

Awel y Môr Offshore Wind Farm

Category 6: Environmental Statement

Volume 1, Annex 3.1: Cumulative Effects Assessment Methodology

Date: April 2022

Revision: B

Application Reference: 6.1.3.1

Pursuant to: APFP Regulation 5(2)(a)



REVISION	DATE	STATUS/ REASON FOR ISSUE	AUTHOR:	CHECKED BY:	APPROVED BY:
A	August 2021	PEIR	GoBe	RWE	RWE
B	March 2022	ES	GoBe	RWE	RWE

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CUMULATIVE EFFECTS ASSESSMENT METHODOLOGY

RWE Renewables UK Limited
Awel y Môr Offshore Wind Farm

Project Number: 01-41

Date: April 2022

Revision: 1.0

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Revision	Date	Status	Author:	Checked by:	Approved by:
0.1 (Internal)	20/10/2020	Draft	KJ/RM	SL	PG
0.2 (External)	11/11/2020	Draft	RM	SL	PG
1.0 (External)	August 2021	PEIR	RM	SL	PG
2.0 (External)	February 2022	ES	KL/RM	SL	PG

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Glossary

Term	Definition
AyM	The Awel y Môr Offshore Wind Farm project.
Export Cable Corridor (ECC)	The area(s) where the export cables will be located.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP) from the relevant Secretary of State (SoS).
Design envelope/ Maximum Design Scenario (MDS)	The maximum design parameters of the combined project assets that result in the greatest potential for change in relation to the impacts assessed.
Environmental Statement (ES)	A document reporting the findings of the Environmental Impact Assessment (EIA) in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Marine Licence	A licence required under the Marine and Coastal Access Act 2009 for marine works which is administered by the Natural Resources Wales (NRW) Marine Licensing Team (MLT) on behalf of the Welsh Ministers.
Preliminary Environmental Information Report (PEIR)	Preliminary Environmental Information Report. The PEIR was written in the style of a draft Environmental Statement (ES) and formed the basis of statutory consultation. Following that consultation, the PEIR documentation was updated into the final ES that accompanies the applications for the Development Consent Order (DCO) and Marine Licence.

Acronyms and Abbreviations

Term	Definition
AfL	Agreement for Lease
BEIS	Business, Energy and Industrial Strategy
CEA	Cumulative Effects Assessment
DCO	Development Consent Order
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
ES	Environmental Statement
ETG	Expert Topic Groups
HRA	Habitats Regulations Assessment
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs

MPS	Marine Policy Statement
NPS	National Policy Statement
NRW	Natural Resource Wales
NSIP	Nationally Significant Infrastructure Project
O&M	Operation and maintenance
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
RIAA	Report to Inform the Appropriate Assessment
SoS	Secretary of State
SSC	Suspended Sediment Concentrations
WNMP	Welsh National Marine Plan
Zol	Zone of Influence
ZTV	Zone of Theoretical Visibility

Units

Unit	Definition
km	Kilometre
m	Metre

1 Introduction

1.1 Background

- 1 Cumulative effects are defined as the effects on a receptor that may arise when the development is considered together with other existing and/ or approved projects, plans and activities. A fundamental requirement of undertaking the Cumulative Effects Assessment (CEA) is to identify those projects, plans and activities with which Awel y Môr Offshore Wind Farm (AyM) may interact to produce a cumulative effect. These interactions may arise within the construction and operation and maintenance (O&M) phases of the project. Please note that due to the anticipated lifetime of the project (anticipated to be 25 years), it is not possible to undertake a meaningful assessment of potential cumulative effects for the decommissioning phase at this time, which is in line with common practice for Nationally Significant Infrastructure Projects (NSIPs).
- 2 The objective of this document is to provide details on the proposed methodology for AyM for each of the assessments, justification for the approach taken regarding cumulative impacts, and to detail the longlist of projects, plans and activities that have been considered within the assessments. The approach for cumulative impacts is based upon the Planning Inspectorate (PINS) Advice Note 17: Cumulative Effects Assessment, which is described in further detail in Section 2. The approach to the CEA is intended to be specific to AyM and takes account of the extensive available knowledge of the environment and of the other activities in the vicinity of AyM.

1.2 Definitions of cumulative and in-combination effects for AyM

- 3 The Environmental Statement (ES) sets out the findings of the Environmental Impact Assessment (EIA) to support the DCO and Marine Licence application. The focus of the EIA is on the assessment of the environmental impacts which are likely to have significant effects on the environment including an assessment of cumulative effects. For the purpose of the CEA process, cumulative effects are defined as effects upon certain receptors from AyM when considered alongside other proposed developments and any other reasonably foreseeable projects and activities. This includes all projects that result in a comparative or ongoing effect and is not restricted to offshore wind farms, offshore and onshore electrical systems, or projects that are pre-commencement.

- 4 In-combination effects are defined as the combined effect of AyM, with the effects from a number of different projects, on the integrity of European Sites designated for their nature conservation value in terms of the Habitats Regulations Assessment (HRA). The methodology for in-combination effects is bespoke to the HRA process (though it will draw on many of the same data sources presented in this document) and is presented separately within the Report to Inform the Appropriate Assessment (RIAA). This document, therefore, presents the first stages of the CEA for the EIA only.
- 5 In short, cumulative effects apply in the EIA, whilst in-combination effects apply to the RIAA in HRA terms. These definitions are consistent with those provided by PINS in Advice Note 17 and have been applied throughout the ES documentation.

2 Policy and legislative context

- 6 The Planning Act 2008 underpins the consenting regime for NSIPs. The PA 2008 sets out thresholds above which certain types of development are classified as NSIPs and therefore require a DCO in England and Wales. For offshore energy developments in Welsh waters (including offshore wind), projects are classed as NSIPs if they have a generating capacity of over 350 megawatts (MW) under section 15(3B) of the PA 2008. AyM will exceed this generating capacity and therefore is classed as an NSIP.
- 7 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') implement the requirements of the EIA Directive (Directive 2014/52/EU) into UK law in respect of NSIPs. Since the offshore components of the project will be constructed within Welsh waters, Awel y Môr Offshore Wind Farm Limited ('the Applicant') will also require a Marine Licence from Natural Resources Wales (NRW) under the Marine and Coastal Access Act 2009 (MCAA), which necessitates an EIA to be carried out under the Marine Works (Environmental Impact Assessment) Regulations 2007.
- 8 A CEA is required under Schedule 4, Paragraph 5(e) and Schedule 3, Paragraph 3(2)(e) of the EIA Regulations and the Marine Works (EIA) Regulations 2017, respectively.
- 9 The National Policy Statements (NPSs) set out national (UK) policy relating to NSIPs. In line with the Energy White Paper, the NPSs are currently undergoing revision following consultation in late 2021. This document and the ES refer primarily to the extant NPSs, as these remain the primary policy tests of relevance. The draft NPSs are however referred to throughout the ES when relevant.
- 10 The Overarching NPS for Energy (EN-1) states at paragraph 4.2.5: *"When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence).*
- 11 The NPS for Renewable Energy Infrastructure (EN-3) states at paragraph 2.6.169: *"In considering what interference, obstruction or danger to navigation and shipping is likely and its extent and nature, the IPC should have regard to the likely overall effect of the development in question and to any cumulative effects of other relevant proposed, consented and operational offshore wind farms."*

- 12 The Overarching NPS for Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for Electricity Networks Infrastructure (EN-5) and their respective drafts identify the need to address the maximum potential adverse impacts. Matters considered to affect the maximum adverse impact are topic impacts, inter-relationships between topics, and cumulative impacts. The Maximum Design Scenario (MDS), or envelope, is also sometimes referred to as the ‘Rochdale Envelope’.
- 13 PINS has produced ‘Advice Note 9: Rochdale Envelope’ (2018) setting out the views of PINS regarding how this approach should be used in the context of the Planning Act 2008. The Rochdale Envelope approach is a well-understood concept that involves ensuring that any EIA is based on assessing the realistic MDS where flexibility or a range of options is sought as part of the consent application. This guidance confirms that in order to ensure a robust application of the Rochdale Envelope principle to the EIA process, this principle must also be applied to the CEA as well as the assessment of project specific, individual effects.
- 14 PINS has produced ‘Advice Note 17: Cumulative Effects Assessment’ (December 2019), which provides guidance on a staged process that can be used for cumulative effects assessments for NSIPs. Advice Note 17 details a four-step process that can be followed by developers and which has been applied here. The proposed methodology is outlined in Section 3 below.

Marine policy context

- 15 The Government’s Marine Policy Statement (MPS) sets out the need to address cumulative impacts or effects, stating in paragraph 2.3.2.1: *“when considering potential benefits and adverse effects, decision-makers should also consider any multiple and cumulative impacts of proposals in the light of other projects and activities”*.

Welsh policy

- 16 The Welsh National Marine Plan (WNMP), published in November 2019, contains policies across a range of considerations (including nature conservation, sustainable use, seascape, and coastal communities and economic growth). The WNMP includes sector objectives for renewable energy to support decarbonisation of the Welsh economy and the use of marine renewable energy generation (including offshore wind farms).
- 17 The WNMP also sets out a need for proposals to address cumulative effects as stated in Policy Aim 219: *“proposals should demonstrate that they have considered any multiple and cumulative effects of proposals including those associated with other (including known, planned) projects and activities”*.

3 Consultation

18 The CEA is the subject of detailed discussion between the Applicant, NRW and various statutory and non-statutory authorities and stakeholders. This consultation has been captured under the auspices of the Evidence Plan process, via focused Expert Topic Groups (ETGs), as well as technical consultation working groups.

19 A summary of consultation as related to the CEA to date is provided in Table 3.1 below.

Table 3.1: Consultation relating to the CEA.

Consultee, forum and date	Comment	Response to issue and/or where addressed
PINS Scoping Opinion (general comments) July 2020	The ES should include an assessment of cumulative effects for all aspects and matters where significant effects are likely to occur. The assessment of cumulative effects should not be limited to one particular development type and should instead focus on the potential for overlapping impacts and LSEs. The Inspectorate encourages the use of the advice contained in its Advice Note 17 regarding the approach to the assessment of cumulative effects.	A CEA has been included in the CEA sections of all EIA topics where significant effects are likely to occur. This document outlines the ‘other development’ types that are considered alongside AyM and this includes multiple development types as outlined in Section 4.2.1. The methodology for determining the potential for cumulative effects is described in Section 1.1 of this document. As described in Section 2, the CEA follows PINS Advice Note 17.
PINS Scoping Opinion (airborne noise and vibration) July 2020	The ES should explain how the cumulative assessment has identified those projects or activities which overlap with the zone of influence of the Proposed Development and how all potential contributions have been considered.	A cumulative impact assessment has been undertaken in the ES to address any significant development projects or activities which may overlap with the zone of influence of the Proposed Development.
PINS Scoping Opinion (air quality) July 2020	The approach to the assessment of cumulative effects should be in accordance with the advice contained in paragraph 3.3.3 (see comment in first row of this table).	The CEA has been undertaken in accordance with this comment. The projects of interest have been determined through consultation with the relevant local planning authorities, based upon their temporal and spatial relevance to the project, and whether they represent a potential for cumulative effects.
PINS Scoping Opinion (public health)	The Inspectorate does not consider that sufficient evidence has been provided to	The Applicant has provided a proportionate consideration of

Consultee, forum and date	Comment	Response to issue and/or where addressed
July 2020	support scoping out EMF cumulative effects during operation.	potential cumulative effects associated with EMF.
PINS Scoping Opinion (physical processes) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 333 -336) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	A combination of project, site specific modelling, and spring tidal excursion ellipse buffers (approx. 15 km) have been used to establish the zone of influence around AyM. This approach has been used to determine the potential for sediment plume interaction with other projects.
PINS Scoping Opinion (marine water and sediment quality) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 373 -374) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	A CEA for marine water and sediment quality has been scoped in.
PINS Scoping Opinion (benthic subtidal and intertidal ecology) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 424) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	Although significant effects are not anticipated, a CEA for benthic subtidal and intertidal ecology has been scoped in.
PINS Scoping Opinion (fish and shellfish ecology) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 446) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	Although significant effects are not anticipated, a CEA for fish and shellfish ecology has been scoped in.
PINS Scoping Opinion (marine mammals) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 523) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	A CEA for marine mammals has been scoped in.
PINS Scoping Opinion (offshore ornithology) July 2020	The Inspectorate does not agree that cumulative impacts identified in the Scoping Report (paragraphs 559-566) can be scoped out (reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	Although significant effects are not anticipated, a CEA for offshore ornithology has been scoped in.
PINS Scoping Opinion (SLVIA) July 2020	The Inspectorate does not agree that cumulative impacts should be limited to only other development in the form of offshore wind turbine development	A CEA has been scoped in for SLVIA.

Consultee, forum and date	Comment	Response to issue and/or where addressed
	(reason noted in paragraph 3.3.3 of this Scoping Log - see comment in first row of this table).	
PINS Scoping Opinion (other marine users and activities) July 2020	The Inspectorate agrees that where no pathway for effect exists that cumulative effects on other users can be scoped out. Where a pathway does exist the likelihood of significant cumulative effects should be assessed in the ES.	This is noted by the Applicant and has been applied in the ES.
NRW comments on Cumulative Effects Assessment Methodology, December 2020)	It was requested that the following projects be added to the CEA longlist: <ul style="list-style-type: none"> - Port of Mostyn Tidal Lagoon; - Mersey Tidal Lagoon; - Greenlink Interconnector; - Morlais Tidal Development Zone; and - Firing ranges at Aberporth and Castlemartin. 	These projects have been added to the CEA longlist (Appendix A to this document).
NRW comments on Cumulative Effects Assessment Methodology, December 2020)	It should be clarified what evidence has been used to determine the 15 km excursion extent for marine physical processes.	As described in Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes, the limit of the tidal excursion is informed by modelling has concluded a ZoI of up to 12 km around the array and offshore ECC. Prior to this, the initial screening range of 15 km was used as a precautionary range before modelling was completed.
NRW comments on Cumulative Effects Assessment Methodology, December 2020)	Concerns that there may be offshore energy projects further away than 500 km which could be impacting upon some bird species from Welsh seabird sites. The potential effects should be looked at for each site on a case-by-case basis and should be based on a suitable evidence base, e.g. tagging and tracking studies, foraging ranges and the relevant BDMPS (Furness 2015).	The CEA in the EIA looks at impacts directly on birds as a receptor in their own right. Impacts to designated sites are dealt with through the in-combination assessment in the RIAA. The EIA screening range for ornithology is set at 'species dependent on foraging range'. For some species, this extends beyond 500 km, but in most cases it has been considered more appropriate to consider the regional geographic population.
S42 Denbighshire County Council comments on	The CEA should include the enabling works at the National Grid substation, all existing substations and energy related infrastructure with a worst-case	These have since been included within the cumulative effects assessments of the relevant ES chapters.

Consultee, forum and date	Comment	Response to issue and/or where addressed
Cumulative Effects Assessment November 2021	scenario and in relation to the proposed onshore substation site.	
S42 Denbighshire County Council comments on Cumulative Effects Assessment November 2021	Denbighshire County Council supplied a list of onshore developments that they propose should be included in the CEA longlist appendix, including development applications submitted since January 2018, such as pre-application major schemes and plans pending determination.	The recommended projects have been added to the CEA longlist (Appendix A to this document).

4 Approach to cumulative effects assessment

4.1 Overview

- 20 Cumulative effects refer to effects upon receptors arising from AyM when considered alongside all existing, and/ or reasonably foreseeable projects, plans and activities that results in a cumulative effect with any element of AyM. It should be noted that existing projects are generally considered to be part of the existing baseline environment, except in cases where there is an ongoing effect; examples are loss of benthic habitat for an existing (offshore wind) project will generally form part of the baseline as the habitat was lost at that stage, whereas ongoing bird collisions associated with the same project would be considered ongoing. The exact approach taken by each technical topic is described within the CEA section of the relevant ES chapters.
- 21 The cumulative effects arising as a result of AyM is a required part of the EIA as described in Section 2. PINS Advice Note 17: Cumulative Effect Assessment provides guidance on a staged process that can be used for CEAs for NSIPs, which is described below in Table 4.1.

Table 4.1: Stages of the CEA process.

CEA Stage	Activity
Stage 1 – Establish the project’s Zone of Influence (Zoi) and identify a longlist of ‘other development’	<p>The Project undertakes a desk study to identify the Zoi for the development for the topics that are proposed to be scoped into the EIA. The Zoi analysis is documented (i.e. table of topics and Zoi), with supporting mapping.</p> <p>The longlist of other plans and projects/activities is drawn up through a desk study of planning applications, development plan documents, relevant development frameworks and any other available sources to identify ‘other development’ within the Zoi.</p> <p>Information on each project (location, development type and timing, etc.) is documented, along with the certainty or tier assigned to the ‘other development’ (i.e. confidence it will take place in the current form and when it will take place in relation to the project).</p> <p>Advice Note 17 notes that the project should then consult with the relevant planning authority/ authorities and statutory consultees regarding the longlist (and ideally prior to the submission of the Scoping Report¹).</p>

¹ Note that AyM did not provide a longlist for consideration at Scoping for cumulative issues, this was prepared for consultation at the PEIR stage.

CEA Stage	Activity
Stage 2 – Screening of longlist: Identify a shortlist of ‘other development’ for the CEA	<p>PINS has provided inclusions/ exclusion threshold criteria, against which the potential for ‘other development to give rise to significant cumulative effects by virtue of overlaps in temporal scope, the scale and nature of the ‘other developments’ and /or receiving environment, or any other relevant factors is assessed.</p> <p>From this assessment, a shortlist of ‘other developments’ to be included in the CEA is produced. It is noted that documented information on each of the ‘other developments’ is likely to be high level at this stage, outlining the key issues to take forward.</p> <p>Advice Note 17 notes that the proposed inclusion/ exclusion should ideally be finalised prior to the request for a Scoping Opinion, and the project must consult with the relevant planning authorities and statutory consultees regarding the shortlist²).</p>
Stage 3 – Information gathering	<p>All available information on the ‘other developments’ within the shortlist generated at Stage 2 is collated to inform the CEA.</p>
Stage 4 – Assessment	<p>The project reviews each of the ‘other developments’ in turn to assess whether cumulative effects may arise. This should also include, where relevant, consideration of any mitigation measures where adverse cumulative effects are identified and should clearly signpost to the relevant means of securing mitigation (e.g. DCO requirements and associated mitigation plans).</p> <p>While not to be used as a means to shift the burden of mitigation, it may be appropriate to ascertain the contribution of each development to the effect (via professional judgement). This may, however, be useful during the consultation with other developers to identify ways to jointly address mitigation measures to be implemented to reduce likely significant adverse cumulative effects.</p>

22 The following sections set out the AyM approach to completing Stages 1 to 3 (as described in Table 4.1 above), incorporating the development of the longlist (Appendix A), tiering of projects and the development of the topic-specific shortlists. These shortlists have been considered in detail in each of the topic-specific ES chapters to complete CEA Stage 4.

² Note that Awel y Môr OWF did not provide a longlist for consideration at Scoping for cumulative issues,

4.2 Stage 1 – Establish the Zols and identify the longlist of ‘other development’

4.2.1 Developing the longlist

23 Under the first stage of the offshore CEA, a longlist of relevant projects, plans and activities occurring within a large study area around AyM array area and its associated export cable corridor (ECC) have been developed. Depending on the type of project, this generally encompasses a large area of the Irish Sea (offshore) (Table 4.2) and parts of North Wales (onshore) (Table 4.3). The longlist (Appendix A) includes the details of the relevant operational or planned projects, plans and activities including those in the UK and adjoining international jurisdictions and has been based on publicly available information available at the time of preparation.

Offshore

24 The longlist, seaward of Mean High-Water Springs (MHWS) has been produced based on the scale of other projects and the potential for them to produce cumulative effects with AyM. The longlist was reviewed post-PEIR consultation and updated in January 2022 for the purpose of the ES, and all relevant changes have been captured in the ES chapter assessments.

25 Table 4.2 defines the search area extents that have been applied in developing the longlist of projects, plans and activities. It should be noted that the initial screening ranges were based on what are considered to be the maximum extents of potential impacts from those activities and are therefore considered to be highly precautionary. Impact-specific screening ranges used for individual topics use refined ranges depending on topic-specific criteria at Stage 2.

26 All projects, plans and activities within the search areas defined in Table 4.2 have been identified through a desktop study using, among others, the following data sources:

- PINS website³;
- The Crown Estate website⁴;
- European Marine Observation and Data Network (EMODnet) data⁵;

³ <https://infrastructure.planninginspectorate.gov.uk/>

⁴ <https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/marine-planning/>

⁵ <http://www.emodnet-humanactivities.eu/view-data.php>

- Wales Marine Planning Portal⁶
- Ireland’s Marine Atlas data⁷;
- Oil and Gas UK website⁸;
- Developer and project proponent websites.

27 The CEA longlist for projects is presented in Appendix A of this document. All offshore projects, plans and activities considered based on the Zol criteria listed in Table 4.2 are presented in Figure 1 to Figure 5.

Table 4.2: Offshore longlist Zols.

Type of project or activity	Zol criteria	Rationale
Aggregate dredging and disposal	Up to 50 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from aggregate dredging and disposal could occur (e.g. changes to hydrodynamic regime/coastal processes).
Offshore energy	Up to 500 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from offshore energy (e.g. underwater noise from piling) could occur.
Commercial fisheries	Up to 200 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from commercial fisheries activities could occur.
Oil and gas	Up to 200 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from oil and gas activities could occur.
Cables and pipelines	Up to 50 km from AyM array area and offshore ECC.	This range represents a precautionary distance at which effects from cables and pipelines (e.g. increases to Suspended Sediment Concentrations (SSCs) from installation) could occur.
Shipping	Up to 200 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from commercial fisheries activities could occur.
Military, aviation and radar	Up to 200 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from military, aviation and radar effects could occur.

⁶ <http://lle.gov.wales/apps/marineportal/#lat=50.7112&lon=-4.2050&z=9>

⁷ <http://atlas.marine.ie/>

⁸ <https://www.ogauthority.co.uk/data-centre/interactive-maps-and-tools/>

Type of project or activity	ZoI criteria	Rationale
Coastal developments (including ports)	Up to 200 km from AyM array area and offshore ECC.	This range represents a precautionary maximum distance at which effects from military, aviation and radar effects could occur,

Onshore

- 28 Under the first stage of the onshore CEA, a longlist of relevant projects, plans and activities occurring within a study area round the onshore ECC options and onshore substation area of search has been developed from the sources described in the paragraph below. Planning consents granted within the last three years, or applications that have been made and have yet to be determined have been considered.
- 29 Given the scale of the onshore components of AyM, this information was collated from the following publicly available data sources:
- PINS website³;
 - Conwy County Borough Council⁹;
 - Denbighshire County Council¹⁰;
 - Isle of Anglesey County Council¹¹;
 - Flintshire County Council¹²; and
 - Gwynedd Council¹³.
- 30 The CEA longlist for onshore projects is presented in Appendix A of this document. All onshore projects, plans and activities considered based on the ZoI criteria listed in Table 4.3 are presented in Figure 6. The longlist comprises planning consents that have been granted within the last three years (including NSIP projects) or applications that have been made and have yet to be determined within the local authority areas of Conwy, Denbighshire, the Isle of Anglesey, Flintshire and Gwynedd.

Table 4.3: Onshore longlist Zols.

⁹ <https://npe.conwy.gov.uk/Northgate/EnglishPlanningExplorer>

¹⁰ <https://planning.denbighshire.gov.uk/planning/search-applications>

¹¹ <https://ioacc.force.com/s/>

¹² https://digital.flintshire.gov.uk/FCC_Planning/

¹³ <https://amg.gwynedd.llyw.cymru/planning/>

Type of project or activity	Zol criteria	Rationale
Energy generation infrastructure	Installations larger than domestic scale within the local authority areas described above.	The five local authority areas are considered to represent the realistic worst-case scenario over which cumulative effects are likely to occur. Since the selection of a single onshore route, the onshore aspects of the scheme are located entirely within Denbighshire, but the five local authority areas have been retained as the Zol rationale for completeness.
Building/housing developments	Developments of more than five dwellings/units within the local authority areas described above.	
Roads	Major or main road installation or upgrade within the local authority areas described above.	
Cable and pipelines	Major cable and pipeline installations and upgrades within the local authority areas described above.	
National Grid enabling works	Any works within the local authority areas described above.	
Coastal protection works	Any works within the local authority areas described above.	

4.2.2 Tiered approach

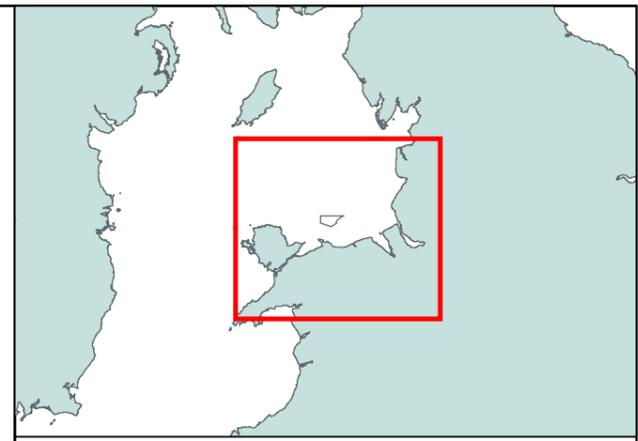
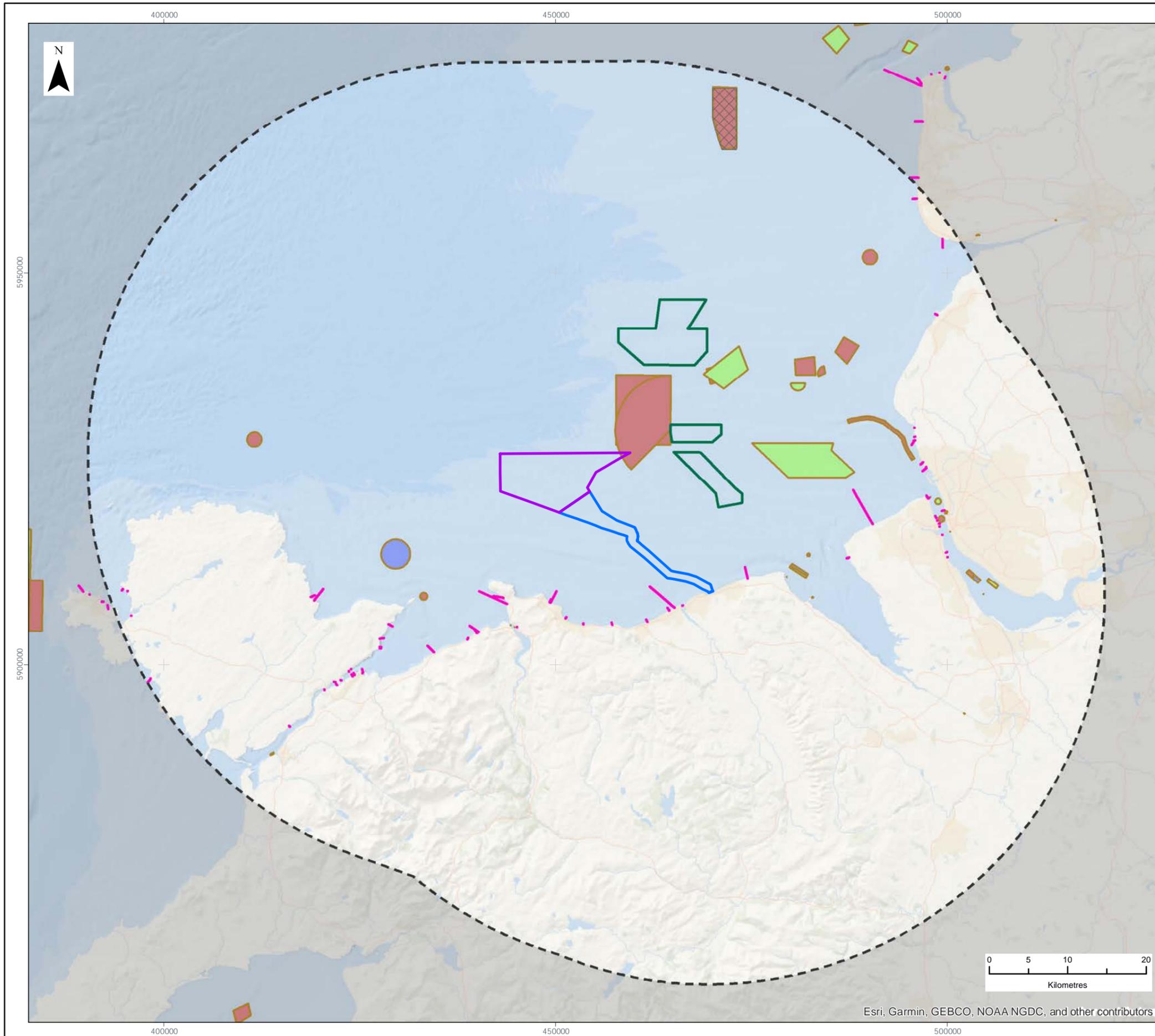
- 31 In assessing the potential cumulative impacts for AyM, it is important to bear in mind that projects, predominately currently ‘proposed’, may or may not be, ultimately, taken forward for development. Therefore, there is a need to build in some consideration of certainty (or uncertainty) with respect to the potential impacts which might arise from such proposals, in line with the approach set out by PINS in Advice Note 17. For example, projects which are already under construction are more likely to contribute to cumulative effects than those development applications that are not yet submitted.
- 32 For these reasons, all the relevant longlist plans and projects were allocated into ‘Tiers’, reflecting their current status within the planning and development process. This enabled the cumulative impact assessment to present several scenarios, reflecting the varying levels of certainty of an activity proceeding and therefore the potential for impacts to arise that might act cumulatively with the impacts arising from AyM. When examining the potential cumulative effects of AyM, appropriate weight has been given to each scenario (Tier) in the decision-making process.

- 33 In accordance with PINS Advice Note 17, the proposed tiering structure is described in Table 4.4. The Tiers are listed in descending order of level of detail likely to be available (and, correspondingly, certainty of effects arising). It is noted in PINS Advice Note 17 that where other projects are expected to be completed before the construction of the proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline and have been considered as part of assessment in the construction and operational phase (noting that the assessment should clearly distinguish between projects forming part of the baseline and those in the CEA).
- 34 It is important to note that this tiering methodology is generally applied across the ES. Certain topics may employ their own bespoke tiering methodology where greater precision on certainty is required, or where specific best practice guidance so dictates. Where this is the case, it is clearly described within the topic specific ES chapter.

Table 4.4: Description of Tiers of other developments considered for CEA¹⁴.

Tiers	Development Stage
Tier 1	Projects under construction.
	Permitted applications, whether under the Planning Act 2008 or other regimes, but not yet implemented.
	Submitted applications, whether under the Planning Act 2008 or other regimes, but not yet determined.
Tier 2	Projects on the Planning Inspectorate’s Programme of Projects where a Scoping Report has been submitted.
Tier 3	Projects on the Planning Inspectorate’s Programme of Projects where a Scoping Report has not been submitted.
	Identified in the relevant Development Plan (and emerging Development Plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents/ approvals, where such development is reasonably likely to come forward.

¹⁴ Tier descriptions adapted from PINS Advice Note 17.



LEGEND

- Array Area
- Offshore Export Cable Corridor
- 50km Buffer from Array Area and ECC
- Outfall Pipe
- Aggregate Area
- Natural Gas Storage Option for Lease

Disposal Site (Status)

- Open Disposal Site
- Closed Disposal Site
- Disused Disposal Site

Data Source:
 Marine Themes data from Oceanwise, Disposal Sites data from CEFAAS,
 Aggregates data from The Crown Estate

PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE: **Offshore Aggregates,
 Outfall Pipes and Disposal Sites**

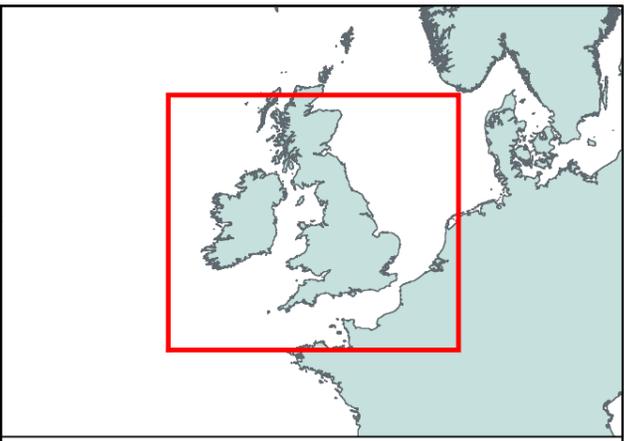
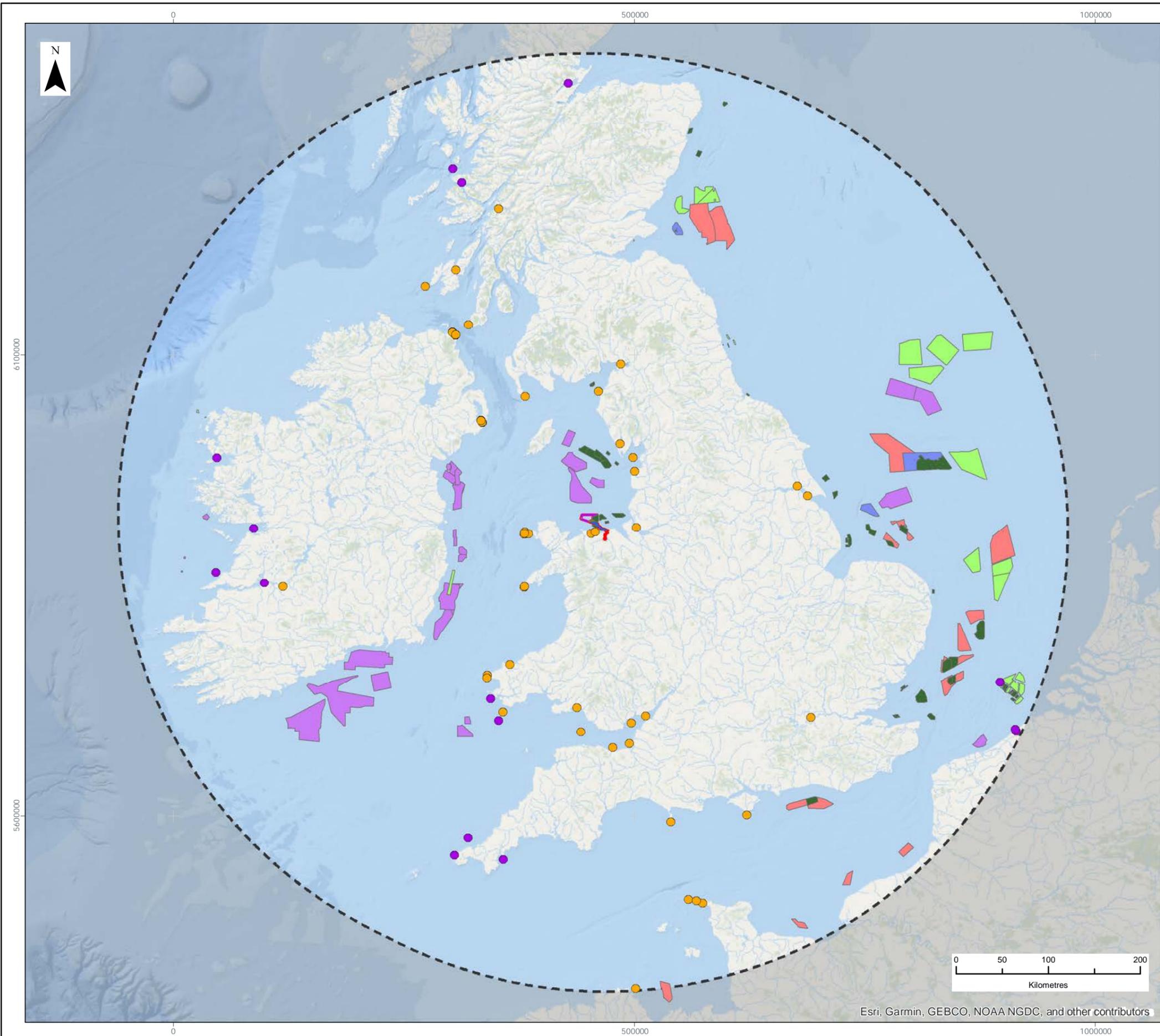
VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	17/01/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 1

SCALE: 1:500,000 PLOT SIZE: A3 DATUM: WGS84 PROJECTION: UTM30N



Esri, Garmin, GEBCO, NOAA NGDC, and other contributors



LEGEND

- Order Limits
- Array Area
- Offshore Export Cable Corridor
- Other Wind Farm Infrastructure Zone
- GyM Interlink Zone
- Tidal Projects
- Wave Projects

Offshore Wind Farm (Status)

- Operational
- Under Construction
- Consented
- In Planning
- Concept/Early Planning

Data Source:
Tidal and Wave Projects from The Crown Estate and EMODnet,
Wind Farm data from The Crown Estate and EMODnet.

PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE: **Offshore Renewable Energy
(Offshore Wind, Wave and Tidal)**

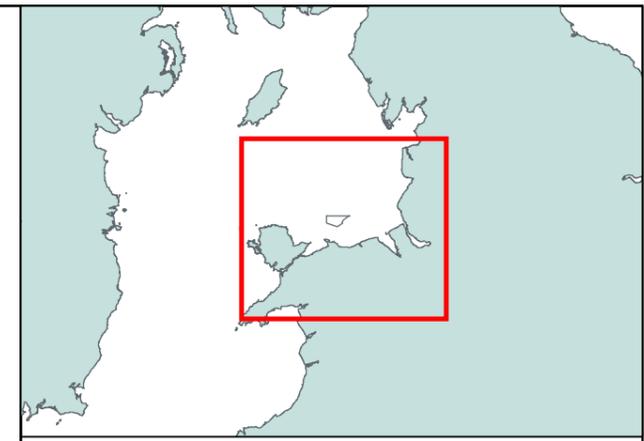
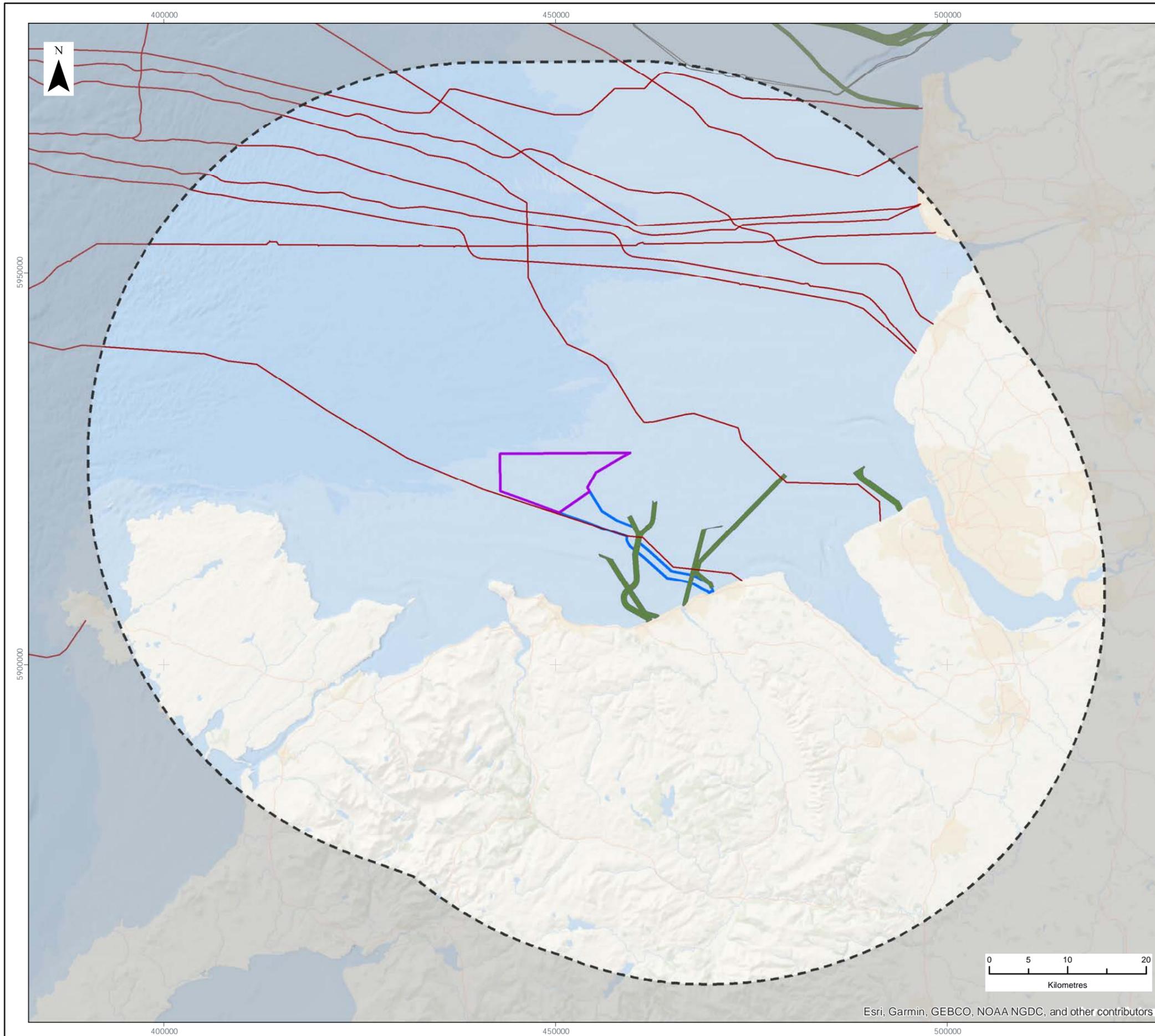
VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	21/03/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 2

SCALE: 1:4,250,000 PLOT SIZE: A3 DATUM: WGS84 PROJECTION: UTM30N



Esri, Garmin, GEBCO, NOAA NGDC, and other contributors



LEGEND

- Array Area
- Offshore Export Cable Corridor
- 50km Buffer from Array Area and ECC
- Subsea Cables
- Active/In Operation OWF Cables

Data Source:
Subsea Cables Data from Kis Orca EMODnet © EMODnet - Human Activities.
Wind Export Cables from The Crown Estate © Crown Copyright

PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM

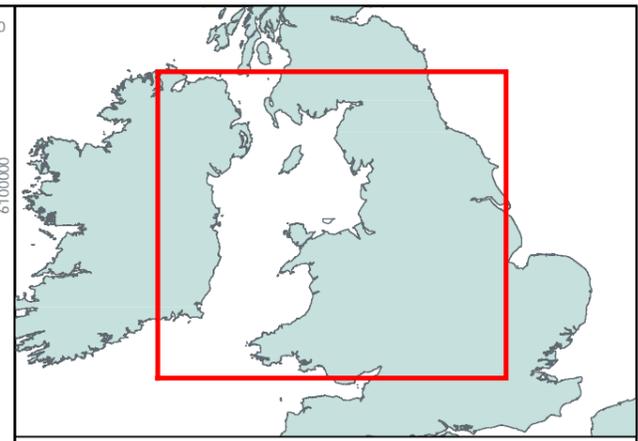
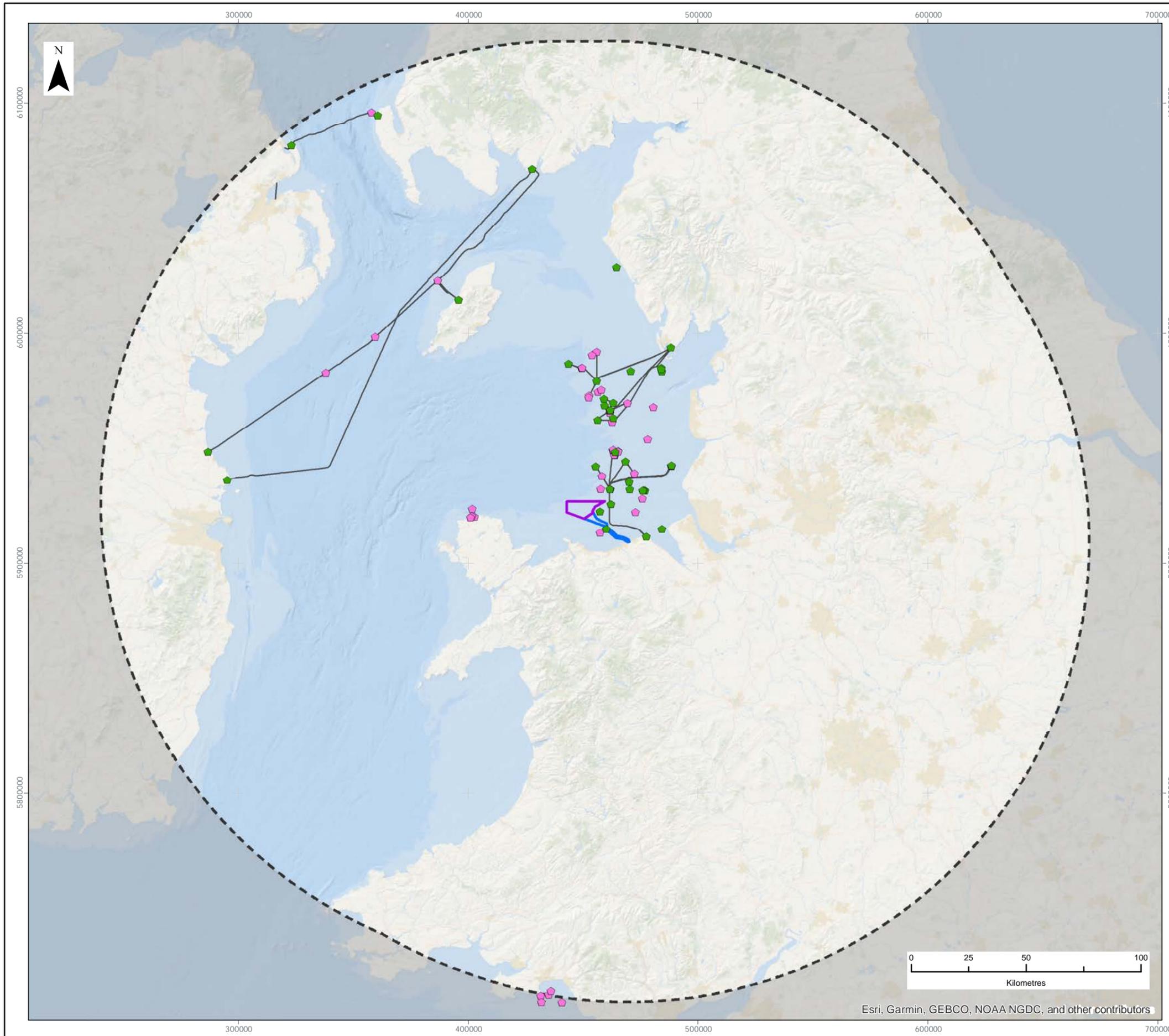
FIGURE TITLE:
Offshore Cables

VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	21/03/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 3

SCALE: **1:500,000** PLOT SIZE: A3 DATUM: WGS84 PROJECTION: UTM30N





LEGEND

- Array Area
- Offshore Export Cable Corridor
- 200km Buffer from Array Area and ECC
- ◆ Oil and Gas Surface Features
- ⬠ Oil and Gas Subsurface Features
- Oil and Gas Pipelines

Data Source:
Oil and Gas data from the Oil and Gas Authority (OGA).

PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:
Offshore Oil and Gas

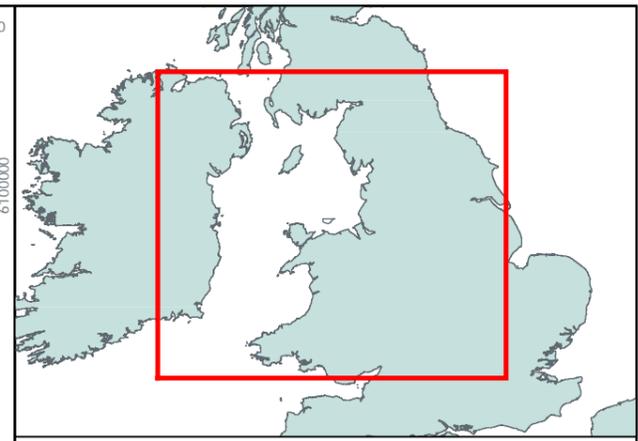
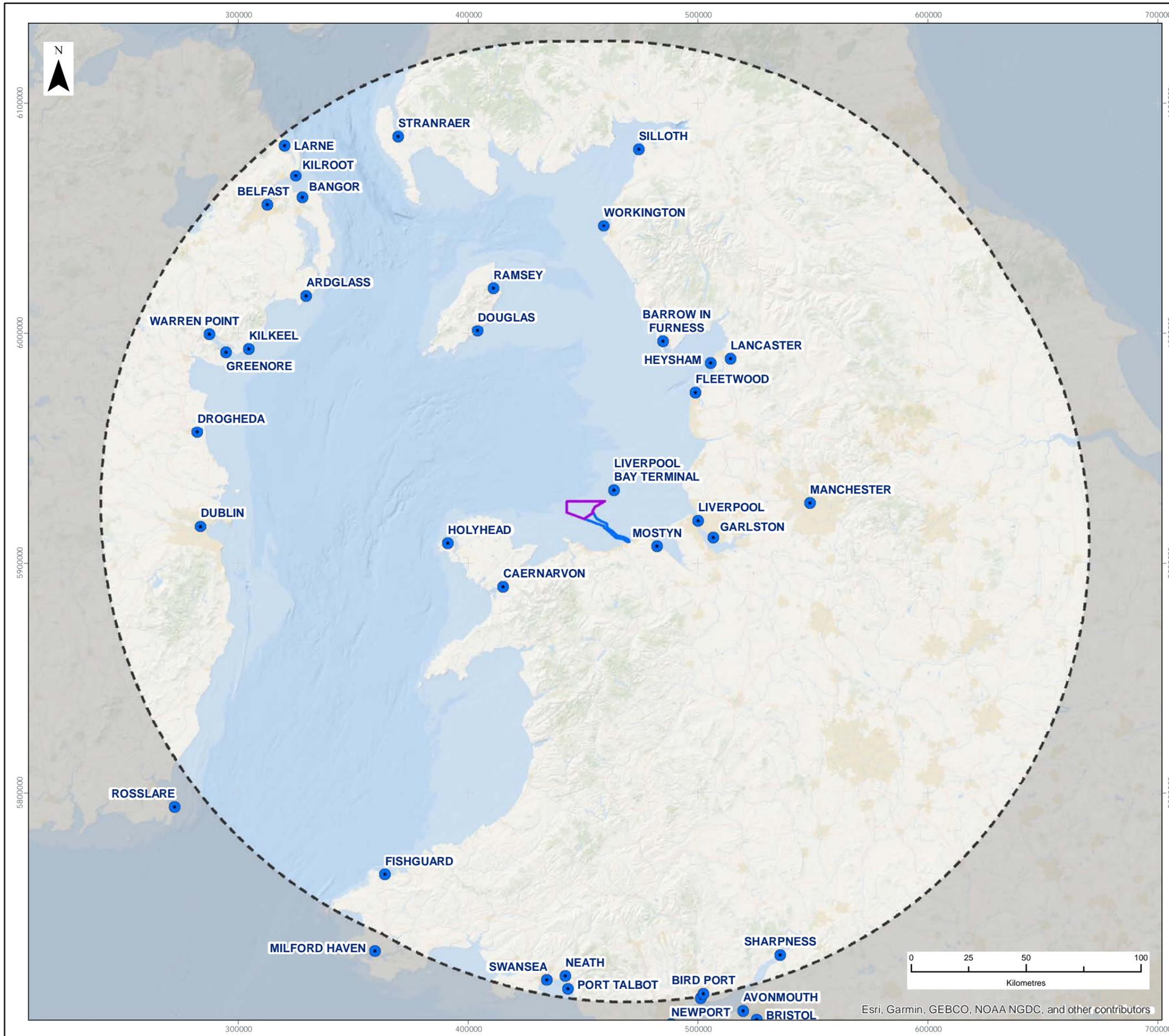
VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	21/03/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 4

SCALE: 1:1,700,000 | PLOT SIZE: A3 | DATUM: WGS84 | PROJECTION: UTM30N



Esri, Garmin, GEBCO, NOAA NGDC, and other contributors



LEGEND

- Array Area
- Offshore Export Cable Corridor
- 200km Buffer from Array Area and ECC
- Shipping Port

Data Source:
Port locations from World Ports Index.

PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:
Shipping Ports

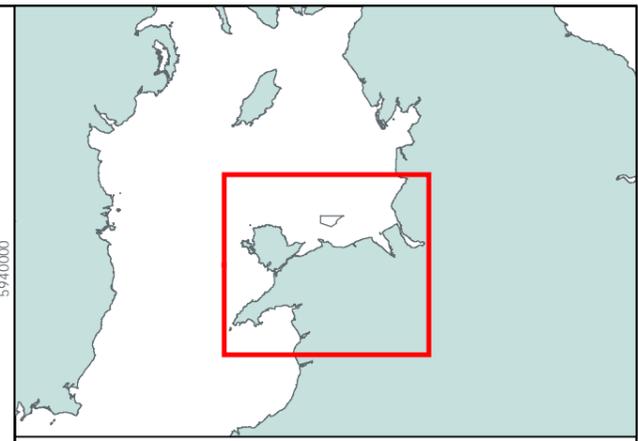
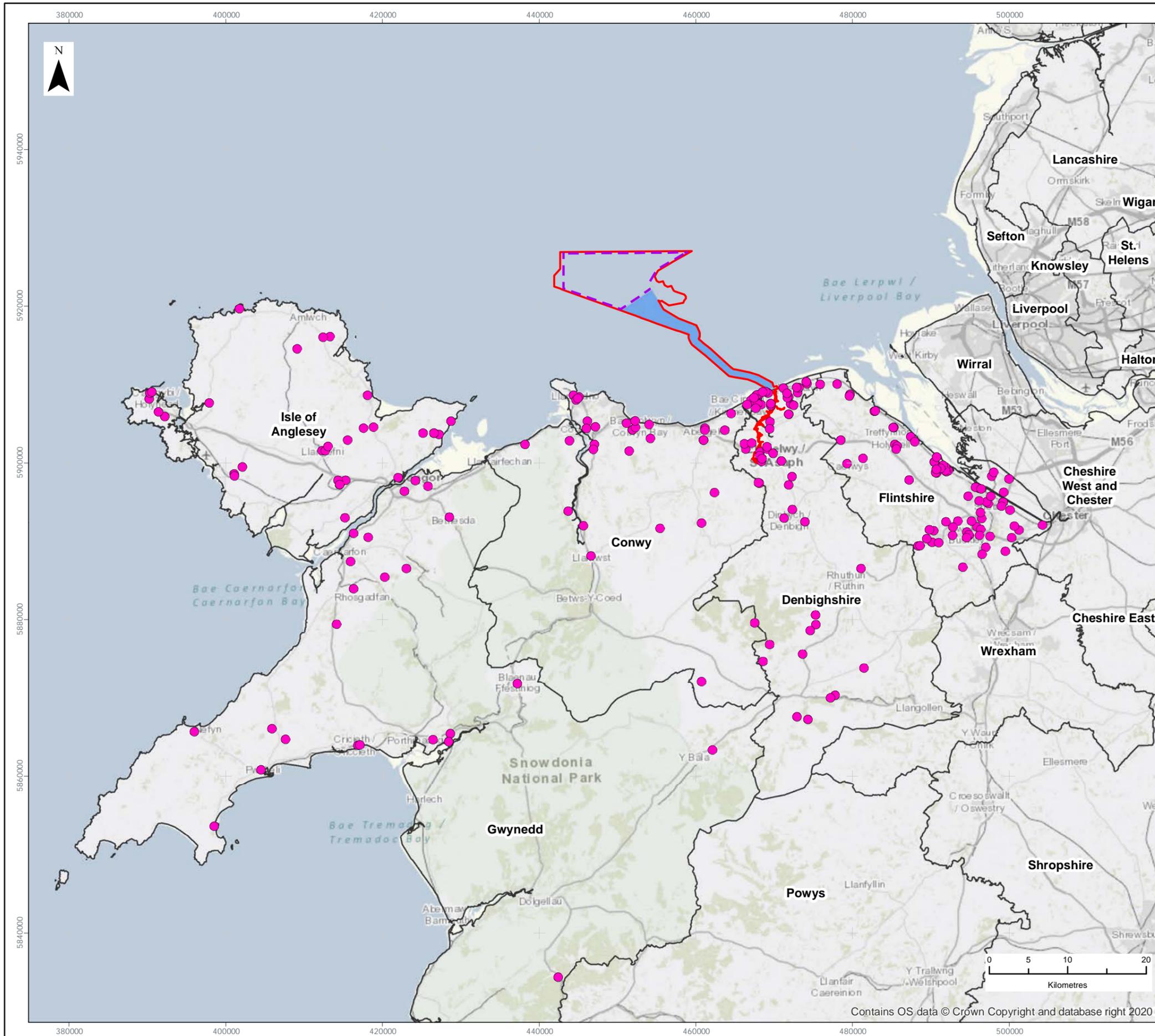
VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	21/03/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 5

SCALE: 1:1,700,000 | PLOT SIZE: A3 | DATUM: WGS84 | PROJECTION: UTM30N



Esri, Garmin, GEBCO, NOAA NGDC, and other contributors



LEGEND

- Order Limits
- Array Area
- Offshore Export Cable Corridor
- Onshore Planning Applications

Data Source:

PROJECT TITLE:
AWEL Y MŌR OFFSHORE WINDFARM

FIGURE TITLE:
Onshore Cumulative Projects

VER	DATE	REMARKS	Drawn	Checked
1	17/03/2021	For Issue for PEIR	BPHB	RM
2	21/03/2022	For Issue For ES	BPHB	RM

FIGURE NUMBER:
Figure 6

SCALE: 1:500,000	PLOT SIZE: A3	DATUM: WGS84	PROJECTION: UTM30N
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4.3 Stage 2

Screening of longlist – interactions

35 Once the AyM CEA longlist had been finalised, all projects, plans and activities were then screened based on whether there is a conceptual impact-receptor pathway for effect. The Stage 2 exercise screened the longlist in terms of whether the project, plan or activity is considered to be part of the existing baseline environment or not. Existing projects that have ongoing effects have also been screened in. The next steps included whether there was the potential for temporal overlap (i.e. activities occurring concurrently), spatial overlap (i.e. activities occurring within a certain distance from one another), but also the level of confidence in the data and detail that was publicly available. This Stage 2 screening produced EIA topic-specific shortlists of projects to be considered and refined further within the CEA as part of each ES chapter. Table 4.5 provides definitions of some of the screening criteria that were applied.

Table 4.5: Definitions of screening criteria.

Term	Criteria
Potential impact-receptor pathway	There is the potential that a pathway exists whereby an impact could have an effect on a receptor. For example, increases to suspended sediment concentration could have an impact on fish and shellfish receptors, but underwater noise could not have an effect on aviation and radar receptors.
Spatial effect interaction	The impacts on a receptor from AyM and one or more other plans/projects have a geographical overlap. For example, underwater noise contours from piling at AyM could overlap with those of another offshore wind farm project, if it is sufficiently close to AyM. If there is no spatial interaction, there is no potential for a cumulative effect.
Temporal effect interaction	The impacts from AyM and one or more other plans/projects have the potential to occur at the same time. If there is no temporal interaction, there is no potential for a cumulative effect.

36 All plans, projects and activities are screened based on the potential impacts of each in combination with AyM, therefore, the plan, project or activity may be screened out for one receptor/ topic of the ES but screened in for another. Those plans, projects and activities that are screened in are then carried forward into the CEA.

- 37 During the screening process, the steps detailed in Table 4.5 were followed in the defined order to allow a clear justification for screening projects in or out. This allowed for the screening out of projects with limited data availability and, as a result, effects that could not be included due to a lack of data, while screening in those that could be considered with the available data.
- 38 Only where there is the potential for both spatial and temporal interaction between effects at AyM and one or more other plans/ projects, has a cumulative impact been taken forward for consideration in the CEA. The screening of the longlist will identify those projects screened in or out for further consideration on the basis of one or more of the preceding criteria into a topic-specific shortlist. The shortlist identifies all the projects, plans, and activities that have the potential to give rise to cumulative effects when considered alongside the worst-case potential impacts arising from AyM but does not identify the differences in impact ranges for different environmental receptors. For example, this exercise treats fish and shellfish as a single receptor group but does not distinguish between different species; this is left for the CEA section of the fish and shellfish ES chapter. Table 4.6 below details these topic-specific screening ranges that have been applied to the longlist.

Table 4.6: Topic-specific screening ranges applied to the longlist.

EIA receptor group	Maximum extent of effect and justification
Physical processes	15 km from the array area and offshore ECC, based on the distance of one tidal excursion ellipse.
Marine water and sediment quality	15 km from the array area and offshore ECC, based on the distance of one tidal excursion ellipse.
Benthic subtidal and intertidal ecology	15 km from the array area and offshore ECC, based on the distance of one tidal excursion ellipse.
Fish and shellfish ecology	50 km from the array area, based on a precautionary impact range from underwater noise. 15 km from the offshore ECC, based on the distance of one tidal excursion ellipse.
Marine mammals	Dependent on the reference population extent, i.e. the Celtic and Irish Seas management unit for harbour porpoise.
Offshore ornithology	Dependent on the maximum foraging range of the bird species in question.
Commercial fisheries	Extent of the relevant fishing grounds.
Shipping and navigation	Based on shipping lanes and available sea room around the relevant components of AyM.
Military and civil aviation	Distance at which disturbance from the AyM array area would interact with that of another development, assumed at this stage to be 45 km.
Seascape, landscape and visual impacts	Based on the maximum extent of the Zone of Theoretical Visibility (ZTV).

EIA receptor group	Maximum extent of effect and justification
Marine archaeology	Dependent on the archaeological receptor in question but as a worst-case, 15 km from the array area and offshore ECC, based on the distance of one tidal excursion ellipse.
Other marine users and activities	Dependent on the receptor in question, in line with the maximum extents for physical processes, fish and shellfish ecology, aviation and tourism and recreation.
Terrestrial ecology and nature conservation	Precautionary 5 km from the onshore ECC and onshore substation area. Distances will vary depending on type of development/the potential impacts anticipated and the ecological receptor that may be affected.
Archaeology and cultural heritage	Agreed to be scoped out in the PINS Scoping Opinion.
Airborne noise and vibration	Precautionary 2 km from the onshore ECC and onshore substation area. Exact distances are to be confirmed by the Zol of anticipated impacts.
Traffic and transport	Schemes of regional significance within Conwy and Denbighshire as agreed with the relevant local authorities. Any proposals outside these areas would not be considered unless the proposal was a significant scheme expected to generate a large number of vehicle movements.
Air quality	<ul style="list-style-type: none"> ▪ Construction Dust Assessment (qualitative assessment of potential dust generated by construction activities) <ul style="list-style-type: none"> - Construction of any committed development within 700m from the Site Boundary/Location of works. ▪ Construction Traffic Emissions Assessment (assessment of additional vehicle trips associated with the construction of the development) <ul style="list-style-type: none"> - Where there is a spatial and temporal overlap in terms vehicle movements generated from both the proposed development, and other committed developments (no set distance as this is determined at a transport level).
Hydrology, hydrogeology and flood risk	Based on any surface water catchments and flood risk areas that overlap with the onshore project activities. Exact screening distance to be confirmed.
Geology and ground conditions	Preliminary 500 m buffer from the onshore ECC and 1 km from the onshore substation area. The assessment would also consider a 'sliding scale' in addition to account for potentially significant schemes that are >1km from the site, whilst also discounting small, less obtrusive activities that are <500 m.
Onshore landscape and visual impacts	500 m from the onshore ECC and 5 km from the onshore substation area, considered to be the maximum distance over which the onshore substation would be visible and the distance over which cumulative effects could occur.
Socioeconomics	Schemes of regional significance as agreed with the relevant local authorities.

EIA receptor group	Maximum extent of effect and justification
Tourism and recreation	Dependent on the receptor in question, but in line with the maximum extents for seascape and landscape impacts and socioeconomics.
Public health	2 km from the onshore ECC and onshore substation area. Final distances are to be confirmed but will be informed by the airborne noise and vibration and air quality assessments.

39 These topic-specific ranges have been applied to the longlist, to identify relevant shortlist plan, projects and/ or activities to be taken forward to the topic-specific CEA presented in each ES chapter. These are described within Appendix A, and a summary of the shortlist tables are presented in each of the ES chapters.

40 The process for screening the longlist into a series of topic-specific shortlists is summarised in Table 4.7.

Table 4.7: CEA longlist screening criteria.

Screening criteria	Screening assessment	Conclusion
<i>Step 1 – Conceptual impact-receptor pathway</i>		
Does a conceptual cumulative impact-receptor pathway exist?	No conceptual cumulative impact-receptor pathway for effect.	Screened out.
	Yes, impact(s) from the project, plan or activity could theoretically interact to produce a cumulative effect.	Proceed to step 2.
<i>Step 2 – Baseline environment</i>		
Is the project, plan or activity part of the existing baseline environment?	Yes.	Screened out.
	Yes, but has an ongoing effect that is not considered part of the baseline environment.	Proceed to step 3.
	No – project, plan or activity is currently in planning and therefore cannot be considered as part of the existing environment.	
<i>Step 3 – Data confidence</i>		
What is the level of confidence in the data available?	Low – a meaningful assessment cannot be undertaken.	Screened out.
	Medium or high – enough data is available for the project, plan or activity to enable a meaningful assessment to be undertaken, either quantitatively or qualitatively.	Proceed to step 4.
<i>Step 4 – Spatial effect interaction</i>		
Is there physical effect-receptor overlap? (see screening ranges applied in Table 4.6).	No, the project, plan or activity is sufficiently distant from AyM such that there is no geographical overlap of their maximum impact extents.	Screened out.

Screening criteria	Screening assessment	Conclusion
	Yes, impacts on a receptor from AyM together with other plans, projects and activities overlap geographically.	Proceed to step 5.
<i>Step 5 – Temporal effect interaction</i>		
Is there a temporal overlap of potential effects?	No, the project, plan or activities will not occur at the same time as the relevant phase of AyM (i.e. construction or operation and maintenance) and therefore there is no potential for a cumulative effect.	Screened out.
	Yes, the project, plan or activity is anticipated to occur concurrently with the relevant phase of AyM.	Screened in – potential for cumulative effect exists.

4.4 Stages 3 and 4

- 41 The next stage (Stage 3) of the CEA included gathering information on the projects, plans and activities screened in so that a meaningful assessment can be undertaken. Such information included public sources such as ESs and associated planning application documents, project websites and, where such information was not readily accessible, industry consultation with the developers and operators of the schemes, as well as regulators and local authorities in order to gather the most accurate and up to date project information.
- 42 Information gathered on the projects, plans and activities screened in have been collated and input into Stage 4 of the CEA, which has been carried out on a topic-by-topic basis within the CEA section of the relevant ES chapter.
- 43 In terms of the scope of impacts that have been assessed within the CEA, these were the same impacts assessed for the project alone in the main EIA assessments. Any effect that has been concluded to be of negligible or neutral significance (in EIA terms) for the project alone, would make no material contribution to any potential cumulative effect, and was therefore scoped out of the CEA. Effects of greater than negligible significance for the project alone have been considered cumulatively.

5 References

Department of Energy and Climate Change (DECC) (2011a). 'Overarching National Policy Statement for Energy (EN-1)'.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf [Accessed: August 2020]

Department of Energy and Climate Change (DECC) (2011b). 'National Policy Statement for Renewable Energy Infrastructure (EN-3)'.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf [Accessed August 2020]

Furness, R.W. (2015) Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Reports, Number 164.

Her Majesty's Government (2011). UK Marine Policy Statement.

<https://www.gov.uk/government/publications/uk-marine-policy-statement> [Accessed August 2020]

Planning Inspectorate (PINS) (2013). 'Advice Note 9: Using the Rochdale Envelope'.

<https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/05/Advice-note-9.-Rochdale-envelope-web.pdf> [Accessed August 2020]

Planning Inspectorate (PINS) (2019). 'Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects'.

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> [Accessed March 2022]

RenewableUK (2013). 'Cumulative Impact Assessment Guidelines - Guiding Principles for Cumulative Impact Assessment in Offshore Wind Farms'.

Welsh Government (2016). 'Planning Policy Wales, Edition 10'.

Welsh Government (2019). 'Welsh National Marine Plan'.

APPENDIX A – CEA Longlist

RWE Renewables UK Limited
Awel y Môr Offshore Wind Farm

Project Number: 01-41

Date: August 2021

Revision: 1.0 (external)

	No data
	Concept/In Planning/Consenting/Pre-Construction
	Construction
	Operation and Maintenance
	Decommissioning

a	Included as part of the topic baseline and hence not considered within the cumulative impact assessment.
b	Part of the baseline but has an ongoing impact and is therefore considered relevant to the cumulative impact assessment: Screened in to assessment.
c	Potential cumulative impact exists: Screened in to assessment.
d	No conceptual effect-receptor pathway: Screened out of assessment.
e	Low data confidence: Screened out of assessment.
f	No physical effect-receptor overlap: Screened out of assessment.
g	No temporal overlap: Screened out of assessment.

"Offshore Cumulative Effects Assessment Matrix -
Data Sources"



Offshore Cumulative Effects Assessment Matrix -
Data Sources



Data	Data Source	Date
Aggregate Production Area	The Crown Estate	Jan-22
Disposal Sites	CEFAS	Mar-21
Outfall	Marine Themes Data Product (OceanWise)	Dec-19
Natural Gas	The Crown Estate	Mar-21
O&G Surface Features	O&G Authority	Aug-20
O&G Subsurface Features	O&G Authority	Aug-20
O&G Pipelines	O&G Authority	Aug-20
Ports	World Ports Index (WPI)	Aug-20
Subsea Cables	KISORCA	Mar-21
OWF Export Cables	The Crown Estate	Jan-22
Offshore Wave Site Agreements	The Crown Estate	Mar-21
Offshore Tidal Site Agreements	The Crown Estate	Mar-21
Offshore Wind Farms (England/Wales)	The Crown Estate	Jan-22
Offshore Wind Farms (Scotland)	Crown Estate Scotland	Jan-22
Offshore Wind Farms (Europe)	EMODnet	Jan-22
Onshore schemes	Local authority planning portals	Jan-22

"Offshore Cumulative Effects Assessment Matrix -
Screening Ranges"



Offshore Cumulative Effects Assessment Matrix -
Screening Ranges



Project type	Screening Range (km)
Aggregates and Disposal	50
Offshore Energy	500
Commercial Fisheries	200
Cables and Pipelines	50
Oil and Gas	200
Shipping	200
Military, Aviation and Radar	200
Coastal	200
Onshore	N/A (LPA boundaries)

Project	Data Source(s)	Data Confidence Assessment	Notes	Status of Development	Construction Period (red outline denotes Awel y Môr offshore construction period)										Distance from the Awel y Môr OWF array area (km)	Distance from the Awel y Môr Offshore Export Cable Route (km)	Distance to the AyM Other Offshore Infrastructure Zone	Physical Processes	Water and Sediment Quality	Benthic and Intertidal Ecology	Fish and Shellfish Ecology	Marine Mammals	Offshore Ornithology	Commercial Fisheries	Shipping and Navigation	Military and Civil Aviation	Seascape, Landscape and Visual	Archaeology and Cultural Heritage	Other Sensitive Activities	
					2020	2021	2022	2023	2024	2025	2026	2027	2028	2029																2030 - 2050
Gwynn y Môr	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												0.0	0.0	11.1	a	b	b	b	a	b	d	a	b	b	b	a
Rhyl Flats	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												5.1	0.0	13.0	a	b	b	b	a	b	d	a	b	b	b	a
North Hoyle	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												11.3	5.9	25.2	a	b	b	b	b	b	d	a	a	b	b	a
North Wales Tidal Energy Project	Ocean Energy Installations	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	Early concept												12.9	6.8	21.4	a	c	f	c	a	c	c	c	d	d	d	b
Colwyn Bay Tidal Lagoon	Ocean Energy Installations	Low - Limited data available in the public domain.	Tidal Energy	Early concept												13.0	10.6	20.0	a	a	a	e	e	c	c	c	a	d	e	e
Burbo Bank Extension	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												15.6	16.9	32.3	f	b	f	b	f	b	f	f	b	b	b	f
Burbo Bank	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												25.6	23.0	42.3	f	f	f	b	f	b	f	f	b	b	b	f
Cobra & Flotation Energy - Round 4	The Crown Estate	Low - Limited data available in the public domain.	Offshore Wind Farm	Concept/early planning												28.9	34.3	35.4	c	a	a	c	a	c	c	c	c	e	e	c
Port of Moryn Tidal Lagoon		High - third party project details published in the public domain and confirmed as being 'accurate' by Crown Estate Scotland	Tidal Energy	Pre-planning												30.0	12.3	43.8	b	f	f	f	b	f	b	b	f	d	b	f
Messey Tidal Power	Ocean Energy Installations	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	Pre-planning												44.6	32.0	61.5	f	f	f	f	f	b	b	b	f	a	b	f
EnBW and BP 1 - Round 4	The Crown Estate	Low - Limited data available in the public domain.	Offshore Wind Farm	Concept/early planning												47.2	54.6	49.1	c	a	a	c	c	c	c	c	c	e	e	c
EnBW and BP 2 - Round 4	The Crown Estate	Low - Limited data available in the public domain.	Offshore Wind Farm	Concept/early planning												47.2	54.6	49.1	c	a	a	c	c	c	c	c	c	e	e	c
West of Duddon Sands	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												51.2	57.1	58.1	f	f	f	f	f	b	f	f	a	f	f	f
Walney Extension 4	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												57.1	62.6	62.3	f	f	f	f	f	b	f	f	a	f	f	f
Barrow	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												57.6	64.1	67.3	f	f	f	f	f	b	f	f	a	f	f	f
Walney 1	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												58.3	63.9	64.1	f	f	f	f	f	b	f	f	a	f	f	f
Morlais Demonstrator	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Tidal Energy Lease Area	Consented												60.2	66.9	59.3	f	f	f	f	f	c	e	c	f	a	f	f
Morlais Tidal Energy	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Tidal Energy Lease Area	Pre-planning application												60.2	66.9	59.3	a	a	a	e	e	e	e	a	a	e	e	e
Walney 2	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational												61.0	66.4	65.2	f	f	f	f	f	b	f	f	a	f	f	f
Holyhead Deep	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Tidal Energy Lease Area	Scoping report submitted												63.6	70.5	62.7	f	f	f	f	f	c	c	c	f	f	f	f

Project	Data Source(s)	Data Confidence Assessment	Notes	Status of Development	Construction Period (red outline denotes Awel y Môr offshore construction period)													Distance from the Awel y Môr CWF array area (km)	Distance from the Awel y Môr Offshore Export Cable Route (km)	Distance to the Aylw Other Offshore Infrastructure Zone	Physical Processes	Water and Sediment Quality	Benthic and Intertidal Ecology	Fish and Shellfish Ecology	Marine Mammals	Offshore Ornithology	Commercial Fisheries	Shipping and Navigation	Military and Civil Aviation	Scenic, Landscape and Visual	Archaeology and Cultural Heritage	Other Marine Activities
					2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2030 - 2050																
Holyhead Deep - 0.5MW Demonstrator Site (Minesto)	UKMED	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy - Demonstrator Array	Operational													64.4	71.2	63.5	f	f	f	f	f	b	f	f	f	f	f	f	
Ormonde	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational													65.4	71.3	72.3	f	f	f	f	f	b	f	f	b	f	f	f	
Walney Extension 3	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Offshore Wind Farm	Operational													66.1	71.3	68.0	f	f	f	f	f	b	f	f	b	f	f	f	
Morecambe Bay Tidal Lagoon	Ocean Energy Installations	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	Concept													73.0	80.0	84.8	f	f	f	f	f	c	c	c	f	f	f	f	
Isle of Man	4Coffshore	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													74.9	82.3	76.7	f	f	f	f	f	c	c	c	f	f	f	f	
Duddon Estuary Tidal Lagoon	UKMED	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	Concept													80.5	86.8	88.4	f	f	f	f	f	c	c	c	f	f	f	f	
Bardsey Sound	The Crown Estate	High - third party project details published in the public domain and confirmed as being 'accurate' by The Crown Estate	Tidal Energy Lease Area	Pre-Planning													95.5	99.3	95.1	f	f	f	f	f	c	c	c	f	f	f	f	
Bardsey Sound (Ennill)	UKMED	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	Pre-planning application													96.3	100.0	95.9	f	f	f	f	f	c	c	c	f	f	f	f	
Codling Wind Park	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													129.5	136.1	128.6	f	f	f	f	f	c	c	c	f	f	f	f	
North Irish Sea Array	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Pre-planning application													130.9	139.0	130.1	f	f	f	f	f	c	c	c	f	f	f	f	
Braymore Point	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													130.9	139.9	130.6	f	f	f	f	f	c	c	c	f	f	f	f	
Codling Wind Park Extension	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													130.9	137.3	130.0	f	f	f	f	f	c	c	c	f	f	f	f	
West Cumbrian Tidal Lagoon	EMODnet	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy	In planning													133.5	138.6	135.3	f	f	f	f	f	f	c	c	c	f	f	f	f
Cookley Point	4Coffshore	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													136.2	145.4	136.0	f	f	f	f	f	c	c	c	f	f	f	f	
Dublin Array	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	In-planning													136.6	143.9	135.7	f	f	f	f	c	c	c	c	f	f	f	f	
Robin Rigg West	Crown Estate Scotland	High - third party project details published in the public domain and confirmed as being 'accurate' by Crown Estate Scotland	Offshore Wind Farm	Operational													138.5	142.4	140.7	f	f	f	f	f	b	f	f	f	f	f	f	
Clogher Head	Ireland's Marine Atlas	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Offshore Wind Farm	Concept													141.2	150.4	141.0	f	f	f	f	f	c	c	c	f	f	f	f	
Robin Rigg East	Crown Estate Scotland	High - third party project details published in the public domain and confirmed as being 'accurate' by Crown Estate Scotland	Offshore Wind Farm	Operational													139.5	144.5	142.1	f	f	f	f	f	b	f	f	f	f	f	f	
Mull of Galloway	UKMED-EMODnet	Medium - third party project details published in the public domain but not confirmed as being 'accurate'	Tidal Energy - Demonstrator Array	In development													141.3	151.8	140.8	f	f	f	f	f	c	c	c	f	f	f	f	

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