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MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Environmental Statement

Volume 2, Chapter 9: Other sea users

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Prepared for:

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Contents

Tables

Figures (See Volume 2, Figures)

Glossary

Term	Meaning
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Design envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for EIA purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Duration (of impact)	The time over which an impact occurs. An impact may be described as short, medium or long-term and permanent or temporary.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Export cable corridor	The specific corridor of seabed (seaward of Mean High Water Springs and land (landward of Mean High Water Springs) from the Generation Assets to the National Grid Penwortham substation.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Intertidal area	The area between Mean High Water Springs and Mean Low Water Springs.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Marine aggregate	Marine dredged sand and/or gravel.
Marine aggregate extraction	The process of removing naturally occurring sand and gravels.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for to apply for 'deemed marine licences' in English waters as part of the development consent process.
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.

Term	Meaning
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morecambe OWL	Morecambe Offshore Windfarm Limited is a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) (Cobra) and Flotation Energy Ltd.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.
Morgan Offshore Wind Project: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between bp Alternative Energy investments Ltd. and Energie Baden-Württemberg AG (EnBW).
Notice to Mariners	Issued from a number of different sources, such as the UK Hydrographic Office, Trinity House or Local Harbour Authorities. Contain important navigational information such as chart updates, changes in buoyage, prior warning of activities such as dredging, exclusion zones, harbour closures and byelaws etc.
Offshore export cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Order limits	The limits within which the Transmission Assets may be carried out.
Reversibility	A reversible impact is one where recovery is possible naturally in a relatively short time period, or where mitigation measures can be effective at reversing the impact. An irreversible impact may occur when recovery is not possible within a reasonable timescale, or there is no reasonable chance of action being taken to reverse it.
Safety zones	An area around a structure or vessel which should be avoided.

Term	Meaning
Scoping Opinion	Sets out the Planning Inspectorate's response (on behalf of the Secretary of State) to the Scoping Report prepared by the Applicants. The Scoping Opinion contains the range of issues that the Planning Inspectorate, in consultation with statutory stakeholders, has identified should be considered within the Environmental Impact Assessment process.
Seismic survey	The technique involves releasing pulses of acoustic energy along designated lines, the energy penetrates the sub-surface rocks and is reflected back to the surface where it can be detected by acoustic transducers and relayed to a recording vessel.
Study area	This is an area which is defined for each environmental topic which includes the Transmission Assets Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors. The study area for each topic is intended to cover the area within which an impact can be reasonably expected.
Tidal excursion	The net horizontal distance travelled by a water particle from Mean Low Water Springs (MLWS) to Mean High Water Springs (MHWS) or vice versa.
Transboundary effects	Effects from a project within one state that affect the environment of another state(s).
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
Transmission Assets Order Limits: Offshore	The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning. Also referred to in this report as the Offshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
CCS	Carbon Capture and Storage
CCUS	Carbon Capture, Usage and Storage
CEA	Cumulative Effects Assessment
CTV	Crew Transfer Vessel
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EMODnet	European Marine Observation and Data Network
ES	Environmental Statement

Acronym	Meaning
ESCA	European Subsea Cables Association
ICPC	International Cable Protection Committee
IEMA	Institute of Environmental Management and Assessment
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NPS	National Policy Statement
NSTA	North Sea Transition Authority
OSP	Offshore Substation Platform
PEIR	Preliminary Environmental Information Report
REWS	Radar Early Warning Systems
RYA	Royal Yachting Association
SOV	Service Operation Vessel
SSC	Suspended Sediment Concentrations
TCE	The Crown Estate
UK	United Kingdom
UKCS	United Kingdom Continental Shelf

Units

Unit	Description
%	Percentage
km	Kilometres
km^2	Square kilometres
m	metre
MW	Megawatt
m^3	Metres cubed
nm	Nautical mile

9 Other sea users

9.1 Introduction

9.1.1 Overview

9.1.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) undertaken for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets. For ease of reference the Morgan and Morecambe Offshore Wind Farms Transmission Assets are referred to in this chapter as the 'Transmission Assets'. This ES accompanies the application to the Planning Inspectorate for development consent for the Transmission Assets.

9.1.1.2 The purpose of the Transmission Assets is to connect the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (referred to collectively as the 'Generation Assets') to the National Grid. A description of the Transmission Assets can be found in Volume 1, Chapter 3: Project description of the ES.

9.1.1.3 This chapter considers the likely impacts, effects and associated mitigation measures of the Transmission Assets on other sea users during the construction, operation and maintenance, and decommissioning phases. Specifically, it relates to the offshore elements of the Transmission Assets (the offshore export cables) seaward of Mean High Water Springs.

9.1.1.4 This ES chapter:

- identifies the key legislation, policy and guidance relevant to other sea users;
- details the EIA scoping and consultation process undertaken to date for other sea users;
- confirms the study area for the assessment, the methodology used to identify baseline environmental conditions, and sets out the existing and future environmental baseline conditions established from desk studies, surveys and consultation;
- identifies the scope of the assessment;
- details the mitigation and/or monitoring measures that are proposed to prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process;
- defines the project design parameters used to inform the impact assessment;
- identifies the impact assessment methodology and presents an assessment of the likely impacts and effects in relation to the construction, operation and maintenance, and decommissioning phases of the Transmission Assets on other sea users (and, where relevant, the impacts and effects of other sea users on the Transmission Assets); and

- identifies any cumulative, transboundary and/or inter-related effects in relation to the construction, operation and maintenance, and decommissioning phases of the Transmission Assets on other sea users.

9.2 Legislative and policy context

9.2.1 Planning policy context

9.2.1.1 The Transmission Assets will be located in English offshore waters (beyond 12 nautical miles (nm) from the English coast) and inshore waters (within 12 nm from the English coast), with the onshore infrastructure located wholly within England. As set out in Volume 1, Chapter 1: Introduction of the ES, the Secretary of State for Energy Security and Net Zero (formerly Business, Energy and Industrial Strategy) has directed that the Transmission Assets are to be treated as a development for which development consent is required under the Planning Act 2008.

National Policy Statements

9.2.1.2 There are currently six energy National Policy Statements (NPSs), three of which contain policy relevant to offshore wind development and the Transmission Assets, specifically:

- the Overarching NPS for Energy (NPS EN-1) which sets out the United Kingdom (UK) Government's policy for the delivery of major energy infrastructure (Department for Energy Security & Net Zero, 2023a);
- the NPS for Renewable Energy Infrastructure (NPS EN-3) (Department for Energy Security & Net Zero, 2023b); and
- the NPS for Electricity Networks Infrastructure (NPS EN-5) (Department for Energy Security & Net Zero, 2023c).

9.2.1.3 Although NPS: EN-1, EN-3, and EN-5 all contain policy relevant to offshore wind development, only NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the other sea users assessment, thus NPS-EN-5 is not considered further within this chapter.

9.2.1.4 **Table 9.1** sets out a summary of the policies within these NPSs, relevant to other sea users.

9.2.1.5 The policies within the current NPSs relevant to all topics in the ES can be viewed in the National Policy Statement tracker (document reference J26) and Planning Statement (document reference J28), submitted with the Application.

Table 9.1: Summary of the NPS EN-1 and NPS EN-3 requirements relevant to other sea users

Summary of NPS provision	How and where considered in the ES
NPS EN-1	
The historical approach to connecting offshore wind resulted in individual radial connections developed project-by-project. This may continue to be the most appropriate approach for some areas with single offshore wind projects that are not located in the vicinity of other offshore wind and/or offshore infrastructure that is planned or foreseen in the near future. For regions with multiple windfarms or offshore transmission projects it is expected that a more coordinated approach will be delivered. For these areas, this approach is likely to reduce the network infrastructure costs as well as the cumulative environmental impacts and impacts on coastal communities by installing a smaller number of larger connections, each taking power from multiple windfarms instead of individual point-to-point connections for each windfarm. (EN-1, paragraph 3.3.71)	As per Volume 1, Chapter 1: Introduction of the ES, the Transmission Assets is a joint application between the Morgan Offshore Wind Project: Generation Assets and the Morecambe Offshore Windfarm: Generation Assets.
It is important that new energy infrastructure does not unacceptably impede or compromise the safe and effective use of any defence assets or operations. (EN-1, paragraph 5.5.35)	The Ministry of Defence have not, at any point of the consultation undertaken, objected to the Transmission Assets.
NPS EN-3	
There are statutory requirements concerning automatic establishment of navigational safety zones relating to offshore petroleum developments. (EN-3, paragraph 2.8.341)	Safety zones and advisory clearance distances are one of the measures adopted in **Table 9.12** (CoT66) to ensure compatibility with offshore petroleum receptors. This is in line with Section 21, Part 3 of the Petroleum Act 1987.
The Secretary of State should not consent applications which pose intolerable risks to safety after mitigation measures have been considered. (EN-3, paragraph 2.8.346)	Full risk assessments for both the Transmission Assets alone and in-combination with other projects, plans and activities are presented in **sections 9.11** and **9.13** respectively. No impacts will pose an intolerable risk to safety.
Where a proposed development is likely to affect the future viability or safety of an existing or approved/licensed offshore infrastructure or activity, the Secretary of State should give these adverse effects substantial weight in its decision-making. (EN-3, paragraph 2.8.347)	Full risk assessments for both the Transmission Assets alone and in-combination with other projects, plans and activities are presented in **sections 9.11** and **9.13** respectively. No impacts will have a significant impact on the future viability of any existing or approved/licensed offshore infrastructure or activity.
There may be constraints imposed on the siting or design of offshore wind farms because of the presence of other offshore infrastructure, such as co-existence/co-location, oil and gas, Carbon Capture, Usage and Storage (CCUS), co-location of electrolysers for hydrogen production, marine aggregate dredging, telecommunications, or activities such as aviation and recreation. (EN-3, paragraph 2.8.44)	The baseline environment considering other offshore infrastructure and activities is presented in **section 9.6** and constraints have been considered within Volume 1, Chapter 4: Site selection and consideration of alternatives of the ES. Consultation with potentially affected stakeholders has been carried out from the early stages of the Transmission Assets and has continued throughout the pre-application

Summary of NPS provision	How and where considered in the ES
	consultation process. Details of this are presented in Table 9.3**Table 9.3** and full details of all consultation associated with the Transmission Assets are presented in the Consultation Report (document reference E1). Further consultation with operators of infrastructure will continue as designs are developed.
Applicants should consult the government's Marine Plans (further detailed in Section 4.5 of EN-1) which are a useful information source of existing and known or potential activities and infrastructure. (EN-3, paragraph 2.8.46)	Relevant guidance from the Marine Plans is included in **Table 9.2**.
The scale and location of future offshore wind development around England and Wales means that development has occurred, and will continue to occur, in or close to areas where there is other offshore infrastructure. Where a potential offshore wind farm is proposed close to existing operational offshore infrastructure, or has the potential to affect activities for which a licence has been issued by government, the Applicants should undertake an assessment of the potential effects of the proposed development on such existing or permitted infrastructure or activities. The assessment should be undertaken for all stages of the lifespan of the proposed wind farm in accordance with the appropriate policy and guidance for offshore wind farm EIAs. (EN-3, paragraph 2.8.196 – 2.8.198)	The potential effect on existing or permitted infrastructure or activities and, where applicable, an assessment of their likely significance of impact, considering each phase of the development process (i.e. construction, operations and maintenance, and decommissioning) is provided in **section 9.11**. A full assessment of the impacts of the Transmission Assets on shipping and navigation receptors is presented in Volume 2, Chapter 7: Shipping and navigation of the ES, and constraints have been considered within Volume 1, Chapter 4: Site selection and consideration of alternatives of the ES. All assessments have been undertaken in accordance with appropriate policy and guidance for offshore wind farm EIAs as per Volume 1, Chapter 5: EIA methodology of the ES.
Applicants should engage with interested parties in the potentially affected offshore sectors early in the pre-application phase of the proposed offshore wind farm, with an aim to resolve as many issues as possible prior to the submission of an application. Such stakeholder engagement should continue throughout the life of the development including construction, operation and decommissioning phases where necessary. (EN-3, paragraphs 2.8.200 – 2.8.201)	To enable co-existence with other sea users, consultation with potentially affected stakeholders has been carried out from the early stages of the Transmission Assets, has continued throughout the pre-application consultation process, and will continue throughout the life of the development where necessary. Details of this are presented in **Table 9.3** and full details of all consultation associated with the Transmission Assets are presented in the Consultation Report (document reference E1). Commitments made as part of the Transmission Assets to reduce or negate negative impacts are listed in **Table 9.12**.
Where a proposed offshore wind farm potentially affects other offshore infrastructure or activity, a pragmatic approach should be employed by the Secretary of State. Much of this infrastructure is important to other offshore industries as is its contribution to the UK economy. In such circumstances, the Secretary of State should expect the Applicants to work with the impacted sector	**Section 9.11** describes the impact assessment undertaken for the Transmission Assets, and **Table 9.12** identifies measures adopted to minimise negative impacts and reduce risks.

Summary of NPS provision	How and where considered in the ES
to minimise negative impacts and reduce risks to as low as reasonably practicable. (EN-3, paragraphs 2.8.342 – 2.8.344)	
As such, the Secretary of State should be satisfied that the site selection and site design of the proposed offshore wind farm has been made with a view to avoiding or minimising disruption or economic loss or any adverse effect on safety to other offshore industries. Applicants will be required to demonstrate that risks to safety will be reduced to as low as reasonably practicable. (EN-3, paragraph 2.8.345)	As per Volume 1, Chapter 4: Site selection and consideration of alternatives of the ES, the Transmission Assets have been sited to minimise conflicts with other sea users where possible. In cases where conflict has been highlighted through consultation **(Table 9.3)** **Table 9.3**, mitigation measures have been proposed to reduce or negate impacts (**Table 9.12**). Consultation with potentially affected stakeholders has been carried out from the early stages of the Transmission Assets and has continued throughout the pre-application consultation process. Details of this are presented in **Table 9.3** and full details of all consultation associated with the Transmission Assets are presented in the Consultation Report (document reference E1). Further consultation with operators of infrastructure will continue as designs are developed. A full risk assessment related to other sea users is presented in **section 9.11**.
Providing proposed schemes have been carefully designed, and that the necessary consultation with relevant bodies and stakeholders has been undertaken at an early stage, mitigation measures may be possible to negate or reduce effects on other offshore infrastructure or operations to a level sufficient to enable the Secretary of State to grant consent. (EN-3, paragraph 2.8.348)	
Detailed discussions between the Applicants for the offshore wind farm and the relevant consultees should have progressed as far as reasonably possible prior to the submission of an application. As such, appropriate mitigation should be included in any application, and ideally agreed between relevant parties. (EN-3, paragraph 2.8.261)	
In some circumstances, the Secretary of State may wish to consider the potential to use requirements involving arbitration as a means of resolving how adverse impacts on other commercial activities will be addressed. (EN-3, paragraph 2.8.262)	

Marine policy

North West Inshore and North West Offshore Coast Marine Plans 2021

9.2.1.6 **Table 9.2** sets out a summary of the specific policies set out in the North West Inshore and North West Offshore Marine Plan (MMO, 2021) relevant to other sea users. A National Policy Statement Tracker (document reference J26) and Planning Statement (document reference J28) has been submitted alongside the application which collate compliance with relevant marine plans.

Table 9.2: Summary of inshore and offshore marine plan policies relevant to other sea users

Policy	Key provisions	How and where considered in the ES
NW-AGG-1	Proposals in areas where a licence for extraction of aggregates has been granted or formally applied for should not be authorised, unless it is demonstrated that the proposal is compatible with aggregate extraction.	As shown in Figure 9.2 (Volume 2, Figures), there is no overlap between the Transmission Assets and any marine aggregate extraction or disposal sites.
NW-CO-1	Proposals that may have significant adverse impacts on, or displace, existing activities must demonstrate that they will, in order of preference: • avoid; • minimise; and • mitigate adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals must state the case for proceeding.	Measures taken to avoid impacts are outlined in Volume 1, Chapter 4: Site selection and consideration of alternatives of the ES. **Section 9.11** describes the impact assessment undertaken for the Transmission Assets, and **Table 9.12** identifies measures adopted to minimise adverse impacts and reduce risks.
NW-CAB-1	Preference should be given to proposals for cable installation where the method of protection is burial. Where burial is not achievable, decisions should take account of protection measures for the cable that may be proposed by the Applicants. Where burial or protection measures are not appropriate, proposals should state the case for proceeding without those measures.	Cable burial is one of the measures adopted as part of the Transmission Assets in **Table 9.12** (CoT45). Further details are provided in Volume 1, Chapter 3: Project description of the ES, the Outline Cable Burial Risk Assessment (document reference J14) and the Outline Offshore Cable Specification and Installation Plan (document reference J15).
NW-CAB-3	Where seeking to locate close to existing subsea cables, proposals should demonstrate compatibility with ongoing function, maintenance and decommissioning activities relating to the cable.	Cable crossing and proximity agreements is one of the measures adopted as part of the Transmission Assets in **Table 9.12** (CoT51). Crossing and proximity agreements are necessary for the co-existence of assets in the same space.
NW-OG-1	Proposals in areas where a licence for oil and gas has been granted or formally applied for should not be authorised unless it is demonstrated that the other development or activity is compatible with the oil and gas activity.	Effects on activities within oil and gas licence blocks are assessed in **section 9.11.5**, in order to ensure compatibility within the east Irish Sea.

9.2.2 Relevant guidance

9.2.2.1 The following guidance documents have been considered throughout the other sea users impact assessment.

- The Royal Yachting Associations (RYA's) position on offshore renewable energy developments: Paper 1 (of 4) – Wind Energy, June 2019 (RYA, 2019);
- European Subsea Cables Association (ESCA) Guideline No.6, The Proximity Of Offshore Renewable Energy Installations And Submarine Cable Infrastructures (ESCA, 2023);
- Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) guidance on the decommissioning of offshore oil and gas installations and pipelines (OPRED, 2023);
- Department for Energy Security and Net Zero update to government response to consultation on Establishing the offshore decommissioning regime for CO_2 transport and storage networks (Department for Energy Security & Net Zero, 2023d);
- 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).
  - Recommendation No.13-2C: The proximity of offshore renewable wind energy installations and submarine cable infrastructure in national waters (ICPC, 2013).
- Pipeline crossing agreement and proximity agreement pack (Oil and Gas UK, 2021); and
- Submarine cables and offshore renewable energy installations proximity study (TCE, 2012).

9.3 Consultation and engagement

9.3.1 Scoping

9.3.1.1 On 28 October 2022, the Applicants submitted a Scoping Report to the Planning Inspectorate, which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant effects for the construction, operation and maintenance, and decommissioning phases of the Transmission Assets.

9.3.1.2 Following consultation with the appropriate statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 8 December 2022.

9.3.2 Statutory consultation responses

9.3.2.1 The preliminary findings of the EIA process were published in the Preliminary Environmental Information Report (PEIR) in October 2023. The PEIR was prepared to provide the basis for formal consultation under the Planning Act 2008. This included consultation with statutory and non-statutory bodies under section 42 and 47 of the Planning Act 2008, as presented in **Table 9.3**

9.3.3 Summary of consultation responses received

9.3.3.1 A summary of the key items raised specific to other sea users is presented in **Table 9.3**, together with how these have been considered in the production of this chapter. It should however be noted that formal responses are provided for **all** consultation responses received and can be accessed in the Consultation Report (document reference E1).

Table 9.3: Summary of key consultation comments raised during consultation activities undertaken for the Transmission Assets relevant to other sea users

Date	Consultee and type of response	Comment raised	Response to comment raised and/or where considered in this chapter
20 April 2022	Spirit Energy response to initial invitation to comment[1]	Anticipation of pipeline, cable crossing and/or proximity agreements to be established.	Crossing and proximity agreements (CoT51) are noted as measures adopted as part of the Transmission Assets in **Table 9.12**.
29 November 2022	Spirit Energy questionnaire response	Summary of present and future activity, including the decommissioning of the South Morecambe cluster and North Morecambe DPPA platform.	Oil and gas activities and infrastructure in the east Irish Sea are considered as part of the baseline in **section 9.6.1**, and impacts upon them are considered in **sections 9.11.5** and **9.13.2**.
02 December 2022	Harbour Energy questionnaire response	Summary of present and future activity, including the decommissioning of the Millom West and Calder platforms.	Oil and gas activities and infrastructure in the east Irish Sea are considered as part of the baseline in **section 9.6.1**, and impacts upon them are considered in **sections 9.11.5** and **9.13.2**.
08 December 2022	ENI questionnaire response	Summary of present and future activity in the east Irish Sea, including the Douglas cluster and Lennox, Hamilton and Conwy platforms.	Oil and gas activities and infrastructure in the east Irish Sea are considered as part of the baseline in **section 9.6.1**, and impacts upon them are

[1] The response covered a range of subject matter which is addressed in the applicable chapters. The content here is specific to this chapter.

Date	Consultee and type of response	Comment raised	Response to comment raised and/or where considered in this chapter
			considered in **sections 9.11.5** and **9.13.2**.
08 December 2022	Planning Inspectorate Scoping Opinion	The Applicants propose to scope out this matter (Alterations to sediment transport pathways affecting aggregate extraction areas during construction and decommissioning) as alterations to sediment transport pathways would only occur during the operation and maintenance phase of the Proposed Development. However, part 1, paragraph 4.4.5.9 of the Scoping Report states that seabed levelling may be required during the construction phase. The ES should assess any likely significant effects that this may have on changes to the sediment transport regime and aggregate extraction areas.	Alterations to sediment transport pathways was originally predicted to be caused by the presence of infrastructure such as Offshore Substation Platforms (OSPs) and the Morgan offshore booster station. However, these are not included in the Project Design Envelope submitted with the application (as per Volume 1, Chapter 3: Project description of the ES) as the OSPs referred to will be consented under the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets applications. There are also no open marine aggregate extraction or disposal areas within the regional study area. Therefore this impact has been scoped out.
08 December 2022	Planning Inspectorate Scoping Opinion	The Inspectorate understands that interference with offshore microwave fixed communication links is likely to be limited to the operation and maintenance phase. However, the Applicants should ensure consultation addresses potential effects from the Proposed Development prior to full operation of the Proposed Development, and if any effects are identified these should be assessed in the ES.	Due to the Transmission Assets not including infrastructure above sea level, impacts on offshore microwave fixed communication links have been scoped out of the assessment.
08 December 2022	Planning Inspectorate Scoping Opinion	The Scoping Report provides limited information supporting the use of the one tidal excursion of the site boundary as the study area for regional other sea users and 1 km buffer as the study area in relation to the local other sea users identified. The ES should explain how the study areas have been determined, identifying where industry guidance, professional judgement, or	Further detail has been added on the study areas and how they are defined (i.e. which receptors and impacts are used to define each) in **section 9.4.**

Date	Consultee and type of response	Comment raised	Response to comment raised and/or where considered in this chapter
		consultation has informed the study areas selected.	
08 December 2022	Planning Inspectorate Scoping Opinion	The ES should assess the potential impact of alterations of sediment transport pathways on recreational diving sites and designated bathing water sites, where significant effects are likely to occur.	Alterations to sediment transport pathways was originally predicted to be caused by the presence of infrastructure such as OSPs and the Morgan offshore booster station. However, these are not included in the Project Design Envelope submitted with the application (as per Volume 1, Chapter 3: Project description of the ES) as the OSPs referred to will be consented under the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets applications. Therefore this impact has been scoped out.
11 November 2023	Spirit Energy and Harbour Energy Online meeting	• Presented overview of the Transmission Assets project and design and potential interaction with Spirit Energy and Harbour Energy assets;	The impacts of the Transmission Assets on existing cables and pipelines are assessed in **section 9.11.4**, and the restriction or reduction of other offshore energy activities is addressed in **section 9.11.5**. Relevant measures adopted as part of the Transmission Assets, including crossing and proximity agreements, are presented in **Table 9.12.**
23 November 2023	Natural England Section 42 consultation	It is noted that if offshore infrastructure crosses existing out of service cables, the developer intends on removing these. We advise that the specific methodology for the proposed cable removal along with any associated impacts should be stated in the Application. We agree that this should also be undertaken in consultation with the asset owner and in accordance with the International Cable Protection Committee guidelines. Proposed cable removal methodology for existing out of service cables should be clearly stated within the ES and undertaken in consultation with	The methodology for any existing out of service cable removal is laid out within Volume 1, Chapter 3: Project description of the ES. As per **section 9.2.2**, key guidelines (including those from the ICPC and ESCA) have been adhered to throughout the planning process. Further details are provided in the Cable Burial Risk Assessment (document reference J14) and the Outline Offshore Cable Specification and Installation

Date	Consultee and type of response	Comment raised	Response to comment raised and/or where considered in this chapter
		the asset owner and the International Cable Protection Committee guidelines. We also note that Westminster Gravels will be renewing their aggregate extraction licence in Area 457 in Liverpool Bay. Consideration may need to be given to this proposal in the submitted CEA. We note that the Mersey Tidal Power Project has been scoped out in the screening matrix of the PEIR. However, this may need to be given further consideration as the project progresses. Consideration may need to be given to this proposal in the submitted CEA.	Plan (document reference J15) (CoT45). No impacts related to SSCs have been brought forward to the cumulative assessment presented in **section 9.13** and therefore Liverpool Bay Area 457 has not been included. Mersey Tidal Power has not been screened in for other sea users as not enough is known about the project to include in the cumulative assessment for reduction or restriction of other offshore energy activities.
23 November 2023	Spirit Energy Section 42 consultation	There are many decommissioned wells that trenching must avoid. The casing will have been cut 10ft below seabed and with the shifting sands this will mean that there is a 10ft +/- expectation of encountering well casing at the wells. Spirit would like to understand how the developers have addressed this positional uncertainty and if the planned geotechnical cable route surveys will include wellhead detection. Spirit requests that all relevant survey results are shared together with the detailed cable lay plans to understand plans are for trenching, pipelaying and construction. These measures would be required to maintain the integrity of the reservoir. All abandoned wells require monitoring and Spirit would need to maintain the ability to execute any required remediation. This is a requirement for licensed activities.	Potential impacts on oil and gas activities, including reduction of access or restriction, are assessed in **section 9.11.5**.
23 November 2023	Spirit Energy Section 42 consultation	From 2026, the EIS area will comprise continued petroleum operations, decommissioning activities, Carbon Capture and Storage (CCS) activities and potential wind farm development so careful consideration must be given to the risks arising from co-existence of same.	Potential impacts on other offshore energy activities, including reduction of access or restriction, are assessed in **section 9.11.5**. The effects of the Transmission Assets in combination with other plans, projects and activities in the east Irish Sea are assessed in **section 9.13**.

Date	Consultee and type of response	Comment raised	Response to comment raised and/or where considered in this chapter
28 February 2024	Spirit Energy Online meeting	• presented update on post PEIR design changes: – removal of OSPs and interconnector cables from Transmission Asset application – Removal of the booster station; and • focus is on export cable and crossings/proximity agreements as required.	Potential impacts on other offshore energy activities, including reduction of access or restriction, are assessed in **section 9.11.5**. The effects of the Transmission Assets in combination with other plans, projects and activities in the east Irish Sea are assessed in **section 9.13**.
06 March 2024	Harbour Energy Online meeting	• presented update on post PEIR design changes: – removal of OSPs and interconnector cables from Transmission Asset application – Removal of the booster station; and focus is on export cable and crossings/proximity agreements as required.	Potential impacts on other offshore energy activities, including reduction of access or restriction, are assessed in **section 9.11.5**. The effects of the Transmission Assets in combination with other plans, projects and activities in the east Irish Sea are assessed in **section 9.13**.

9.4 Study area

9.4.1.1 The other sea users study area varies in scale depending on the receptor. Two study areas have been defined for the assessment of different groupings of other sea users receptors. These are the regional study area, and the local study area, hereafter referred to as the regional and local study areas, respectively. The study areas are shown on Figure 9.1 (Volume 2, Figures).

9.4.1.2 The regional study area represents one tidal excursion of the Transmission Assets Order Limits: Offshore (hereafter referred to as the Offshore Order Limits), limited to offshore areas only, as this will be the furthest extent any sediment disturbed by activities associated with the Transmission Assets will be carried to. This study area is relevant to those receptors which are susceptible to increases in Suspended Sediment Concentrations (SSCs) such as:

- aggregate extraction and disposal sites; and
- recreational activities such as scuba diving and bathing.

9.4.1.3 The local study area is defined as a 1 km buffer around the Offshore Order Limits, limited to offshore areas only. The 1 km buffer has been used as receptors, such as oil and gas infrastructure, cables, pipelines and offshore wind farm structures undergoing maintenance will require a 500 m safety zone, or advisory clearance distance. Therefore, the nearest two projects can be without overlapping 500 m safety zones is 1 km. The local study area includes the extent of potential direct overlap between a safety zone

associated with the Transmission Assets, and a safety zone or advisory clearance distance associated with the following receptors:

- recreational activities such as sailing, motor cruising and recreational fishing;
- offshore energy projects such as offshore wind farms, oil and gas activities and CCS; and
- cables and pipelines.

9.5 Baseline methodology

9.5.1 Methodology for baseline studies

9.5.1.1 A comprehensive desk-based review was undertaken to inform the baseline for other sea users. The existing studies and datasets referred to as part of the desk-based review are summarised in **Table 9.4**.

Table 9.4: Summary of desk study sources

Title	Source	Year	Author
Aggregate areas	The Crown Estate (TCE)	2024	TCE
Cable routes	Kis-Orca	2021	Kis-Orca
Data from marine vessel traffic surveys	MarineTraffic	2019	MarineTraffic
Disposal sites	European Marine Observation and Data Network (EMODnet)	2015	EMODnet
General boating areas	UK Coastal Atlas of Recreational Boating	2018	RYA
Hydrocarbon fields	North Sea Transition Authority (NSTA)	2024	NSTA
Hydrocarbon platforms	NSTA	2024	NSTA
Marinas	UK Coastal Atlas of Recreational Boating	2018	RYA
Offshore wind farms	TCE	2024	TCE
Oil and gas licence blocks	NSTA	2024	NSTA
Pipelines	NSTA	2024	NSTA
Carbon storage licenses	NSTA	2024	NSTA
Recreational activities	UK Coastal Atlas of Recreational Boating	2018	RYA
Recreational fishing	Cefas British Sea Fishing	2021 2020	Cefas British Sea Fishing
RYA clubs	UK Coastal Atlas of Recreational Boating	2018	RYA
RYA training centres	UK Coastal Atlas of Recreational Boating	2018	RYA
United Kingdom Continental Shelf (UKCS) blocks	NSTA	2024	NSTA
Wells	NSTA	2024	NSTA
Wrecks (diving sites)	UK Diving	2010	UK Diving

9.6 Baseline environment

9.6.1 Desk study

Baseline within the regional study area

9.6.1.1 Other sea users receptors within the regional study area include:

- aggregate extraction and disposal sites; and
- recreational diving and bathing sites.

Marine aggregate extraction

9.6.1.2 As per Figure 9.2 (Volume 2, Figures) there are no marine aggregate extraction sites within the regional study area.

Marine disposal sites

9.6.1.3 As per Figure 9.2 (Volume 2, Figures) there is one closed disposal site within the regional study area. This is the Preston site, which was used for dredge spoil dumping, and doesn't overlap with the Offshore Order Limits.

Recreational dive sites

9.6.1.4 As per Figure 9.3 (Volume 2, Figures), there are no recreational dive sites identified within the regional study area.

Recreational bathing sites

9.6.1.5 As per Figure 9.3 (Volume 2, Figures), there are four recreational bathing sites identified within the regional study area. These are, from north to south:

- Blackpool Central;
- Blackpool South;
- St Annes North (the only one of these sites to overlap with the Intertidal Infrastructure Area); and
- St Annes.

Baseline within the local study area

9.6.1.6 Other sea users receptors within the local study area include:

- recreational activities such as sailing and motor cruising, recreational fishing and inshore water sports; and
- offshore infrastructure such as:
  - offshore wind farms;
  - cables;
  - pipelines;
  - CCS and underground gas storage; and
  - oil and gas surface infrastructure.

Recreational activities

Motor sailing and cruising

9.6.1.7 Recreational sailing is generally divided into two categories: offshore and inshore. Offshore sailing is usually undertaken by yachts in the form of either cruising or organised offshore racing. Inshore sailing is typically undertaken by smaller vessels including dinghies and recreational vessels that are used

for either cruising at leisure or racing. Cruising may include day trips between local ports and often includes a return journey to the home port on the same day. Inshore racing takes place around racing marks and navigational buoyage.

9.6.1.8 Navigational safety and risk to recreational vessels is considered in Volume 2, Chapter 7: Shipping and navigation of the ES. This ES chapter only considers receptors undertaking recreational sailing and motor cruising as an activity. Data collection and consultation activities carried out to inform the shipping and navigation chapter are used as an additional data source to inform the other sea users assessment.

9.6.1.9 Figure 9.3 (Volume 2, Figures) illustrates available RYA data showing that recreational sailing and motor cruising in inshore and coastal areas of the local study area is of a low intensity. The RYA data is limited to inshore waters, but Automatic Identification System data tracks show that recreational vessels also transit through offshore waters within the local study area, mainly by vessels travelling between Liverpool and the Isle of Man.

9.6.1.10 There are no RYA clubs, training centres or marinas located within the local study area, and no general boating areas overlap with the local study area.

Fishing

9.6.1.11 Sea fishing trips also operate from the Isle of Man (Manx Sea Fishing, 2023) and Fleetwood, Lancashire (Charter Boats, 2024) amongst other ports along the coasts of the east Irish Sea and are assumed to be operating across the local study area.

Inshore water sports

9.6.1.12 Water sports such as kite surfing, surfing, wind surfing and kayaking occur almost entirely in coastal waters, usually within one nautical mile (nm) of the shore. The Blackpool Light Craft Club is located directly to the north of the local study area. Therefore, a variety of water sports including jet skiing, jet boarding, wet biking, kite surfing, open water swimming, boat, kayak, and jet ski angling, scuba diving, power crafting and sailing may occur within the local study area (Blackpool Light Craft Club, 2016).

9.6.1.13 There are several kayaking and canoeing centres located in proximity to the local study area, an example being Ribble Canoe Club located immediately to the north. Therefore, it is possible that these activities may occur within inshore and coastal areas of the local study area.

Infrastructure

Offshore wind farms

9.6.1.14 There are a number of proposed and operational wind farms in the east Irish Sea (Figure 9.4 (Volume 2, Figures)). Of these, two overlap with the local study area, and the Offshore Order Limits. These are the two wind farms associated with the grid connection for the Transmission Assets.

- The Morgan Offshore Wind Project: Generation Assets.

- The Morecambe Offshore Windfarm: Generation Assets.

9.6.1.15 More information on the other offshore wind farms in the east Irish Sea is contained in **Table 9.5**.

Table 9.5: Offshore wind farms in the east Irish Sea

Name	Capacity (MW)	Operator	Approximate distance to Offshore Order Limits (km)
Operational			
Walney Extension (3 and 4)	659	Ørsted	5.7
West of Duddon Sands	389	Ørsted	6.5
Walney 2	184	Walney (UK) Offshore Windfarms Ltd.	10.2
Walney 1	184	Walney (UK) Offshore Windfarms Ltd.	11.4
Barrow	90	Ørsted	18
Ormonde	150	Vattenfall	20.1
Burbo Bank Extension	259	Ørsted	25.8
Burbo Bank	90	Ørsted	26.2
Gwynt y Môr	576	RWE Renewables	28.9
North Hoyle	60	RWE Npower Renewables	34.2
Rhyl Flats	90	RWE Renewables	39.9
Robin Rigg East	174	RWE Renewables	73.3
Robin Rigg West	174	RWE Renewables	73.4
Round 4 projects			
Morgan Offshore Wind Project: Generation Assets	1,500	bp/EnBW	0.00
Morecambe Offshore Windfarm: Generation Assets	480	Cobra/Flotation Energy	0.00
Consented			
Awel y Môr	1,100	RWE Renewables	28.9
Proposed			
Mooir Vannin Offshore Wind Farm	1,400	Ørsted	2.6

Cables

9.6.1.16 There are five active cables which intersect the local study area. These cables are shown on Figure 9.4 (Volume 2, Figures) and in Volume 1, Annex 3.1: Offshore Crossing Schedule. The operators of them are presented in **Table 9.6**.

Table 9.6: Cables which intersect the local study area

Name	Operator
Isle of Man/UK Interconnector	Manx Electricity Authority
LANIS 1	Vodafone PLC
Sirius South	Virgin Media
Havhingsten	Aqua Comms
Hibernia Atlantic Seg A	Hibernia Express (UK) Limited

Oil and gas licence blocks

9.6.1.17 Licences for the exploration and extraction of oil and gas on the UKCS have been offered since 1964 and are granted by the NSTA. These licences are granted for identified geographical United Kingdom Hydrographic Office areas (blocks and sub-blocks) in consecutive rounds. Six currently licenced blocks overlap with the local study area. These licenced blocks are shown on Figure 9.5 (Volume 2, Figures) and the operators of them are presented in **Table 9.7**.

Table 9.7: Oil and gas licence blocks which overlap with the local study area

Block Number	Operator
110/2a	Spirit Energy Production UK Limited
110/2b	Harbour Energy plc
110/3a	Spirit Energy Production UK Limited
110/7a	ENI UK Limited and Harbour Energy plc
110/8a	Spirit Energy Production UK Limited
110/9c	Burgate Exploration and Production Limited

9.6.1.18 On 7 October 2022, the NSTA launched the 33rd Oil and Gas Licensing Round, inviting applications for licences to explore and potentially develop ten blocks and part-blocks within the east Irish sea region, which may lead to a number of licences being awarded from the second quarter of 2023. Future licences have been taken into account in **section 9.6.3**. As of April 2024, no applications for licences for blocks in the Irish Sea have been made.

Oil and gas exploration licenses

9.6.1.19 There are two exploration licences located within the local study area (P153 held by Spirit Energy and P251 held by Harbour Energy), and one overlapping the regional study area (P1483, held by Spirit Energy). These licenced blocks are shown on Figure 9.6 (Volume 2, Figures).

CCS and underground gas storage

9.6.1.20 As per Figure 9.6 (Volume 2, Figures), there are no open underground gas storage sites within the local study area. Just outside the local study area is the Gateway Gas Storage Project, an underground natural gas storage facility where gas will be stored in salt caverns. The project is currently consented but construction has not commenced.

9.6.1.21 Spirit Energy reports plans to convert its depleted South Morecambe and North Morecambe gas fields and Barrow Terminals into the Morecambe Net Zero cluster, a CCS operation.

Oil and gas surface infrastructure and pipelines

9.6.1.22 Figure 9.6 (Volume 2, Figures) shows offshore oil and gas installations and pipelines in the vicinity of the Transmission Assets. There are seven platforms within the local study area, as presented in **Table 9.8**, with 29 pipelines associated with these.

9.6.1.23 Five of these are associated with the South Morecambe cluster, operated by Spirit Energy. The manned central processing complex comprises three bridge-linked platforms, an accommodation platform (AP1), central processing platform (CPP1) and drilling platform (DP1). There are four satellite platforms linked back to the central processing complex which are DP3, DP4, DP6 and DP8. Of these, only the DP1 cluster and DP3 are within the local study area. Production from DP3 and DP4 has ceased, the wells have been abandoned and the platforms are currently being decommissioned. Spirit Energy are looking to decommission all of the platforms in the South Morecambe cluster between 2027 and 2031, as part of the development of the Morecambe Net Zero Cluster.

9.6.1.24 The Millom West platform and the Calder platform are also located within the local study area. Harbour Energy has informed the Applicants that the Millom West Platform and its associated pipelines are currently in the process of being decommissioned. The wells are suspended and will be plugged and abandoned in 2024, with the removal of infrastructure to follow. Harbour Energy has also informed the Applicants that their Calder platform is estimated to end production in 2027 +/- two years, with decommissioning and plug/abandon work to follow.

Table 9.8: Oil and gas platforms within the local study area

Platform name	Operator
Millom West	Harbour Energy
South Morecambe AP1	Spirit Energy
South Morecambe CPP1	Spirit Energy
South Morecambe DP1	Spirit Energy
South Morecambe FL1	Spirit Energy
South Morecambe DP3	Spirit Energy
Calder	Harbour Energy

9.6.2 Site-specific surveys

9.6.2.1 No site-specific surveys have been undertaken to inform the EIA process for other sea users. This is because a sufficient amount of information relating to other sea users is already available (**Table 9.4**). The majority of the data used to inform the EIA process for other sea users has been taken from these desktop studies. Survey data from 2019 MarineTraffic surveys has been incorporated in the form of Automatic Identification System tracks for recreational vessels Figure 9.3 (Volume 2, Figures).

9.6.3 Future baseline conditions

9.6.3.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require that '*an outline of the likely evolution thereof without implementation of the development 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 ES. This section provides an outline of the likely future baseline conditions in the absence of the Transmission Assets.

9.6.3.2 The future baseline scenario for recreational activities is considered unlikely to change substantially from that described in **section 9.6.1** in the absence of the Transmission Assets. The future baseline scenario for offshore cables and marine aggregates is subject to gradual change as new projects and sites are identified. The future baseline scenario for oil and gas activities and associated development (including surface infrastructure, wells and pipelines) as well as carbon capture and storage is considered to be subject to the greatest degree of change, which will depend upon currently unknown outcomes of, for example, acquisitions, exploration and development and decommissioning as well as potential license applications for carbon capture and storage projects (such as those associated with the 33rd Oil and Gas Licencing Round).

9.6.4 Key receptors

9.6.4.1 **Table 9.9** identifies the receptors taken forward into the assessment and agreed with stakeholders through the consultation process, as presented in **section 9.10.2**.

Table 9.9: Key receptors taken forward to assessment

Receptor	Description	Sensitivity/ value
CCS	CCS activities associated with the decommissioning of surface infrastructure will occur within the local study area.	Medium
Cables	Five cables (one power, four telecommunications) are located within the local study area.	Medium
Oil and gas activities	Six oil and gas licence blocks overlap with the local study area. Two exploration licences are located within the local study area (P153 held by Spirit Energy and P251 held by Harbour Energy). Decommissioning activities associated with oil and gas infrastructure will take place within the local study area. Twenty-nine pipelines intersect the local study area.	Medium
Recreational bathing sites	Four recreational bathing sites are located within the local study area.	Low

9.7 Scope of the assessment

9.7.1.1 The scope of this ES has been developed in consultation with relevant statutory and non-statutory consultees as detailed in **Table 9.3.**

9.7.1.2 Taking into account the scoping and consultation process, **Table 9.10** summarises the impacts considered as part of this assessment.

Table 9.10: Impacts considered within this assessment

Activity	Impacts scoped into the assessment
Construction phase	
Safety zones and advisory clearance distances	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Vessel movements	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Sandwave clearance	• Increased SSCs and associated deposition affecting recreational diving and bathing sites.

Activity	Impacts scoped into the assessment
Cable installation	• Increased SSCs and associated deposition affecting recreational diving and bathing sites.
Operation and maintenance phase	
Operational safety zones and advisory clearance distances around infrastructure	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Vessel movements	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Cable repair and reburial	• Displacement of recreational activities. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits. • Increased SSCs and associated deposition affecting recreational diving and bathing sites.
Decommissioning phase	
Safety zones and advisory clearance distances	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Vessel movements	• Displacement of recreational activities. • Impacts to existing cables or pipelines or restrictions on access to cables or pipelines. • Reduction or restriction of other offshore energy activities within the Offshore Order Limits.
Cable removal	• Increased SSCs and associated deposition affecting recreational diving and bathing sites.

Impacts that are not likely to result in significant effects have been scoped out of the assessment. A summary of the effects scoped out, together with justification for scoping them out is presented in **Table 9.11**.

Table 9.11: Impacts scoped out of the assessment

Impacts	Justification
Interference with the performance of Radar Early Warning Systems (REWS) located on oil and gas platforms	As the Transmission Assets will be below sea level, there will be no significant effect on REWS as these systems are designed to detect above surface moving rather than static objects.
Interference with offshore microwave fixed communication links	This impact was included in the Scoping Report, but upon review has been scoped out. Microwave fixed communication links might be impacted by the presence of wind turbines due to a combination of parameters, such as their physical size, location and distance relative to the communication link antennas, and the movements of the blades. As the Transmission Assets do not contain surface infrastructure, they cannot impact the interference zone of any microwave fixed communication links. Therefore, it is concluded that there is no potential impact-receptor pathway for interference.
Increased SSCs and associated deposition affecting aggregate areas	There are no open aggregate extraction or disposal areas within the regional study area, and therefore this impact has been scoped out.
Alterations to sediment transport pathways affecting aggregate areas	Potential alterations to sediment transport pathways was originally predicted to be caused by the presence of infrastructure such as OSPs and the Morgan offshore booster station. However, these are not included in the Project Design Envelope submitted with the application (as per Volume 1, Chapter 3: Project description of the ES) and therefore this impact has been scoped out.

9.8 Measures adopted as part of the Transmission Assets (commitments)

9.8.1.1 For the purposes of the EIA process, the term 'Measures adopted as part of the Transmission Assets' is used to include the following two types of mitigation measures (adapted from Institute of Environmental Management and Assessment (IEMA), 2016). These measures are set out in Volume 1, Annex 5.3: Commitments register of the ES.

- Embedded mitigation. This includes the following.
  - Primary (inherent) mitigation - measures included as part of the project design. IEMA describes these as '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'. This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the project and the parameters secured in the Development Consent Order (DCO) and/or marine licences. For example, a reduction in footprint or height.
  - Tertiary (inexorable) mitigation. IEMA describes these as '*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'. It may be helpful to secure such measures through a Code of Construction Practice or similar.

- Secondary (foreseeable) mitigation. IEMA describes these as '*actions that will require further activity in order to achieve the anticipated outcome'*. These include measures required to reduce the significance of environmental effects (such as lighting limits) and may be secured through an environmental management plan.

9.8.1.2 Such measures are clearly identified within the Commitments Register (Volume 1, Annex 5.3: Commitments register of the ES). The measures relevant to this chapter are summarised in **Table 9.12**.

9.8.1.3 Embedded measures that will form part of the final design (and/or are established legislative requirements/good practice) have been taken into account as part of the initial assessment presented in **section 9.11** (i.e. the initial determination of impact magnitude and significance of effects assumes implementation of these measures). This ensures that the measures that the Applicants are committed to are taken into account in the assessment of effects.

9.8.1.4 Where an assessment identifies likely significant adverse effects, further or secondary mitigation measures may be applied. These are measures that could further prevent, reduce and, where possible, offset these effects. They are defined by IEMA as actions that will require further activity in order to achieve the anticipated outcome and may be imposed as part of the planning consent, or through inclusion in the ES (referred to as secondary mitigation measures in IEMA, 2016). For further or secondary measures both pre-mitigation and residual effects are presented.

Table 9.12: Measures (commitments) adopted as part of the Transmission Assets

Commitment number	Measure adopted	How the measure will be secured
Embedded measures		
CoT45	The Outline Offshore Cable Specification and Installation Plan (CSIP) for the Fylde MCZ includes: details of cable burial depths, cable protection, and cable monitoring. The Outline CSIP also includes an Outline Cable Burial Risk Assessment (CBRA). Detailed CSIP(s) and CBRA(s) will be prepared by the Applicants covering the full extent of their respective offshore export cable corridors. Detailed CSIPs will be developed in accordance with the Outline CSIP and will ensure safe navigation is not compromised including consideration of under keel clearance. No more than 5% reduction in water depth (referenced to Chart Datum) will occur at any point on the offshore export cable corridor route without prior written approval from the MCA.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets), Part 2 - Condition18(1)(e) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition 18(1)(e) (Pre-construction plans and documentation).
CoT50	Detailed Fisheries Liaison and Coexistence Plan(s) will be developed in accordance with the Outline Fisheries Liaison and Coexistence Plan and will include details for providing advance warning and information on accurate locations for construction and maintenance activities, associated Safety Zones, and advisory passing distances to be given via Notifications to Mariners to ensure navigation safety.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets), Part 2 - Condition18(1)(f)(v) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition 18(1)(f)(v) (Pre-construction plans and documentation).
CoT51	Crossing and proximity agreements, as set out in the Offshore Crossing Schedule submitted as part of the application for development consent, will be sought with known existing pipeline and cables operators.	DCO Schedule 18.
CoT52	Ongoing liaison with the fishing industry through the appointment of a Company Fisheries Liaison Officer(s) (CFLO)(s) and adherence to good practice guidance with regards to fisheries liaison (e.g. Fishing Liaison with Offshore Wind and Wet Renewables Group FLOWW (2014, 2015) guidance).	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation).

Commitment number	Measure adopted	How the measure will be secured
CoT59	The United Kingdom Hydrographic Office will be notified of both the commencement, progress and completion of offshore construction works to allow marking of all installed infrastructure on nautical charts.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets), Part 2 - Condition14 (8-10) (Notifications and inspections) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition14 (8-10) (Notifications and inspections).
CoT66	A Safety Zone Statement has been submitted as part of the application for development consent. Advisory exclusion zones of 500 m will be applied during construction and maintenance. Where defined by risk assessment, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances to mitigate impacts which pose a risk to surface navigation.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation).

9.9 Key parameters for assessment

9.9.1 Maximum design scenario

9.9.1.1 The Maximum Design Scenarios (MDSs) identified in **Table 9.13** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in Volume 1, Chapter 3: Project description of the ES. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different infrastructure layout), to that assessed here be taken forward in the final design. Volume 1, Annex 3.1: Offshore Crossing Schedule has been used to inform the project parameters for the Other Sea Users assessment.

9.9.1.2 The construction scenario laid out within the MDS in **Table 9.13** and assessed within the assessment of effects in **section 9.11** considers activities to be carried out sequentially over 30 months, noting that there is potential for a gap between the construction periods for Morgan OWL and Morecambe OWL. This applies to all impacts in **Table 9.13** and in **section 9.11.**

Table 9.13: MDS considered for the assessment of impacts

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Displacement of recreational activities.	✓	✓	✓	**Construction phase** • Construction will take place over a maximum of 30 months (sequential scenario), noting that there is potential for a gap between the construction periods for Morgan OWL and Morecambe OWL. • Construction safety zones: Safety zones and advisory clearance distances of 500 m around vessels installing export cables. • Vessels (Morgan Offshore Wind Project: Transmission Assets): – Up to 19 vessels on site at any one time during construction (two tug/anchor handlers, six cable lay installation and support vessels, one guard vessel, two survey vessels, four seabed preparation vessels, two Crew Transfer Vessels (CTVs) and two cable protection installation vessels. – Up to 226 installation vessel movements (return trips) during construction (eight tug/anchor handlers, 40 cable lay installation and support vessels, 18 guard vessels, four survey vessels, 16 seabed preparation vessels, 120 CTVs and 20 cable protection installation vessels). • Vessels (Morecambe Offshore Windfarm: Transmission Assets): – Up to 11 vessels on site at any one time during construction (one tug/anchor handlers, four cable lay installation and support vessels, one guard vessel, one survey vessel, two seabed preparation vessels, one CTV and one cable protection installation vessel. – Up to 60 installation vessel movements (return trips) during construction (four tug/anchor handlers, eight cable lay installation and support vessels, 12 guard vessels, two survey vessels, four seabed preparation vessels, 28 CTVs and two cable protection installation vessels). • Reduction of access during construction activities (safety zones) – Offshore export cables: up to 484 km, up to 51 cable crossings.	The greatest extent of advisory safety zones and advisory clearance distances, over the longest construction, operation and maintenance, and decommissioning periods represents the greatest potential for displacement of recreational activities. The sequential construction scenario is included as the maximum design scenario as this results in the longest duration of impact.

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				Operation and maintenance phase • Operational duration of 35 years • Operational safety zones and advisory clearance distances: 500 m around pieces of infrastructure during periods of major maintenance. • Vessels (Morgan Offshore Wind Project: Transmission Assets): – Up to a total of eight operation and maintenance vessels on site at any one time (two CTVs/workboats, one jack-up vessel, one cable repair vessel, two Service Operation Vessels (SOV) or similar and two excavators/backhoe dredgers). – Up to 52 operation and maintenance vessel movements (return trips) each year (28 CTVs/workboats, two jack-up vessels, two cable repair vessels, 16 SOVs or similar and four excavators/backhoe dredgers). • Vessels (Morecambe Offshore Windfarm: Transmission Assets): – Up to a total of six operation and maintenance vessels on site at any one time (two CTVs/workboats, one jack-up vessel, one cable repair vessels, one Service Operation Vessels (SOV) or similar and one excavators/backhoe dredgers). – Up to 25 operation and maintenance vessel movements (return trips) each year (14 CTVs/workboats, one jack-up vessel, two cable repair vessels, four SOVs or similar and four excavators/backhoe dredgers). • Subtidal Export cable repair: – Up to 14 subtidal cable repair events totalling up to 56 km of subtidal cable repair over lifetime of the Morgan Offshore Wind Project. – Up to 7 subtidal cable repair events totalling up to 28 km subtidal repair over the lifetime of the Morecambe Offshore Windfarm. • Intertidal export cable repair: – Up to 4 intertidal cable repair events totalling 4 km over the lifetime of the Morgan Offshore Wind Project.	

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				– Up to 4 intertidal cable repair events totalling 9.6 km over the Morecambe Offshore Windfarm. • Subtidal cable reburial: – Up to 7 subtidal cable reburial events (16 km per event) totalling up to 112 km over the lifetime of the Morgan Offshore Wind Project. – Up to 7 subtidal cable reburial events (3.4 km per event) totalling up to 23.8 km over the lifetime of the Morecambe Offshore Windfarm. • Intertidal cable reburial: – Up to 28 intertidal cable reburial events totalling up to 7 km over the lifetime of the Morgan Offshore Wind Project. – Up to 14 intertidal cable reburial events totalling up to 3.5 km over the Morecambe Offshore Windfarm. **Decommissioning phase** During the decommissioning phase any displacement of recreational activities would gradually decrease from the operational MDS as infrastructure is removed and cut below the seabed.	
Increased suspended sediment concentrations and associated deposition affecting recreational diving sites and designated bathing water sites.	✓	✓	✓	**Construction phase** Construction will take place over a maximum of 30 months (sequential scenario), noting that there is potential for a gap between the construction periods for Morgan OWL and Morecambe OWL. <u>Site preparation</u> Sandwave clearance: Sandwave clearance of up to 1,426,800 m^3: • Morgan export cable: sandwave clearance along 9% of 400 km of export cable length, with a width of 60 m and a maximum depth of 5 m. This equates to a total spoil volume of 1,080,000 m^3 associated with the cable corridor.	<u>Site preparation</u> The volume of material to be cleared from individual sandwaves will vary according to the local dimensions of the sandwave (height, length and shape) and the level to which the sandwave must be reduced. These details are not fully known at this stage; however, as per Volume 2, Chapter 1: Physical processes of the ES, sandwaves are most prevalent within the western extents of the Offshore Order Limits around the Morgan Array Area where

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• Morecambe export cable: sandwave clearance along 9% of 84 km of export cable length, with a width of 48 m, to a maximum depth of 5 m. This equates to a total spoil volume of 346,800 m^3. • Removal of up to 28 km of disused cables. <u>Cable installation</u> • Export cables Installed over approximately 30 months sequential construction period: – Installation via trenching of up to 400 km of cable, with a trench width of up to 3 m and a depth of up to 3 m. Total spoil volume of 1,800,000 m^3. – Installation via trenching of up to 84 km of cable, with a trench width of up to 3 m and a depth of up to 3 m. Total spoil volume of 378,000 m^3. **Operation and maintenance phase** • Operational duration of 35 years. • Subtidal export cable repair: – Up to 14 subtidal cable repair events totalling up to 56 km of subtidal cable repair over lifetime of the Morgan Offshore Wind Project. – Up to 7 subtidal cable repair events totalling up to 28 km subtidal repair over the lifetime of the Morecambe Offshore Windfarm. • Intertidal export cable repair: – Up to 4 intertidal cable repair events totalling 4 km over the lifetime of the Morgan Offshore Wind Project. – Up to 4 intertidal cable repair events totalling 9.6 km over the Morecambe Offshore Windfarm. • Subtidal cable reburial: – Up to 7 subtidal cable reburial events (16 km per event) totalling up to 112 km over the lifetime of the Morgan Offshore Wind Project.	sandwave heights can be as great as 5 m at the bedforms crest. Site clearance activities may be undertaken using a range of techniques. The suction hopper dredger will result in the greatest increase in suspended sediment and largest plume extent as material is released near the water surface during the disposal of material. Boulder clearance activities will result in minimal increases in SSC and have therefore not been considered in the assessment. <u>Cable installation:</u> Cable routes inevitably include a variety of seabed material and in some areas 3 m depth may not be achieved or may be of a coarser nature which settles in the vicinity of the cable route. The assessment therefore considers the upper bound in terms of suspended sediment and dispersion potential. Cables may be buried by ploughing, trenching or jetting with jetting mobilising the greatest volume of material to increase SSC. The use of open trenching in the intertidal area releases the greatest volume of material into the water column and therefore provides the upper bound of impacts as compared

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				– Up to 7 subtidal cable reburial events (3.4 km per event) totalling up to 23.8 km over the lifetime of the Morecambe Offshore Windfarm. • Intertidal cable reburial: – Up to 28 intertidal cable reburial events totalling up to 7 km over the lifetime of the Morgan Offshore Wind Project. – Up to 14 intertidal cable reburial events totalling up to 3.5 km over the Morecambe Offshore Windfarm. **Decommissioning phase** • All export cables will be removed and disposed of onshore. • Cable protection will remain in situ.	with Horizontal Directional Drilling installation. The sequential construction scenario is included as the maximum design scenario as this results in the longest duration of impact. <u>Operation and maintenance phase:</u> The greatest foreseeable number of cable reburial and repair events is considered to be the MDS for sediment dispersion.
Impacts to existing cables or pipelines or restrictions on access to cables or pipelines.	✓	✓	✓	As for 'Displacement of recreational activities' – see above.	This represents the maximum extent of infrastructure and associated construction and maintenance activities in the vicinity of existing cables or pipelines.
Reduction or restriction of other offshore energy activities.	✓	✓	✓	As for 'Displacement of recreational activities' – see above.	The greatest extent of advisory safety zones, over the longest construction, operation and maintenance, and decommissioning periods represents the greatest potential for displacement of other offshore energy activities.

[a] C=construction, O=operation and maintenance, D=decommissioning

9.10 Impact assessment methodology

9.10.1 Overview

9.10.1.1 The approach to determining the significance of effects is a two-stage process that involves defining the magnitude of the impact and the sensitivity of the receptor. This section describes the criteria applied in this chapter to assign values to the magnitude of 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 5: Environmental assessment methodology of the ES.

9.10.2 Receptor sensitivity/value

9.10.2.1 The criteria for defining sensitivity in this chapter are outlined in **Table 9.14** below.

Table 9.14: Sensitivity criteria

Sensitivity	Definition
Very High	Receptor or the activities of the receptor is of critical importance to the local, regional or national economy and/or the receptor or the activities of the receptor is highly vulnerable to impacts that may arise from the project and/or recoverability is long term or not possible.
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 high recoverability.

9.10.3 Magnitude of impact

9.10.3.1 The criteria for defining magnitude in this chapter are outlined in **Table 9.15** below.

Table 9.15: Magnitude of Impact criteria

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 life of project) and/or frequency of repetition is continuous and/or effect is not reversible for project phase (Adverse).
Medium	Loss or alteration to significant portions of key components of current activity and/or physical extent of impact is moderate and/or medium to long term duration (i.e. operations and maintenance phase) 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 phase) 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).
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

9.10.4 Significance of effect

9.10.4.1 The significance of the effect upon other sea users has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact. The method employed for this assessment is presented in **Table 9.16**. Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.

9.10.4.2 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

9.10.4.3 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations.

Table 9.16: Assessment matrix

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

9.10.4.4 Where the magnitude of impact is 'no change', no effect would arise.

9.10.4.5 The definitions for significance of effect levels are described as follows.

- Major: These beneficial or adverse effects are considered to be very important considerations 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 that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category. Effects upon human receptors may also be attributed this level of significance.
- Moderate: These beneficial or adverse effects have the potential to be important and may influence the key decision-making process. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
- 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 project.
- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

9.10.5 Assumptions and limitations of the assessment

9.10.5.1 The data sources used in this chapter are detailed in **Table 9.4**. The data used is the most up to date publicly available information which can be obtained from the applicable data sources as cited, and data that has been provided through consultation as detailed in **section 9.2.2**. The data is therefore limited by what is available and by what has been made available at the time of writing the ES.

9.10.5.2 Given the level of activity in the east Irish Sea, it is considered that the data employed in the assessment is of a robust nature and is sufficient for the purposes of the impact assessment presented.

9.11 Assessment of effects

9.11.1 Introduction

9.11.1.1 The impacts arising from the construction, operation and maintenance, and decommissioning phases of the Transmission Assets have been assessed. The impacts arising from the construction, operation and maintenance, and decommissioning phases of the Transmission Assets are listed in **Table 9.13**, along with the MDS against which each impact has been assessed.

9.11.1.2 A description of the likely effect on receptors caused by each identified impact is given below.

9.11.2 Displacement of recreational activities

9.11.2.1 Activities associated with the construction, operation and maintenance, and decommissioning phases of the Transmission Assets may lead to the displacement of recreational activities such as motor cruising, recreational fishing and inshore water sports. The MDS presented in **Table 9.13** is represented by the greatest extent of safety zones and advisory clearance distances, over the longest construction, operation and maintenance, and decommissioning phases.

Construction phase

Sensitivity of the receptor

9.11.2.2 As described in **section 9.6.1**, the level of recreational activity within the Offshore Order Limits is considered to be low.

9.11.2.3 Recreational vessels are able to alter their route, dependent on the target destination. Notices to Mariners will be promulgated regularly during the construction phase, advising of the location and nature of construction works, ensuring that recreational activities can be planned accordingly. There are other locations available for sailing and fishing in the east Irish Sea such that alternatives are available if required during the construction phase.

9.11.2.4 The receptor is deemed to be of low vulnerability, high recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **low**.

Magnitude of impact

9.11.2.5 The presence of safety zones and advisory clearance distances may result in the displacement of recreational activities from the local study area. The Transmission Assets have a construction phase of up to 30 months (sequential construction scenario), with safety zones and advisory clearance distances having the potential to extend up to 500 m beyond the Offshore Order Limits. The impact of safety zones and advisory clearance distances is reversible as once the activity has been completed, the safety zone/advisory clearance distance is removed. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time. Up to 284 installation vessel movements (return trips) will be required during construction, with 500 m safety zones and advisory clearance distances around cable installation vessels.

9.11.2.6 There is low recreational vessel activity in the nearshore area of the Offshore Order Limits with water sports clubs in the vicinity (Figure 9.3 (Volume 2, Figures)). There is the potential for temporary loss of recreational resource during nearshore/inshore cable installation activities.

9.11.2.7 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of the effect

9.11.2.8 Overall, the sensitivity of the receptor is **low** and the magnitude of the impact is **negligible**. The effect will, therefore, be of **negligible** adverse significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Operation and maintenance phase

Sensitivity of receptor

9.11.2.9 As described in **section 9.6.1**, the level of recreational activity within the Offshore Order Limits is considered to be low.

9.11.2.10 Recreational vessels will be able to access and transit through the Offshore Order Limits during the operations and maintenance phase, if deemed safe to do so by the vessel master. Recreational vessels are able to alter their route, dependent on the target destination. Notices to Mariners will be promulgated regularly during the operation and maintenance phase, advising of the location and nature of construction works, ensuring that recreational activities can be planned accordingly.

9.11.2.11 The receptor is deemed to be of low vulnerability, high recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **low**.

Magnitude of impact

9.11.2.12 The Transmission Assets have an operation and maintenance phase of up to 35 years. Up to 77 operation and maintenance vessel movements may be required each year. Recreational vessels will be able to access and transit through the Offshore Order Limits, so displacement due to the presence of these vessels will not occur.

9.11.2.13 As previously stated, there is low recreational vessel activity in the nearshore area of the Offshore Order Limits with water sports clubs in the vicinity. During the operation and maintenance phase, the MDS for offshore export cable maintenance is for the subtidal repair of up to 4 km of each offshore export cable every ten years for each of the six offshore export cables. There will also be intertidal repairs of up to 1.2 km per cable for the Morecambe Offshore Windfarm: Transmission Assets and 1 km per cable for the Morgan Offshore Wind Project: Transmission Assets every 10 years. The MDS sets out potential subtidal cable reburial lengths of circa 4 km per cable and 1.7 km per cable in one event every five years relating to the Morgan Offshore Wind Project: Transmission Assets and the Morecambe Offshore Windfarm: Transmission Assets respectively. Intertidal cable reburial may also be required, with lengths of 500 m per cable in two events every five years for each of the six offshore export cables. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time.

9.11.2.14 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of effect

9.11.2.15 Overall, the sensitivity of the receptor is low and the magnitude of the impact is negligible. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Decommissioning phase

9.11.2.16 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will therefore be of **negligible adverse** significance which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

9.11.3 Increased suspended sediment concentrations and associated deposition affecting recreational diving sites and designated bathing water sites

9.11.3.1 Installation, maintenance, and decommissioning of the export cables may have the potential to increase SSCs, affecting recreational diving and bathing sites. The MDS presented in **Table 9.13** is represented by the maximum SSC increase, over the longest construction, operation and maintenance, and decommissioning phases.

Construction phase

Sensitivity of receptor

9.11.3.2 There are no recreational diving sites identified within the regional study area. However, there are four designated bathing water sites within the regional study area:

- Blackpool Central;
- Blackpool South;
- St. Annes North (the only one of these sites to overlap with the Offshore Order Limits); and
- St Annes.

9.11.3.3 These sites may be impacted by an increase in SSC. Figure 9.3 (Volume 2, Figures) shows other designated bathing water sites in the east Irish Sea region which may provide alternative sites during activities resulting in SSCs, although sea conditions and water depth for accessibility may prevent this.

9.11.3.4 The receptor is deemed to be of moderate vulnerability, moderate recoverability, and low value. The sensitivity of the receptor is therefore, considered to be **low**.

Magnitude of impact

9.11.3.5 Volume 2, Chapter 1: Physical processes of the ES describes potential elevations in SSC and deposition to the seabed as a result of a number of activities proposed to occur within the Offshore Order Limits. More specifically these activities are:

- sandwave clearance for cable installation;
- cable installation via trenching; and
- cable removal.

9.11.3.6 During the 30 months sequential construction scenario, it is predicted that sandwave clearance will total 1,426,800 m^3 and cable installation 2,178,000 m^3.

9.11.3.7 There is potential that sediment plumes from resuspended sediment could impact recreational areas through changes to water quality. Recreational areas would only be affected if the amount of fine sediments suspended in the water or settling in the area are significantly above any background levels or contain any contaminants which would not usually be expected in the area. As per Volume 2, Chapter 1: Physical processes of the ES, this is very unlikely to occur as a result of the Transmission Assets. Volume 2, Annex 2.2: Water Framework Directive Coastal Waters Assessment of the ES, any increase in SSC associated with cable installation would be temporary, intermittent and highly reversible and deterioration of bathing water quality is unlikely.

9.11.3.8 The impact is predicted to be of local spatial extent and medium term duration. The magnitude is therefore, considered to be **negligible.**

Significance of effect

9.11.3.9 Overall, the sensitivity of the receptor is low and the magnitude of the impact is low. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor as any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Operation and maintenance phase

Sensitivity of receptor

9.11.3.10 There are no recreational diving sites identified within the regional study area. However, there are four designated bathing water sites within the regional study area:

- Blackpool Central;
- Blackpool South;
- St. Annes North (the only one of these sites to overlap with the Offshore Order Limits); and
- St Annes.

9.11.3.11 These sites may be impacted by an increase in SSC. Figure 9.3 (Volume 2, Figures) shows other designated bathing water sites in the east Irish Sea region which may provide alternative sites during activities resulting in SSCs, although sea conditions and water depth for accessibility may prevent this.

9.11.3.12 The receptor is deemed to be of moderate vulnerability, moderate recoverability, and low value. The sensitivity of the receptor is therefore, considered to be **low**.

Magnitude of impact

9.11.3.13 The Transmission Assets have an operation and maintenance phase of 35 years. During the operation and maintenance phase, the greatest foreseeable number of cable reburial and repair events is considered to be the MDS for sediment dispersion.

9.11.3.14 During the operation and maintenance phase, the MDS for offshore export cable maintenance is for the subtidal repair of up to 4 km of each offshore export cable every ten years for each of the six offshore export cables. There will also be intertidal repairs of up to 1.2 km per cable for the Morecambe Offshore Windfarm: Transmission Assets and 1 km per cable for the Morgan Offshore Wind Project: Transmission Assets every 10 years. The MDS sets out potential subtidal cable reburial lengths of circa 4 km per cable and 1.7 km per cable in one event every five years relating to the Morgan Offshore Wind Project: Transmission Assets and the Morecambe Offshore Windfarm: Transmission Assets respectively. Intertidal cable reburial may also be required, with lengths of 500 m per cable in two events every five years for each of the six offshore export cables. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time. This makes it unlikely that there would be regular or significant disturbance to the recreational bathing sites located within the regional study area.

9.11.3.15 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of effect

9.11.3.16 Overall, the sensitivity of the receptor is low and the magnitude of the impact is negligible. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Decommissioning phase

9.11.3.17 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will therefore be of **negligible adverse** significance which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect.

9.11.4 Impacts to existing cables or pipelines or restrictions on access to cables or pipelines

9.11.4.1 Installation, maintenance, and decommissioning of cables may lead to impacts on existing cables and pipelines, or restrictions on access to cables and pipelines. The MDS presented in **Table 9.13** is represented by the associated minimum spacing and the greatest extent of safety zones and advisory clearance distances, over the longest construction, operation and maintenance, and decommissioning phases.

Construction phase

Sensitivity of receptor

9.11.4.2 As per **Table 9.6**, five active cables intersect the local study area, along with 29 pipelines associated with the oil and gas surface infrastructure listed in **Table 9.8** (Figure 9.4 (Volume 2, Figures)).

9.11.4.3 Safety zones, advisory clearance distances and activities associated with the Transmission Assets may restrict access to the existing cables and pipelines mentioned above. Cable and pipeline crossing and proximity agreements will be established as per industry best practice (such as the ICPC Recommendation 3-10C 'Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria').

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

Magnitude of impact

9.11.4.5 The presence of safety zones and advisory clearance distances may result in the restrictions on access to cables and pipelines. The Transmission Assets have a construction phase of up to 30 months (sequential construction scenario), with safety zones and advisory clearance distances having the potential to extend up to 500 m beyond the Offshore Order Limits. The impact of safety zones and advisory clearance distances is reversible as once the activity has been completed, the safety zone/advisory clearance distance is removed. Up to 284 installation vessel movements (return trips) will be required during construction, with 500 m advisory safety zones and advisory clearance distances around cable installation vessels. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time.

9.11.4.6 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of effect

9.11.4.7 Overall, the sensitivity of the receptor is medium and the magnitude of the impact is negligible. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect.

Operation and maintenance phase

Sensitivity of receptor

9.11.4.8 As per **Table 9.6**, five active cables intersect the local study area, along with 29 pipelines associated with the oil and gas surface infrastructure listed in **Table 9.8** (Figure 9.4 (Volume 2, Figures)).

9.11.4.9 Major maintenance activities associated with the Transmission Assets will be publicised via Notices to Mariners. Cable and pipeline crossing and proximity agreements will be established as per industry best practice (such as the ICPC Recommendation 3-10C 'Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria').

9.11.4.10 Restriction of access to an active cable or pipeline for inspection and maintenance activities could be critical to the operator of that cable or pipeline. However, crossing and proximity agreements are common across the UKCS and there are established mechanisms for controlling the level of impact to both parties.

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

Magnitude of impact

9.11.4.12 Loss of access to cables and pipelines associated with any temporary safety zones and advisory clearance distances during the operation and maintenance phase is considered to be limited in extent and infrequent.

9.11.4.13 Crossing and proximity agreements will be established with relevant cable and pipeline operators, to minimise the potential for any impact in accordance with recognised industry best practice. These agreements will ensure close communication and planning between both parties to ensure disruption of activities is minimised. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time.

9.11.4.14 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of effect

9.11.4.15 Overall, the sensitivity of the receptor is medium and the magnitude of the impact is negligible. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect.

Decommissioning phase

9.11.4.16 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has

been defined as minor rather than negligible as there will still be a perceptible effect.

9.11.5 Reduction or restriction of other offshore energy activities

9.11.5.1 Activities associated with the construction, operation and maintenance, and decommissioning phases of the Transmission Assets may lead to the reduction or restriction of other offshore energy activities. The MDS presented in **Table 9.13** is represented by the greatest extent of safety zones and advisory clearance distances, over the longest construction, operation and maintenance, and decommissioning phases.

Construction phase

Sensitivity of receptor

9.11.5.2 As per **Table 9.7**, there are six currently licenced blocks within the local study area (Figure 9.5 (Volume 2, Figures)). These blocks are licenced by:

- Harbour Energy plc, with one block;
- ENI UK Limited and Harbour Energy plc, with one block;
- Spirit Energy Production UK Limited, with three blocks; and
- Burgate Exploration and Production Limited, with one block.

9.11.5.3 There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of the sensitivity of this potential aspect of the receptor is complicated by a degree of uncertainty.

9.11.5.4 There are two exploration licences located within the local study area:

- P153 held by Spirit Energy; and
- P251 held by Harbour Energy.

9.11.5.5 There is also one exploration licence overlapping the regional study area (P1483, held by Spirit Energy). These licenced blocks are shown on Figure 9.6 (Volume 2, Figures).

9.11.5.6 There are seven platforms within the local study area, all of which are scheduled to undergo decommissioning activities before 2030. As stated in **section 9.6.1** South Morecambe DP3 and Millom West's decommissioning activities are scheduled to be concluded before the Transmission Assets' construction phase begins, but there may be overlap with decommissioning associated with:

- Calder;
- South Morecambe AP1;
- South Morecambe CPP1;
- South Morecambe DP1; and
- South Morecambe FL1.

9.11.5.7 The decommissioning of the South Morecambe platforms are part of the development process for the Morecambe Net Zero Cluster, the CCS project which will be located within the local study area.

9.11.5.8 Consultation with offshore operators (described in **Table 9.3**) has highlighted concerns regarding co-existence of various industries and infrastructure in the east Irish Sea. Continued consultation with other offshore energy operators will ensure relevant parties are kept informed of planned activities in order to minimise both spatial and temporal interactions between conflicting activities and maximise coexistence.

9.11.5.9 The receptor is deemed to be of low vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.

Magnitude of impact

9.11.5.10 Installation of the export cables may lead to the reduction or restriction of other offshore energy activities in the local study area during the 30 month construction period (sequential construction scenario). Such activities may include surveys, drilling or vessel access to infrastructure for maintenance or decommissioning.

9.11.5.11 The presence of safety zones and advisory clearance distances may reduce or restrict the ability to carry out seismic surveys and drilling within the six blocks overlapping the local study area. During the installation of the cables the area available for seismic surveys and drilling will be restricted, and the presence of safety zones and advisory clearance distances around vessels may also restrict the ability to use certain alternative survey methods.

9.11.5.12 The Transmission Assets have a construction phase of up to 30 months, with safety zones and advisory clearance distances having the potential to extend up to 500 m beyond the Offshore Order Limits. The impact of safety zones and advisory clearance distances is mostly reversible as once work is complete these will be removed. Up to 284 installation vessel movements (return trips) will be required during construction, with 500 m advisory safety zones/advisory clearance distances around cable installation vessels. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time.

9.11.5.13 Notices to Mariners will be promulgated regularly during the construction phase, advising of the location and nature of construction works (CoT50). As per **Table 9.12**, the Applicants will also consult with other offshore energy operators to promote and maximise cooperation between parties and minimise both spatial and temporal interactions between conflicting activities.

9.11.5.14 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **low**.

Significance of effect

9.11.5.15 Overall, the sensitivity of the receptor is medium and the magnitude of the impact is low. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

Operation and maintenance phase

Sensitivity of receptor

9.11.5.16 As per **Table 9.7**, there are six currently licenced blocks within the local study area (Figure 9.5 (Volume 2, Figures)). These blocks are licenced by:

- Harbour Energy plc, with one block;
- ENI UK Limited and Harbour Energy plc, with one block;
- Spirit Energy Production UK Limited, with three blocks; and
- Burgate Exploration and Production Limited (with one block).

9.11.5.17 There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of the sensitivity of this potential aspect of the receptor is complicated by a degree of uncertainty.

9.11.5.18 There are two exploration licences located within the local study area (P153 held by Spirit Energy and P251 held by Harbour Energy) and one overlapping the regional study area (P1483, held by Spirit Energy). These licenced blocks are shown on Figure 9.6 (Volume 2, Figures).

9.11.5.19 There are seven platforms within the local study area, all of which are scheduled to be undergoing decommissioning activities before 2030. As stated in **section 9.6.1** South Morecambe DP3 and Millom West's decommissioning activities are scheduled to be concluded before the Transmission Assets' construction phase begins, but there may be overlap between the Transmission Assets' operation and maintenance phase and with decommissioning activities associated with:

- Calder;
- South Morecambe AP1;
- South Morecambe CPP1;
- South Morecambe DP1; and
- South Morecambe FL1.

9.11.5.20 The decommissioning of the South Morecambe platforms are part of the development process for the Morecambe Net Zero Cluster, the CCS project which will be located within the local study area.

9.11.5.21 The receptor is deemed to be of low vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.

Magnitude of impact

9.11.5.22 The presence of any safety zones and advisory clearance distances due to maintenance may result in reduction or restriction of other offshore energy activities taking place, especially within the six blocks (for instance CCS, decommissioning or survey activities within their licenses). The Transmission Assets have an operation and maintenance phase of up to 35 years.

9.11.5.23 The presence of safety zones and advisory clearance distances may reduce or restrict the ability to carry out seismic surveys and drilling within the six blocks overlapping the local study area. During maintenance of the cables the area available for seismic surveys and drilling will be restricted, and the presence of safety zones and advisory clearance distances around maintenance vessels may also restrict the ability to use certain alternative survey methods.

9.11.5.24 Up to 77 operation and maintenance vessel movements may be required each year. During the operation and maintenance phase, the MDS for offshore export cable maintenance is for the subtidal repair of up to 4 km of each offshore export cable every ten years for each of the six offshore export cables. There will also be intertidal repairs of up to 1.2 km per cable for the Morecambe Offshore Windfarm: Transmission Assets and 1 km per cable for the Morgan Offshore Wind Project: Transmission Assets every 10 years. The MDS sets out potential subtidal cable reburial lengths of circa 4 km per cable and 1.7 km per cable in one event every five years relating to the Morgan Offshore Wind Project: Transmission Assets and the Morecambe Offshore Windfarm: Transmission Assets respectively. Intertidal cable reburial may also be required, with lengths of 500 m per cable in two events every five years for each of the six offshore export cables. Only a small fraction of the Offshore Order Limits would be impacted by safety zones at any one time.

9.11.5.25 The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore, considered to be **negligible**.

Significance of effect

9.11.5.26 Overall, the sensitivity of the receptor is medium and the magnitude of the impact is negligible. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Decommissioning phase

9.11.5.27 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

9.11.6 Future monitoring

9.11.6.1 The assessment of impacts on other sea users as a result of the construction, operation and maintenance, and decommissioning phases of the Transmission Assets are predicted to be not significant in EIA terms. Based on the predicted impacts it is concluded that no specific monitoring to test the predictions made within the impact assessment is required.

9.12 Cumulative effect assessment methodology

9.12.1 Introduction

9.12.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Transmission Assets together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 1, Annex 5.5: Cumulative screening matrix and location plan of the ES). 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.

9.12.1.2 The other sea users cumulative assessment has been undertaken as follows.

- Scenario 1: Transmission Assets together with Morecambe Offshore Windfarm: Generation Assets.
- Scenario 2: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets.
- Scenario 3: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets.
- Scenario 4: Scenario 3 together with Tier 1, Tier 2 and Tier 3 projects, plans and activities, defined as follows.
  - Scenario 4a: Scenario 3 and Tier 1 projects, plans and activities which are:
    - under construction;
    - permitted application;
    - submitted application; or
    - those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact.
  - Scenario 4b: Scenario 4a and Tier 2 projects, plans and activities which are:
    - Scoping Report has been submitted in the public domain.
  - Scenario 4c: Scenario 4b and Tier 3 projects, plans and activities which are:

- where a Scoping Report has not been submitted and it is not in the public domain;
- identified in the relevant Development Plan; or
- identified in other plans and programmes.

9.12.1.3 This tiered approach is adopted to provide a clear assessment of the Transmission Assets alongside other projects, plans and activities. The specific projects, plans and activities scoped into the CEA, are outlined in **Table 9.17** and shown on Figure 9.7[2] (Volume 2, Figures).

[2] It is understood that the Maresconnect cable landing point shown in Figure 9.7 (Volume 2, Figures) may be subject to change. The routing shown is based upon information in the public domain at time of writing.

Table 9.17: List of other projects, plans and activities considered within the CEA

Project/Plan	Status	Approximate distance from the Transmission Assets (nearest point (km))	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Transmission Assets
Generation Assets						
Morecambe Offshore Windfarm: Generation Assets	Application submitted	0.0	480 MW Offshore wind farm (generating assets).	2026 - 2029	2029 - 2064	Yes
Morgan Offshore Wind Project: Generation Assets	Application submitted	0.0	1.5GW Offshore wind farm (generating assets).	2026 - 2030	2030 - 2065	Yes
Tier 1						
Awel y Môr	Consented	28.9	Offshore wind farm, comprising up to 50 wind turbines.	01/01/2023	01/01/2055	Yes
Mona Offshore Wind Project	Application submitted	5.2	The Mona Offshore Wind Project, comprising up to 96 wind turbines.	01/01/2028	31/12/2065	Yes
Tier 2						
Eni Hynet – Carbon Capture Project	Pre-application	5.7	CCS project in the east Irish Sea.	Unknown	Unknown	N/A
Mooir Vannin	Pre-application	2.6	Proposed offshore wind farm comprising up to 100 wind turbines.	Unknown	Unknown	N/A
Tier 3						

Project/Plan	Status	Approximate distance from the Transmission Assets (nearest point (km))	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Transmission Assets
MaresConnect	Pre-application	34.4	MaresConnect is a proposed 750 MW subsea and underground electricity interconnector system linking the electricity grids in Ireland and Great Britain.	Unknown	Unknown	N/A
Morecambe Net Zero Cluster	Pre-application	0.00	Spirit Energy are planning to convert their depleted South Morecambe and North Morecambe gas fields and Barrow Terminals into a carbon storage cluster.	Unknown	Unknown	N/A

9.12.2 Scope of cumulative effects assessment

9.12.2.1 The MDSs identified in **Table 9.18** 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 based on the Project Design Envelope provided in Volume 1, Chapter 3: Project description of the ES as well as the information publicly available on other projects and plans.

9.12.2.2 The cumulative effects identified in **Table 9.18** below are a subset of those considered for the Transmission Assets alone assessment (**Table 9.13**). This is for one of two reasons:

- the potential impacts identified and assessed for the Transmission Assets alone are relatively localised and have limited, or no, potential to interact with similar impacts associated with other projects; or
- the potential significance of impact has been assessed as negligible for the Transmission Assets alone and therefore has limited or no potential to interact with similar impacts associated with other projects.

Table 9.18: Scope of the assessment of cumulative effects

Cumulative effect	Phase[a]			Project(s) considered	Justification
	C	O	D		
Reduction or restriction of other offshore energy activities	✓	×	✓	MDS as described for the Transmission Assets (**Table 9.13**) assessed cumulatively with the following other projects/plans: **Generation Assets** • Morecambe Offshore Windfarm: Generation Assets; and • Morgan Offshore Wind Project: Generation Assets. **Tier 1** • Awel y Môr; and • Mona Offshore Wind Project. **Tier 2** • Eni Hynet – Carbon Capture Project • Mooir Vannin Offshore Wind Farm. **Tier 3** • MaresConnect; and • Morecambe Net Zero Cluster.	The outcome of the CEA will be greatest when the greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of safety zones and advisory clearance distances, over the longest construction, operation and maintenance, and decommissioning period represents the greatest potential for reduction or restriction of other offshore energy activities.

[a] C=construction, O=operation and maintenance, D=decommissioning

9.13 Cumulative effects assessment

9.13.1 Introduction

9.13.1.1 The CEA is presented in a series of tables (one for each potential cumulative impact) and considers the following.

- Scenario 1: Transmission Assets together with Morecambe Offshore Windfarm: Generation Assets.
- Scenario 2: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets.
- Scenario 3: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets.
- Scenario 4a to 4c: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (Scenario 3) and other relevant projects and plans.

9.13.2 Reduction or restriction of other offshore energy activities

Table 9.19: Reduction or restriction of other offshore energy activities (Scenarios 1-3)

	Scenario 1: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets + Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets and Morgan Offshore Wind Project: Generation Assets
Construction phase			
Sensitivity of receptor	As per **Table 9.7**, there are six currently licenced blocks within the local study area (Figure 9.5 (Volume 2, Figures)). These blocks are licenced by: • Harbour Energy plc, with one block; • ENI UK Limited and Harbour Energy plc, with one block; • Spirit Energy Production UK Limited, with three blocks; and • Burgate Exploration and Production Limited (with one block). There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of the sensitivity of this potential aspect of the receptor is complicated by a degree of uncertainty. There are two exploration licences located within the local study area (P153 held by Spirit Energy and P251 held by Harbour Energy) and one overlapping the regional study area (P1483, held by Spirit Energy). These licenced blocks are shown on Figure 9.6 (Volume 2, Figures). There are seven platforms within the local study area, all of which will be undergoing decommissioning activities before 2030. As stated in **section 9.6.1** South Morecambe DP3 and Millom West's decommissioning activities will be concluded before the Transmission Assets' construction phase begins, but there may be overlap with decommissioning associated with: • Calder; • South Morecambe AP1; • South Morecambe CPP1; • South Morecambe DP1; and • South Morecambe FL1. The decommissioning of the South Morecambe platforms are part of the development process for the Morecambe Net Zero Cluster, the CCS project which will be located within the local study area. The receptor is deemed to be of low vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.		

	Scenario 1: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets + Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets and Morgan Offshore Wind Project: Generation Assets
Magnitude of impact	The cumulative effects assessment for Scenario 1 considers the following. • Reduction or restriction of other offshore energy activities due to the installation of the Transmission Assets as described in **section 9.11.5.** • Reduction or restriction of other offshore energy activities due to the installation of the Morecambe Offshore Windfarm: Generation Assets. The Morecambe Offshore Windfarm: Generation Assets will consist of up to 35 wind turbines and two OSPs. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the Transmission Assets, the Morecambe Offshore Windfarm: Generation Assets and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.	The cumulative effects assessment for Scenario 2 considers the following: • Reduction or restriction of other offshore energy activities due to the installation of the Transmission Assets as described in **section 9.11.5**. • Reduction or restriction of other offshore energy activities due to the installation of the Morgan Offshore Wind Project: Generation Assets. The Morgan Offshore Wind Project: Generation Assets will consist of up to 96 wind turbines and four OSPs. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the Transmission Assets, the Morgan Offshore Wind Project: Generation Assets and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.	The cumulative effects assessment for Scenario 3 considers the following. • Reduction or restriction of other offshore energy activities due to the installation of the Transmission Assets as described in **section 9.11.5.** • Reduction or restriction of other offshore energy activities due to the installation of the Morecambe Offshore Windfarm: Generation Assets. The Morecambe Offshore Windfarm: Generation Assets will consist of up to 35 wind turbines and two OSPs. • Reduction or restriction of other offshore energy activities due to the installation of the Morgan Offshore Wind Project: Generation Assets. The Morgan Offshore Wind Project: Generation Assets will consist of up to 96 wind turbines and four OSPs. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the Transmission Assets, the Morecambe Offshore Windfarm: Generation Assets, the Morgan Offshore Wind Project: Generation Assets and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly.

	Scenario 1: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets + Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets + Morecambe Offshore Windfarm: Generation Assets and Morgan Offshore Wind Project: Generation Assets
			The magnitude is therefore, considered to be **low**.
Significance of effect	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.
Decommissioning phase			
Significance of effect	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

Table 9.20: Reduction or restriction of other offshore energy activities (Scenarios 4a-4c)

	Scenario 4a: Scenario 3 (Transmission Assets and Generation Asset) + Tier 1	Scenario 4b: Scenario 4a + Tier 2	Scenario 4c: Scenario 4b + Tier 3
Construction phase			
Sensitivity of receptor	As per **Table 9.7**, there are six currently licenced blocks within the local study area (Figure 9.5 (Volume 2, Figures)). These blocks are licenced by: • Harbour Energy plc, with one block; • ENI UK Limited and Harbour Energy plc, with one block; • Spirit Energy Production UK Limited, with three blocks; and • Burgate Exploration and Production Limited (with one block). There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of the sensitivity of this potential aspect of the receptor is complicated by a degree of uncertainty. There are two exploration licences located within the local study area (P153 held by Spirit Energy and P251 held by Harbour Energy) and one overlapping the regional study area (P1483, held by Spirit Energy). These licenced blocks are shown on Figure 9.6 (Volume 2, Figures). There are seven platforms within the local study area, all of which will be undergoing decommissioning activities before 2030. As stated in **section 9.6.1** South Morecambe DP3 and Millom West's decommissioning activities will be concluded before the Transmission Assets' construction phase begins, but there may be overlap with decommissioning associated with: • Calder; • South Morecambe AP1; • South Morecambe CPP1; • South Morecambe DP1; and • South Morecambe FL1. The decommissioning of the South Morecambe platforms are part of the development process for the Morecambe Net Zero Cluster, the CCS project which will be located within the local study area. The receptor is deemed to be of low vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.		
Magnitude of impact	The cumulative effects assessment for Scenario 4a includes the Transmission and Generation Assets (Scenario 3) and the Tier 1 projects identified in **Table 9.17**, and considers the following.	The cumulative effects assessment for Scenario 4b includes Scenario 4a plus Tier 2 project identified in **Table 9.17** and considers the following. • Reduction or restriction of other offshore energy activities due to the installation of: the	The cumulative effects assessment for Scenario 4c includes Scenario 4b plus Tier 3 projects identified in **Table 9.17** and considers the following. • Reduction or restriction of other offshore energy activities due to the installation of: the Transmission Assets, the Morecambe Offshore

	Scenario 4a: Scenario 3 (Transmission Assets and Generation Asset) + Tier 1	Scenario 4b: Scenario 4a + Tier 2	Scenario 4c: Scenario 4b + Tier 3
	• Reduction or restriction of other offshore energy activities due to the installation of the Transmission Assets, the Morecambe Offshore Windfarm: Generation Assets and the Morgan Offshore Wind Project: Generation Assets as described for Scenario 3. • Reduction or restriction of other offshore energy activities due to the installation of Awel y Môr and the Mona Offshore Wind Project. These developments will consist of up to 50 and 96 wind turbines respectively. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the projects involved in Scenario 4a and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.	Transmission Assets, the Morecambe Offshore Windfarm: Generation Assets, the Morgan Offshore Wind Project: Generation Assets and Tier 1 projects as described for Scenario 4a. • Reduction or restriction of other offshore energy activities (including surveys, decommissioning and CCS) due to the installation of Mooir Vannin Offshore Wind Farm, which will consist of up to 100 wind turbines, and the Eni Hynet – Carbon Capture Project. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the projects involved in Scenario 4b and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.	Windfarm: Generation Assets, the Morgan Offshore Wind Project: Generation Assets, Tier 1 and Tier 2 projects as described for Scenario 4b. • Reduction or restriction of other offshore energy activities due to the installation of MaresConnect and the Morecambe Net Zero Cluster. • Other offshore energy activities may include surveys, drilling or vessel access to infrastructure related to activities such as decommissioning. • There is overlap between the projects involved in Scenario 4c and licenced blocks, but there is still area available within these blocks for survey and drilling activities. The cumulative effect is predicted to be of local spatial extent, short to medium term duration, intermittent and low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.
Significance of effect	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the sensitivity of the receptor is considered to be medium and the magnitude of the cumulative impact is deemed to be low. The cumulative effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.
Decommissioning phase			
Significance of effect	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will,	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will,	The cumulative effects of decommissioning activities are expected to be the same or similar to the effects from construction. The effect will,

	Scenario 4a: Scenario 3 (Transmission Assets and Generation Asset) + Tier 1	Scenario 4b: Scenario 4a + Tier 2	Scenario 4c: Scenario 4b + Tier 3
	therefore, be of **minor adverse** significance, which is not significant in EIA terms.	therefore, be of **minor adverse** significance, which is not significant in EIA terms.	therefore, be of **minor adverse** significance, which is not significant in EIA terms.

9.13.3 Future monitoring

9.13.3.1 As no cumulative effects have been assessed as significant for other sea users, and with the implementation of the mitigation measures described in **section 9.8**, no monitoring to test the predictions made within the impact assessment is considered necessary.

9.14 Transboundary effects

9.14.1.1 A screening of transboundary impacts has been carried out (see Volume 1, Annex 5.4: Transboundary screening of the ES) and has identified that there was no potential for significant transboundary effects with regard to other sea users from the Transmission Assets upon the interests of other states.

9.15 Inter-related effects

9.15.1.1 Inter-relationships are the impacts and associated effects of different aspects of the Transmission Assets on the same receptor. These are as follows.

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Transmission Assets (construction, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases (e.g. operational safety zones, 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 other sea users (e.g. reduced access and sediment plumes) 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.

9.15.1.2 A description of the likely interactive effects arising from the Transmission Assets on other sea users is provided in Volume 4, Chapter 3: Inter-relationships of the ES. There are no inter-related effects resulting from the Transmission Assets for other sea users.

9.16 Summary of impacts, mitigation measures and monitoring

9.16.1.1 Information on other sea users within the study area was collected through consultation and desktop reviews of available datasets.

9.16.1.2 **Table 9.21** presents a summary of the impacts and measures adopted as part of the Transmission Assets and residual effects in respect to other sea users. The impacts assessed include:

- displacement of recreational activities;
- increased suspended sediment concentrations and associated deposition affecting recreational diving sites and designated bathing water sites;

- impacts to existing cables or pipelines or restrictions on access to cables or pipelines; and
- reduction or restriction of other offshore energy activities.

9.16.1.3 Overall, it is concluded that there will be no significant effects arising from the Transmission Assets on other sea users during the construction, operation and maintenance, or decommissioning phases.

9.16.1.4 **Table 9.22** presents a summary of the potential cumulative impacts, mitigation measures and resulting effects. The cumulative impacts assessed are:

- increased suspended sediment concentrations and associated deposition affecting recreational diving sites and designated bathing water sites; and
- reduction or restriction of other offshore energy activities.

9.16.1.5 Overall, it is concluded that there will be no significant cumulative effects from the Transmission Assets on other sea users alongside other projects/plans.

9.16.1.6 There are no inter-related effects resulting from the Transmission Assets for other sea users.

9.16.1.7 No potential transboundary impacts have been identified in regard to effects of the Transmission Assets on other sea users.

Table 9.21: Summary of environmental effects, mitigation and monitoring

Description of impact	Phase[a]			Commitment number (Table 9.12)	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Displacement of recreational activities.	✓	✓	✓	CoT 66 CoT 50 CoT 52 CoT 59	C: Negligible O: Negligible D: Negligible	C: Low O: Low D: Low	C: Negligible adverse O: Negligible adverse D: Negligible adverse	None proposed beyond existing commitments.	C: Negligible adverse O: Negligible adverse D: Negligible adverse	None
Increased suspended sediment concentrations and associated deposition affecting recreational diving sites and designated bathing water sites.	✓	✓	✓	CoT 45	C: Negligible O: Negligible D: Negligible	C: Low O: Low D: Low	C: Negligible adverse O: Negligible adverse D: Negligible adverse		C: Negligible adverse O: Negligible adverse D: Negligible adverse	None
Impacts to existing cables or pipelines or restrictions on access to cables or pipelines.	✓	✓	✓	CoT 66 CoT 50 CoT 51 CoT 52 CoT 59 CoT 45 CoT 51	C: Negligible O: Negligible D: Negligible	C: Medium O: Medium D: Medium	C: Minor adverse O: Minor adverse D: Minor adverse		C: Minor adverse O: Minor adverse D: Minor adverse	None
Reduction or restriction of other offshore energy activities.	✓	✓	✓	CoT 66 CoT 50 CoT 52 CoT 59	C: Low O: Negligible D: Low	C: Medium O: Medium D: Medium	C: Minor adverse O: Negligible adverse D: Minor adverse		C: Minor adverse O: Negligible adverse D: Minor adverse	None

[a] C=construction, O=operation and maintenance, D=decommissioning

Table 9.22: Summary of cumulative environmental effects, mitigation and monitoring

Description of effect	Phase[a]			Commitment number (Table 9.12)	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Scenario 1										
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None
Scenario 2										
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None
Scenario 3										
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None
Scenario 4a										
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None
Scenario 4b										

Description of effect	Phase[a]			Commitment number (Table 9.12)	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None
Scenario 4c										
Reduction or restriction of other offshore energy activities.	✓	×	✓	CoT 66 CoT 50 CoT 59	C: Low D: Low	C: Medium D: Medium	C: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	C: Minor adverse D: Minor adverse	None

[a] C=construction, O=operation and maintenance, D=decommissioning

9.17 References

Blackpool Light Craft Club (2016). [redacted]/. Accessed May 2024.

Charter Boats (2024). Available: [redacted].

Department of Business, Energy and Industrial Strategy (2018) Guidance on the decommissioning of offshore oil and gas installations and pipelines. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760560/Decom_Guidance_Notes_November_2018.pdf. Accessed May 2024.

Department for Energy Security & Net Zero (2023a) Overarching National Policy Statement for Energy (NPS EN-1). Available: https://assets.publishing.service.gov.uk/media/65a7864e96a5ec0013731a93/overarching-nps-for-energy-en1.pdf. Accessed May 2024.

Department for Energy Security & Net Zero (2023b) National Policy Statement for Renewable Energy Infrastructure (NPS EN-3). Available: https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf. Accessed May 2024.

Department for Energy Security & Net Zero (2023c) National Policy Statements for Electricity Networks Infrastructure (NPS EN-5). Available: https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf. Accessed May 2024.

Department for Energy Security & Net Zero (2023d) Establishing the offshore decommissioning regime for CO2 transport and storage networks - Update to government response to consultation. Available: https://assets.publishing.service.gov.uk/media/6493f2e6831311000c296123/establishing-the-offshore-decommissioning-regime-for-co2.pdf. Accessed May 2024.

European Subsea Cables UK Association (ESCA) (2023) Guideline No.6, The Proximity Of Offshore Renewable Energy Installations And Submarine Cable Infrastructures. Available: [redacted].

Highways England, Transport Scotland, Welsh Government, Department for Infrastructure (2020) Design Manual for Roads and Bridges (DMRB) LA 104, Environmental assessment and monitoring, Revision 1. Available: [redacted]

International Cable Protection Committee (ICPC) (2015) Recommendation No.2-11B: Cable routing and reporting criteria. Available: [redacted] Accessed May 2024.

International Cable Protection Committee (ICPC) (2014) Recommendation No. 3-10C: Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria. Available: [redacted] Accessed May 2024.

International Cable Protection Committee (ICPC) (2013) Recommendation No.13-2C: The proximity of offshore renewable wind energy installations and submarine cable infrastructure in national waters. Available: [redacted] Accessed May 2024.

IEMA (2016) Environmental Impact Assessment. Guide to Delivering Quality Development. Available: [redacted]. Accessed May 2024.

Oil and Gas UK (2021) Pipeline crossing agreement and proximity agreement pack. Available: [redacted] May 2024.

Manx Sea Fishing ([redacted]. Accessed May 2024.

Marine Management Organisation (2021) North West Inshore and North West Offshore Marine Plan, June 2021.

Royal Yachting Association (RYA) (2019) The RYA's position on offshore renewable energy developments: Paper 1 (of 4) – Wind Energy. Available: [redacted]. Accessed May 2024.

The Crown Estate (TCE) (2012) Submarine cables and offshore renewable energy installations proximity study. Available: [redacted] Accessed May 2024.

The Planning Inspectorate (2022) Advice Note Ten, Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects. Version 9. Available: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/. Accessed September 2024.