



White Cross Offshore Wind Farm: Outline Decommissioning Programme

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Table of Contents

1. Introduction.....	1
1.1 Project Overview.....	1
1.2 Purpose of This Document.....	5
1.3 Legislative and Policy Background	5
2. Executive Summary	7
2.1 Outline Programme.....	7
3. Background Information.....	8
3.1 Overview of Offshore and Onshore Infrastructure	8
3.2 Location	10
3.3 Site Characteristics.....	11
3.4 Protected Sites	12
4. Potential Items to be Decommissioned	14
4.1 Introduction	14
4.2 Generation Assets.....	14
4.3 Offshore Transmission Assets.....	14
4.4 Protection Materials.....	15
4.5 Onshore Transmission Assets.....	15
5. Proposed Decommissioning Measures	16
5.1 Introduction	16
5.2 Proposed Method of Removal.....	16
5.3 Proposed Waste Management Solutions.....	17
5.4 Details of Items Remaining In Situ	18
5.5 Predicted Degradation, Movement and Stability of Any Remains	18
5.6 Environmental Impact Assessment	19
5.7 Consultation with Interested Parties	20
5.8 Costs	20
5.9 Financial Security	21
5.10 Schedule	21
5.11 Project Management and Verification.....	21
5.12 Seabed/Site Clearance	21
5.13 Restoration of the Site.....	21
5.14 Post-decommissioning Monitoring, Maintenance and Management of the Site	22

6. Next Steps.....	23
6.1 Post-Consent.....	23
7. References.....	24
Appendix 1.A: Consultation Comments Relating to Decommissioning.....	25

Table of Figures

Figure 1-1 Offshore Project location and indicative locations of offshore infrastructure.....	3
Figure 1-2 Onshore Project location.....	4
Figure 3-1 Project Infrastructure	9
Figure 3-2 Offshore and onshore designated sites relevant to decommissioning	13

Appendices

Appendix 1.A: Consultation Comments Relating to Decommissioning	
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Glossary of Acronyms

Acronym	Definition
BEIS	Department for Business, Energy and Industrial Strategy
BPEO	Best Practicable Environmental Option
DESNZ	Department for Energy Security and Net Zero
EIA	Environmental Impact Assessment
ES	Environmental Statement
ha	Hectare
HDD	Horizontal Directional Drilling
HVAC	high voltage alternating current
IHO	International Hydrographic Organisation
IMO	International Maritime Organisation
km	Kilometre
Km²	Square kilometre
LAT	Lowest Astronomical Tide
LPA	Local Planning Authority
MCA	Maritime and Coastguard Agency
MHWS	Mean High Water Spring
ML	Marine Licence
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MW	Megawatts
OFTO	Offshore Transmission Owner
OREIs	Offshore Renewable Energy Installations
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
PDE	Project Design Envelope
SAC	Special Area of Conservation
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
TCPA	Town and Country Planning Act 1990
TJB	Transition Joint Bay
UKHO	UK Hydrographic Office
WCOW	White Cross Offshore Windfarm
WCOWL	White Cross Offshore Wind Ltd
WTGs	Wind Turbine Generators

1. Introduction

1.1 Project Overview

1. The White Cross Offshore Windfarm (WCOW) is a proposed floating offshore windfarm located in the Celtic Sea with a capacity of up to 100MW. It consists of the 'Offshore Project' (location shown Figure 1-1), covering all infrastructure seaward of Mean High Water Spring (MHWS), and the 'Onshore Project' (location shown Figure 1-2), entailing all infrastructure of WCOW landward of Mean Low Water Springs (MLWS).
2. Consent for the Onshore Project is being sought via a permission through the Town and Country Planning Act 1990 (TCPA): the Offshore Project is seeking separate consents via Section 36 (under the Electricity Act 1989) and a Marine Licence (ML), both approved by the Marine Management Organisation (MMO).
3. The infrastructure included in each of the consents that are required to proceed with the development of WCOW is outlined below:
 - Consent under the Section 36 of the Electricity Act 1989 and an ML under the Marine and Coastal Access Act 2009 (MCAA 2009) are required for the following generation assets (within the Windfarm Site):
 - Wind Turbine Generators (WTGs)
 - Semi-submersible floating platforms
 - Subsea mooring lines (catenary, taught or semi-taught)
 - Anchoring solutions (drag embedment anchors, suction anchor, driven or drilled piles)
 - Inter-array cables and associated protection
 - Other associated offshore infrastructure, such as navigational markers.
 - A second ML may eventually be required to enable the option for an Offshore Transmission Owner (OFTO) to be appointed under The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015. This applies to the following transmission assets (however, a separate ML for OFTO reasons is not currently being sought):
 - Offshore Substation Platform (OSP)
 - Offshore Export Cable (to MHWS at Landfall)
 - Other associated offshore infrastructure, such as navigational markers
 - Taw Estuary Crossing (between MHWS on the northern edge to MHWS on the southern edge).
 - A separate planning permission under the TCPA 1990, approved by the Local Planning Authority (LPA) North Devon Council (NDC), with a separately prepared

ES is required for the following Onshore Project (landward of MLWS) transmission assets:

- Onshore Export Cables
 - White Cross Onshore Substation
 - Onshore Export Cables (66kV from landfall to onshore substation and 132kV from the White Cross Onshore Substation to Grid Connection at East Yelland substation).
 - Temporary main construction compound and temporary construction compounds
 - Transition Joint Bay (TJB), jointing bays, link boxes, access roads and haul roads
 - Grid connection.
4. WCOW is being developed by White Cross Offshore Wind Ltd (WCOWL) a joint venture between Cobra Instalaciones y Servicios, S.A., and Flotation Energy Ltd.
 5. WCOW will help achieve the UK Government's commitment to net zero by 2050 and tackle the climate emergency by producing electricity from renewable energy. WCOW was selected in 2021 as part of The Crown Estate's Test and Demonstration leasing opportunity.

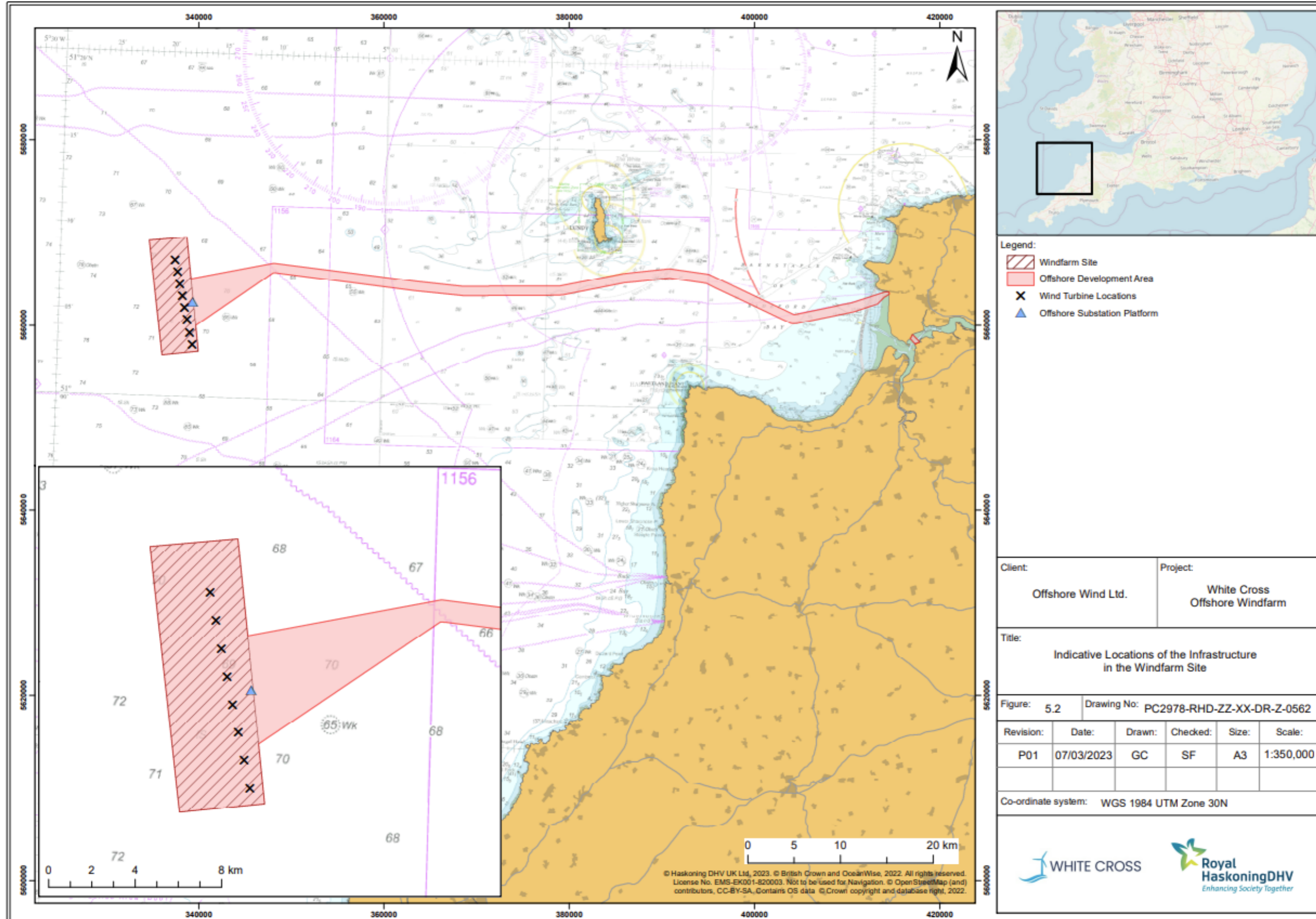


Figure 1-1 Offshore Project location and indicative locations of offshore infrastructure

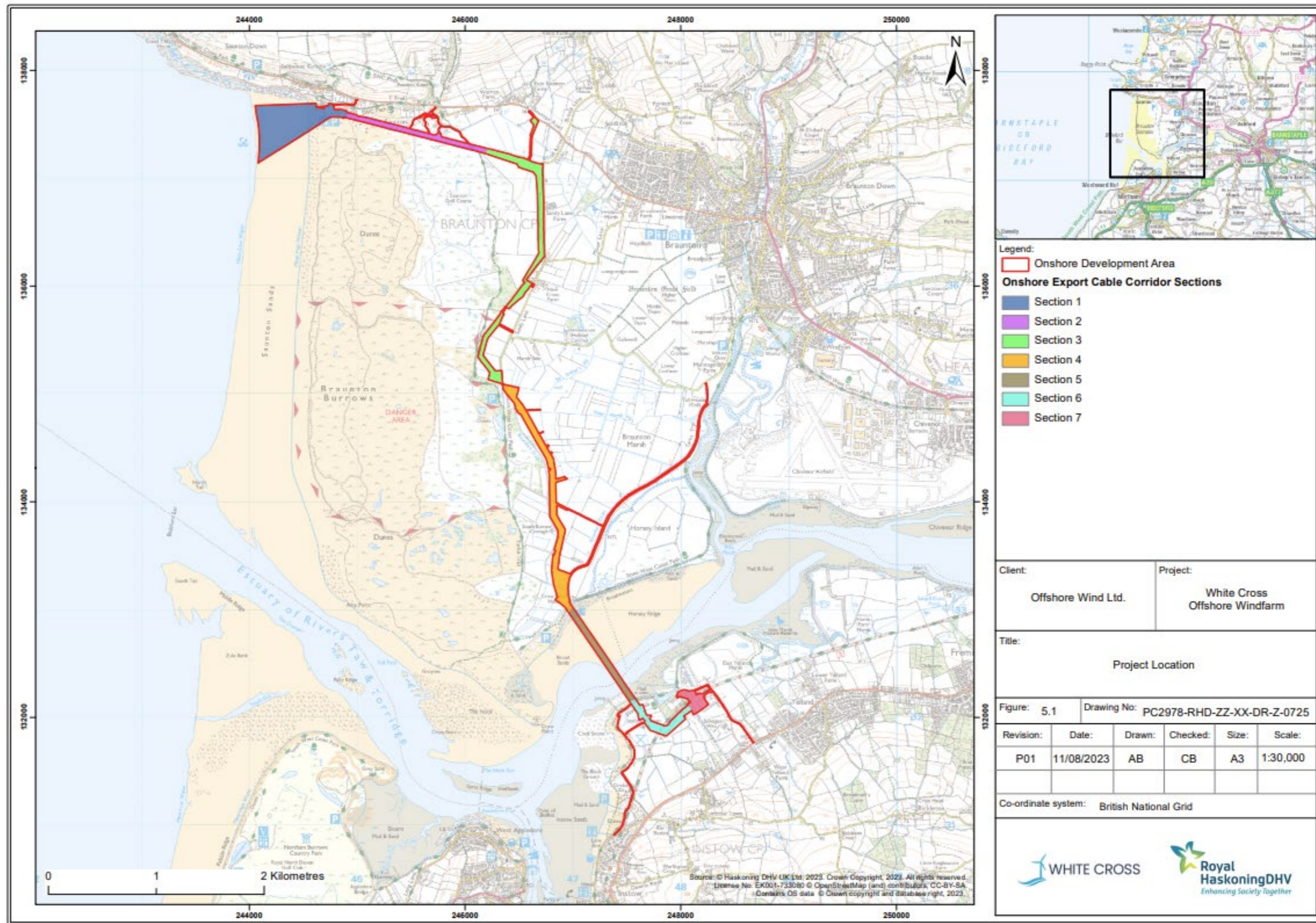


Figure 1-2 Onshore Project location

1.2 Purpose of This Document

6. This document is intended to provide an Outline Decommissioning Programme for WCOW. As the consents and permissions for WCOW have not yet been determined, the decommissioning programme is provided as an outline to give an indication of the scope and content that will be updated throughout WCOW lifecycle.
7. The Outline Decommissioning Programme therefore provides only preliminary information on the approach to decommissioning of the offshore and onshore components of WCOW based on current legislation and guidance. However, the final decommissioning programme will be compliant with the relevant requirements at the time of decommissioning.
8. The **Onshore Environmental Statement (ES)** and the **Offshore ES** for both the onshore and offshore components of WCOW has considered the decommissioning phase, where relevant (see **Section 5.10** of **Chapter 5: Project Description** of both the **Onshore** and **Offshore ES** for more information). Therefore, potential impacts have been assessed for both the offshore and onshore components. However, the assessment of effects from decommissioning is limited at this stage due to the uncertainty regarding the details of the final decommissioning programme.

1.3 Legislative and Policy Background

9. In relation to the Offshore Project, Sections 105 to 114 of the Energy Act 2004 (“the Act”, as amended by the Energy Act 2008) contain the statutory decommissioning scheme for offshore wind and marine energy installations and their related electric lines (collectively, Offshore Renewable Energy Installations (OREIs)). Under the terms of the Act, the Secretary of State may require a person who is responsible for one of these OREIs to submit (and eventually carry out) a decommissioning programme.
10. The former Department for Business, Energy and Industrial Strategy (BEIS) (now the Department for Energy Security and Net Zero (DESNZ) provided guidance on offshore decommissioning in March 2019; *Decommissioning of Offshore Renewable Energy Installations Under The Energy Act 2004: Guidance notes for industry (England and Wales)*. The Annex C - Model Framework for a decommissioning programme provided in the guidance has been used to structure this document.
11. Onshore decommissioning requirements are expected to be set out in the permission given by NDC for the Onshore Project. Consequently, in lieu of any specific requirements or guidance, the Onshore Project decommissioning

programme is set out in an equivalent manner to the Offshore Project at this outline stage (June 2024).

2. Executive Summary

2.1 Outline Programme

12. The scope of this outline decommissioning programme includes the following components from the Offshore Project:
 - Six to eight semi-submersible floating platforms and WTGs
 - One mooring system per substructure comprised of mooring lines (catenary, taught or semi-taught) and seabed anchors (drag embedment anchors or suction, driven pin or drilled piles)
 - Up to ten dynamic inter-array cables and associated cable protection
 - Other associated offshore infrastructure, such as navigational markers
 - OSP (if required) with a fixed jacket substructure
 - Offshore Export Cable connecting the offshore wind farm to the landfall and associated cable protection
13. And these components from the Onshore Project:
 - Onshore Export Cable of approximately 8km
 - TJB, joint bays and link boxes installed along the Onshore Export Cable
 - White Cross Onshore Substation (including a control building and a substation building)
 - Connection to the National Grid Onshore Substation and Grid Connection Point at East Yelland
14. Decommissioning will occur at the end of the operational lifetime of WCOW, which is provisionally anticipated to be a minimum of 25 years. Although a longer operational lifetime of 50 years has been used for some elements of the Onshore Project, including the White Cross Onshore Substation.
15. No decision has been made regarding the decommissioning removal methods, as it is recognised that industry best practice, rules and legislation change over time. It is acknowledged that different approaches may be required for the Offshore Project and the Onshore Project.
16. If consent is approved for WCOW, an initial decommissioning programme will then be developed and consulted upon post-consent.

3. Background Information

3.1 Overview of Offshore and Onshore Infrastructure

17. The main components of WCOW are illustrated in **Figure 3-1**. It includes the main components of both the Offshore Project and Onshore Project. The Offshore Project location is illustrated in **Figure 1-1** and the Onshore Project location is provided in **Figure 1-2**. Further descriptions of these locations are provided below in **Section 3.2**.
18. The Offshore Project will have a generating capacity of up to 100MW, and there will be a minimum of 6 and maximum of 8 WTGs depending on the size and capacity of the individual WTG.
19. It is assumed that the WTG will be connected, via an inter-array cable, to an OSP. The electricity from the Windfarm Site will be transmitted by either via one or two subsea export cable(s) to shore depending on whether an OSP is required. The Offshore Export Cable will make Landfall at Saunton Sands on the North Devon coast.
20. Above MHWS at Landfall, a connection will be made to the Onshore Export Cable via a TJB located in Saunton Sands Car Park. The Onshore Export Cable travels approximately 8km at its maximum inland to a High Voltage Alternating Current (HVAC) onshore substation. This will include a crossing below the Taw Estuary via trenchless technology. A new White Cross Onshore Substation will be constructed to accommodate the connection of the Offshore Project to the existing East Yelland Substation and grid connection.
21. A detailed description of the proposed development can be found in **Chapter 5: Project Description** of the **Offshore and Onshore ESs**.

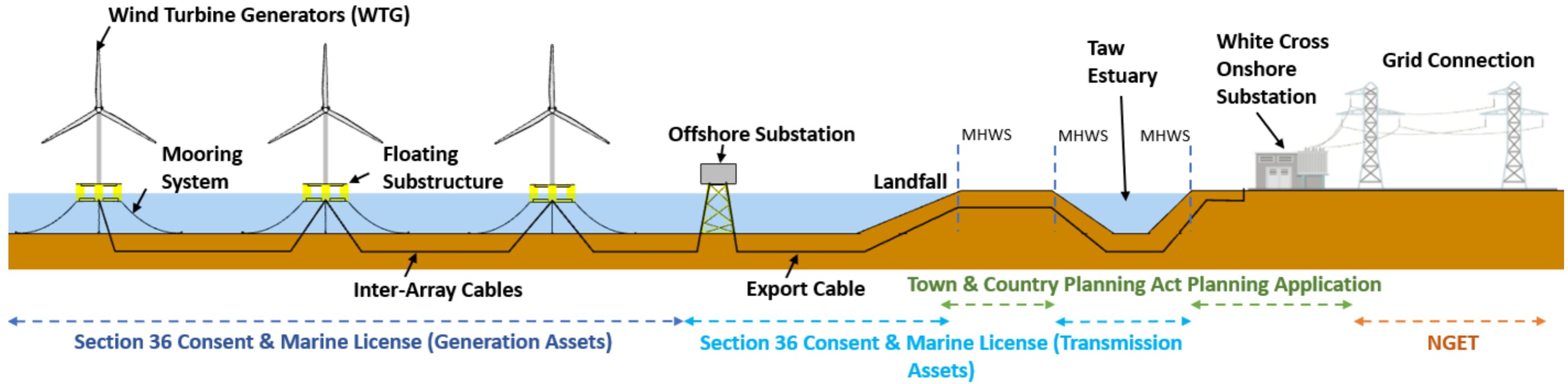


Figure 3-1 Project Infrastructure

3.2 Location

22. The Windfarm Site is located approximately 52km north-west of the Cornwall and Devon coastline in a water depth of 69m – 78m at Lowest Astronomical Tide (LAT) and covers an area of approximately 50km². **Figure 1-1** shows the location of the Offshore Project.
23. The Onshore Development Area is defined as the point from MLWS at Landfall to the grid point of connection at the existing East Yelland substation. The Onshore Development Area is shown in **Figure 1-2**. For Environmental Impact Assessment (EIA) and design development purposes the Onshore Export Cable Corridor has been divided into seven sections, as follows:
 - Section 1 runs eastwards inland from MLWS to the eastern end of the Saunton Sands Car Park. From there, it turns southeast to cross Saunton Golf Course
 - Section 2 runs southeast crossing Saunton Golf Club
 - Section 3 goes from the eastern edge of Saunton Golf Club runs southeast and then south through arable fields before extending to the field to the north of Sandy Lane Car Park Temporary main construction compound and temporary construction compounds
 - Section 4 passes south extending from the east of Sandy Lane Car Park to the Taw Estuary Crossing
 - Section 5 contains the Taw Estuary Crossing and extends from the northern edge to the southern edge of the River Taw
 - Section 6 runs southeast from the southern edge of the Taw Estuary Crossing towards the White Cross Onshore Substation
 - Section 7 is from the White Cross Onshore Substation to the grid connection point at East Yelland substation
24. The intention is to continue to describe activities throughout the Onshore Project lifecycle using these sections, including decommissioning.

3.3 Site Characteristics

25. Information on prevailing weather, sea states, currents, seabed conditions, water depths, has been presented in **Section 8.4 Existing Environment, Chapter 8: Marine Geology, Oceanography and Physical Processes** of the **ES** for the **Offshore Project**. This baseline data will be reconsidered and/or updated, as appropriate, when further development of the decommissioning programme occurs.
26. Details of fishing, shipping and other users of the offshore marine area are set out in the following **Offshore Project ES** chapters; **Chapter 14: Commercial Fisheries, Chapter 15: Shipping and Navigation, Chapter 18 Infrastructure and Other Users**. Again, this information will be reconsidered as the decommissioning programme develops.
27. The Celtic Sea has a significant number of cables, primarily telecommunication connections between the UK and north America and Europe. No cables are present within the Windfarm Site (see **Chapter 18: Infrastructure and Other Users**). Four telecommunications cables traverse the Offshore Export Cable Corridor, these include:
 - Ormonde UK-Ireland 2 Crossing (Active)
 - TAT 11 (Decommissioned)
 - TATA Atlantic South (Active)
 - TATA W.Europe UK-Spain (Active)
28. The Onshore Project crosses a range of terrestrial environments, including agricultural fields, a golf course, roads, the Taw Estuary and other watercourses. Consequently, both open trench and trenchless techniques are being used to install the cable to avoid sensitive features, as appropriate. The method of cable installation will be a key consideration when developing the decommissioning programme.
29. **Chapter 15: Land Use** of the **Onshore Project ES** considers other land uses, including agriculture, other infrastructure and recreation. There are also potential inter-relationships with **Chapter 12: Ground Conditions and Contamination, Chapter 14: Water Resources and Flood Risk, Chapter 16: Onshore Ecology and Ornithology, Chapter 21: Socioeconomics (including Tourism and Recreation), and Chapter 22: Human Health**, so these will also be considered during the development of the decommissioning programme.

3.4 Protected Sites

30. **Chapter 4: Site Selection and Assessment of Alternatives** of the both the **Onshore** and **Offshore ESs** set out what was considered when identifying WCOW development area, including the presence of protected sites. **Figure 3-2** shows the offshore and onshore designated sites taken through to appropriate assessment (Stage 2 of the Habitats Regulations Assessment) and which are therefore relevant to decommissioning.
31. The Special Areas of Conservation (SAC) (under the Habitats Directive) and/or Special Protection Areas (SPAs) (under the Birds Directive) that may be affected by the decommissioning programme are outlined in the following paragraphs.
32. Sites screened in with Annex I habitats (and associated Annex II species) are Braunton Burrows SAC and Lundy SAC.
33. Key sites where marine mammals are a qualifying feature that are screened in are Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC for harbour porpoise, Cardigan Bay / Bae Ceredigion SAC for bottlenose dolphin, Lundy Island SAC for grey seal, and Pembrokeshire Marine / Sir Benfro Forol SAC for grey seal.
34. Annex II migratory fish as a qualifying feature screened in sites are River Wye/ Afon Gwy SAC, River Usk/ Afon Wysg SAC, Severn Estuary/ Môr Hafren SAC, River Camel SAC, Dartmoor SAC, Severn Estuary Ramsar, Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd SAC, and Afon Tywi/ River Tywi SAC.
35. SPAs for birds screened in sites are Sgomer, Sgogwm a Moroedd Penfro / Skomer, Skokholm and the Seas off Pembrokeshire, Grassholm, Burry Inlet, Tamar Estuaries Complex, Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island, Strangford Lough, Copeland Islands, Larne Lough, Ailsa Craig, Rathlin Island, North Colonsay and Western Cliffs, Mingulay and Berneray, Rum, Canna and Sanday, Shiant Isles, St Kilda, Handa, Flannan Isles, Cape Wrath, Sule Skerry and Sule Stack, North Rona and Sula Sgeir, Saltee Islands (transboundary site), and Lambay Island (transboundary site).
36. These sites will be considered, as appropriate throughout the development of the decommissioning programme, and particularly in the environmental assessment.

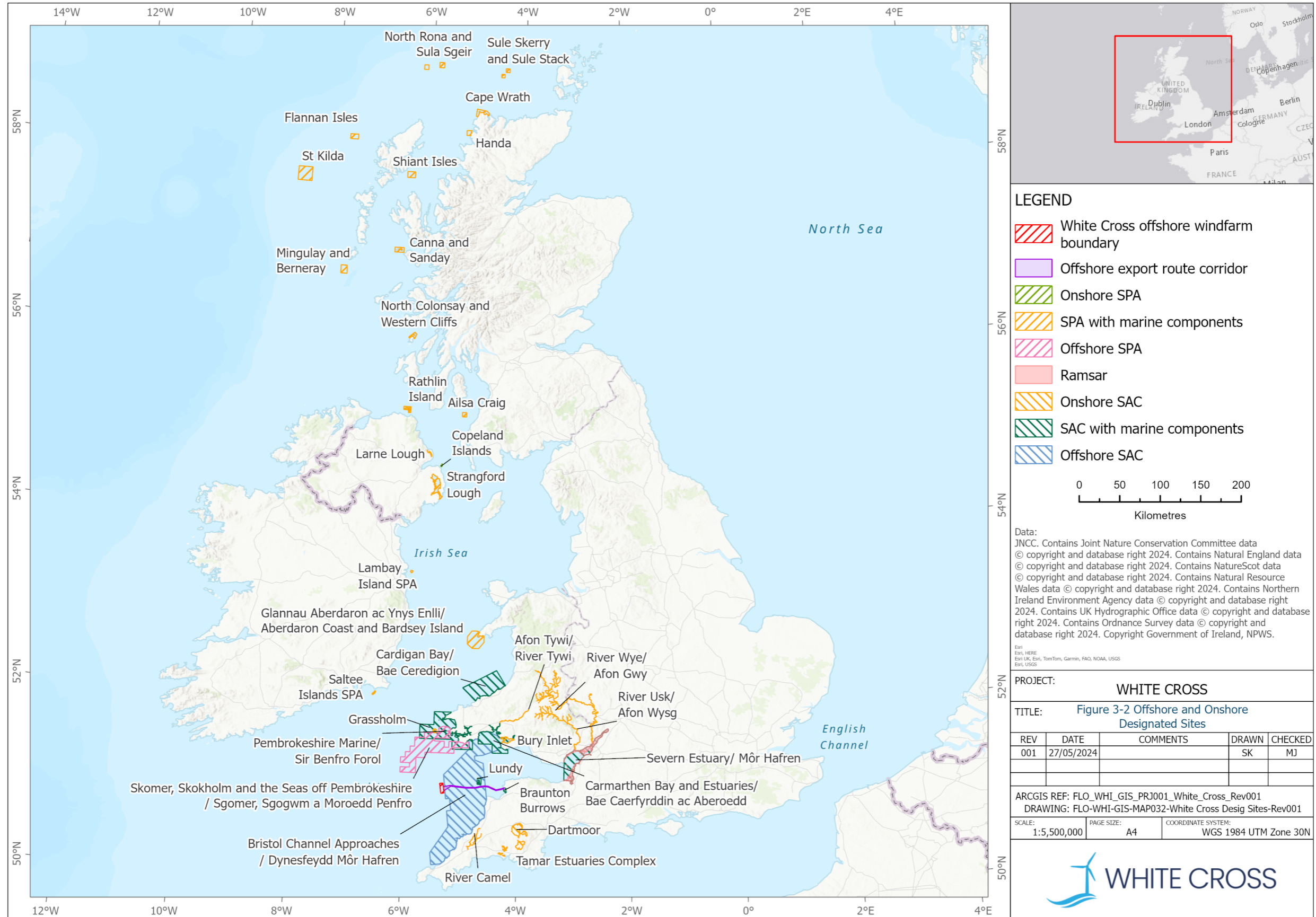


Figure 3-2 Offshore and onshore designated sites relevant to decommissioning

4. Potential Items to be Decommissioned

4.1 Introduction

37. At this stage in the development of the WCOW, the project description is indicative. A project design envelope (PDE) approach has been utilised in order to undertake the EIA. The PDE is used to establish the extent to which the Offshore Project could impact on the environment. The final detailed design of the Offshore Project will fall within this 'envelope', allowing for detailed design work to be undertaken post-consent without rendering the assessment inadequate.
38. Therefore, the information presented here outlines the potential parameters upon which the EIA is based (March 2023 Offshore and August 2023 Onshore). However, more detailed design work will be completed post-consent, with post-consent/pre-construction site investigation further informing the detailed design for construction. The decommissioning programme will be updated and finalised based on the constructed Project and the items requiring decommissioning.

4.2 Generation Assets

39. Once built, the Offshore Project will have a generating capacity of up to 100MW. The key generation components for consideration in the decommissioning programme will be:
- Six to eight semi-submersible floating platforms and WTGs
 - One mooring system per substructure comprised of mooring lines (catenary, taught or semi-taught) and seabed anchors (drag embedment anchors or suction, driven pin or drilled piles)
 - Up to ten dynamic inter-array cables and associated cable protection
 - Other associated offshore infrastructure, such as navigational markers
40. The inter-array cables will connect into the OSP (if required) for onward transmission into the UK electricity grid.

4.3 Offshore Transmission Assets

41. The electrical transmission system will collect the power produced at the WTGs and transport it to the UK electricity transmission network via:
- OSP (if required) with a fixed jacket substructure
 - Offshore Export Cable connecting the offshore wind farm to the landfall and associated cable protection

42. Landfall for the export cable will be made using either open trench or trenchless installation techniques.

4.4 Protection Materials

43. Protection materials may be required to prevent damage and ensure the integrity of the Offshore Export Cable, inter-array cables, cable crossings. At the OSP and mooring systems scour protection may be needed.
44. Details of the protection materials required are unconfirmed at this stage of WCOW but may include:
- Pre-installation and post installation concrete mattresses
 - Pre-installation and post installation rock placement.

4.5 Onshore Transmission Assets

45. The key onshore transmission components for consideration in the decommissioning programme will be:
- Onshore Export Cable of approximately 8km
 - TJB, joint bays and link boxes installed along the Onshore Export Cable
 - White Cross Onshore Substation (including a control building and a substation building)
 - Connection to the National Grid Onshore Substation and Grid Connection Point at East Yelland

5. Proposed Decommissioning Measures

5.1 Introduction

46. Decommissioning will occur at the end of the operational lifetime of WCOW, which is provisionally anticipated to be a minimum of 25 years. Although a longer operational lifetime of 50 years has been used for some elements of the Onshore Project, including the White Cross Onshore Substation.
47. No decision has been made regarding the final decommissioning programme for WCOW, as it is recognised that industry best practice, rules and legislation change over time. It is acknowledged that different approaches may be required for the Offshore Project and the Onshore Project. The respective approaches would be in line with current guidance, policy and legalisation at that the time and agreed with the relevant authorities and statutory consultees, with any necessary permissions and consents obtained.
48. The following sections on the proposed measures for decommissioning will be substantially developed as the outline programme is progressed. Where possible, some limited information has been provided below for each of the considerations that will be included in the final programme.

5.2 Proposed Method of Removal

49. For the Offshore Project it is anticipated that the decommissioning process will largely be the reverse of that undertaken during the construction phase. It is expected that the WTG, semi-submersible floating platforms and mooring lines will be completely removed and returned to port for disassembly, re-use or disposal. Any buried or embedded components, such as electrical cables, may be left in-situ following consideration of the Best Practicable Environmental Option (BPEO), other uses of the sea, and health and safety considerations. The final decommissioning programme will provide evidence to allow costed evaluation of all options, including full removal.
50. Onshore there are two main options with regards to decommissioning of the Onshore Export Cable. The cables can be removed by pulling them through the ducts. It is likely that the cables would be pulled through the ducts and removed, with the ducts themselves left in-situ. Or the cables can be left buried in-situ with the cable ends cut, sealed and securely buried.
51. The TJB, jointing bay and link boxes would also likely be capped and left in-situ. If removal is required, the method would be the reverse of construction with the

infrastructure excavated and all materials taken off site for recycling or disposal in accordance with the legislative requirements at the time.

52. The decommissioning of the White Cross Onshore Substation has been subject to discussion between WCOWL, NDC and key stakeholders including the Environment Agency (EA) and Devon County Council (DCC) in their role as the Lead Local Flood Authority. This has included a commitment by WCOWL to remove the substation building, and all associated above ground infrastructure and equipment, at the end of the operational lifetime of WCOW or within 50 years, whichever is sooner. It is anticipated that there will be a specific condition attached to the onshore planning permission regarding the decommissioning of the White Cross Onshore Substation.
53. The substation buildings and any other above ground infrastructure would be demolished, with all materials taken off site for recycling or disposal in accordance with the legislative requirements at the time.

5.3 Proposed Waste Management Solutions

54. The basic principles of waste management will underlie the decommissioning programme. Waste will be managed:
 - without endangering human health and harming the environment
 - without risk to water, air, soil, plants or animals
 - without causing a nuisance through noise or odours
 - and without adversely affecting the countryside or places of special interest
55. The well-established waste hierarchy for managing and disposing of waste will also be followed. With preventing waste being the preferred option and sending waste to landfill being the last resort. WCOWL will seek to optimise the reuse and recycling of the materials resulting from the eventual decommissioning of WCOW.
56. In their role as the Minerals and Waste Planning Authority for Devon, DCC have produced the Devon Waste Plan, this includes a number of policies including Policy W4: Waste Prevention requiring the provision of waste audit statements for major development proposals. In producing the final decommissioning programme WCOWL will provide all information in accordance with the legislative requirements at the time. A Waste Audit Statement has been drafted for the Onshore Project provided in **Annex 1** of the **Updated Outline Construction Environment Management Plan** (WHX001-FLO-CON-ENV-PLN-0010). This sets out the principles of the waste hierarchy and provides estimated volumes of the waste that will be generated on site (aggregates, soil arisings etc).

5.4 Details of Items Remaining In Situ

57. BEIS (2019) states that the standards for the removal of offshore installations should not fall below those set by the International Maritime Organisation (IMO) in 1989 (or successor standards). BEIS will consider exceptions from full removal in line with those standards, only on presentation of compelling evidence that removal would create unacceptable risks to personnel or to the marine environment, be technically unfeasible or involve extreme costs.
58. For the Offshore Project it is acknowledged that exceptions will be considered on a case-by-case basis prior to decommissioning, taking on board environmental conditions, the balance of risk, cost and technological capabilities at that time. If making arguments for exceptions to full offshore decommissioning, WCOW will aim to take the following points into account:
- arguments should be tailored to the individual site and should set out whether the risks of buried cables etc are equal across all parts of the site (for example, a consideration of whether some areas of the site more are prone to sediment shift)
 - arguments should be relative to the effect of conducting the activity during construction
 - the IMO exception for 'extreme cost' is not normally expected to be accepted where it is the sole reason being cited for partial decommissioning
 - where safety concerns are being cited, this is likely to be given greater weight if written evidence from a third party (such as the Health and Safety Executive or a known decommissioning contractor) can be provided
 - the developer/owner is encouraged to consider using the 'Comparative Assessment Framework' set out in decommissioning guidance for the Oil and Gas sector when determining and setting out their position
59. It is anticipated that for the Onshore Project any decommissioning requirements, including components remaining in-situ, will be set out in the permissions given by the LPA. This is expected to include a requirement for new planning permissions and consents if there is to be any reuse of the site of the White Cross Onshore Substation after the decommissioning of WCOW.
60. WCOWL will follow the relevant legislation and guidance on full versus partial removal that is in place at the point of decommissioning, for both the offshore and onshore components of WCOW.

5.5 Predicted Degradation, Movement and Stability of Any Remains

61. For the Offshore Project the post-decommissioning monitoring requirements set out by BEIS (2019), or equivalent, will be followed for any redundant infrastructure permanently deposited or buried by exception. The final version of the approved decommissioning programme will set out how any residual liabilities will be managed in the long-term, in the event that a request for leaving infrastructure in place is successful. This may involve conducting a survey to confirm that no previously buried infrastructure has become exposed (and removing any such exposed sections), for example.
62. Again, for the Onshore Project it is anticipated that any specific post-decommissioning monitoring requirements will be set out in any permission given by the LPA.
63. As the post-decommissioning monitoring aspects of the programme become available these will be clarified in future updates to this document.

5.6 Environmental Impact Assessment

64. The EIA for the Project has considered the decommissioning phase, where relevant, so potential impacts have been outlined in the WCOW ESs for both offshore and onshore components. However, the assessment of effects from decommissioning is limited at this stage due to the uncertainty regarding the details of the final decommissioning programme.
65. At this stage of development, the potential impacts of decommissioning WCOW have been assessed on the assumption that decommissioning methods will be similar or of a lesser scale than those deployed for construction. The types of impact are therefore considered likely to be comparable to those identified for the construction phase; however, the magnitude of impacts is likely to be less than those identified for the construction phase. For example, the more significant impacts for onshore ecology relate to trenching, haul road construction, and human presence during drilling operations. Whereas, for decommissioning trenching is not required as the cabling can be removed without trenching, and the timescales involved are likely to be shorter, and could potentially be timed more easily around sensitive periods for wildlife.
66. Accordingly, given the construction phase assessments concluded for most receptors, it is anticipated that at most, a similar assessment would apply for the decommissioning phase regardless of the final decommissioning methodologies; but in all likelihood, the significance is likely to be lower, given the factors described in the paragraph above.

67. For most topics the EIA has determined no significant effects from the decommissioning phase. However, for benthic and intertidal ecology and marine mammal and marine turtle ecology some potential effects have been assessed as **negligible to minor adverse** at this time, which is **not significant**. And for water resources and flood risk some potential effects have been assessed as negligible to moderate adverse. However, the relevant chapters of the offshore and onshore ESs should be consulted for further details.
68. An environmental assessment proportionate to the scale of the decommissioning operations and the potential risks to the environment will be undertaken for the decommissioning programme, at the appropriate time. New survey data will be used to inform the assessment, as necessary, so that the BPEO can be considered. BEIS (2019) advice to begin consultation on the final environmental assessment at least three years prior to the intended decommissioning date is acknowledged.
69. This section of the decommissioning programme will be expanded considerably in future updates.

5.7 Consultation with Interested Parties

70. To date there has been statutory and public consultation on both the TCPA application for the Onshore Project made to NDC and the separate Section 36 (under the Electricity Act 1989) and ML application to the MMO.
71. The Outline Decommissioning Programme is being provided as part of package of **Further Environmental Information**, including an **ES Addendum**, that will be submitted to both the LPA and the MMO. Future iterations and updates to the decommissioning programme will be consulted on, as appropriate.
72. Consultation comments on decommissioning that have been received to date and WCOWL's responses are set out in **Appendix 1.A: Consultation Comments Relating to Decommissioning**. This consultation record will be updated as further consultation is undertaken and comments are received.

5.8 Costs

73. The costs of the decommissioning programme will not be available until further design development work has been undertaken.

5.9 Financial Security

74. The financial security aspects of the decommissioning programme will be confirmed post-consent.

5.10 Schedule

75. It is anticipated that the construction of the Offshore Project will take 28 months (18 months for onshore assembly and integration of WTGs and 18 months offshore construction activities, activities will overlap). The operational phase of the Offshore Project will last for a minimum of 25 years. The decommissioning phase will depend on the methods used however it is expected to be shorter than the time taken for the construction period.
76. It is anticipated construction of the Onshore Project will take 18 months (12 months for cable installation and 18 months for the White Cross Onshore Substation Construction, activities will overlap). The operational phase of the Onshore Project will last for a minimum of 25 years, the decommissioning phase is anticipated to last up to 18 months.
77. Details of the proposed decommissioning timescale for WCOW will be given once an initial programme is established. It will include a schedule showing the dates at which the various stages of the decommissioning are expected to start and finish.

5.11 Project Management and Verification

78. This section will be included when the final review of programme takes place towards end of an installation's life. It will provide information on how the implementation of the decommissioning programme will be implemented.

5.12 Seabed/Site Clearance

79. In the initial programme this section will set out proposals for confirming that the offshore site has been cleared, following decommissioning. Typically, this will involve carrying out appropriate surveys, upon completion of decommissioning.
80. Once the requirements for onshore decommissioning are clarified then equivalent details for confirming site clearance will also be provided.

5.13 Restoration of the Site

81. The initial programme should describe how it is proposed to restore the site, as far as possible and desirable, to the condition that it was in prior to construction of the

installation. Again, this will meet any requirements in place at the point of decommissioning, both offshore and onshore.

82. The requirement to deliver a 10% Biodiversity Net Gain (BNG) as set out in the Environment Act 2021 do not apply to the Onshore Project as it was submitted before 12 February 2024. However, WCWOL has committed to the delivery of 10% BNG, which will be secured and managed for a minimum of 30 years (see **Appendix 16.A: Biodiversity Net Gain Assessment of the Onshore ES**). A biodiversity gain plan, setting out how WCOW will achieve BNG will be submitted to the LPA following approval of the planning permission.
83. The initial programme will ensure any measure to restore the site do not impact or conflict with the requirements of the biodiversity gain plan.

5.14 Post-Decommissioning Monitoring, Maintenance and Management of the Site

84. Where any remains are to be left in place, the initial programme will include a description of the proposed post-decommissioning monitoring, maintenance and management of the site. There may be different requirements for onshore, compared to offshore, which will be addressed as necessary.
85. For example, during consultation on the Offshore Project the MMO have highlighted a requirement for a post decommissioning swath bathymetric survey to International Hydrographic Organisation (IHO) Order 1a of the cable route and the installed generating assets area and provide the data and survey report(s) to the Maritime and Coastguard Agency and UK Hydrographic Office.

6. Next Steps

6.1 Post-Consent

86. This Outline Decommissioning Programme has been drafted (June 2024) for submission alongside an **ES Addendum** to provide an indication of the scope and content of the programme. If consent is approved for WCOW, an initial decommissioning programme will then be developed and consulted upon post-consent. A number of reviews and updates are likely before reaching a final programme that will be submitted for approval by the appropriate onshore and offshore authorities.

7. References

BEIS (2018) Guidance Notes: Decommissioning of Offshore Oil and Gas Installations and Pipelines. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760560/Decom_Guidance_Notes_November_2018.pdf. [Accessed 20 June 2024]

BEIS (2019) Decommissioning of Offshore Renewable Energy Installations Under the Energy Act 2004: Guidance notes for industry (England and Wales). Available at: www.gov.uk/government/publications/decommissioning-offshore-renewable-energy-installations [Accessed 03 June 2024].

Devon County Council (2014) Devon Waste Plan 2011 – 2031. Available at: https://devoncc.sharepoint.com/:b:/s/PublicDocs/Planning/EdYndH7_WmdHkfPQ407HM24B_xuHpJa7c7WDytNwz2RMKA?e=bivonw [Accessed 25 June 2024].

IMO (1989) Guidelines and standards for the removal of offshore installations and structures on the continental shelf and in the exclusive economic zone.

WCOWL (2023) White Cross Offshore Windfarm Offshore Environmental Statement

WCOWL (2023) White Cross Offshore Windfarm Onshore Environmental Statement

Appendix 1.A: Consultation Comments Relating to Decommissioning

Stakeholder	Consultation	Comment	Project Response
Natural England (NE)	Onshore Project planning application and Offshore Project S.36 and marine licence application	<p>We advise that an outline assessment of potential impacts to the onshore environment of the decommissioning of the proposed project should be provided as part of the consenting process. Our primary concern is that impacts are minimised.</p> <p>However, we would advise that if the materials which form the cables are entirely inert or pose minimal risk to any environmental asset they should be left in situ. This would be preferable to major works to excavate the route in whole or in part to extract them.</p>	These comments are addressed above in section 4.5 Onshore Transmission Assets and section 5 Proposed Decommissioning Measures
NE		<p>Natural England advise that within the ES, there is a commitment to decommissioning and an outline decommissioning plan.</p> <p>There should be more attention given to the latter stages of project lifecycles (i.e. decommissioning), ensuring that mechanisms for environmental mitigation, restoration and enhancement that are built in at the design stage are secured well into the future.</p>	The Applicant will consult the regulators in the development of the final Decommissioning Programme
NE	Onshore Project planning application and Offshore Project	We note there is no assessment of the decommission process on soils (including BMV land) for the cable route corridor.	As outlined in Section 15.7 of Chapter 15: Land Use, impacts during the decommissioning stage are assumed to be the same as those identified during the construction stage. Section 15.5.3 outlines that residual effects relating to soil degradation and loss of soil to

Stakeholder	Consultation	Comment	Project Response
	S.36 and marine licence application		<p>erosion will be not significant following the implementation of further mitigation. Further mitigation will include a SMP outlining the mitigation measures and best practice techniques, which contractors will be obliged to comply with will also be produced. The Applicant expects that this will form a condition of planning permission.</p> <p>The Applicant will consult Natural England in the development of the Decommissioning Programme which will be approved by the local planning authority.</p>
NE	Onshore Project planning application and Offshore Project S.36 and marine licence application	Natural England queries if any cable protection will be decommissioned. If no, we advise that rather than being a lasting impact over the lifetime of the project it becomes a permanent habitat change/loss.	<p>Section 10.6.4 of FLO-WHI-REP-0002-10 Chapter 10 Benthic and Intertidal Ecology of the Offshore ES assesses the impact of permanent habitat loss / long term habitat loss due to cable protection on the assumption that cable protection would be left in situ.</p>
NE	Onshore Project planning application and Offshore Project S.36 and marine licence application	We advise that without this information the potential for impact cannot be ruled out. A full assessment of potential impacts to the onshore environment of the decommissioning of the proposed project should be provided. Our primary concern is that impacts are minimised. Furthermore, decommissioning should also consider permanent habitat loss from any infrastructure that remains at the time of decommissioning (an extension of habitat loss from the operational phase).	<p>These comments are addressed in section 5.4 Details of Items Remaining In Situ and 5.5 Predicted Degradation, Movement and Stability of Any Remains</p>

Stakeholder	Consultation	Comment	Project Response
MMO	Offshore Project S.36 and marine licence application	On post decommissioning, the undertaker must conduct a swath bathymetric survey to IHO Order 1a of the cable route and the installed generating assets area and provide the data and survey report(s) to the MCA and UKHO. [Decommissioning is not consented at this stage so this can't be included in the DCO/DML]	This comment is addressed in section 5.12 Seabed/Site Clearance and 5.14 Post-Decommissioning Monitoring, Maintenance and Management of the Site
MMO	Offshore Project S.36 and marine licence application	MMO believes that a plan is secured for the 'end of project' removal of the cable and associated infrastructure. MMO will include a condition within the Marine Licence (if positively determined).	This comment is addressed in section 4 Potential Items to be Decommissioned and section 5 Proposed Decommissioning Measures
Devon Wildlife Trust (DWT)	Onshore Project planning application and Offshore Project S.36 and marine licence application	We recognise the proposal for Horizontal Directional Drilling (HDD) as a mitigation method to minimise installation impacts. However, impacts associated with maintenance/replacement/ decommissioning of the cable would unlikely be feasible using HDD. We continue to advocate that the cable route must be realigned to avoid sensitive habitats and areas of highest designation e.g. by adopting the route selected by the Atlantic Array application.	Impacts associated with maintenance, replacement and decommissioning of the export cable are expected to be minimal. During the operational phase, there is expected to be minimal maintenance required. Regarding decommissioning, the cables can be left in-situ with the cable ends cut, sealed, and securely buried. Alternatively, the cables can be removed by pulling them through the ducts and leaving the ducts in-situ. The decommissioning methodology will be finalised nearer the end of the lifetime of the Project.
DWT	Onshore Project planning application and Offshore Project S.36 and marine licence application	Decommissioning We understand that there are no current decommissioning plans in place, and this is due to the intent to finalise the decommissioning methodology closer to the end of the Offshore Project's operational lifetime, in accordance with guidance, policies, and legislation at that time. DWT consider that a preliminary	The Applicant acknowledges this comment. An outline decommissioning programme and a final decommissioning programme will be produced pre-construction that will aim to yield the greatest net environmental benefits at the time of decommissioning.

Stakeholder	Consultation	Comment	Project Response
		<p>decommissioning plan prepared as part of this application would inform decisions around cable infrastructure and protection options as well as allow an understanding of the decommissioning process to inform public comment on the long-term potential environment effects of the proposed development.</p> <p>DWT expects the full decommissioning plan to assess the actions that will yield the greatest net environmental benefits at the time of decommissioning, in conjunction with analysis of the risks associated with the decay of artificial features. For example, where new high ecological value habitats have developed and directly associated with infrastructure (e.g. reef habitats established on submerged rock armour), the retention of these features may provide long term net ecological benefits.</p>	
DCC	<p>03 November 2023</p> <p>Onshore Project planning application and Offshore Project S.36 and marine licence application</p>	<p>It is noted that the decommissioning is not included in the Waste Audit Statement, and this would be subject to a separate consenting process. It is recommended the Local Planning Authority secure a Waste Audit Statement for the decommissioning phase.</p>	<p>WCOWL acknowledges DCC's comments around providing further clarification on waste storage, disposal, and auditing methods in the Waste Audit Statement. A Waste Audit Statement has been drafted (see Section 5.3), however, at this stage the waste volumes provide are indicative and may be refined at a later stage as the detailed design progresses. WCOWL can confirm a Site Waste Management Plan will be produced and agreed with the Local Planning Authority prior to any works commencing on site, and that the decommissioning phase of the development</p>

Stakeholder	Consultation	Comment	Project Response
EA	03 November 2023	<p>The proposed substation site is in a high risk surface water risk area, and with the raising of the site, this will move this risk area on to third party land. No assessment of the impacts on third parties and any required mitigation measures have been carried out. Design Lifetime – this needs to be agreed with the LPA and us. We feel that is very unlikely that a building/raise land will be in existence for just 50 years, but a 75yr or 100yr lifetime is more appropriate. A value should be agreed and used consistently throughout the planning documents.</p>	<p>would be covered under a separate consenting process.</p> <p>As discussed in Section 5.2, the decommissioning of the Onshore Substation has been subject to discussion between WCOWL, NDC, the EA and DCC. This has included a commitment by WCOWL to remove the substation building, and all associated above ground infrastructure and equipment, at the end of the operational lifetime of WCOW or within 50 years, whichever is sooner.</p> <p>With regards to the substation, WCOWL acknowledge the EA’s comments around flood resilience and the requirement to have appropriate mitigation measures in place. Detailed design for the substation is still being undertaken, however WCOWL can confirm that raising of the site is likely to be taken forward as mitigation against surface water flooding, and further assessment will be done to inform this. WCOWL also note the EA’s request for the design lifetime of the substation to be agreed with themselves and the LPA.</p>

