MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Applicants' report on interrelationships with other infrastructure projects

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Glossary

Term	Meaning
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Biodiversity benefit	An approach to development that leaves biodiversity in a better state than before. Where a development has an impact on biodiversity, developers are encouraged to provide an increase in appropriate natural habitat and ecological features over and above that being affected. For the Transmission Assets, biodiversity benefit will be delivered within identified biodiversity benefit areas within the Onshore Order Limits. Further qualitative benefits to biodiversity are proposed via potential collaboration with stakeholders and local groups, contributing to existing plans and programmes, both within and outside the Order Limits.
Code of Construction Practice	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
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.
Construction Traffic Management Plan	A document detailing the construction traffic routes for heavy goods vehicles and personnel travel, protocols for delivery of Abnormal Indivisible Loads to site, measures for road cleaning and sustainable site travel measures.
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.
Direct pipe	A cable installation technique which involves the use of a mini (or micro) tunnel boring machine and a hydraulic (or other) thruster rig to directly install a steel pipe between two points.
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.

Term	Meaning
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach to, and information to support, the EIA and Habitats Regulations Assessment processes for certain topics.
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.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980.
Main rivers	The term used to describe a watercourse designated as a Main River under the Water Resources Act 1991 and shown on the Main River Map. These are usually larger rivers or streams and are managed by the Environment Agency.
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
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
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.
Micro-tunnel / micro-tunnelling	A tunnelling technique involving the use of a hydraulic (or other) jacking rig and a mini (or micro) tunnel boring machine to install a concrete tunnel between two points.
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.

Term	Meaning
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 Ltd 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 export cables, landfall, and onshore infrastructure for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. 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).
National Grid Penwortham substation	The existing National Grid substation at Penwortham, Lancashire.
National Policy Statement(s)	The current national policy statements published by the Department for Energy and Net Zero in 2023 and adopted in 2024.
Offshore booster station	A fixed structure located along the offshore export cable route, containing electrical equipment to ensure bulk wind farm capacity can be fully transmitted to the onshore substations.
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
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 Permanent Infrastructure Area	The area within the Transmission Assets Offshore Order Limits (up to MLWS) where the permanent offshore electrical infrastructure (i.e. offshore export cables) will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.

Term	Meaning
Onshore Infrastructure Area	The area within the Transmission Assets Order Limits landward of MHWS. Comprising the offshore export cable corridor from MHWS to the transition joint bay, onshore export cable corridor, onshore substations and 400 kV grid connection cable corridor, and associated temporary and permanent infrastructure including temporary and permanent compound areas and accesses. Those parts of the Transmission Assets Order Limits proposed only for ecological mitigation and/or biodiversity benefit are excluded from this area.
Onshore Order Limits	See Transmission Assets Order Limits: Onshore (below).
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project, and which helps to inform consultation responses.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations due to the flow of water.
Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of electrical transformers.
The Secretary of State for Energy Security and Net Zero	The decision maker with regards to the application for development consent for the Transmission Assets.
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 (such as construction compounds).
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.
Transmission Assets Order Limits: Onshore	The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds). Also referred to in this report as the Onshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
AIS	Air Insulated Switchgear
AOD	Above Ordnance Datum
BCA	Bilateral Grid Connection Agreement
CoCP	Code of Construction Practice
CoT	Project Commitment
CBRA	Cable Burial Risk Assessment
CfD	Contracts for Difference
CMS	Construction Method Statement
CSIP	Cable Specification and Installation Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security & Net Zero
dML	Deemed Marine Licence
EnBW	Energie Baden-Württemberg AG
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPP	Evidence Plan Process
ES	Environmental Statement
EWG	Expert Working Group
GIS	Gas Insulated Switchgear
HDD	Horizontal Directional Drilling
HGV	Heavy goods vehicle
HNDR	Holistic Network Design Review
HVAC	High Voltage Alternating Current
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IAQM	Institute of Air Quality Management
LAT	Lowest Astronomical Tide
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario

Acronym	Meaning
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MPS	Marine Policy Statement
MTBM	Mini (or micro) tunnel boring machine
NGESO	National Grid Electricity System Operator
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
O&M	Operation and Maintenance
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
PDE	Project Design Envelope
PEIR	Preliminary Environmental Information Report
PPP	Pollution Prevention Plan
PRoW	Public rights of way
SAC	Special Areas of Conservation
SAR	Search and Rescue
SPA	Special Protection Area
SNCBs	Statutory Nature Conservation Bodies
SSSI	Sit of Special Scientific Interest
SWMP	Site Waste Management Plan
TEP	Technical Engagement Plan
TJB	Transition Joint Bay
UK	United Kingdom
UXO	Unexploded Ordnance
WSI	Written scheme of investigation

Units

Unit	Description
%	Percentage
dB	Decibels
Kg	Kilogram
kHz	Kilohertz

Unit	Description
KJ	Kilojoules
km	Kilometres
km^2	Kilometres squared
kV	Kilovolt
m	Metres
m^2	Metres squared
m^3	Metres cubed
nm	Nautical mile
µPa	micropascal

1 Report on interrelationships with other infrastructure projects

1.1 Introduction

1.1.1 Background

1.1.1.1 On 28 March 2025 the Examining Authority (ExA) published its Rule 6 letter (PD-006) regarding the Examination of the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (hereafter referred to as the 'Transmission Assets').

1.1.1.2 The Rule 6 letter includes a request for Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Limited (Morecambe OWL) ('the Applicants') to prepare a report on the interrelationships with other infrastructure projects. This request is in recognition of the number of other infrastructure projects within and around the Irish Sea which are either consented, in Examination or pre-Examination, or pre-Application, which are listed in the Rule 6 letter as including:

- Awel y Mor Offshore Wind Farm
- Mona Offshore Wind Project
- Morecambe Offshore Windfarm: Generation Assets
- Morgan Offshore Wind Farm: Generation Assets
- Mooir Vannin Offshore Wind Farm

1.1.1.3 In order to assist in understanding the relationship of the projects to each other, the Transmission Assets Order Limits together with those for the other infrastructure projects listed above (including the array areas, cable routes and onshore grid connections, are shown in Figure 1.1).

1.1.1.4 The ExA has also recognised the potential for the information available on these other projects to change during the Examination.

1.1.1.5 In preparing this report, the Applicants define 'interrelationship' as 'the way in which two or more things or people are connected and affect each other'.

1.1.1.6 The approach to coordination between the Transmission Assets and the other projects listed above is set out and evidenced in this report where appropriate. The Applicants are delivering a coordinated grid connection for Morecambe OWL and Morgan OWL (the 'Transmission Assets'), in line with National Policy Statements (NPS) EN-1, EN-3 and EN-5, with coordination carried out with other relevant projects as far as reasonably practicable and appropriate given the varying project timelines. A coordinated approach to stakeholder consultation was undertaken with key projects at the outset and continued throughout the pre-application phase. Where appropriate, key survey data has been shared between the relevant projects to strengthen the individual

environmental baselines, and where site-specific surveys have been carried out, these have followed standard practice and ensure that the evidence base upon which to carry out the assessments is similar.

1.1.1.7 Where relevant and as detailed in this report, the Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA) assessment approaches have been coordinated, and delivered by the same team of competent experts to ensure consistency. This has ensured a coordinated approach to each topic of the EIA across the relevant projects, including alignment on approach to baseline data, assessment methodologies, impact assessment, cumulative impact assessment, and mitigation.

1.1.1.8 To address the change in status of the Morecambe Offshore Windfarm: Generation Assets and Morgan Offshore Wind Project: Generation Assets applications since the submission of the Transmission Assets application, from Application to close of Examination, the Applicants have carried out a review of its cumulative effects assessment (CEA) and in-combination assessment to establish whether the conclusions of the CEA and in-combination assessments remain current and robust. The outputs of the CEA review are included in this report where relevant. There is considered to be no changes to the CEA following this exercise.

1.1.1.9 Consequently, the Applicants are satisfied that the coordination carried out as detailed in this report is sufficient to ensure a robust evidence base upon which to establish and determine each application, and goes beyond that typically undertaken for proximate offshore wind projects. Publicly available information on all projects identified by the ExA (and any others relevant to the Transmission Assets CEA) will be kept under review during the Transmission Assets Examination and updates provided at appropriate deadlines.

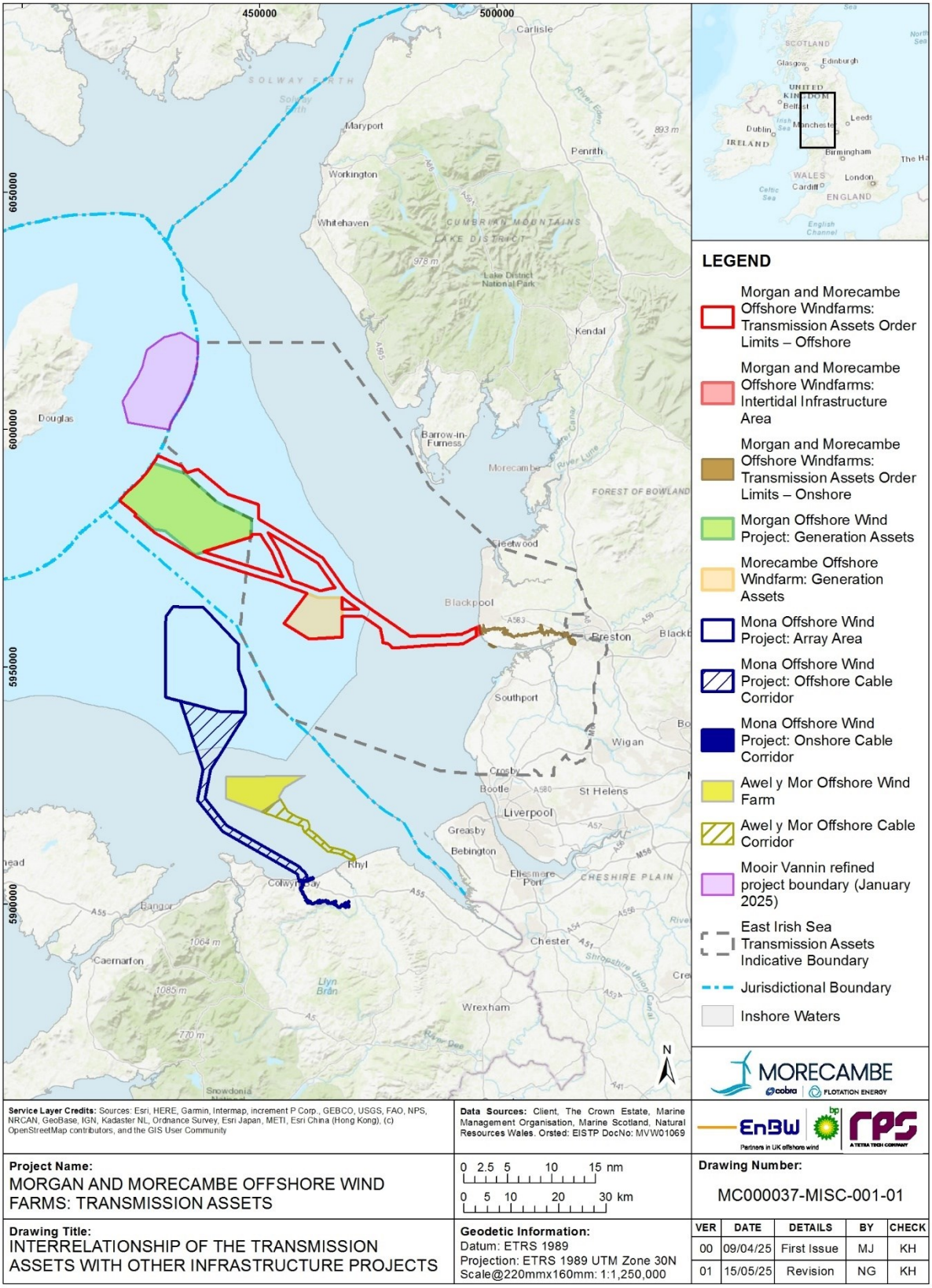

Figure 1.1: Order limits of the Transmission Assets with other infrastructure projects.

1.1.2 Structure of this report

1.1.2.1 The content of this report includes the matters set out within Appendix F of the Rule 6 letter, and is therefore structured as follows:

- Introduction (including a plan showing the Transmission Assets Order Limits and the other projects and the locations of the main features of each, including array areas, cable routes and onshore connections to grid connection)
- An overview of the Transmission Assets and the other projects, including the timings for:
  - Submission (or current Examination)
  - Construction phasing
  - Grid connection
  - Expected start of operation.
- The approach taken by the Applicants to coordinate the Transmission Assets with the other projects, including during the Examination
- Any provisions in the Development Consent Order required for the Transmission Assets to be implemented satisfactorily in relation to other projects
- Key survey data shared with other projects
- Mitigation measures shared with other projects, and how they are to be secured
- Summary of direct, indirect, secondary and cumulative impacts with the Morecambe Offshore Windfarm: Generation Assets (Scenario 1) the Morgan Offshore Wind Project: Generation Assets (Scenario 2) and the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (Scenario 3), and any potential conditions or requirements
- A summary of any other information on the other projects relied on for the CEA, the level of detail, and any changes since the application was prepared for submission, including a summary of any changes
- A summary of progress of coordination with the other projects, setting out the matters that have been agreed, any inconsistencies or outstanding matters, and the next steps.

1.2 Overview of the Transmission Assets development timeframes in relation to other projects

1.2.1.1 This section provides an overview of the development timeframes for the Transmission Assets and the other infrastructure projects as follows:

- Table 1.1 provides the consenting timeframes, including dates for submission and Examination (where relevant); and
- Table 1.2 provides the timeframes for construction, grid connection and expected start of operation.

1.2.1.2 The projects are listed in ascending date order.

1.2.1.3 The Awel y Mor Offshore Wind Farm project was leased under The Crown Estate extension projects and is an extension to Gwynt y Mor. The Awel y Mor Offshore Wind Farm project was consented in September 2023.

1.2.1.4 The Mona Offshore Wind Project, Morgan Offshore Wind Project: Generation Assets, Morecambe Offshore Windfarm: Generation Assets, and the Transmission Assets are all leased under The Crown Estate Round 4 OWF leasing:

- The Mona Offshore Wind Project concluded its Examination on 16 January 2025;
- The Morgan Offshore Wind Project: Generation Assets Examination concluded on 10 March 2025;
- The Morecambe Offshore Windfarm: Generation Assets concluded on 23 April 2025.
- The Transmission Assets application was accepted for Examination on 18 November 2024, with the Examination phase currently on-going, and the Examination is expected to conclude on 29 October 2025.

1.2.1.5 The Mooir Vannin Offshore Wind Farm is located in Isle of Man (IoM) Territorial Waters and is being taken forward as the first application in IoM Territorial Waters. Mooir Vannin Offshore Wind Farm is currently at the pre-application stage, with only the Scoping Report, some early stage environmental information (pre-EIA) and an overview of project refinements following consultation publicly available. The developer of the Mooir Vannin Offshore Wind Farm has applied to the Isle of Man Government for a Marine Infrastructure Consent (MIC) and awaiting acceptance of the application. The Isle of Man Government (Territorial Sea Committee) has stated that it is continuing to prepare the necessary legislation and requirements to support the consideration of an application in respect of offshore renewable energy generation. Mooir Vannin Offshore Wind Farm Limited has stated its target of receiving consent approximately 18 months after submission (see REP3-041).

1.2.1.6 The Applicants understand that a separate consent for the Mooir Vannin transmission infrastructure (the ‘East Irish Sea Transmission Project’), located within English waters, is in early-stage development. There is limited information in the public domain for this project except for the Section 35 Direction application that was granted on 24 October 2024 and associated supporting information, and location plans. The Applicants have therefore only been able to prepare Figure 1.1 using an indicative boundary for the East Irish Sea Transmission project.

Publicly available information on all projects identified by the ExA (and any others relevant to the Transmission Assets CEA) will be kept under review during the Transmission Assets Examination and updates provided at appropriate deadlines.

Table 1.1: Project consenting timeframes.

Project	Status	Date Preliminary Environmental Information Report (PEIR) issued	Application submitted	Application Accepted for Examination	Date of commencement of Examination	Date of Examination Close	Consent Decision
Awel y Mor[a]	Consented	August 2021	20 April 2022	18 May 2022	20 September 2022	20 March 2023	Consent granted: 20 September 2023
Mona Offshore Wind Project[a]	Recommendation	19 April 2023	22 February 2024	27 March 2024	16 July 2024	16 January 2025	Anticipated 16 July 2025[b]
Morgan Offshore Wind Project: Generation Assets[a]	Recommendation	19 April 2023	24 April 2024	17 May 2024	10 September 2024	10 March 2025	Anticipated 10 September 2025[b]
Morecambe Offshore Windfarm: Generation Assets[a]	Recommendation	19 April 2023	31 May 2024	27 June 2024	23 October 2024	23 April 2025	Anticipated 23 October 2025[b]
Morgan and Morecambe Offshore Wind Farms: Transmission Assets[a]	Examination	12 October 2023	21 October 2024	18 November 2024	29 April 2025	Anticipated 29 October 2025	Anticipated April 2026[b]

Project	Status	Date Preliminary Environmental Information Report (PEIR) issued	Application submitted	Application Accepted for Examination	Date of commencement of Examination	Date of Examination Close	Consent Decision
Mooir Vannin Offshore Wind Farm[c]	Application submitted (not yet known if it is accepted)	N/A	TBC	N/A	N/A	N/A	TBC
East Irish Sea Transmission Project[d]	Pre-Submission (early stage development)	N/A	TBC	N/A	N/A	N/A	TBC

a Data source: The Planning Inspectorate website.

b Dates estimated from statutory timescales for recommendation and decision (six months collectively from the close of Examination (section 98(3) and section 107(1) of the Planning Act 2008)), subject to Secretary of State power to extend the deadline under section 107(3) of the Planning Act 2008.

c Data source: Developer website (https://orsted.im/mooirvannin/document-library).

d Data source: https://assets.publishing.service.gov.uk/media/67112612386bf0964853d767/east-irish-sea-transmission-project-qualifying-request-s35-supporting-statement.pdf

Table 1.2: Indicative project construction and operation programmes.

Project	Status	Indicative construction phase	Grid connection date*	Expected start of operation	Data source
Awel y Mor	Consented	2026 to 2029	2027 2028**	2030	Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039) National Grid (2024)
Mona Offshore Wind Project	Examination Closed	2026 to 2030	2029	2030	Volume 1, Annex 5.5: Cumulative screening

Project	Status	Indicative construction phase	Grid connection date*	Expected start of operation	Data source
					matrix and location plan (APP-039) Mona Offshore Wind Ltd (2024) Volume 1, Chapter 3: Project description National Grid (2024)
Morgan Offshore Wind Project: Generation Assets	Examination Closed	2026 to 2030	2029	2030	Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039) Morgan Offshore Wind Limited (2024) Volume 1, Chapter 3: Project description National Grid (2024)
Morecambe Offshore Windfarm: Generation Assets	Examination Closed	2026 to 2029	2029	2030	Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039) Morecambe Offshore Windfarm Ltd (2024) Volume 5 - Chapter 5 - Project Description National Grid (2024)
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	Examination	Construction commencement 2026	2029	2030	Volume 1, Chapter 3: Project description (AS-024) National Grid (2024)
Mooir Vannin Offshore Wind Farm	Pre-acceptance – Application submitted (not	2030-2032	2037	2033	Volume 1, Annex 5.5: Cumulative screening

Project	Status	Indicative construction phase	Grid connection date*	Expected start of operation	Data source
	yet known if it is accepted)				matrix and location plan (APP-039) Mooir Vannin Offshore Wind Farm Project Description (Orsted 2024).
East Irish Sea Transmission Project	Pre-application (early stage development)	Unknown	Unknown	Unknown	Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039)

*Grid connection information taken from National Grid TEC register (National Grid, 2024).

**Grid connection is in two phases.

1.3 Approach taken by the Applicants to coordinate the Transmission Assets with the other projects

1.3.1 Overview

1.3.1.1 This section details the approach taken by the Applicants to coordinate the Transmission Assets with the Morgan Offshore Wind Project: Generation Assets, the Morecambe Offshore Windfarm: Generation Assets and the Mona Offshore Wind Project, including:

- Alignment meetings
- Coordinated consultation
- Coordinated assessments.

1.3.1.2 The coordination approach is summarised in Table 1.3.

Table 1.3: Summary of approach taken to coordinate with other projects.

Coordination activity		Morgan and Morecambe Offshore Wind Farms: Transmission Assets	Morgan Offshore Wind Project: Generation Assets	Morecambe Offshore Windfarm: Generation Assets	Mona Offshore Wind Project
Alignment meetings		✓	✓	✓	✓
Coordinated consultation		✓	✓	✓	✓
Coordinated assessments	EIA	✓	✓	-	✓
	HRA	✓	✓	-	
	Cumulative Regional Navigational Risk Assessment (CRNRA)	✓	✓	✓	✓
	Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects	N/A	✓	✓	✓

1.3.1.3 Specific coordination with the Awel y Mor Offshore Wind Farm and the Mooir Vannin Offshore Wind Farm was not carried out due to the different project timelines associated with these projects. Awel y Mor Offshore Wind Farm was consented in September 2023 and Mooir Vannin Offshore Wind Farm is currently in the application process, awaiting acceptance by the Isle of Man government. Furthermore, the East Irish Sea Transmission Project (the transmission elementsconnecting the Mooir Vannin Offshore Wind Farm to the UK) is in the pre-application process. RWE Renewables UK (Awel y Mor) and Ørsted (Mooir Vannin) have been engaged in the pre-application process for the Transmission Assets, including through the Section 42 consultation process and through the Marine Navigation Engagement Forum (MNEF) (see section 1.3.3 below and the Technical Engagement

Plan (APP-189) and Appendices (APP-190 to APP-192)). The Applicants continue to engage with Ørsted through the Examination process including through responding to Relevant Representations and will continue this through Interested Party submissions and engagement meetings as necessary. As noted in Volume 2, Chapter 9: Other sea users (APP-061) the Applicants are committed to continued communication with other offshore energy operators to promote and maximise cooperation between parties and minimise both spatial and temporal interactions between conflicting activities. This will include continued engagement through the MNEF post-consent.

1.3.2 Alignment meetings

1.3.2.1 As noted in Volume 1, Chapter 1: Introduction (APP-021), both the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm have been scoped into the Pathways to 2030 workstream under the Offshore Transmission Network Review (OTNR). In July 2022, the UK Government published the 'Pathway to 2030 Holistic Network Design' documents, which set out the approach to connecting 50 GW of offshore wind to the National Grid. A key output of the HNDR process was the conclusion that the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm should work collaboratively in connecting their two wind farms to the National Grid electricity transmission network at Penwortham in Lancashire. Morgan OWL and Morecambe OWL are therefore delivering a coordinated grid connection application including the co-location and alignment of offshore and onshore export cable corridors and grid connection location at Penwortham; the Transmission Assets.

1.3.2.2 Due to the coordinated grid connection application, the Applicants have held regular alignment meetings (between Morecambe OWL and Morgan OWL) throughout the pre-application phase, and this continues into the Examination phase. The alignment meetings ensure exchange of key information including project timelines and alignment of approach, for example in relation to CEA across the projects.

1.3.2.3 In addition, Morgan OWL have held regular alignment meetings with Mona Offshore Wind Limited throughout the pre-application phase, and this continued into the Examination phase. The alignment meetings have ensured alignment of approach in terms of assessment methodologies and mitigation, and ensure alignment on key issues raised during the Examination phase for each project.

1.3.3 Coordinated consultation

Non-statutory consultations

1.3.3.1 Non-statutory consultation was carried out simultaneously for the Morgan Offshore Wind Project and Mona Offshore Wind Project to introduce the projects to stakeholders along the coast of northwest England and north Wales. Non-statutory consultation commenced in spring/summer 2021, with a written communication to stakeholders in

July 2021. This early communication was positioned as a broad introduction, establishing the Applicants for the first time and opening a line of communication (Consultation Report (APP-170)). This was followed up with project updates to planning officers and lead members of local authorities across northwest England.

1.3.3.2 To ensure early engagement with communities, the Applicants carried out further non-statutory consultation between 02 November and 13 December 2022 for the Transmission Assets alongside the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets, where search areas for the offshore transmission infrastructure, the onshore cable routes and substations were presented for the projects (Consultation Report (APP-170)).

1.3.3.3 Whilst the Morgan Offshore Wind Project and Morecambe Offshore Windfarm had their own project websites (www.morecambeoffshorewind.com and www.enbwbp.com/morgan-and-mona, respectively), for ease of access, the projects created a joint website (www.morecambeandmorgan.com) to support non-statutory consultation and host consultation materials. The new website was launched on 2 November 2022 at the launch of non-statutory consultation (see Consultation Report (APP-170) for further information) and included all information for the Transmission Assets Application as well as for the Generation Assets.

Evidence Plan Process

1.3.3.4 An Evidence Plan Steering Group was established for the Transmission Assets, which met at key milestones throughout the EIA process. In addition, Expert Working Groups (EWGs) were established to discuss topic-specific issues with relevant stakeholders. The Steering Group has overseen the development and monitoring of the Evidence Plan and its subsequent progress. They first met at the start of the Evidence Plan Process (EPP) in January 2023 and have continued to meet on a regular basis throughout the project programme. Full details of the Steering Group remit and meeting details are set out in the Technical Engagement Plan (APP-189).

1.3.3.5 As part of the EPP, Expert Working Groups were established to discuss topic-specific issues with relevant stakeholders. EWG meetings have been held regularly throughout the process since March 2023 to provide the opportunity for stakeholders to give feedback and advice to inform the EIAs and HRA processes as well as site selection and project development and refinement. The process has been iterative, and each group has worked through the discussion points and to reach agreement, as far as possible, during the pre-application phases.

1.3.3.6 Separate EPP processes were also undertaken for the Morgan Offshore Wind Project: Generation Assets, Morecambe Offshore Windfarm: Generation Assets, and Mona Offshore Wind Project. Where relevant in regards to overlapping topics, EPP participants often overlapped across the projects with the outcomes of the EPP process informing discussions within the alignment meetings.

Technical consultation

1.3.3.7 Additional joint technical consultation was held for the Transmission Assets alongside the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets due to overlapping stakeholders in the region (Technical Engagement Plan (APP-189)). This included the following topics:

- Commercial fisheries
- Aviation and radar
- Other sea users
- Socio-economics.

Marine Navigation Engagement Forum (MNEF)

1.3.3.8 The Applicants facilitated a Marine Navigation Engagement Forum (MNEF) to enable the Applicants to regularly update stakeholders on plans and progress of the Morgan Offshore Wind Project, Mona Offshore Wind Project, Morecambe Offshore Windfarm including the Generation Assets and Transmission Assets , and for stakeholders to express views or concerns on the potential impacts of the projects for discussion and, where possible, resolution (Technical engagement plan (APP-189)).

Statutory consultations

1.3.3.9 The Morgan Offshore Wind Project Generation Assets, the Morecambe Offshore Windfarm: Generation Assets and the Mona Offshore Wind Project chose to hold their statutory consultations concurrently and collaboratively from 19 April to 04 June 2023. Additionally, the second non-statutory consultation for the Transmission Assets also took place at the same time. This allowed stakeholders and communities to provide feedback for all projects at the same time. As a result, the decision was made to carry out specific combined activities and create specific combined materials (see Consultation Report (APP-170) for more information), where appropriate.

1.3.3.10 The Transmission Assets, Mona Offshore Wind Project, Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Wind Project: Generation Assets combined certain promotional materials and activities for publicising their consultations on the Isle of Man. Specifically, the projects decided to create postcards promoting the consultation and joint consultation events, a single poster that was distributed to display locations and also to share online, print and Google advertising space.

1.3.3.11 In addition, joint exhibitions were also held to help increase participation in the two consultations. This approach enabled visitors to attend the joint events to find out about, and provide feedback in relation to, either project, or both projects, during a single visit.

1.3.3.12 Although there has been joint consultation, the three offshore wind farms and the Transmission Assets remain separate projects, which are each the subject of their own Development Consent Order (DCO) applications as follows:

- Mona Offshore Wind Project;
- Morgan Offshore Wind Project: Generation Assets;
- Morecambe Offshore Windfarm: Generation Assets; and
- Morgan and Morecambe Offshore Windfarm: Transmission Assets.

1.3.3.13 As such, each project published its own Statement of Community Consultation (SoCC), consultation brochure, feedback forms and exhibition displays. For the Transmission Assets, a summary of consultation methods, locations, joint exhibitions and projects represented is provided within the Consultation Report Appendices (APP-171 to APP-188).

1.3.4 Coordinated assessments

Environmental Impact Assessment

1.3.4.1 The Environmental Statements for the Transmission Assets, Morgan Offshore Wind Project: Generation Assets and Mona Offshore Wind Project were carried out by the same team of competent experts. The team responsible for the production of the Environmental Statement has been led by the respective Applicants, supported by lead EIA consultants RPS. The Environmental Statement has been prepared by a number of RPS in-house and subcontracted topic specialists, as set out in Volume 1, Chapter 1: Introduction (APP-021) and Volume 1, Annex 1.1: Statement Of Expertise (APP-022). This has ensured a coordinated approach to each topic of the EIA across the projects, including alignment on approach to baseline data, assessment methodologies, impact assessment, cumulative impact assessment, and mitigation.

1.3.4.2 The Environmental Statement for the Morecambe Offshore Windfarm: Generation Assets was carried out by technical leads at RoyalHaskoningDHV and their specialist sub-contractors. As discussed above, alignment sessions as required were held with the equivalent specialists leading the Transmission Assets, Morgan Offshore Wind Project: Generation Assets and Mona Offshore Wind Project. This included discussing methodologies, assessment findings and consultation feedback. Assessments for each project are unique due to the specific receptors and pathways of impacts, however alignment calls were undertaken to allow appreciation of the assessments for each project and in particular the findings of the cumulative and in-combination assessments. Key topics that required technical discussions included ornithology, marine mammals, physical processes, fish and shellfish ecology and climate change. Meetings were held as required at key junctures including-Preliminary Environmental Impact

Report (PEIR), post-statutory consultation and pre-application submission. This also relates to the HRA, discussed below.

Habitats Regulations Assessment

1.3.4.3 The Information to support an appropriate assessment (ISAA) for the Transmission Assets, Morgan Offshore Wind Project: Generation Assets and Mona Offshore Wind Project were carried out by the same team of competent experts. The team responsible for the production of the Habitats Regulations Assessment (HRA) has been led by the respective Applicants and lead HRA consultants RPS. Each of the three projects had an individual HRA lead, with the approach overseen by a separate strategic HRA lead who had oversight of the three projects. This has ensured a coordinated approach for the HRA across the projects.

1.3.4.4 Furthermore, the Evidence Plan Processes that were held for the Transmission Assets, Morgan Offshore Wind Project: Generation Assets, Morecambe Offshore Windfarm: Generation Assets, and Mona Offshore Wind Project has fed into the HRA process for these projects, ensuring that common issues and in-combination matters were appropriately addressed within the respective HRAs.

Cumulative Regional Navigational Risk Assessment

1.3.4.5 A Cumulative Regional Navigational Risk Assessment (CRNRA) was produced in collaboration between the developers of the Transmission Assets, Morgan Offshore Wind Project: Generation Assets, the Morecambe Offshore Windfarm: Generation Assets , and the Mona Offshore Wind Project, . The objective of the CRNRA was to enable stakeholders to engage with and understand the potential cumulative effects of the four proposed projects. A regional (collaborative) approach to assessment was adopted to enable individual projects to quantify and manage the cumulative impacts in a coordinated, consistent and efficient manner. This assessment dovetails with the individual NRAs undertaken for each of the four offshore wind farm projects.

1.3.4.6 The Navigational Risk Assessment for the Transmission Assets submitted with the application is available in APP-057 and APP-058 which includes a copy of the CRNRA within Appendix C (APP-058).

1.3.4.7 The CRNRA concluded no significant residual effects as a result of the Transmission Assets.

1.4 Any provisions in the Development Consent Order required for the Transmission Assets to be implemented satisfactorily in relation to other projects

1.4.1 General

1.4.1.1 The draft DCO for the Transmission Assets includes specific provisions that link each Applicant's Transmission Assets to its respective

Generation Assets. The Explanatory Memorandum (AS-007) states: *Paragraphs (2) and (3) of the article make the development consent for Project A and Project B conditional upon the granting of development consent for the generation assets associated with Project A or Project B (which are the subject of separate applications). This ensures that the projects are coordinated, and that Transmission Assets are not constructed without the corresponding Generation Assets. It is only required in the event the separate DCOs for the Generation Assets are not granted prior to the making of this Order and therefore the wording is included in the Order in square brackets on the basis it can be removed (as appropriate) by the decision maker in the event the separate DCOs for the generation assets are granted prior to the making of the Order.*

1.4.1.2 This is necessary to avoid the potential for stranded assets as each Applicant's Transmission Assets will not be developed without the Generation Assets element of those projects.

1.4.1.3 The draft DCO for the Transmission Assets does not include any specific provisions that link it to any other projects within the Irish Sea, save that the wording and approach within the Morgan Generation, Morecambe Generation and Joint Transmission DCOs and dMLs are aligned to ensure consistencyand facilitate the discharge of requirements and marine licence conditions post-consent. The Applicants consider that to seek to link the Transmission Assets to other unrelated projects could cause an impediment to delivery of each project. There might be opportunities for co-operation between various projects in their construction and their mitigation measures, and it is in the interest of the Applicants to explore such co-ordination for efficiency reasons, but ultimately the timescales for delivery of the different projects could vary. For example, one project may be successful in a Contract for Difference auction and another not. Having legal obligations within the DCO for co-ordination of the projects would then impede delivery of the project that had been successful in the auction.

1.4.1.4 Whilst there are no specific provisions within the draft DCO that link the Transmission Assets to otherprojects within the Irish Sea (besides the Generation Assets), there are mitigation measures proposed by the Applicants as part of the Transmission Assets that will ensure that it is implemented satisfactorily in relation to other projects.

1.4.2 Transmission Assets, Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Wind Farm: Generation Assets

1.4.2.1 The scope of the applications and draft DCOs for the Transmission Assets, Morgan Offshore Wind Project: Generation Assets, and the Morecambe Offshore Wind Farm: Generation Assets do not contain any shared infrastructure. There is therefore no 'overlap' in the infrastructure that would be authorised by each consent that needs to be regulated between the three DCOs. The Applicants note that this is a change from the position within the PEIR and statutory consultation for the Morgan

and Morecambe Offshore Wind Farms: Transmission Assets, where the offshore substation platforms (OSPs) and interconnector cables were presented in the PEIR materials for both projects. The OSPs and interconnector cables are now solely provided for in the respective Morgan Offshore Wind Project: Generation Assets application and Morecambe Offshore Wind Farm: Generation Assets application, as set out in ES Volume 1: Chapter 4: Site selection and consideration of alternatives (AS-027).

1.5 Key survey data shared with other projects

1.5.1.1 This section summarises the key survey data shared between the Transmission Assets and other projects, where applicable, as follows:

- Table 1.4: Transmission Assets and Morgan Offshore Wind Project: Generation Assets
- Table 1.5: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets.
- Table 1.6: Transmission Assets and Mona Offshore Wind Project

1.5.1.2 The Applicants note that the Transmission Assets and each of the projects relevant to this report are separate DCO applications subject to their own independent EIA, HRA and application process. Each application is expected to adhere to the guidance issued by the relevant statutory authorities in terms of site-specific surveys required to inform the assessment. As such, survey data will necessarily be site-specific, due to the need to carry out surveys within a defined area and over a defined time period in order to meet guidance.

1.5.1.3 The survey data collected for each of the Round 4 projects is summarised in Appendix A, based on detail presented within in the respective applications or pre-application material. This demonstrates that each project has been informed by a similar level of site-specific survey data.

Table 1.4: Survey data shared between the Transmission Assets and Morgan Offshore Wind Project: Generation Assets.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference
Environmental Baseline Surveys and Habitat Assessments	Morgan Offshore Wind Project: Generation Assets	Geophysical, geotechnical and environmental survey to determine characteristics of seabed sediment, characterise benthic communities (infauna and epifauna) and identification of any environmentally significant habitats (e.g. potential Habitats Directive Annex I and priority marine features). The geophysical survey elements consisted of multibeam echo sounder (MBES), digital sound velocity (DSV) sensor, side scan sonar system (SSS), Sub-Bottom Profiler (SBP) & 2D Ultra High Resolution Seismic (2D UHRS) sensor. The environmental survey elements included the collection of seabed imagery along with grab samples. The geotechnical survey elements included cone penetration testing (CPT) and boreholes.	Gardline Ltd	2021	Volume 2, Chapter 1: Physical Processes (APP-042).
Geophysical survey	Morgan Offshore Wind Project: Generation Assets	Geophysical survey to establish bathymetry, seabed sediment and identify seabed features.	XOCEAN Ltd	2022	Volume 2, Chapter 1: Physical Processes (APP-042).
Metocean survey	Morgan Offshore Wind Project: Generation Assets	Metocean and floating lidar deployments to ascertain wind, wave and tidal currents.	Fugro	2022	Volume 2, Chapter 1: Physical Processes (APP-042).
Benthic Subtidal Survey	Transmission Assets Red Line Boundary and Morgan Offshore Wind Project:	Grab samples, Visual survey outputs (Drop Down Video (DDV) sampling) and laboratory testing	Gardline Ltd	April to July 2022	Volume 2, Chapter 3: Fish and Shellfish Ecology (APP-048).

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference
	Generation Assets and associated ZOI				
Aerial Digital Surveys - Morgan	Morgan Array Area plus 10 to 13.3 km buffer	Digital aerial surveys to characterise the distribution and abundance of seabirds within the Morgan Offshore Wind Project: Generation Assets offshore ornithology study area and identification of marine mammals.	APEM Ltd	April 2021 – March 2023	Volume 2, Chapter 4: Marine Mammals (APP-050). Volume 2, Chapter 5: Offshore Ornithology (APP-053).
Winter and summer Vessel Traffic Surveys	Morgan Offshore Wind Project: Generation Assets study area, plus a 10 nm buffer.	A summary of Fishing vessels identified during two project specific vessel traffic surveys (winter and summer).	NASH Maritime	21 November to 04 December 2021 15 July to 29 July 2022.	Volume 2, Chapter 6: Commercial Fisheries (APP-054). Volume 2, Chapter 7: Shipping and Navigation (APP-056).
OFLO observations 2022	Morgan Offshore Wind Project: Generation Assets study area plus 10 nm buffer.	OFLO onboard the survey vessel recorded observations (from AIS, radar, visual observations and radio communications) of fishing vessels and fishing gear present.	NFFO	01 April 2022 to 10 July 2022	Volume 2, Chapter 6: Commercial Fisheries (APP-054).
Vessel Traffic Survey	Morgan Offshore Wind Project: Generation Assets study area, plus a 10 nm buffer.	A summary of fishing vessels identified during a summer vessel traffic survey	NASH Maritime	04 to 18 May 2023	Volume 2, Chapter 6: Commercial Fisheries (APP-054).

Table 1.5: Survey data shared between the Transmission Assets and Morecambe Offshore Windfarm: Generation Assets.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference
Geophysical survey	Morecambe Offshore Windfarm: Generation Assets	Geophysical survey to establish bathymetry, seabed sediment and identify seabed features.	MMT	2021	Volume 2, Chapter 1: Physical Processes (APP-042). Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 7 - Marine Geology, Oceanography and Physical Processes.
Grab sample survey	Morecambe Offshore Windfarm: Generation Assets	Grab sampling to determine sediment type and particle size.	Ocean Ecology Ltd	2022	Volume 2, Chapter 1: Physical Processes (APP-042). Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 7 - Marine Geology, Oceanography and Physical Processes.
Benthic characterisation survey	Morecambe Offshore Windfarm: Generation Assets	Particle Size Analysis (PSA), macrofaunal sampling, Drop Down Video (DDV), contaminant sampling	Ocean Ecology Ltd	2022	Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045). Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 9 - Benthic Ecology.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference
Aerial surveys	Morecambe Offshore Windfarm: Generation Assets plus 4-10 km buffer	High resolution aerial digital still imagery for marine megafauna	HiDef Aerial Surveying Limited	Surveys were conducted over 24 months between March 2021 and February 2023.	Volume 2, Chapter 4: Marine Mammals (APP-050). Morecambe Offshore Windfarm Ltd. (2024) ES - Volume 5 - Chapter 11 - Marine Mammals.
Aerial surveys	Morecambe Offshore Windfarm: Generation Assets plus 4-10 km buffer	High resolution aerial video imagery.	HiDef Aerial Surveying Limited	Surveys were conducted over 24 months between March 2021 and February 2023	Volume 2, Chapter 5: Offshore Ornithology (APP-053). Morecambe Offshore Windfarm Ltd. (2024) ES - Volume 5 - Chapter 12 - Offshore Ornithology.
Vessel Traffic Surveys	Morecambe Offshore Windfarm: Generation Assets, plus a 10 nm buffer.	A summary of fishing vessels identified during vessel traffic surveys (winter and summer).	NASH Maritime	09 to 26 February 2022 and 30 July to 13 August 2022 (a 14-day period each).	Volume 2, Chapter 6: Commercial Fisheries (APP-054). Morecambe Offshore Windfarm Ltd. (2024) ES - Volume 5 - Chapter 13 - Commercial Fisheries.
Vessel Traffic Surveys	Morecambe Offshore Windfarm: Generation Assets, plus a 10 nm buffer.	Vessel traffic surveys undertaken in line with MGN 654 requirements.	NASH Maritime	09 to 26 February 2022 and 30 July to 13 August 2022 (a 14-day period each).	Volume 2, Chapter 7: Shipping and Navigation (APP-056). Morecambe Offshore Windfarm Ltd. (2024) ES - Volume 5 - Chapter 14 - Shipping and Navigation.

Table 1.6: Survey data shared between the Transmission Assets and Mona Offshore Wind Project.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference
Metocean survey	Morgan and Mona Array Area	Metocean and floating lidar deployments to ascertain wind, wave and tidal currents	Fugro	2022	Volume 2, Chapter 1: Physical Processes (APP-042). Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 1: Physical Processes.
Environmental Baseline Surveys and Habitat Assessments	Morgan and Mona Array Areas and Mona Offshore Cable Corridor and Access Areas	Deployment included multi-beam echo sounder (MBES), digital sound velocity (DSV) sensor, side scan sonar system (SSS), Sub-Bottom Profiler (SBP) & 2D Ultra High Resolution Seismic (2D UHRS) sensor. Additionally, seabed imagery was collected along with grab samples and Particle Size Analysis (PSA) undertaken	Gardline Ltd	2022	Volume 2, Chapter 1: Physical Processes (APP-042). Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 1: Physical Processes.

1.6 Mitigation measures shared with other projects, and how they are to be secured

1.6.1.1 The mitigation measures proposed for the Transmission Assets, Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets are closely aligned. As noted above, the wording and approach within the Morgan Generation, Morecambe Generation and Transmission Assets DCOs and dMLs has been aligned to ensure consistency and facilitate the discharge of requirements and marine licence conditions post-consent. They are also all located in English Waters meaning these three DCOs are all within the remit of the MMO and Natural England. Whereas the Awel y Mor project and the Mona Offshore Wind Project are located in Welsh Waters and within the remit of Natural Resource Wales. Regardless it is expected that broadly similar mitigation measures will be in place for the Transmission Assets and all the other projects relevant to this report, as is standard for offshore wind developments. However, there is no specific mitigation that is shared with the other projects and secured across the consents.

1.6.1.2 For example, each of the consents management plans committed to by the respective applicants will be secured in the respective project consents. For the Morgan Offshore Wind Project: Generation Assets and Morgan Offshore Wind Project: Transmission Assets (and conversely the Morecambe Offshore Windfarm: Generation Assets and Morecambe Offshore Windfarm: Transmission Assets), it is likely that the consents management plans would be prepared at a similar time for the project as a whole (i.e. Morgan OWL or Morecambe OWL) and that the content may be coordinated between the each Applicant's respective Generation Assets and Transmission Assets, however the mitigation will be secured and delivered independently.

1.6.1.3 Similarly, the CRNRA describes industry standard risk controls that would be present for all four applications to individually manage their impacts on navigation. Where applicable, these risk controls will be secured within the respective individual projects' DCOs (see section 3.2 of Appendix C within APP-058).

1.7 Summary of cumulative impacts of the Transmission Assets with the Generation Assets

1.7.1 Summary of cumulative impacts

1.7.1.1 This section provides a summary of the approach to CEA presented in the Transmission Assets Environmental Statement specifically for the Transmission Assets, the Morgan Offshore Wind Project: Generation Assets and the Morecambe Offshore Windfarm: Generation Assets.

1.7.1.2 The Transmission Assets CEA takes into account the impact associated with the Transmission Assets together with the Morgan Offshore Wind Project: Generation Assets, the Morecambe Offshore Windfarm: Generation Assets, as well as other projects and plans. The projects

and plans selected as relevant to the CEA are based upon the results of a screening exercise (see Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039)).

1.7.1.3 The cumulative assessment considered three scenarios:

- Scenario 1: Assessment of the Transmission Assets, together with the Morecambe Offshore Windfarm: Generation Assets
- Scenario 2: Assessment of the Transmission Assets, together with the Morgan Offshore Wind Project: Generation Assets
- Scenario 3: Assessment of the Transmission Assets, together with both the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (the Generation Assets).
- Scenario 4: Assessment of Scenario 3 alongside all other projects, plans and activities. This assessment was allocated into 'tiers' reflecting the current stage of the other projects, plans and activities within the planning and development process. This tiered approach was adopted to provide a clear assessment of the Transmission Assets and Generation Assets alongside other projects, plans and activities.

1.7.1.4 Table 1.7 provides a summary of the conclusions of the cumulative assessments for Scenario 1 (Transmission Assets, plus the Morecambe Offshore Windfarm: Generation Assets) as presented within the Transmission Assets Environmental Statement.

1.7.1.5 Table 1.8 provides a summary of the conclusions of the cumulative assessments for Scenario 2 (Transmission Assets, plus the Morgan Offshore Wind Project: Generation Assets) as presented within the Transmission Assets Environmental Statement.

1.7.1.6 Table 1.9 provides a summary of the conclusions of the cumulative assessments for Scenario 3 (Transmission Assets, plus the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets) as presented within the Transmission Assets Environmental Statement.

1.7.1.7 A review of the Environmental Statement documents submitted in to the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets Examinations has been undertaken. Based on the Examination documents for these projects, there is no change to the conclusions of the cumulative assessment presented within the Transmission Assets Environmental Statement shown in Table 1.7, Table 1.8 and Table 1.9.

Onshore cumulative impacts

1.7.1.8 The onshore topics within the Environmental Statement considered the Transmission Assets alongside other onshore projects and plans identified within the cumulative effects assessment shortlist (Scenario 4). Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets were not considered for these

topics (Scenarios 1-3) due to their distance offshore extended beyond the topic specific zone of influences. The following exceptions are summarised in Table 1.7 –Table 1.9; landscape and visual resources, climate change and socio-economics.

Table 1.7: Summary of cumulative assessments for Scenario 1 (Transmission Assets and Morecambe Offshore Windfarm: Generation Assets) as presented within the Transmission Assets application.

Description of effect	Phase	Residual significance	Reference
Physical processes			
Increase in suspended sediments due to construction, operations and maintenance and/or decommissioning related activities, and the potential impact to physical features.	Construction, operation and decommissioning.	Negligible adverse	Table 1.21 of Volume 2, Chapter 1: Physical processes (APP-042).
Impacts to physical processes, seabed morphology and the associated potential impacts to physical features and adjacent shorelines		Negligible adverse	Table 1.23 of Volume 2, Chapter 1: Physical processes (APP-042).
Benthic subtidal ecology			
Temporary habitat loss/disturbance	Construction, operation and decommissioning	Minor adverse	Table 2.27 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increased SSC and associated deposition		Negligible or minor adverse (Important Ecological Feature (IEF) specific)	Table 2.29 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).

Description of effect	Phase	Residual significance	Reference
Long term habitat loss / habitat alteration		Minor adverse	Table 2.31 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Introduction of artificial structures		Minor adverse	Table 2.33 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increased risk of introduction and spread of INNS.		Minor adverse	Table 2.35 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Removal of hard substrates.	Decommissioning	Minor adverse	Table 2.37 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Changes in physical processes.	Operation and decommissioning	Negligible adverse	Table 2.39 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Fish and shellfish ecology			
Temporary habitat loss/disturbance	Construction and decommissioning	Marine: Minor adverse	Table 3.24 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
		Diadromous: Negligible	
Underwater sound from UXO clearance impacting fish and shellfish receptors	Construction	Minor adverse	Table 3.26 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Increased suspended sediment concentrations (SSCs) and associated sediment deposition	Construction and decommissioning	Minor adverse	Table 3.28 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).

Description of effect	Phase	Residual significance	Reference
Long term habitat loss	Construction, operation and decommissioning	Minor adverse	Table 3.30 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Electromagnetic Fields (EMF) from subsea electrical cabling	Operation	Minor adverse	Table 3.32 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Introduction and colonisation of hard structures	Operation	Minor adverse	Table 3.34 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Injury of basking shark due to increased risk of collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 3.36 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Marine mammals			
Injury and disturbance from elevated underwater sound during UXO clearance	Construction	The CEA concludes a significant effect in EIA terms, for harbour porpoise only. The Applicants have committed to the development of an Outline MMMP, which will allow for low order UXO clerance only, to reduce the magnitude of impacts, such that there will be no residual significant	Table 4.41 of Volume 2, Chapter 4 Marine mammals (APP-050).

Description of effect	Phase	Residual significance	Reference
		effect for the project alone and therefore no contribution to cumulative effects.	
Injury and disturbance from elevated underwater sound due to vessel use and other sound producing activities	Construction, operation and decommissioning	Minor adverse	Table 4.43 of Volume 2, Chapter 4: Marine mammals (APP-050).
Increased likelihood of injury due to collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 4.45 of Volume 2, Chapter 4: Marine mammals (APP-050).
Effects on marine mammals due to changes in prey availability	Construction, operation and decommissioning	Minor adverse	Table 4.47 of Volume 2, Chapter 4: Marine mammals (APP-050).
Offshore ornithology			
Disturbance and/or displacement from airborne noise, underwater sound, and presence of vessels and infrastructure	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.37 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Indirect impacts from underwater sounds, habitat loss, and increased	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.39 of Volume 2, Chapter 5: Offshore ornithology (APP-053).

Description of effect	Phase	Residual significance	Reference
SSCs affecting prey species			
Temporary habitat loss/disturbance and increased SSCs	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.41 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Commercial fisheries			
Loss or restricted access to fishing grounds	Construction, operation and decommissioning	Minor adverse	Table 6.29 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Loss or damage to fishing gear due to snagging		Minor adverse	Table 6.31 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Potential impacts on commercially important fish and shellfish stocks		Negligible to Minor adverse (See Volume 2, Chapter 3: Fish and shellfish ecology (APP-048)).	Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Shipping and navigation			
Impact on recognised sea lanes essential to international navigation.	Construction, operation and decommissioning	Negligible adverse	Table 7.24 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact to commercial operators including strategic routes and lifeline ferries.		Minor adverse	Table 7.26 of Volume 2, Chapter 7: Shipping and navigation (APP-056)

Description of effect	Phase	Residual significance	Reference
Impact to adverse weather routeing.		Minor adverse	Table 7.28 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on access to ports and harbours.		Negligible adverse	Table 7.30 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on emergency response capability due to increased incident rates and reduced access for SAR responders.		Minor adverse	Table 7.32 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on vessel to vessel collision risk.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.34 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on marine navigation, communications, electromagnetic interference, and radar and positioning systems		Minor adverse	Table 7.36 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on recreational craft passages and safety.		Minor adverse	Table 7.38 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on snagging risk to vessel anchors and fishing gear.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.40 of Volume 2, Chapter 7: Shipping and navigation (APP-056)

Description of effect	Phase	Residual significance	Reference
Impact on oil and gas navigation, operations and safety		Navigation and operations – Minor adverse Safety (allision) - Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.42 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on under keel clearance		Negligible adverse	Table 7.44 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Marine archaeology and cultural heritage			
Sediment disturbance and deposition leading to indirect impacts on marine archaeology receptors	Construction, operation and decommissioning	Minor adverse	Table 8.24 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Direct damage to marine archaeology receptors		Minor adverse	Table 8.26 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Alteration of sediment transport regimes	Operation	Minor adverse	Table 8.28 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Other sea users			
Reduction or restriction of other offshore energy activities	Construction, operation and decommissioning	Minor adverse	Table 9.19 of Volume 2, Chapter 9: Other sea users (APP-061)

Description of effect	Phase	Residual significance	Reference
Landscape and visual resources			
Cumulative impacts on landscape character	Construction and decommissioning	Minor adverse	Table 10.24 of Volume 3, Chapter 10: Landscape and visual resources (APP-123).
Offshore cumulative visual impact assessment	Construction and decommissioning	Major to minor adverse	Table 10.25 of Volume 3, Chapter 10: Landscape and visual resources (APP-123).
Climate change			
Whole life GHG emissions	Construction, operation and decommissioning	Beneficial (significant)	Table 1.20 of Volume 4, Chapter 1: Climate change (APP-138).
Socio-economics			
The potential impact on economic receptors including employment and GVA.	Construction and operation	Minor (beneficial)	Table 2.86 of Volume 4, Chapter 2: Socio-economics (APP-141).
The potential impact of increased employment opportunities.	Construction	Negligible	Table 2.87 of Volume 4, Chapter 2: Socio-economics (APP-141).
	Operation	Minor (beneficial)	
The potential impact on population, housing and accommodation.	Construction	Negligible	Table 2.88 of Volume 4, Chapter 2: Socio-economics (APP-141).
	Operation	Minor (neutral)	

Table 1.8: Summary of cumulative assessments for Scenario 2 (Transmission Assets and Morgan Offshore Wind Project: Generation Assets) as presented within the Transmission Assets application.

Description of effect	Phase	Residual significance	Reference
Physical processes			
Increase in suspended sediments due to construction, operations and maintenance and/or decommissioning related activities, and the potential impact to physical features.	Construction, operation and decommissioning.	Negligible	Table 1.21 of Volume 2, Chapter 1: Physical processes (APP-042).
Impacts to physical processes, seabed morphology and the associated potential impacts to physical features and adjacent shorelines		Negligible	Table 1.23 of Volume 2, Chapter 1: Physical processes (APP-042).
Benthic subtidal ecology			
Temporary habitat loss/disturbance	Construction, operation and decommissioning	Minor adverse	Table 2.27 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increase in SSC and associated deposition		Negligible or minor adverse (Important Ecological Feature (IEF) specific)	Table 2.29 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Long term habitat loss		Minor adverse	Table 2.31 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Introduction of artificial structures		Minor adverse	Table 2.33 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increased risk of introduction and spread of INNS.		Minor adverse	Table 2.35 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).

Description of effect	Phase	Residual significance	Reference
Removal of hard substrates	Decommissioning	Minor adverse	Table 2.37 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Changes in physical processes.	Operation and decommissioning	Negligible adverse	Table 2.39 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Fish and shellfish ecology			
Temporary habitat loss/disturbance	Construction and decommissioning	Marine: Minor adverse	Table 3.24 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
		Diadromous: Negligible	
Underwater sound from UXO clearance impacting fish and shellfish receptors	Construction	Minor adverse	Table 3.26 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Increased suspended sediment concentrations (SSCs) and associated sediment deposition	Construction and decommissioning	Minor adverse	Table 3.28 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Long term habitat loss	Construction, operation and decommissioning	Minor adverse	Table 3.30 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Electromagnetic Fields (EMF) from subsea electrical cabling	Operation	Minor adverse	Table 3.32 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Introduction and colonisation of hard structures	Operation	Minor adverse	Table 3.34 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Injury of basking shark due to increased risk of collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 3.36 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Marine mammals			

Description of effect	Phase	Residual significance	Reference
Injury and disturbance from elevated underwater sound during UXO clearance	Construction	The CEA concludes a significant effect in EIA terms, for harbour porpoise only. The Applicants have committed to the development of an Outline MMMP, which will allow for low order UXO clearance only, to reduce the magnitude of impacts, such that there will be no residual significant effect for the project alone and therefore no contribution to cumulative effects.	Table 4.41 of Volume 2, Chapter 4 Marine mammals (APP-050).
Injury and disturbance from elevated underwater sound due to vessel use and other sound producing activities	Construction, operation and decommissioning	Minor adverse	Table 4.43 of Volume 2, Chapter 4: Marine mammals (APP-050).
Increased likelihood of injury due to collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 4.45 of Volume 2, Chapter 4: Marine mammals (APP-050).
Effects on marine mammals due to changes in prey availability	Construction, operation and decommissioning	Minor adverse	Table 4.47 of Volume 2, Chapter 4: Marine mammals (APP-050).
Injury and disturbance from elevated underwater sound generated from pre-construction survey sources	Pre-construction	Minor adverse	Table 4.49 of Volume 2, Chapter 4: Marine mammals (APP-050).
Offshore ornithology			
Disturbance and/or displacement from airborne noise, underwater sound, and presence of vessels and infrastructure	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.37 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Indirect impacts from underwater sounds, habitat loss, and increased SSCs affecting prey species	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.39 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Temporary habitat loss/disturbance and increased SSCs	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.41 of Volume 2, Chapter 5: Offshore ornithology (APP-053).

Description of effect	Phase	Residual significance	Reference
Commercial fisheries			
Loss or restricted access to fishing grounds	Construction, operation and decommissioning	Minor adverse	Table 6.29 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Loss or damage to fishing gear due to snagging		Minor adverse	Table 6.31 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Potential impacts on commercially important fish and shellfish stocks		Negligible to Minor adverse (See Volume 2, Chapter 3: Fish and shellfish ecology (APP-048)).	Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Shipping and navigation			
Impact on recognised sea lanes essential to international navigation.	Construction, operation and decommissioning	Negligible adverse	Table 7.24 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact to commercial operators including strategic routes and lifeline ferries.		Minor adverse	Table 7.26 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact to adverse weather routeing.		IoMSPC and Stena Line: Moderate Seatruck (CLDN) and Cargo/Tanker: Minor	Table 7.28 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on access to ports and harbours.		Negligible adverse	Table 7.30 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on emergency response capability due to increased incident rates and reduced access for SAR responders.		Minor adverse	Table 7.32 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on vessel to vessel collision risk.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.34 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on marine navigation, communications, electromagnetic interference, and radar and positioning systems		Minor adverse	Table 7.36 of Volume 2, Chapter 7: Shipping and navigation (APP-056)

Description of effect	Phase	Residual significance	Reference
Impact on recreational craft passages and safety.		Minor adverse	Table 7.38 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on snagging risk to vessel anchors and fishing gear.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.40 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on oil and gas navigation, operations and safety		Navigation and operations – Minor adverse Safety (allision) - Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.42 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on under keel clearance		Negligible adverse	Table 7.44 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Marine archaeology and cultural heritage			
Sediment disturbance and deposition leading to indirect impacts on marine archaeology receptors	Construction, operation and decommissioning	Minor adverse	Table 8.24 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Direct damage to marine archaeology receptors		Minor adverse	Table 8.26 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Alteration of sediment transport regimes	Operation	Minor adverse	Table 8.28 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Other sea users			
Reduction or restriction of other offshore energy activities	Construction, operation and decommissioning	Minor adverse	Table 9.19 of Volume 2, Chapter 9: Other sea users (APP-061)
Seascape, landscape and visual resources			
At 50 km from the Transmission Assets, there is no potential for cumulative effects to occur with the Morgan Offshore Wind Project: Generation Assets and thus Scenario 2 is not considered.			

Description of effect	Phase	Residual significance	Reference
Climate change			
Whole life GHG emissions	Construction, operation and decommissioning	Beneficial (significant)	Table 1.20 of Volume 4, Chapter 1: Climate change (APP-138).
Socie-economics			
The potential impact on economic receptors including employment and GVA	Construction and operation	Minor (beneficial)	Table 2.86 of Volume 4, Chapter 2: Socio-economics (APP-141).
The potential impact of increased employment opportunities	Construction	Negligible	Table 2.87 of Volume 4, Chapter 2: Socio-economics (APP-141).
	Operation	Minor (beneficial)	
The potential impact on population, housing and accommodation	Construction	Negligible	Table 2.88 of Volume 4, Chapter 2: Socio-economics (APP-141).
	Operation	Minor (neutral)	

Table 1.9: Summary of cumulative assessments for Scenario 3 (Transmission Assets and Generation Assets) as presented within the Transmission Assets application.

Description of effect	Phase	Residual significance	Reference
Physical processes			
Increase in suspended sediments due to construction, operations and maintenance and/or decommissioning related activities, and the potential impact to physical features.	Construction, operation and decommissioning.	Negligible	Table 1.21 of Volume 2, Chapter 1: Physical processes (APP-042).
Impacts to physical processes, seabed morphology and the associated potential impacts to physical features and adjacent shorelines		Negligible	Table 1.23 of Volume 2, Chapter 1: Physical processes (APP-042).
Benthic subtidal ecology			
Temporary habitat loss/disturbance	Construction, operation and decommissioning	Minor adverse	Table 2.27 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increase in SSC and associated deposition		Negligible or minor adverse (Important Ecological Feature (IEF) specific)	Table 2.29 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Long term habitat loss		Minor adverse	Table 2.31 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Introduction of artificial structures		Minor adverse	Table 2.33 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Increased risk of introduction and spread of INNS.		Minor adverse	Table 2.35 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).

Description of effect	Phase	Residual significance	Reference
Removal of hard substrates	Decommissioning	Minor adverse	Table 2.37 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Changes in physical processes.	Operation and decommissioning	Negligible adverse	Table 2.39 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).
Fish and shellfish ecology			
Temporary habitat loss/disturbance	Construction and decommissioning	Marine: Minor adverse	Table 3.24 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
		Diadromous: Negligible	
Underwater sound from UXO clearance impacting fish and shellfish receptors	Construction	Minor adverse	Table 3.26 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Increased suspended sediment concentrations (SSCs) and associated sediment deposition	Construction and decommissioning	Minor adverse	Table 3.28 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Long term habitat loss	Construction, operation and decommissioning	Minor adverse	Table 3.30 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Electromagnetic Fields (EMF) from subsea electrical cabling	Operation	Minor adverse	Table 3.32 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Introduction and colonisation of hard structures	Operation	Minor adverse	Table 3.34 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Injury of basking shark due to increased risk of collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 3.36 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Marine mammals			

Description of effect	Phase	Residual significance	Reference
Injury and disturbance from elevated underwater sound during UXO clearance	Construction	The CEA concludes a significant effect in EIA terms, for harbour porpoise only. The Applicants have committed to the development of an Outline MMMP, which will allow for low order UXO clearance only, to reduce the magnitude of impacts, such that there will be no residual significant effect for the project alone and therefore no contribution to cumulative effects.	Table 4.41 of Volume 2, Chapter 4 Marine mammals (APP-050).
Injury and disturbance from elevated underwater sound due to vessel use and other sound producing activities	Construction, operation and decommissioning	Minor adverse	Table 4.43 of Volume 2, Chapter 4: Marine mammals (APP-050).
Increased likelihood of injury due to collision with vessels	Construction, operation and decommissioning	Minor adverse	Table 4.45 of Volume 2, Chapter 4: Marine mammals (APP-050).
Effects on marine mammals due to changes in prey availability	Construction, operation and decommissioning	Minor adverse	Table 4.47 of Volume 2, Chapter 4: Marine mammals (APP-050).
Injury and disturbance from underwater sound generated from pre-construction survey sources	Pre-construction	The Morecambe Offshore Windfarm: Generation Assets Environmental Statement did not present an assessment of the impact Injury and disturbance from underwater sound generated from pre-construction survey sources, and therefore no CEA has been presented for Scenario 1.	Table 4.49 of Volume 2, Chapter 4: Marine mammals (APP-050).
Offshore ornithology			
Disturbance and/or displacement from airborne noise, underwater sound, and presence of vessels and infrastructure	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.37 of Volume 2, Chapter 5: Offshore ornithology (APP-053).

Description of effect	Phase	Residual significance	Reference
Indirect impacts from underwater sounds, habitat loss, and increased SSCs affecting prey species	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.39 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Temporary habitat loss/disturbance and increased SSCs	Construction, operation and decommissioning	Negligible or minor adverse (species specific)	Table 5.41 of Volume 2, Chapter 5: Offshore ornithology (APP-053).
Commercial fisheries			
Loss or restricted access to fishing grounds	Construction, operation and decommissioning	Minor adverse	Table 6.29 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Loss or damage to fishing gear due to snagging		Minor adverse	Table 6.31 of Volume 2, Chapter 6: Commercial fisheries (APP-054).
Potential impacts on commercially important fish and shellfish stocks		Negligible to Minor adverse (See Volume 2, Chapter 3: Fish and shellfish ecology (APP-048)).	Volume 2, Chapter 3: Fish and shellfish ecology (APP-048).
Shipping and navigation			
Impact on recognised sea lanes essential to international navigation.	Construction, operation and decommissioning	Negligible adverse	Table 7.24 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact to commercial operators including strategic routes and lifeline ferries.		Minor adverse	Table 7.26 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact to adverse weather routeing.		IoMSPC and Stena Line: Moderate Seatruck (CLDN) and Cargo/Tanker: Minor	Table 7.28 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on access to ports and harbours.		Negligible adverse	Table 7.30 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on emergency response capability due to increased incident rates and reduced access for SAR responders.		Minor adverse	Table 7.32 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on vessel to vessel collision risk.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.34 of Volume 2, Chapter 7: Shipping and navigation (APP-056)

Description of effect	Phase	Residual significance	Reference
Impact on marine navigation, communications, electromagnetic interference, and radar and positioning systems		Minor adverse	Table 7.36 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on recreational craft passages and safety.		Minor adverse	Table 7.38 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on snagging risk to vessel anchors and fishing gear.		Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.40 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on oil and gas navigation, operations and safety		Navigation and operations – Minor adverse Safety (allision) - Moderate adverse (but ALARP which is not significant in EIA terms)	Table 7.42 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Impact on under keel clearance		Negligible adverse	Table 7.44 of Volume 2, Chapter 7: Shipping and navigation (APP-056)
Marine archaeology and cultural heritage			
Sediment disturbance and deposition leading to indirect impacts on marine archaeology receptors	Construction, operation and decommissioning	Minor adverse	Table 8.24 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Direct damage to marine archaeology receptors		Minor adverse	Table 8.26 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Alteration of sediment transport regimes	Operation	Minor adverse	Table 8.28 of Volume 2, Chapter 8: Marine archaeology and cultural heritage (APP-059)
Other sea users			
Reduction or restriction of other offshore energy activities	Construction, operation and decommissioning	Minor adverse	Table 9.19 of Volume 2, Chapter 9: Other sea users (APP-061)

Description of effect	Phase	Residual significance	Reference
Seascape, landscape and visual resources			
At 50 km from the Transmission Assets, there is no potential for cumulative effects to occur with the Morgan Offshore Wind Project: Generation Assets and thus Scenario 3 (which needs to consider both the Morecambe Offshore Windfarm Generation Assets and the Morgan Offshore Wind Project: Generation Assets together with the Transmission Assets), is not considered.			
Climate change			
Whole life GHG emissions	Construction, operation and decommissioning	Beneficial (significant)	Table 1.20 of Volume 4, Chapter 1: Climate change (APP-138).
Socio-economics			
The potential impact on economic receptors including employment and GVA	Construction	Moderate (beneficial)	Table 2.86 of Volume 4, Chapter 2: Socio-economics (APP-141).
	Operation	North West England: Minor (beneficial) North Wales: Moderate (beneficial)	
The potential impact of increased employment opportunities	Construction and operation	Minor (beneficial)	Table 2.87 of Volume 4, Chapter 2: Socio-economics (APP-141).
The potential impact on population, housing and accommodation	Construction	Minor (beneficial)	Table 2.88 of Volume 4, Chapter 2: Socio-economics (APP-141).

1.8 Summary of information relied on for the cumulative effects assessment and any changes since submission, including a summary of any changes

1.8.1.1 This section summarises the information relied on for the Transmission Assets CEA and in-combination assessment in relation to the other projects relevant to this report in Table 1.10, including reference to relevant documents and what level of detail was available at the time of writing the assessment. The level of detail is defined as follows for the purposes of this report:

- High: full application available with detailed Environmental Statement
- Medium: detailed draft Environmental Statement available
- Low: Scoping report or initial (pre-EIA) consultation materials available.

1.8.1.2 Table 1.11 sets out any changes to this information since application submission (focusing on the projects relevant to this report only), including a reference to this information. Additional tables will be added, as relevant, at each applicable Examination Deadline.

1.8.1.3 The Applicants have undertaken a review of the CEA screening and an updated Cumulative screening matrix and location plan is submitted at Deadline 1 (F1.5.5/F02).

1.8.1.4 A review of the CEA and in-combination assessments, as presented in the Transmission Assets application, has been undertaken to consider the updated information available in the Morecambe Offshore Windfarm: Generation Assets application and the Morgan Offshore Wind Project: Generation Assets application.

1.8.1.5 The Applicants are aware that the Mooir Vannin Offshore Wind Farm application has been submitted to the Isle of Man government. Once this information is publicly available, the Applicant will review and provide an update on interrelationships.

1.8.1.6 For each project reviewed, there is no potential for new cumulative effects to arise or an increase in cumulative effects for each of the topics considered. The conclusions of the Transmission Assets CEA and in-combination assessments therefore remain unchanged.

Table 1.10: Information relied on for the Transmission Assets CEA at the time of the application (October 2024).

Project	Information CEA based on at Application		
	Status	Reference	Level of detail
Awel y Mor	Consented	RWE Renewables UK (2022) Awel y Môr Offshore Wind Farm, Environmental Statement, April 2022. Available: https://infrastructure.planninginspectorate.gov.uk/projects/wales/awel-y-mor-offshore-wind-farm/?ipcsection=docs&stage=app&filter1=Environmental+Statement. Accessed January 2024.	High
Mona Offshore Wind Project	Application	Mona Offshore Wind Ltd. (2024) Mona Offshore Wind Ltd. Environmental Statement. Available: https://infrastructure.planninginspectorate.gov.uk/projects/wales/mona-offshore-wind-farm/?ipcsection=docs. Accessed September 2024	High
Morecambe Offshore Windfarm: Generation Assets	Application	Morecambe Offshore Windfarm Ltd (2024) Morecambe Offshore Windfarm: Generation Assets Environmental Statement, Available: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010121/EN010121-000408-Morecambe%20Offshore%20Wind%20Farm%20-%20Examination%20Library.pdf. Accessed September 2024.	High
Morgan Offshore Wind Project: Generation Assets	Application	Morgan Offshore Wind Limited (2024) Morgan Offshore Wind Project: Generation Assets. Environmental Statement. Available: https://infrastructure.planninginspectorate.gov.uk/projects/north-west/morgan-offshore-wind-project-generation-assets/?ipcsection=docs. Accessed September 2024.	High
Mooir Vannin Generation Project	Scoping Report	Mooir Vannin Offshore Wind Farm Limited (2023) Mooir Vannin Offshore Wind Farm, Scoping Report, 2023. Available: https://orsted.im/mooirvannin/document-library. Accessed January 2024.	Low
Mooir Vannin Generation Project	Consultation materials published on 15 July 2024	Mooir Vannin Offshore Wind Farm Limited (2024) Consultation materials, Available: [redacted] Accessed September 2024.	Low

Project	Information CEA based on at Application		
	Status	Reference	Level of detail
East Irish Sea Transmission Project	Section 35 Direction and associated supporting information, and location plans, have been made publicly available.	Department of Energy Security and Net Zero (2024) East Irish Sea Transmission Project: Section 35 direction, Planning Act 2008 Available: https://www.gov.uk/government/publications/east-irish-sea-transmission-project-section-35-direction-planning-act-2008	Low

Table 1.11: Updated information available in the public domain at Deadline 1.

Project	Updated information available in the public domain at Deadline 1			
	Status update	Reference	Level of detail	CEA review required?
Awel y Mor	None	N/A	N/A	No
Mona Offshore Wind Project	None	N/A	N/A	No
Morecambe Offshore Windfarm: Generation Assets	Examination closed April 2025	Morecambe Offshore Wind Farms (2025) Examination Library	High	Yes
Morgan Offshore Wind Project: Generation Assets	Examination closed March 2025	Morgan Offshore Wind Project (2025) Examination Library	High	Yes

Project	Updated information available in the public domain at Deadline 1			
	Status update	Reference	Level of detail	CEA review required?
Mooir Vannin Generation Project	Consultation materials published, including a number of project refinements.	Ørsted (2025) Mooir Vannin Offshore Wind Farm Community Consultation Summary Report January 2025.	Low	Yes – Project refinements, including reduction in site boundary, have implications for the Scenario 4 CEA. No impacts above what is already assessed in the CEA. To be reviewed again when Application is accepted and publicly available
East Irish Sea Transmission Project	None	N/A	N/A	No

1.9 Summary of progress of coordination with the other projects

1.9.1.1 Appendix F of the Rule 6 letter requests that a summary of progress of coordination with the other projects is set out, including the matters that have been agreed, any inconsistencies or outstanding matters, and next steps.

1.9.1.2 The approach to coordination between the Transmission Assets and the other relevant projects is set out in section 1.3 of this report, and evidenced throughout this report where appropriate. The Applicants are delivering a coordinated grid connection application for the Morgan OWL and Morecambe OWL (the 'Transmission Assets'), in line with NPS EN-1, EN-3 and EN-5, with coordination carried out with other relevant projects as far as reasonably practicable and appropriate given the varying project timelines. A coordinated approach to stakeholder consultation was undertaken with key projects at the outset and continued throughout the pre-application phase. Where appropriate, key survey data has been shared between the relevant projects to strengthen the individual environmental baselines, and where site-specific surveys have been carried out, these have followed standard practice and ensure that the evidence base upon which to carry out the assessments is similar.

1.9.1.3 Where relevant and as detailed in this report, the EIA and HRA assessment approaches have been coordinated, and delivered by the same team of competent experts to ensure consistency. This has ensured a coordinated approach to each topic of the EIA across the relevant projects, including alignment on approach to baseline data, assessment methodologies, impact assessment, cumulative impact assessment, and mitigation.

1.9.1.4 To address the change in status of the Morecambe Offshore Windfarm: Generation Assets and Morgan Offshore Wind Project: Generation Assets, from Application to close of Examination, since the submission of the Transmission Assets application, and the further information available in relation to the Mooir Vannin Offshore Wind Farm, the Applicants have carried out a review of the CEA and in-combination assessment for Deadline 1 to establish whether the conclusions remain current and robust. As described in section 1.7, there is no potential for new cumulative effects to arise or an increase in cumulative effects for each of the topics considered. The conclusions of the Transmission Assets CEA and in-combination assessments therefore remain unchanged.

1.9.1.5 Consequently, the Applicants are satisfied that the coordination carried out is sufficient to ensure a robust evidence base upon which to establish and determine each application, with the regular reviews of available project information during the Examination phase ensuring this position has been maintained. The Applicants believe that the coordination evidenced goes beyond what is typically undertaken for similar offshore wind projects.

1.9.1.6 The Applicants note that the Transmission Assets and each of the projects relevant to this report are separate projects subject to an independent consenting process, and whilst the consents management plans for the Transmission Assets and associated Generation Assets will be prepared at a similar time (see section 1.6), the mitigation for each project will be secured independently under the respective DCO conditions. No further coordination in relation to the CEA and in-combination assessment beyond that set out in section 1.3 of this report is proposed or considered to be appropriate.

1.10 References

Department of Energy Security and Net Zero (2024) East Irish Sea Transmission Project: Section 35 direction, Planning Act 2008 Available: https://www.gov.uk/government/publications/east-irish-sea-transmission-project-section-35-direction-planning-act-2008

Mooir Vannin Offshore Wind Farm Limited (2023) Mooir Vannin Offshore Wind Farm, Scoping Report, 2023. Available: [redacted]. Accessed January 2024.

Mona Offshore Wind Ltd. (2024) Mona Offshore Wind Ltd. Environmental Statement. Available: https://infrastructure.planninginspectorate.gov.uk/projects/wales/mona-offshore-wind-farm/?ipcsection=docs. Accessed March 2024

Morecambe Offshore Windfarm Ltd. (2023) Morecambe Offshore Windfarm Generation Assets Preliminary Environmental Information Report. Available: [redacted] Accessed November 2023.

Morecambe Offshore Windfarm Ltd (2024) Morecambe Offshore Windfarm: Generation Assets Environmental Statement, Available: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010121/EN010121-000408-Morecambe%20Offshore%20Wind%20Farm%20-%20Examination%20Library.pdf. Accessed September 2024.

Morgan Offshore Wind Limited (2024) Morgan Offshore Wind Project: Generation Assets. Environmental Statement. Available: https://infrastructure.planninginspectorate.gov.uk/projects/north-west/morgan-offshore-wind-project-generation-assets/?ipcsection=docs. Accessed April 2025.

Morgan Offshore Wind Limited and Morecambe Offshore Windfarm Limited (2023) Morgan and Morecambe Offshore Wind Farms: Transmission Assets, Preliminary Environmental Information Report, October 2023. Available: [redacted] Accessed January 2024.

Morgan Offshore Wind Limited and Morecambe Offshore Windfarm Limited (2024) Morgan and Morecambe Offshore Wind Farms: Transmission Assets, Environmental Statement. Available: https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN020032/documents. Accessed November 2024.

National Grid (2024) TEC Register. Available: [redacted] Accessed: September 2024

Ørsted (2024) Mooir Vannin Website. Available: https://orsted.im/mooirvannin. Accessed: September 2024.

Ørsted (2025) Mooir Vannin Offshore Wind Farm Community Consultation Summary Report January 2025. Available at: [redacted]

Appendix A Survey Date Collected

Apx Table 1:1 to Apx Table 1:9

Apx Table 1:1: Site-specific survey data collected for the Transmission Assets and other relevant projects (Physical processes).

Project	Environmental Baseline Surveys and Habitat Assessments/ Grab Sample Survey	Geophysical survey	Metocean survey	Reference
Morgan Offshore Wind Project: Generation Assets	✓	✓	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 1: Physical processes.
Mona Offshore Wind Project	✓	✓	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 1: Physical Processes.
Morecambe Offshore Windfarm: Generation Assets	✓	✓		Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 7 - Marine Geology, Oceanography and Physical Processes.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	✓	✓	Volume 2, Chapter 1: Physical Processes (APP-042).

Apx Table 1:2: Site-specific survey data collected for the Transmission Assets and other relevant projects (Benthic ecology).

Project	Geophysical survey	Benthic subtidal survey: Grab sample survey	Benthic subtidal survey: Drop down video	Benthic intertidal survey	Reference
Morgan Offshore Wind Project: Generation Assets	✓	✓	✓	N/A	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 2: Benthic subtidal ecology
Mona Offshore Wind Project	✓	✓	✓	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 2: Benthic subtidal and intertidal ecology.
Morecambe Offshore Windfarm: Generation Assets	✓	✓	✓	N/A	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 9 - Benthic Ecology.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	✓	✓	✓	Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-045).

Apx Table 1:3: Site-specific survey data collected for the Transmission Assets and other relevant projects (Fish and shellfish ecology).

Project	Benthic Subtidal Survey (as per Apx Table 1.2)	Reference
Morgan Offshore Wind Project: Generation Assets	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 3: Fish and shellfish ecology
Mona Offshore Wind Project	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 3: Fish and shellfish ecology.
Morecambe Offshore Windfarm: Generation Assets		Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 10 - Fish and Shellfish Ecology.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	Volume 2, Chapter 3: Fish and Shellfish Ecology (APP-048).

Apx Table 1:4: Site-specific survey data collected for the Transmission Assets and other relevant projects (Marine mammals).

Project	Aerial Digital Surveys	Reference
Morgan Offshore Wind Project: Generation Assets	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 4: Marine mammals.
Mona Offshore Wind Project	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 4: Marine Mammals.
Morecambe Offshore Windfarm: Generation Assets	✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 11 - Marine Mammals.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓ * * data from Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets	Volume 2, Chapter 4: Marine Mammals (APP-050).

Apx Table 1:5: Site-specific survey data collected for the Transmission Assets and other relevant projects (Offshore ornithology).

Project	Aerial Digital Surveys	Reference
Morgan Offshore Wind Project: Generation Assets	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 5: Offshore ornithology.
Mona Offshore Wind Project	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 5: Offshore Ornithology.
Morecambe Offshore Windfarm: Generation Assets	✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 12 - Offshore Ornithology.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓ * * data from Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets	Volume 2, Chapter 5: Offshore Ornithology (APP-053).

Apx Table 1:6: Site-specific survey data collected for the Transmission Assets and other relevant projects (Commercial fisheries).

Project	Offshore Fisheries Liaison Officer (OFLO) observations	Vessel traffic survey	Scouting survey (to record static gear)	Reference
Morgan Offshore Wind Project: Generation Assets	✓	✓	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 6: Commercial fisheries.
Mona Offshore Wind Project	✓	✓	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 6: Commercial Fisheries.
Morecambe Offshore Windfarm: Generation Assets		✓	✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 13 - Commercial Fisheries.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	✓	✓	Volume 2, Chapter 6: Commercial Fisheries (APP-054).

Apx Table 1:7: Site-specific survey data collected for the Transmission Assets and other relevant projects (Shipping and navigation).

Project	Vessel Traffic Survey (Winter)	Vessel Traffic Survey (Summer)	Fishing season Vessel Traffic Survey	Navigation simulations	Reference
Morgan Offshore Wind Project: Generation Assets	✓	✓	✓	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 7: Shipping and navigation.
Mona Offshore Wind Project	✓	✓		✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 7: Shipping and navigation.
Morecambe Offshore Windfarm: Generation Assets	✓	✓		✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 14 - Shipping and Navigation.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓* * data from Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets	✓* * data from Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets			Volume 2, Chapter 7: Shipping and Navigation (APP-056).

Apx Table 1:8: Site-specific survey data collected for the Transmission Assets and other relevant projects (Landscape and visual resources).

Project	SLVIA Photography	Reference
Morgan Offshore Wind Project: Generation Assets	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 10: Seascape, landscape and visual resources.
Mona Offshore Wind Project	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 8: Seascape and visual resources.
Morecambe Offshore Windfarm: Generation Assets	✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 18 - Seascape, Landscape and Visual Impact Assessment.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	Volume 3, Chapter 10: Landscape and visual resources (APP-123).

Apx Table 1:9: Site-specific survey data collected for the Transmission Assets and other relevant projects (Marine archaeology and cultural heritage).

Project	Sidescan Sonar (SSS)	Multibeam Bathymetry (MBES)	Sub-bottom profiler (SBP)	Magnetometry	Geotechnical /Boreholes	Vibrocores (cable corridor)	Setting assessment site visits	Reference
Morgan Offshore Wind Project: Generation Assets	✓	✓	✓		✓	N/A	✓	Morgan Offshore Wind Limited (2024) Volume 2, Chapter 8: Marine archaeology and cultural heritage.
Mona Offshore Wind Project	✓	✓	✓	✓	✓	✓	✓	Mona Offshore Wind Ltd. (2024) Volume 2, Chapter 8: Marine Archaeology. Mona Offshore Wind Ltd. (2024) Volume 7, Annex 5.6: Settings assessment (onshore infrastructure) and Volume 7, Annex 5.7: Settings assessment (offshore infrastructure).
Morecambe Offshore Windfarm: Generation Assets	✓	✓	✓	✓	✓		✓	Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Chapter 15 - Marine Archaeology and Cultural Heritage. Morecambe Offshore Windfarm Ltd. (2024) ES Volume 5 - Appendix 15.3 -Settings Assessment.

Project	Sidescan Sonar (SSS)	Multibeam Bathymetry (MBES)	Sub-bottom profiler (SBP)	Magnetometry	Geotechnical /Boreholes	Vibrocores (cable corridor)	Setting assessment site visits	Reference
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	✓	✓	✓	✓	✓* * data from Morgan Generation Assets	✓	✓	Volume 2, Chapter 8: Marine Archaeology (APP-059) and Volume 3, Chapter 5: Historic environment (APP-096).