
50	MGN 654 Annex 4 (MCA, 2021) requires that hydrographic surveys will fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager and the UKHO.	Decreases the risk of allision/contact and collision.

*see Volume 3, Technical Appendix 4.6: Schedule of Mitigation and Commitments

16.10 Assessment of Significance

16.10.1 Table 16.9 summarises the potential impacts arising from the construction, O&M and decommissioning phases of the Proposed Development, as well as the MDS against which each impact has been assessed. An assessment of the likely significance of the effects of the Proposed Development on the infrastructure and other users receptors caused by each identified impact is given below.

IMPACT 1 – DISPLACEMENT OF RECREATIONAL ACTIVITIES (INCLUDING RECREATIONAL SAILING, CRUISING AND RECREATIONAL FISHING)

16.10.2 Construction, O&M, and decommissioning activities may lead to displacement of recreational sailing and motor cruising and recreational fishing due to the presence of the infrastructure Safety Zones and advisory safe passing distances in relation to the Array Area and may result in a loss of recreational resource.

Construction Phase

Magnitude of Impact

16.10.3 The installation of Offshore Infrastructure as part of the Proposed Development may displace recreational activities from the footprint of the Proposed Development and from any areas subject to temporary Safety Zones and/or advisory safe passing distances, resulting in a loss of recreational resource.

16.10.4 The MDS is represented by the installation of up to 67 fixed-foundation Wind Turbines, up to three OSPs, up to 151 km of IACs with up to nine cable crossings and up to 36 km of Interconnector Cables and up to 210 km of Offshore Export Cables with associated Safety Zones and/or advisory safe passing distances. Construction activities may take place over a period of up to five years (Table 16.9). There may be up to 25 vessels on site within the Array Area during the construction phase and up to 16 vessels on site for the Offshore Export Cable installation activities at any given time (including activities at the Landfall). It is likely that construction activity will be concentrated in certain locations at certain periods of time during the construction phase. Therefore, it should be noted that while up to 25 vessels may be on site at one time, the impact and Safety Zones in place will not be constant across the Proposed Development.

16.10.5 As described in Section 16.6, there are a number of recreational activities occurring within and surrounding the Local Infrastructure and Other Users Study Area, primarily within close distance to the shoreline. Sailing and racing out of ASYC during the summer season may come in close proximity or overlap with the Local Infrastructure and Other Users Study Area, though races and training sessions are heavily dependent on favourable weather. Additionally, the coastline around Crawton rocks is popular for recreational fishing.

16.10.6 The spatial extent of the impact on boating activities will be relatively small in the context of the available sailing and sea angling areas in the vicinity of the Proposed Development. There will be potential for localised displacement of recreational marine craft from the individual 500 m Safety Zones around the structures being actively installed within the Array Area. Additionally, there will be advisory safe passing distances around installation vessels operating within the Proposed Development. The impact of Safety Zones in place during the construction phase is mostly reversible as once each structure has been installed and commissioned these will be removed. Advisory safe passing distances around cable installation vessels operating within the Offshore Export Cable Corridor will be transient as the vessel progressively installs the cables along the route from the Array Area to the Landfall. The spatial extent of potential displacement will be greater along the Export Cable Corridor compared with the Array Area, due to most recreational activity taking place along the coastline, although a small number of recreational vessels may be displaced from the Array Area and the immediate vicinity temporarily during the construction phase.

16.10.7 As described in Table 16.15, NtM will be issued regularly during the construction phase, advising of the location, nature and timing of activities, ensuring that

recreational activities can be planned accordingly. The Applicant will also distribute Kingfisher Bulletins and other navigational warnings of the position and nature of works associated with the Proposed Development.

16.10.8 The impact is predicted to be of local spatial extent, short to medium-term duration, continuous and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be low.

Sensitivity of the Receptor

16.10.9 It is anticipated that recreational activities (including recreational sailing, cruising and recreational fishing) will be able to alter their route or transit past installation activities and associated Safety Zones and advisory safe passing distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for sailing and sea angling such that alternatives are available if required during installation works.

16.10.10 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.11 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.10.12 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

O&M Phase

Magnitude of Impact

16.10.13 The presence of Offshore Infrastructure and/or O&M activities within the Proposed Development may displace recreational activities from the footprint of the Proposed Development and from areas subject to temporary Safety Zones and/or advisory safe passing distances, resulting in a loss of recreational resource.

16.10.14 The MDS is represented by the installation of up to 67 fixed-foundation Wind Turbines, up to three OSPs, up to 151 km of IACs with up to nine cable crossings and up to 36 km of Interconnector Cables and up to 210 km of Offshore Export Cables with associated Safety Zones and/or advisory safe passing distances during periods of major maintenance, over a period of up to 30 years. There may be up to 12 vessels on site within the Array Area at any one time during the O&M phase. It is anticipated that vessel activities related to the O&M phase will be concentrated in certain locations at certain periods of time during the O&M phase. Therefore, it should be noted that while up to 12 vessels may be on site at one time, the impact and Safety Zones in place will not be constant across the Proposed Development.

16.10.15 As described in Section 16.6, there are a number of recreational activities occurring in the vicinity of the Proposed Development, although with most

activities occurring closer to shore and overlapping with the nearshore sections of the Export Cable Corridor rather than within the Array Area.

16.10.16 The spatial extent of the impact on marine recreational activities will be relatively small in the context of the available sea angling and sailing areas in the vicinity of the Proposed Development, with the potential for localised displacement of recreational craft around installed structures or around the individual 500 m Safety Zones and/or advisory safe passing distances temporarily and infrequently established around major maintenance activities. Recreational activity overlapping with the Offshore Export Cable routes will be able to resume during the O&M phase, and there will be no long term exclusion of navigation within the Array Area during the lifetime of the Proposed Development (assessment of impacts on navigation is presented in Volume 2, Chapter 14: Shipping and Navigation).

16.10.17 As described in Table 16.15, NtM will be issued regularly during the O&M phase, advising of the location, nature and timing of any maintenance activities and associated Safety Zones and/or advisory safe passing distances, ensuring that recreational activities can be planned accordingly. The Applicant will also distribute Kingfisher Bulletins and other navigational warnings of the position and nature of works associated with the Proposed Development.

16.10.18 The impact is predicted to be of local spatial extent, long term duration, continuous (Array Area)/intermittent (Export Cable Corridor) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.10.19 It is anticipated that recreational activities (including recreational sailing, cruising and recreational fishing) will be able to alter their route or transit past O&M activities and associated advisory Safety Zones and/or advisory safe passing distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for sailing and sea angling such that alternatives are available if required during maintenance works.

16.10.20 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.21 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.10.22 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

16.10.23 The effects of decommissioning activities within the Array Area are expected to be the same or similar to the effects from construction, as structures will be removed or cut at seabed level and left *in situ*.

16.10.24 The impact is predicted to be of local spatial extent, short to medium duration, continuous (Array Area)/intermittent (Export Cable Corridor) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.10.25 It is anticipated that recreational activities (including recreational sailing, cruising and recreational fishing) will be able to alter their route or transit past decommissioning activities and associated advisory Safety Zones and advisory safe passing distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for sailing and sea angling such that alternatives are available if required during decommissioning works.

16.10.26 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.27 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms

Additional Mitigation and Residual Effect

16.10.28 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

IMPACT 2 - IMPACTS TO EARLY DEVELOPMENT CABLES OR PIPELINES OR RESTRICTIONS ON ACCESS TO CABLES OR PIPELINES

16.10.29 Construction, O&M, and decommissioning activities may may impact upon early development cables or restrict access to existing cables and pipelines due to increased presence of vessels and temporary advisory Safety Zones and advisory safe passing distances, resulting in a loss of access to these resources.

Construction Phase

Magnitude of Impact

16.10.30 The installation of Offshore Infrastructure within the Array Area and along the Export Cable Corridor may impact upon early development cables or restrict access to existing cables and pipelines due to increased presence of vessels and temporary Safety Zones and advisory safe passing distances, resulting in a loss of access to these assets.

16.10.31 The MDS is represented by the installation of up to 67 fixed-foundation Wind Turbines, up to three OSPs, up to 151 km of IACs with nine cable crossings and

up to 36 km of Interconnector Cables and up to 210 km of Offshore Export Cables with associated Safety Zones and/or advisory safe passing distances. Construction activities may take place over a period of up to five years (Table 16.9). There may be up to 25 vessels on site within the Array Area during the construction phase and up to 16 vessels on site for the Offshore Export Cable installation activities at any given time (including activities at the Landfall). It is likely that construction activity will be concentrated in certain locations at certain periods of time during the construction phase. Therefore, it should be noted that while up to 25 vessels may be on site at one time, the impact and Safety Zones in place will not be constant across the Proposed Development.

16.10.32 As described in Section 16.6, there are no current active cables or pipelines within the Local Infrastructure and Other Users Study Area, therefore, there is currently no spatial impact upon cable and pipeline operators. As illustrated in Figure 16.9 and discussed in Paragraph 16.6.37, the EGL2 HVDC cable is currently under construction, and crosses both the Array Area and the Local Infrastructure and Other Users Study Area. As construction of EGL2 is scheduled to end in 2029, it is anticipated that EGL2 will be active at the time of construction of the Proposed Development.

16.10.33 It is intended that commercial 'crossing agreements' on standard industry terms will be entered into with the relevant cable operator, prior to construction. This is a formal arrangement that establishes the responsibilities and obligations of both parties and allows construction and operations to be managed safely. NtM and Kingfisher Bulletins will be issued regularly during the construction phase, advising of the location, nature and timing of activities, and associated Safety Zones/advisory safe passing distances, ensuring that any maintenance works on existing cables and pipelines in the vicinity can be planned accordingly.

16.10.34 The impact is predicted to be of local spatial extent, short duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.10.35 It is anticipated that third-party vessels operating on cables and pipelines in the vicinity or transiting to cables and pipelines near to the Proposed Development will be aware of the project construction activities and they will be able to plan and re-route with reduced interference to access.

16.10.36 Restriction of access to an active cable or pipeline for inspection and maintenance activities could be critical to the operator of that asset. However, any potential of impacts to cables and pipelines will be mitigated through crossing agreements, and the Applicant will account for oil and gas infrastructure, and cable infrastructure within the Array Area at detailed design with regard to the positioning of the Wind Turbines.

16.10.37 The receptor is deemed to be of medium vulnerability, medium recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.38 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.10.39 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms

O&M Phase

Magnitude of Impact

16.10.40 The presence of Offshore Infrastructure and/or O&M activities within the Array Area and along the Export Cable Corridor may impact upon early development cables or restrict access to existing cables and pipelines due to increased presence of vessels and temporary a Safety Zones and/or advisory safe passing distances, resulting in a loss of access to these assets.

16.10.41 The MDS is represented by the installation of up to 67 fixed-foundation Wind Turbines, up to three OSPs, up to nine cable crossings of 151 km IACs and up to 36 km of Interconnector Cables and up to 210 km of Offshore Export Cables with associated Safety Zones and/or advisory safe passing distances during periods of major maintenance, over a period of up to 30 years. There may be up to 12 vessels on site within the Array Area at any one time during the O&M phase. It is anticipated that vessel activities related to the O&M phase will be concentrated in certain locations at certain periods of time during the O&M phase. Therefore, it should be noted that while up to 12 vessels may be on site at one time, the impact and Safety Zones in place will not be constant across the Proposed Development.

16.10.42 As described in Section 16.6, there are currently no active cables or pipelines within the Local Infrastructure and Other Users Study Area, however, as illustrated in Figure 16.9 and discussed in Paragraph 16.6.37, the EGL2 HVDC cable is expected to be operational by 2029. The potential loss of access to cables associated with the presence of structures would be considered in the commercial crossing agreements with operators to the extent that such a scenario would not be an impediment to operations. NtM and Kingfisher Bulletins will be issued regularly during periods of major maintenance, advising of the location, nature and timing of activities, and associated Safety Zones/advisory safe passing distances, ensuring that any maintenance works on existing cables and pipelines in the vicinity can be planned accordingly.

16.10.43 The impact is predicted to be of local spatial extent, short duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.10.44 It is anticipated that third-party vessels operating on cables and pipelines in the vicinity of the Proposed Development will be aware of the project O&M activities and they will be able to plan and re-route with reduced interference to access.

16.10.45 The receptor is deemed to be of medium vulnerability, medium recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.46 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.10.47 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

16.10.48 The effects of decommissioning activities within the Array Area are expected to be the same or similar to the effects from construction, as structures will be removed or cut at seabed level and left *in situ*.

16.10.49 The impact is predicted to be of local spatial extent, short duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.10.50 It is anticipated that third-party vessels operating on cables and pipelines in the vicinity of the Proposed Development will be aware of the project decommissioning activities and they will be able to plan and re-route with reduced interference to access. Any potential of impacts to cables will be mitigated through commercial crossing agreements to ensure communication between both parties and that loss of access is minimised.

16.10.51 The receptor is deemed to be of medium vulnerability, medium recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.10.52 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will therefore be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.10.53 No Additional Mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

16.11 Inter-Related Effects

16.11.1 A description of the likely inter-related effects arising from the Proposed Development on infrastructure and other users is provided in Volume 2, Chapter 23: Inter-Related Effects.

16.11.2 Inter-relationships are considered to be the impacts and associated effects of different aspects of Bowdun OWF on the same receptor. Inter-related effects are considered to be either:

- Lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of Bowdun OWF (construction, O&M and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three project stages (e.g. underwater sound effects from piling, operational Wind Turbines, vessels and decommissioning);
- Receptor-led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on infrastructure and other users, such as displacement of recreational activities and impacts to cables or pipelines or restrictions on access to these assets, may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer-term effects.

16.11.3 For infrastructure and other users, the following potential impacts have been considered within the inter-related effects assessment:

- physical restriction on space for recreational craft and recreational fishing vessels;
- physical restriction on space for recreational activities/recreational fishing; and
- physical impact or loss of access to early development cables and existing cables and pipelines.

16.11.4 Table 16.16 lists the inter-related effects (project lifetime effects) that are predicted to arise during the construction, O&M phase, and decommissioning of the Proposed Development and also the inter-related effects (receptor-led effects) that are predicted to arise for infrastructure and other users receptors.

16.11.5 As noted above, effects on infrastructure and other users also have the potential to have secondary effects upon other infrastructure and other users receptors and these effects are fully considered within this chapter. These receptors and effects are:

- displacement of recreational activities (including recreational sailing, cruising and recreational fishing);
    - physical restriction on space for recreational craft and recreational fishing vessels;

- displacement of recreational sailing and motor cruising, recreational fishing (boat angling);
- physical restriction on space for recreational activities/recreational fishing; and
- displacement of recreational fishing (shore angling) and other recreational activities (kayaking, coasteering, surfing and paddleboarding).

- impacts to early development cables or pipelines or restrictions on access to cables or pipelines:
  - physical impact to development cables and pipelines or loss of access to existing cables and pipelines.

Table 16.16: Summary of Likely Significant Inter-Related Effects for Infrastructure and Other Users from Individual Effects Occurring Across the Construction, O&M and Decommissioning Phase of the Proposed Development (Project Lifetime Effects) and from Multiple Effects Interacting Across all Phases (Receptor-led Effects)

Description of Impact	Phase*			Likely Significant Inter-Related Effects
	C	O&M	D	
Project Lifetime Effects				
Displacement of Recreational Activities (Including Recreational Sailing, Cruising and Recreational Fishing)	✓	✓	✓	The presence of Offshore Infrastructure, Safety Zones and/or advisory safety distances during the construction phase may result in the displacement of recreational craft and recreational fishing vessels from the Array Area and along the Export Cable Corridor. During the O&M phase, the presence of Offshore Infrastructure, operational Safety Zones and temporary Safety Zones and/or advisory safety distances around maintenance activities may result in the displacement of recreational craft and recreational fishing vessels from the Array Area and along the Export Cable Corridor. During the decommissioning phase, the presence of Offshore Infrastructure, Safety Zones and/or advisory safety distances may result in the displacement of recreational craft and recreational fishing vessels from the Array Area and along the Export Cable Corridor. The level of recreational activity within the Array Area is low. There is low recreational vessel activity in nearshore areas of the Export Cable Corridor, with boating and angling also taking place closer to shore, however any displacement along the Export Cable Corridor will be temporary. Therefore, across the project lifetime, the effects on recreational craft users and recreational fishing vessels are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Impacts to early development cables or pipelines or restrictions on access to cables or pipelines	✓	✓	✓	Cables and pipelines may be affected where they are crossed by Offshore Infrastructure. In addition, the presence of Offshore Infrastructure, Safety Zones and/or advisory safety distances may restrict access to existing cables and pipelines during construction, O&M and decommissioning activities. Cable and pipeline crossing agreements will be developed and implemented with each relevant cable and pipeline operator to minimise the potential for any impact. Crossing agreements will include the ability of a cable/pipeline operator to access their infrastructure as far as practical during the Proposed Development construction, O&M and decommissioning phases and the crossing agreements will ensure close communication and planning between the affected parties to ensure disruption of activities is minimised. Therefore, across the project lifetime, the effects on Infrastructure and Other Users are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Receptor-led Effects				
Potential exists for spatial and temporal interactions between direct and indirect impacts to infrastructure and other users receptors. Based on current understanding and expert knowledge, there is scope for potential inter-related impacts to arise from the physical restriction on space for recreational craft and recreational fishing vessels interacting with the displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities. Where both impacts overlap spatially and temporally, there is potential for inter-related effects as the restriction/displacement on movements of recreational activity may cover a larger area. However, as a vast extent of alternative resource for recreational activities will remain available, and the impacts initially identified were of minor adverse significance, these impacts are not likely to interact in a way that results in a significant inter-related effect.				

* Project Phase refers to construction (C), operation and maintenance (O) and decommissioning (D).

16.12 Cumulative Effects Assessment

Methodology

16.12.1 The Cumulative Effects Assessment (CEA) assesses the impact associated with the Proposed Development together with other relevant projects and activities. Cumulative effects are defined as the effect of the Proposed Development in combination with the effects from a number of different projects, on the same receptor or resource. Further details on CEA methodology are provided in Volume 1, Chapter 4: Environmental Impact Assessment Methodology.

16.12.2 The projects selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 3, Technical Appendix 4.4: Cumulative Effects Assessment - Screening). Volume 3, Technical Appendix 4.4: Cumulative Effects Assessment - Screening provides further information in relation to other projects and how this information is obtained and applied to the assessment. Each project has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

16.12.3 In undertaking the CEA for the Proposed Development, it is important to bear in mind that other projects under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to a cumulative impact alongside the Proposed Development. Therefore, a tiered approach has be adopted. This provides a framework for placing relative weight upon the potential for each project to be included in the CEA to ultimately be realised, based upon the project's current stage of maturity and certainty in the projects' parameters. The tiered approach which will be utilised within the Proposed Development CEA employs the following tiers:

- Tier 1 – The onshore elements of the Project;
- Tier 2 – Projects that have an application submitted, are consented, under construction or operational to the extent not already captured with the baseline;
- Tier 3 – Projects which have submitted a scoping report and/or have received a scoping opinion; and
- Tier 4 – Reasonably foreseeable projects including those with CES option or lease agreements.

16.12.4 The specific projects scoped into the CEA for infrastructure and other users, are outlined in Table 16.17.

16.12.5 The range of potential cumulative impacts that are identified and included in Table 16.18 below, is a subset of those considered for the Proposed Development alone assessment. This is because some of the potential impacts identified and assessed for the Proposed Development alone, are localised and temporary in nature. It is considered therefore, that these potential impacts have limited or no potential to interact with similar changes associated with other plans or projects. These have therefore been scoped out of the CEA.

16.12.6 Similarly, some of the potential impacts considered within the Proposed Development alone assessment are specific to a particular phase of development (e.g. construction, O&M or decommissioning). Where the potential for cumulative effects with other projects only have potential to occur where there is spatial or temporal overlap with the Proposed Development during certain phases of development, impacts associated with a certain phase may be omitted from further consideration where no projects have been identified that have the potential for cumulative effects during this period.

Table 16.17: List of Other Projects Considered within the CEA for Infrastructure and Other Users

Project	Status [i.e. Application, Consented, Under Construction, Operational]	Distance from Array Area (km)	Distance from Export Cable Corridor (km)	Description of Project	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development [e.g. Project Construction Phase Overlaps with Proposed Development Construction Phase]
Tier 1							
Bowdun Onshore Infrastructure	Application submitted but not yet determined	50.37 km (27.19 nm)	0.00 km	The Onshore Infrastructure associated with the Project.	2031 to 2034	2035 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Tier 2							
Offshore Wind Projects and Associated Cables							
Ossian Offshore Wind Farm	Application submitted but not yet determined	25.36 km (13.69 nm)	40.14 km (21.67 nm)	The Ossian Floating Wind project is proposed for up to 265 floating Wind Turbines with a capacity of 3,600 MW.	2031 to 2038	2039 onwards	Screened in due to potential for construction and O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Seagreen 1 Offshore Wind Farm	Operational	27.87 km (15.05 nm)	19.88 km (10.73 nm)	Seagreen 1 Offshore Wind Farm consists of 114 Wind Turbines at a capacity of 1,075 MW. Seagreen was consented with permission to install 150 Wind Turbines. The remaining 36 Wind Turbines are consented but not yet constructed (Seagreen 1A project).	N/A	2023 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Seagreen 1A Project	Consented	36.30 km (19.60 nm)	19.47 km (10.51 nm)	Seagreen 1A is made up of the 36 remaining Wind Turbines consented as part of the Seagreen 1 Offshore Wind Farm.	2029 to 2032	2033 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Seagreen Phase 1 Offshore Transmission Owners (OFTO)	Operational	40.48 km (21.85 nm)	32.37 km (17.47 nm)	Consented up to 6 export cables with no maximum capacity.	N/A	2025 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Seagreen Phase 1A OFTO	Consented	42.87 km (23.15 nm)	28.05 km (15.14 nm)	Consent includes an export cable approximately 110 km in length to a landfall location at Cockenzie.	2029 to 2032	2033 onwards	Screened in due to potential for construction and O&M phase to coincide with the construction and

Project	Status [i.e. Application, Consented, Under Construction, Operational]	Distance from Array Area (km)	Distance from Export Cable Corridor (km)	Description of Project	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development [e.g. Project Construction Phase Overlaps with Proposed Development Construction Phase]
							O&M phase of the Proposed Development.
Berwick Bank Wind Farm	Consented	46.53 km (25.12 nm)	47.70 km (25.75 nm)	Berwick Bank Offshore Wind Farm is proposed for up to 307 Wind Turbines with a capacity of up to 4,100 MW.	2027 to 2032	2033 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Berwick Bank OFTO (Cambois Connection)	Consented	46.53 km (25.12 nm)	47.70 km (25.75 nm)	Berwick Bank transmission is proposed for up to 4 cables with an operational lifetime of 35 years.	2026 to 2029	2030 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Muir Mhòr Offshore Wind Farm	Application submitted but not yet determined	52.50 km (28.35 nm)	66.47 km (35.89 nm)	Muir Mhòr Offshore Wind Farm is proposed for up to 67 Wind Turbines at a capacity of 798 MW.	2027 to 2030	2031 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Salamander Offshore Wind Farm	Consented	58.68 km (31.68 nm)	69.52 km (37.53 nm)	Salamander Offshore Wind Farm is proposed for up to 100 MW.	2027 to 2029	2030 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Inch Cape OFTO	Under Construction	65.87 km (35.56 nm)	35.14 km (18.97 nm)	2 export cables with a capacity of 220 kV approximately 85 km in length between the landfall point at Cockenzie in East Lothian and the development area.	2025 to 2026	2027 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Neart Na Gaoithe Offshore Wind	Operational	80.49 km (43.46 nm)	51.16 km (27.62 nm)	Neart na Gaoith Offshore Wind Farm is 54 Wind Turbines with a capacity of 450 MW.	N/A	2025 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Neart Na Gaoithe OFTO	Operational	86.23 km (46.56 nm)	58.26 km (31.45 nm)	2 export cables with 220 kV capacity to landfall location at Thorntonloch Beach on the East Lothian coast.	N/A	2025 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Aspen Offshore Wind Farm	Application submitted but not yet determined	88.37 km (47.71 nm)	102.23 km (55.19 nm)	Floating offshore wind farm proposed for up to	2027 to 2031	2032 onwards	Screened in due to potential for

Project	Status [i.e. Application, Consented, Under Construction, Operational]	Distance from Array Area (km)	Distance from Export Cable Corridor (km)	Description of Project	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development [e.g. Project Construction Phase Overlaps with Proposed Development Construction Phase]
				1,000 MW and up to 72 Wind Turbines			construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Cables and Pipelines							
EGL 2	Under Construction	0.00 km	12.33 km (6.65 nm)	2 GW subsea cable connecting Peterhead in Aberdeenshire and Drax in North Yorkshire.	2024 to 2028	2029 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phases of the Proposed Development.
Spittal to Peterhead HVDC Link Project	Under Construction	62.49 km (33.74 nm)	70.89 km (38.27 nm)	Construction of a new 172 km, 2 GW, 525 kV subsea HVDC electricity transmission link in the Moray Firth. Marine licence granted 18/11/2025. Enabling works underway with main works starting in April 2026.	2026 to 2029	2030 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phases of the Proposed Development.
Tier 3							
Offshore Wind Projects and Associated Cables							
Morven Hawthorn Pit Grid Connection Project	Pre-Application	1.81 km (0.97 nm)	17.41 km (9.40 nm)	Consists of the onshore and offshore infrastructure associated with the Morven Offshore Wind Farm. Up to 6 export cables.	2029 to 2032	2033 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Morven North Offshore Wind Farm	Pre-Application	10.03 km (5.42 nm)	22.20 km (11.98 nm)	Morven North Offshore Wind Array Project is proposed for up to 96 Wind Turbines at a capacity of 1500 MW. Application of relevant consents and licences expected in 2026 with decision in 2027.	2030 to 2036	2037 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.
Morven South Offshore Wind Farm	Pre-Application	43.61 km (23.55 nm)	53.83 km (29.06 nm)	Morven South Offshore Wind Array Project is proposed for up to 95 Wind Turbines at a capacity of 1500 MW. Application of relevant consents and licences expected in 2026 with decision in 2027.	2030 to 2036	2037 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.

Project	Status [i.e. Application, Consented, Under Construction, Operational]	Distance from Array Area (km)	Distance from Export Cable Corridor (km)	Description of Project	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development [e.g. Project Construction Phase Overlaps with Proposed Development Construction Phase]
Ossian Transmission Infrastructure	Pre-Application	25.28 km (13.65 nm)	40.03 km (21.61 nm)	Up to 6 export cables with a maximum total length of offshore cable route of 509 km. Anticipated application submission in the latter half of 2026. Operational lifetime 35 years.	2030 to 2033	2034 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phases of the Proposed Development.
Bellrock Offshore Wind Farm	Pre-Application	62.23 km (33.60 nm)	79.55 km (42.95 nm)	Bellrock Offshore Wind Farm is proposed for a capacity of 1,800 MW with between 42 and 80 Wind Turbines.	2027 to 2030	2031 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Cables and Pipelines							
Eastern Green Link 3	Pre- Application	6.28 km (3.39 nm)	23.76 km (12.82 nm)	Scoping application. The project comprises a 2 GW system linking Aberdeenshire in Scotland and Lincolnshire in England. Approximately 575 km of subsea HVDC cable from Lincolnshire to a proposed Landfall at Sandford Bay, Peterhead.	2028 to 2030	2031 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phases of the Proposed Development.
Central North Sea Electrification (CNSE) Project[1]	Pre-Application	36.00 km (19.44 nm)	46.20 km (24.94 nm)	Scoping request for the electrification of existing oil and gas infrastructure in the central North Sea. The infrastructure includes an onshore convertor station, an offshore convertor station, 66 kV offshore cabling connecting CNSE assets, 80 kV cabling to landfall, and 80 kV cabling from landfall to the onshore convertor station. Scoping Report submitted in May 2023.	2027 to 2028	2029 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phase of the Proposed Development.
Eastern Green Link 5	Pre- Application	72.20 km (38.98 nm)	82.90 km (44.76 nm)	Eastern Green Link 5 (EGL5) is a new primarily offshore high	2030 to 2034	2035 onwards	Screened in due to potential for construction and O&M

[1] Please note that there are no precise coordinates available for the CNSE Project, and it cannot be georeferenced. As a result, it has not been included within Figure 16.10.

Project	Status [i.e. Application, Consented, Under Construction, Operational]	Distance from Array Area (km)	Distance from Export Cable Corridor (km)	Description of Project	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development [e.g. Project Construction Phase Overlaps with Proposed Development Construction Phase]
				voltage electricity link between Scotland and England. Approximately 555 km of subsea HVDC cable from the Lincolnshire coastline to Scotland. Cable landfall in Scotland to be confirmed.			phases to coincide with the construction and O&M phase of the Proposed Development.
Eastern Green Link 4	Pre- Application	94.96 km (51.27 nm)	73.68 km (39.78 nm)	Scoping application. The project comprises a 2 GW system linking Lincolnshire in England and Fife in Scotland. Approximately 525 km of subsea HVDC cable from Lincolnshire to the Fife landfall either at Kinghorn or Largo Bay.	2027 to 2030	2031 onwards	Screened in due to potential for O&M phase to coincide with the construction and O&M phases of the Proposed Development.
Coastal Projects							
Fraserburgh Harbour Development	Pre-Application	78.98 km (42.65 nm)	85.99 km (46.43 nm)	Proposed works to existing harbour improvement and construction of New South Harbour. Proposed works include relocation of existing south breakwater box berth, dredging and widening of the entrance of two harbours, a jetty and a pier, installation of pontoons and dredging the existing channel, extension of breakwater, installation of new breakwater, dredging and installation of new dry dock.	2028 to 2032	2033 onwards	Screened in due to potential for construction and O&M phases to coincide with the construction and O&M phase of the Proposed Development.

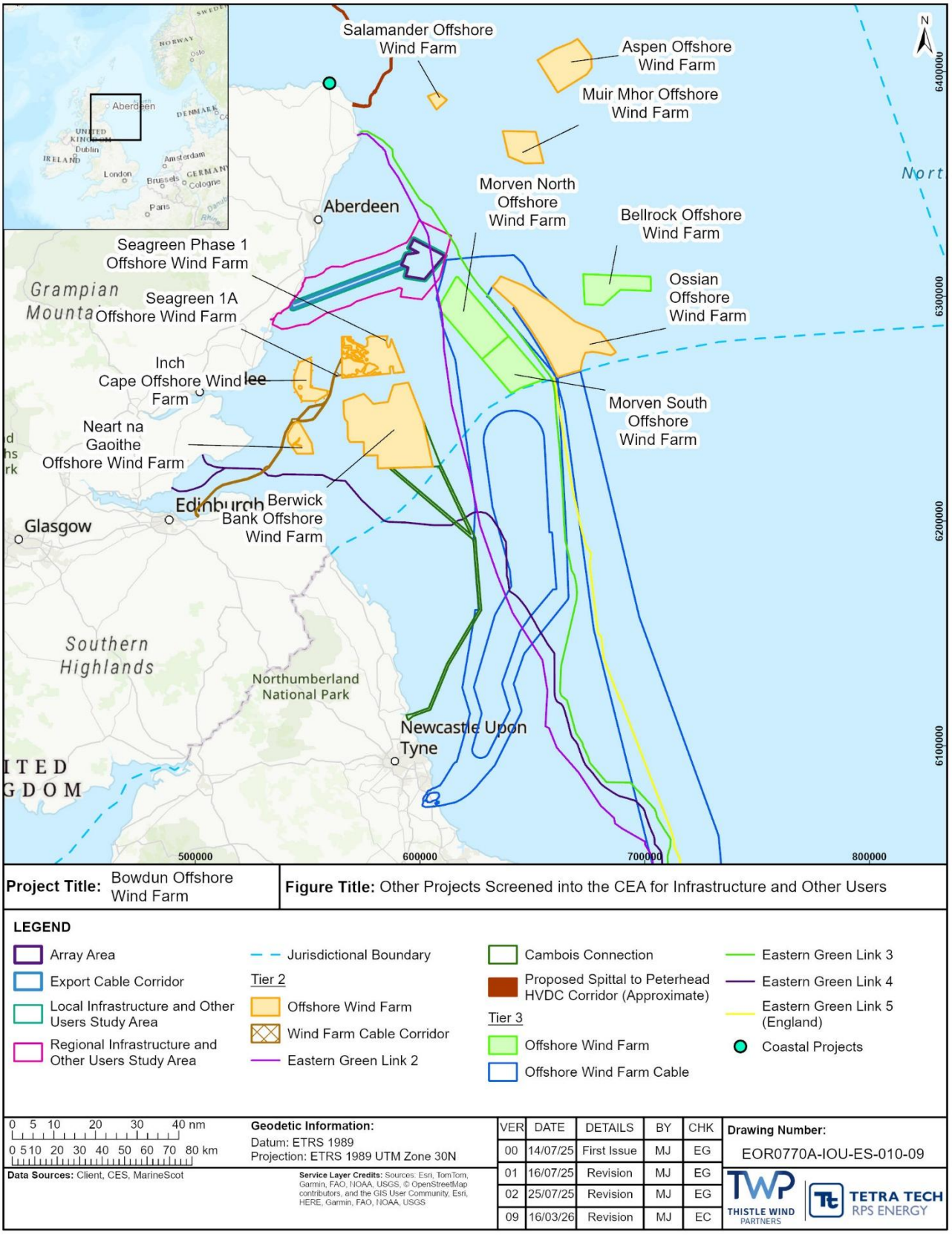

Figure 16.10: Other Projects Screened into the CEA for Infrastructure and Other Users

Maximum Design Scenario

16.12.7 The MDS identified in Table 16.18 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the details provided in Volume 1, Chapter 3: Project Description as well as the information available on other projects (see Volume 3, Technical Appendix 4.4: Cumulative Effects Assessment - Screening), to inform a 'MDS'. Any other development scenario within the PDE, will result in the same, or less, level of environmental effect.

Table 16.18: MDS Considered for Each Impact as part of the Assessment of Likely Significant Cumulative Effects on Infrastructure and Other Users

Potential Cumulative Effect	Phase*			Tier	MDS
	C	O&M	D		
Displacement of recreational activities (including recreational sailing, cruising and recreational fishing) due to Safety Zones and/or advisory safe passing distances in the Proposed Development may result in a loss of recreational resource.	✓	✓	✓	Tier 1 • Bowdun Onshore Infrastructure. Tier 2 • Aspen OWF; • Berwick Bank OWF; • Berwick Bank OFTO (Cambois Connection); • Muir Mhòr OWF; • Ossian OWF; • Salamander OWF; • Seagreen 1 OWF; • Seagreen Phase 1 OFTO; • Seagreen 1A Project; • Seagreen 1A OFTO; • Inch Cape OFTO; • Neart Na Gaoithe OFTO; • Neart Na Gaoithe OWF; • EGL 2; and • Spittal to Peterhead HVDC Link Project. Tier 3: • Bellrock OWF; • Morven North OWF; • Morven South OWF; • Morven Hawthorn Pit Grid Connection Project; • Ossian Transmission Infrastructure; • Fraserburgh Harbour Development; • CNSE;	MDS as described for the Proposed Development (Table 16.9) assessed cumulatively with the following other projects present.

Potential Cumulative Effect	Phase*			Tier	MDS
	C	O&M	D		
				• EGL 3; • EGL 4; and • EGL 5.	
Physical impact to early development cables or loss of access to existing cables and pipelines due to Safety Zones and advisory safe passing distances in the Proposed Development may result in other operators unable to carry out maintenance activities on their assets.	×	✓	×	Tier 2 • Aspen OWF; • Berwick Bank OWF; • Berwick Bank OFTO (Cambois Connection); • Muir Mhòr OWF; • Ossian OWF; • Salamander OWF; • Seagreen 1 OWF; • Seagreen Phase 1 OFTO; • Seagreen 1A Project; • Seagreen 1A OFTO; • Inch Cape OFTO; • Neart Na Gaoithe OFTO; • Neart Na Gaoithe OWF; • EGL 2; and • Spittal to Peterhead HVDC Link Project. Tier 3: • Bellrock OWF; • Morven North OWF; • Morven South OWF; • Morven Hawthorn Pit Grid Connection Project; • Ossian Transmission Infrastructure; • Fraserburgh Harbour Development; • CNSE; • EGL 3;	MDS as described for the Proposed Development (Table 16.9) assessed cumulatively with the following other projects present.

Potential Cumulative Effect	Phase*			Tier	MDS
	C	O&M	D		
				• EGL 4; and • EGL 5	

* Project Phase refers to construction (C), O&M (O) and decommissioning (D).

Cumulative Effects Assessment

16.12.8 An assessment of the likely significance of the cumulative effects of the Proposed Development upon infrastructure and other users receptors arising from each identified impact is given below. There are no Tier 4 projects carried through to CEA due to no pathway for Infrastructure and Other Users cumulative effects to arise between the Proposed Development and Tier 4 projects based on the criteria set out in Paragraph 16.12.2.

Displacement of Recreational Activities (Including Recreational Railing, Cruising and Recreational Fishing) Due to Safety Zones and/or Advisory Safe Passing Distances in the Proposed Development May Result in a Loss of Recreational Resource.

Tier 1, 2 and 3

Construction Phase

Magnitude of Impact

16.12.9 The installation of Offshore Infrastructure within the Array Area and along the Export Cable Corridor, together with the Tier 1, 2, and Tier 3 projects identified in Table 16.17, may displace recreational activities, resulting in a loss of recreational resource.

16.12.10 Medium intensity recreational boating occurs parallel to the coastline with AIS tracks extending between Peterhead, Aberdeen and Montrose ports (Figure 16.3). Small levels of displacement may also occur due to site investigation activities, or the movement of vessels associated with Berwick Bank OWF, Ossian OWF, Salamander OWF, Morven North OWF and Morven South OWF.

16.12.11 The spatial extent of the impact on recreational activities taking place off the east coast from Montrose to Aberdeen will be relatively small in the context of available sailing, boating and sea angling area in the wider vicinity, with the potential for localised displacement of recreational craft from the individual Safety Zones and advisory safe passing distances around structures and vessels associated with each project. The impact of Safety Zones in place during the construction phase is mostly reversible as they are temporary in nature and once each structure has been installed and commissioned these will be removed. Advisory safe passing distances around vessels will be transient as the vessel progresses through the relevant installation, maintenance and survey activity. It is unlikely that the activities of all projects would temporally coincide to displace the same recreational vessel on multiple events.

16.12.12 As described in Table 16.15, NtM will be issued regularly during the construction phase, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. The Applicant will also distribute Kingfisher Bulletins and other navigational warnings of the position and nature of works associated with the Proposed Development. Similar measures are likely to apply at the other projects as standard practice.

16.12.13 The cumulative impact is predicted to be of regional spatial extent, short to medium-term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of Receptor

16.12.14 It is anticipated that recreational activities (including recreational sailing, cruising and recreational fishing) will be able to alter their route or transit past installation activities and associated advisory Safety Zones and advisory safe passing distances, given the adequate sea room in the vicinity of each project. There are other locations available for sailing, recreational boating and sea angling which are unlikely to be affected by multiple projects concurrently, such that alternatives are available.

16.12.15 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of Effect

16.12.16 Overall, the magnitude of the cumulative effect is deemed to be low, and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.12.17 No Additional Mitigation is considered necessary because the likely cumulative effect in the absence of Additional Mitigation is not significant in EIA terms.

O&M Phase

Magnitude of Impact

16.12.18 The presence of Offshore Infrastructure and/or O&M activities within the Array Area and along the Export Cable Corridor, together with the Tier 1, 2 and Tier 3projects identified in Table 16.17, may displace recreational activities, resulting in a loss of recreational resource.

16.12.19 The construction and O&M phases of Berwick Bank OWF, Ossian OWF, and Salamander OWF overlap with the O&M phase of the Proposed Development. Berwick Bank and Salamander OWF have consent and Ossian OWF has submitted consent application and are awaiting decision. All these projects have described similar maintenance activities as the Proposed Development. Ossian OWF has a 35-year O&M period involving up to 31 vessels on site at any one time, undertaking activities such as routine inspections, repairs, removal of growth or fishing debris (SSE Renewables, 2024). O&M activities at Berwick Bank OWF will result in a maximum of 12 vessels on site at any one time, and at Salamander OWF, also a maximum of 12 vessels on site at any one time (Orsted, 2024).

16.12.20 A scoping report has been completed for the Fraserburgh Harbour development. This project involves the construction of a new harbour to incorporate extensive quayside space and a dry dock as well as improvements to the existing harbour, notably an extended ship lift facility and a deeper, wider entrance (Fraserburgh Harbour Commissioners, 2025). The construction and O&M activities of this project are predicted to overlap with the O&M of the Proposed Development. Construction will involve techniques such as demolition, underwater blasting and dredging, and operation activities have been listed to include material delivery by cargo vessels, deepwater berthing for cruise liners, and site for marine engineering works. The site of the new harbour development has been identified as a location where Broch Surf Club use the beach for surfing activities and thus impacts upon recreational users has been scoped into the Fraserburgh Harbour Development EIA, which at the time of writing is yet to be published.

16.12.21 As described in Section 16.6, there are a number of recreational vessel activities taking place off the east coast from Montrose to Aberdeen, with activity likely to be concentrated inshore of the projects considered in this cumulative assessment. Once the infrastructure has been installed for each project, only temporary and infrequent maintenance is likely to be required over the project lifetimes, which is unlikely to take place concurrently at multiple project locations. Therefore, the potential for cumulative displacement of recreational activities within the nearshore sea area is considered to be low. There is potential for recreational vessels undertaking long distance journeys further offshore to be displaced by the presence of infrastructure within each application area, however, the occurrence of such displacement is considered to be infrequent and minimal.

16.12.22 The spatial extent of the impact on recreational boating activities taking place off the east coast from Montrose to Aberdeen will be relatively small in the context of available sailing, boating and sea angling area in the wider vicinity, with the potential for localised displacement of recreational craft from the individual Safety Zones and advisory safe passing distances around structures and vessels associated with major maintenance activities at each project. It is improbable that maintenance activities at all projects would temporally coincide to displace the same recreational vessel on multiple events.

16.12.23 As described in Table 16.15, NtM will be issued regularly during the lifetime of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. The Applicant will also distribute Kingfisher Bulletins and other navigational warnings of the position and nature of works associated with the Proposed Development. Similar measures are likely to apply at the other projects as standard practice.

16.12.24 The cumulative impact is predicted to be of regional spatial extent, long term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of Receptor

16.12.25 It is anticipated that recreational activities (including recreational sailing, cruising and recreational fishing) will be able to alter their route or transit past installation activities and associated Safety Zones and advisory safe passing distances, given the adequate sea room in the vicinity of each project. There are other locations available for sailing, recreational boating and sea angling which are unlikely to be affected by multiple projects concurrently, such that alternatives are available.

16.12.26 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of Effect

16.12.27 Overall, the magnitude of the cumulative effect is deemed to be low, and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.12.28 No Additional Mitigation is considered necessary because the likely cumulative effect in the absence of Additional Mitigation is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

16.12.29 The decommissioning of Offshore Infrastructure within the Array Area and along the Export Cable Corridor, together with the Tier 1, 2 and Tier 3 projects identified in Table 16.17, may displace recreational activities, resulting in a loss of recreational resource.

16.12.30 The magnitude of impact is predicted to be equal to or less than described for the construction phase in Paragraphs 16.12.10 to 16.12.12, and is not repeated here.

16.12.31 The cumulative impact is predicted to be of regional spatial extent, short to medium-term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of Receptor

16.12.32 The sensitivity of the receptor is predicted to be equal to or less than described for the construction phase in paragraphs 16.12.9 to 16.12.13, and is not repeated here.

16.12.33 The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of Effect

16.12.34 Overall, the magnitude of the cumulative effect is deemed to be low, and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.12.35 No Additional Mitigation is considered necessary because the likely cumulative effect in the absence of Additional Mitigation is not significant in EIA terms.

Physical Impact to Early Development Cables or Loss of Access to Existing Cables and Pipelines Due to Safety Zones and Advisory Safe Passing Distances in the Proposed Development May Result in Other Operators Unable to Carry Out Maintenance Activities on Their Assets.

Tier 2, and 3

O&M Phase

Magnitude of Impact

16.12.36 The presence of Offshore Infrastructure and/or O&M activities within the Array Area and along the Export Cable Corridor, together with the Tier 2 and Tier 3 projects identified in Table 16.17, may impact upon early development cables and restrict access to existing cables and pipelines due to increased presence of vessels and temporary Safety Zones and/or advisory safe passing distances, resulting in a loss of access to these assets.

16.12.37 The spatial extent of the impact on accessibility to early development cables and existing cables and pipelines in the vicinity of the Proposed Development, together with Tier 2 and 3 projects will be relatively small. Any restriction of access with any Safety Zones and/or advisory safe passing distances placed around structures or individual vessels carrying out major maintenance activities is expected to be temporary in nature, and it is unlikely that the activities of all projects would temporarily coincide to restrict the access to existing cables and pipelines, or to early development cables.

16.12.38 As described in Table 16.15, NtM will be issued regularly during the O&M phase, advising of the location, nature and timing of activities, and associated Safety Zones and or advisory safe passing distances, ensuring that construction and maintenance works on development and existing cables and pipelines can be planned accordingly. The Applicant will also distribute Kingfisher Bulletins and other navigational warnings of the position and nature of works associated with the Proposed Development. Similar measures are likely to apply at the other projects as standard practice.

16.12.39 The cumulative impact is predicted to be of regional spatial extent, short to medium-term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is considered to be low.

Sensitivity of the Receptor

16.12.40 It is anticipated that third-party vessels operating on cables and pipelines in the vicinity of the Proposed Development will be aware of the project maintenance activities and they will be able to plan and re-route with reduced interference to access.

16.12.41 Crossing agreements alongside continued and regular communication with cable and pipeline operators in line with industry standard will ensure relevant parties are kept informed of planned maintenance activities in order to minimise spatial and temporal interactions between conflicting activities and enable continued and coordinated activities.

16.12.42 The receptor is deemed to be of medium vulnerability, medium recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

16.12.43 Overall, the magnitude of the cumulative effect is deemed to be low, and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **Minor** adverse significance, which is not significant in EIA terms.

Additional Mitigation and Residual Effect

16.12.44 No Additional Mitigation is considered necessary because the likely cumulative effect in the absence of Additional Mitigation is not significant in EIA terms.

16.13 Proposed Monitoring

16.13.1 No monitoring to test the predictions made within the assessment of likely significant environmental effects on infrastructure and other users is considered necessary.

16.14 Transboundary Effects

16.14.1 A screening of transboundary effects has been carried out (see Volume 3, Technical Appendix 4.5: Transboundary Impacts - Screening) and has identified that there were no likely significant transboundary effects with regard to infrastructure and other users from the Proposed Development upon the interests of European Economic Area (EEA) states.

16.15 Summary of Impacts, Mitigation, Likely Significant Environmental Effects and Monitoring

16.15.1 Information on infrastructure and other users within the Infrastructure and Other Users Study Areas was collected through desktop review and consultation, in addition to data obtained through the VTS which can be found in Volume 3, Technical Appendix 14.1: Shipping and Navigation Navigational Risk Assessment. This information is summarised in Table 16.19 and Table 16.20.

16.15.2 Table 16.19 presents a summary of the potential impacts, Embedded Mitigation and the conclusion of likely significant environmental effects in EIA terms in respect to infrastructure and other users. The impacts assessed include:

- displacement of recreational activities (including recreational sailing, cruising and recreational fishing); and
- Impacts to early development cables or pipelines or restrictions on access to cables or pipelines.

16.15.3 Overall, it is concluded that there will be no likely significant environmental effects arising from the Proposed Development during the construction, O&M or decommissioning phases.

16.15.4 Table 16.20 presents a CEA on infrastructure and other users in EIA terms. The cumulative effects assessed include:

- displacement of recreational activities (including recreational sailing, cruising and recreational fishing) due to Safety Zones and/or advisory safe passing distances in the Proposed Development may result in a loss of recreational resource; and
- physical impact to early development cables or loss of access to existing cables and pipelines due to Safety Zones and advisory safe passing distances in the Proposed Development may result in other operators unable to carry out maintenance activities on their assets.

16.15.5 Overall, it is concluded that there will be no likely significant cumulative effects from the Proposed Development alongside other projects.

16.15.6 No likely significant transboundary effects have been identified in regard to effects of the Proposed Development.

Table 16.19: Summary of Assessment of Significance

Description of Impact	Embedded Mitigation ID	Magnitude of Impact	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Significance Residual Effect	Proposed Monitoring
Construction Phase							
Impact 1: Displacement of Recreational Activities (Including Recreational Sailing, Cruising and Recreational Fishing)	1, 7, 9, 12, 13, 16, 17, 20, 23, 41, 42, 49, 50	Low	Medium	Minor adverse	None	N/A	None
Impact 2: Impacts to early development cables or pipelines or restrictions on access to cables or pipelines	44, 45	Low	Medium	Minor adverse	None	N/A	None
Operation and Maintenance Phase							
Impact 1: Displacement of Recreational Activities (Including Recreational Sailing, Cruising and Recreational Fishing)	1, 7, 9, 12, 13, 16, 17, 20, 23, 41, 42, 49, 50	Low	Medium	Minor adverse	None	N/A	None
Impact 2: Impacts to early development cables or pipelines or restrictions on access to cables or pipelines	44, 45	Low	Medium	Minor adverse	None	N/A	None
Decommissioning Phase							
Impact 1: Displacement of Recreational Activities (Including Recreational Sailing, Cruising and Recreational Fishing)	1, 7, 9, 12, 13, 16, 17, 20, 23, 41, 42, 49, 50	Low	Medium	Minor adverse	None	N/A	None
Impact 2: Impacts to early development cables or pipelines or restrictions on access to cables or pipelines	44, 45	Low	Medium	Minor adverse	None	N/A	None

Table 16.20: Summary of CEA

Description of Impact	CEA Tier	Magnitude of Impact	Sensitivity of Receptor	Significance of Effect	Additional Mitigation	Significance Residual Effect	Proposed Monitoring
Construction Phase							
Displacement of recreational activities (including recreational sailing, cruising and recreational fishing) due to Safety Zones and/or advisory safe passing distances in the Proposed Development may result in a loss of recreational resource	Tier 1, Tier 2 and Tier 3	Low	Medium	Minor adverse	None	N/A	None
O&M Phase							
Displacement of recreational activities (including recreational sailing, cruising and recreational fishing) due to Safety Zones and/or advisory safe passing distances in the Proposed Development may result in a loss of recreational resource	Tier 1, Tier 2 and Tier 3	Low	Medium	Minor adverse	None	N/A	None
Physical impact to early development cables or loss of access to existing cables and pipelines due to Safety Zones and advisory safe passing distances in the Proposed Development may result in other operators unable to carry out maintenance activities on their assets.	Tier 2 and Tier 3	Low	Medium	Minor adverse	None	N/A	None
Decommissioning Phase							
Displacement of recreational activities (including recreational sailing, cruising and recreational fishing) due to Safety Zones and/or advisory safe passing distances in the Proposed Development may result in a loss of recreational resource	Tier 1, Tier 2 and Tier 3	Low	Medium	Minor adverse	None	N/A	None

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