



White Cross Offshore Windfarm Environmental Statement

Chapter 1: Introduction



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Glossary of Acronyms

Acronym	Definition
CTMP	Construction Traffic Management Plan
DESNZ	Department for Energy Security and Net Zero
EIA	Environmental Impact Assessment
ES	Environmental Statement
ETG	Expert Topic Groups
EU	European Union
FRA	Flood Risk Assessment
GW	Gigawatt
IEMA	Institute of Environmental Management and Assessment
km	Kilometre
kV	Kilovolts
LPA	Local Planning Authority
m	Metre
MHWS	Mean High Water Springs
ML	Marine Licence
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MW	Megawatts
WCOWL	White Cross Offshore Windfarm Limited
PDE	Project Design Envelope
RIAA	Report to Inform the Appropriate Assessment
TCPA	Town and Country Planning Act
UK	United Kingdom
WER	Water Environment Regulations

Glossary of Terminology

Defined Term	Description
Applicant	White Cross Offshore Windfarm Limited.
Department for Energy Security and Net Zero (DESNZ)	Government department that is responsible for business, industrial strategy, science and innovation and energy and climate change policy and consent under Section 36 of the Electricity Act.
Environmental Impact Assessment (EIA)	Assessment of the potential impact of the Onshore Project on the physical, biological and human environment during construction, operation, maintenance, and decommissioning.
Export Cable Corridor	The area in which the export cables will be laid, either from the Offshore Substation or the inter-array cable junction box (if no offshore substation), to the Grid Connection Point comprising both the Offshore Export Cable Corridor and Onshore Export Cable Corridor.
Grid Connection Point	The point at which the White Cross Offshore Windfarm connects into the distribution network at the National Grid's East Yelland Substation and the distributed electricity network. From East Yelland Substation electricity is transmitted to Alverdiscott where it enters the national transmission network.
Interconnecting Cable	The cables that will connect the new White Cross Onshore Substation to the existing East Yelland Substation and the Grid Connection Point.
Distribution Network Operator	The licensed companies that own and operate the network of towers, transformers, cables and meters that carry electricity from the national transmission system and distribute electricity locally. The Distribution Network Operator for the southwest of England is National Grid (formerly known as Western Power Distribution).
Joint / jointing bay	Underground structures constructed at regular intervals along the Onshore Export Cable Corridor to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	Where the offshore export cables come ashore.
Link boxes	Underground chambers or above ground cabinets next to the cable trench housing electrical earthing links.
Mean low water springs	The average tidal height throughout a year of two successive low waters during those periods of 24 hours when the range of the tide is at its greatest.
Onshore Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of the electrical transformers.
Offshore Export Cables	The cables which bring electricity from the Offshore Substation Platform or the inter-array cable junction box to the Landfall.
Offshore Export Cable Corridor	The proposed offshore area in which the export cables will be laid, from Offshore Substation Platform or the inter-array cable junction box to the Landfall.

Defined Term	Description
the Offshore Project	The Offshore Project for the offshore Section 36 and Marine Licence application includes all components offshore of MHWS. This includes the infrastructure within the windfarm site (e.g. wind turbine generators, substructures, mooring lines, seabed anchors, inter-array cables and Offshore Substation Platform (as applicable)) and all infrastructure associated with the export cable route and Landfall (up to MHWS) including the cables and associated cable protection (if required).
Offshore Substation Platform	A fixed structure located within the Windfarm Site, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Onshore Development Area	The onshore area above MLWS including the underground Onshore Export Cables connecting to the White Cross Onshore Substation and onward to the Grid Connection Point at East Yelland. The onshore development area will form part of a separate Planning application to the Local Planning Authority (LPA) under the Town and Country Planning Act 1990.
Onshore Export Cables	The cables which bring electricity from MLWS at the Landfall to the White Cross Onshore Substation.
Onshore Export Cable Corridor	The proposed onshore area in which the export cables will be laid, from MLWS at the Landfall to the White Cross Onshore Substation and onward to the Grid Connection Point.
Onshore Infrastructure	The combined name for all infrastructure associated with the Project from MLWS at the Landfall to the Grid Connection Point. The onshore infrastructure will form part of a separate Planning application to the Local Planning Authority (LPA) under the Town and Country Planning Act 1990.
Onshore Transmission Assets	The aspects of the project related to the transmission of electricity from MLWS at the Landfall to the Grid Connection Point at East Yelland including the Onshore Export Cable, the White Cross Onshore Substation and onward connection to the Grid Connection Point at East Yelland.
the Onshore Project	The Onshore Project for the onshore TCPA application includes all components onshore of MLWS. This includes the infrastructure associated with the offshore export cable (from MLWS), Landfall, Onshore Export Cable and associated infrastructure and new onshore substation (if required).
White Cross Offshore Windfarm Limited	White Cross Offshore Windfarm Ltd (WCOWL) is a joint venture between Cobra Instalaciones Servicios, S.A., and Flotation Energy Ltd.
the Project	The Project is a proposed floating offshore windfarm called White Cross Offshore Windfarm located in the Celtic Sea with a capacity of up to 100MW. It encompasses the project as a whole, i.e. all onshore and offshore infrastructure (the Onshore Project and the Offshore Project) and activities associated with the Project.

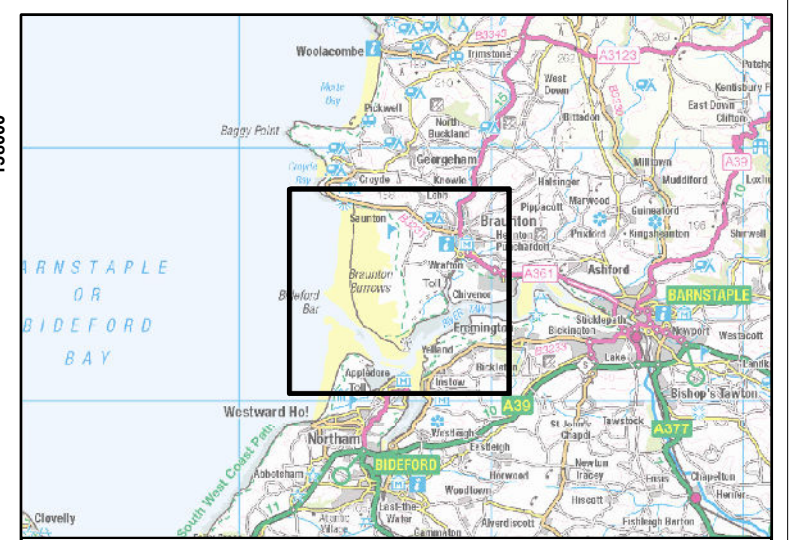
Defined Term	Description
Project Design Envelope (PDE)	The PDE is the spatial extent and range of design parameters within which the proposed development will be contained, constructed and operated. This provides outline 'worst-case' parameters for all elements of the Onshore Project.
Taw Estuary Crossing	The onshore export cable crossing via trenchless technique below the river Taw estuary and Taw-Torrige Estuary SSSI. From between MHWS on the northern edge of the estuary to MHWS on the southern edge.
Transition Joint Bay	Underground structures at the Landfall that house the joints between the offshore export cables and the onshore export cables.
Transmission System Operator	The company that owns and operates the high voltage electricity transmission system, 275kV and 400kV, in the UK carrying electricity from the generators to the Distribution Network Operators. In the UK the Transmission System Operator is National Grid Electrical System Operator (ESO).
White Cross Offshore Windfarm	100MW capacity offshore windfarm including associated onshore and offshore infrastructure.
White Cross Onshore Substation	A new substation built specifically for the White Cross project. It is required to ensure electrical power produced by the offshore windfarm is compliant with National Grid electrical requirements at the Grid Connection Point at East Yelland.
Wind Turbine Generators (WTG)	The wind turbine generators convert wind energy into electrical power. Key components include the rotor blades, nacelle (housing for electrical generator and other electrical and control equipment) and tower. The final selection of project wind turbine model will be made post-consent application.
Windfarm Site	The area within which the wind turbines, Offshore Substation Platform and inter-array cables will be present.

1. Introduction

1.1 Introduction

1. White Cross Offshore Windfarm is a proposed floating offshore windfarm located in the Celtic Sea (**Figure 1.1**) with a capacity of up to 100MW. This Environmental Statement (ES) presents the baseline and impact assessment for the 'Onshore Project', entailing all infrastructure of the project landward of Mean Low Water Springs (MLWS). The Onshore Project is a separate Town and Country Planning Act 1990 (TCPA) application to the Offshore Project components, which have been submitted as a separate Section 36 (under the Electricity Act 1989) and Marine Licence (ML) application to the Marine Management Organisation (MMO) following the MMO confirming that they would not consent the Onshore Infrastructure of the Windfarm Project. The Onshore Project includes the infrastructure associated with the Landfall at Saunton Sands (to MLWS) where the onshore elements connect to the Offshore Project infrastructure, Onshore Export Cable (including joint bays and link boxes), Taw Estuary Crossing, a new White Cross Onshore Substation, and an Interconnecting Cable to the Grid Connection Point at the existing East Yelland Substation.
2. The Project is being developed by Offshore Wind Ltd (OWL) a joint venture between Cobra Instalaciones Servicios, S.A., and Flotation Energy Ltd.
3. The Project will help achieve the UK Government's commitment to net zero by 2050 and tackle the climate emergency by producing electricity from renewable energy. The Onshore Project was selected in 2021 as part of The Crown Estate's Test and Demonstration leasing opportunity.
4. The Windfarm Site is located over 52km off the North Cornwall and North Devon coast (west-north-west of Hartland Point). The Offshore Export Cable will connect the Offshore Substation Platform (if needed) to shore. The Export Cable will come ashore at a Landfall at Saunton Sands on the North Devon Coast, and then be routed underground to the East Yelland Substation where it connects into the distribution network. Prior to connecting to the East Yelland Substation the cable will connect to a new White Cross Onshore Substation. A full description of the Onshore Project is given in **Chapter 5: Project Description**.
5. The set of consents/permission required in order for the Project as a whole to proceed are outlined below:
 - Planning permission under the Town and Country Planning Act 1990 (TCPA) 1990 is required for the following Onshore Project infrastructure (landward of MLWS):

- Offshore export cables (from MLWS to above Mean High Water Springs (MHWS) at the Landfall and Transition Joint Bay (TJB))
 - Onshore export cables (2 x 66 kilovolts (kV) or 1 x 132kV from Landfall to White Cross Onshore Substation and 132kV from the White Cross Onshore Substation to Grid Connection Point) – excluding section below MLWS at the Taw Estuary crossing
 - White Cross Onshore Substation
 - Temporary main construction compound and temporary construction compounds
 - Transition Joint Bay, jointing bays, link boxes, access roads and haul roads
 - Grid Connection Point.
- Consent under the Section 36 of the Electricity Act 1989 and a Marine Licence under the Marine and Coastal Access Act 2009 (MCAA 2009) from the MMO are required for the following generation assets (within the Windfarm Site):
 - Wind Turbine Generators
 - Semi-submersible floating platforms
 - Subsea catenary mooring lines
 - Anchoring solutions (drag embedment anchors, suction anchor or pin piles)
 - Inter-array cables and associated protection
 - Other associated offshore infrastructure, such as navigational markers.
 - A second Marine Licence is 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 for the following transmission assets (to MHWS):
 - Offshore Substation Platform
 - Offshore export cable
 - Other associated offshore infrastructure, such as navigational markers.
6. The Section 36 and Marine Licences applications were submitted to the MMO on 14th March 2023.
7. Further detail on the consenting regime and relevant legislation is presented in **Chapter 3: Policy and Legislative Context.**



Legend:
 Onshore Development Area

Client: Offshore Wind Ltd.	Project: White Cross Offshore Windfarm
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Title:
Onshore Development Area

Figure: 1.1 Drawing No: PC2978-RHD-ZZ-XX-DR-Z-0706

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	03/08/2023	AB	LA	A3	1:30,000

Co-ordinate system: British National Grid




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1.2 Purpose of this Document

9. This document is the Environmental Statement (ES) for the Onshore Project. This ES describes the potential environmental impacts associated with the Onshore Project which may arise from construction, operation, maintenance, and decommissioning of the Onshore Project. The purpose of this ES is to provide the necessary information and impact assessments undertaken as required under the 'Town and Country Planning (TCPA) (Environmental Impact Assessment) Regulations 2017' (herein 'the EIA Regulations'). **Chapter 6: EIA Methodology** presents a detailed description of the approach followed to ensure compliance with the EIA Regulations. The ES is being submitted as part of an application for a consent under the Town and Country Planning Act 1990. Further information on the legislative context for the Onshore Project is provided in **Chapter 3: Policy and Legislative Context**.
10. A Scoping Opinion (Case reference: EIA/2022/00002) from the MMO was received in May 2022 on behalf of the Secretary of State for Business, Energy and Industrial Strategy (BEIS), now the Secretary of State for the Department for Energy Security and Net Zero (DESNZ). The Scoping Opinion focussed primarily on the Offshore Project however it did consider some of the onshore infrastructure of the Project. Feedback from consultation with North Devon District Council, other statutory consultees, non-statutory consultees, landowners and the public has also been used to inform the final design and impact assessment for the Project as a whole.
11. The design of the Onshore Project has varied since the receipt of the MMO Scoping Opinion and now includes a new White Cross Onshore Substation within the Project Design Envelope (PDE). Extensive engagement with North Devon District Council has been undertaken to confirm the expanded scope of this ES for the Onshore Project. This is described in **Chapter 7: Consultation**. The site selection process and need for the White Cross Onshore Substation is outlined in **Chapter 4: Site Selection and Assessment of Alternatives**.

1.3 The Project Team

1.3.1 Offshore Wind Limited

12. The successful partnership between Cobra Instalaciones Servicios, S.A., and Flotation Energy Ltd, known as OWL has delivered the Kincardine Floating Offshore Windfarm project and also secured development rights for the 480MW Morecambe offshore wind project in the Irish Sea. OWL is also working on further developments in the UK, Ireland, and Taiwan.

1.3.2 Royal HaskoningDHV

13. Royal HaskoningDHV was commissioned by OWL as the consultant to lead the White Cross Offshore Windfarm EIA. Royal HaskoningDHV has been supported through the EIA process by several sub-consultants (OP:EN, BSG Ecology, EcoLogic, Wessex Archaeology, Ben Cave Associates and BiGGAR Economics) who are responsible for particular specialist topics and/or surveys. Royal HaskoningDHV is an environmental and engineering consultancy with significant expertise in offshore renewable energy.
14. Royal HaskoningDHV has provided environmental, development and consenting support on over 14 Gigawatts (GW) of renewable energy projects across 26 UK offshore windfarms. Their EIA activities and ESs are accredited by the Institute of Environmental Management and Assessment (IEMA) under the EIA Quality Mark Scheme. This demonstrates Royal HaskoningDHV's commitment to ensuring the EIA process is delivered to a high quality and in accordance with best practice.

1.4 Purpose of the Project

15. Climate change is a global issue resulting from the anthropogenic increase of carbon emissions into the atmosphere. Generating and harnessing energy from renewable sources is one of the solutions available to substantially reduce carbon emissions whilst answering the challenges of meeting energy demand as part of a balanced energy portfolio.
16. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 enshrines into UK law a commitment that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline i.e. 'net zero'. Floating wind will be necessary for the UK to meet net zero emissions by 2050. The Project will support the UK Government's target to deliver up to 5GW of floating wind capacity in UK waters by 2030.
17. The Crown Estate is supporting the UK's net zero ambitions by delivering a new leasing opportunity in the Celtic Sea for the first generation of commercial-scale floating offshore windfarms. This is intended to unlock up to 4GW of floating offshore wind capacity by 2035. The Project has been brought forward through The Crown Estate's Test & Demonstration leasing opportunity which is designed to support the development and commercialisation of innovative energy technologies that will be vital to the UK's future energy system and net zero transition to achieve these ambitions. The Project will test new foundation and mooring technologies, using new designs, materials and construction approaches. It also aims to play an

important role in supporting the development and momentum of the regional supply chain, helping support new jobs, skills and economic growth.

18. The purpose of the Onshore Project application is to support and transmit electricity generated from the Offshore Project.
19. By generating low carbon, renewable electricity in the UK, the Project will also help to reduce the UK's reliance on imported energy. Further detail is provided in **Chapter 2: Need for the Project** and **Chapter 3: Policy and Legislative Context**.

1.5 EIA Process

20. The overall objective of the EIA process is to identify any likely significant effects and for any adverse effects to be avoided, minimised, or where not possible mitigated. The process also aims to identify opportunities for beneficial impacts.
21. An ES has already been prepared and submitted (on 14th March 2023) to the MMO for the Section 36 (under the Electricity Act) and Marine Licence applications for the Offshore Project. This ES details the EIA undertaken for the Onshore Project. It has been prepared in accordance with the statutory procedures set out in the EIA Regulations.
22. These regulations transpose the requirements of the EU EIA Directives with regards to the Town and Country Planning Act 1990 (see **Chapter 3: Policy and Legislative Context**). Following the UK's exit from the EU and end of transition period on 31 December 2020, legislation has been passed to retain the domestic effect in the UK of some EU laws subject to amendments to reflect the change in their status within the UK while ensuring continuity. This includes EIA, for which the Environmental Assessments and Miscellaneous Planning (Amendment) (EU Exit) Regulations 2018 were introduced. The regulations aim to ensure that environmental considerations continue to be taken into account at the development consent stage. These have been taken into account throughout this ES. The EU Exit regulations do not make substantive changes to the way the EIA regime operates in England and Wales.
23. Consultation has been undertaken in parallel with the EIA, with a range of statutory and non-statutory consultees, as well as public consultation. Expert Topic Groups (ETGs) were developed to approach collective stakeholders over specific technical topics. Where possible ETGs have been consulted on baseline information and survey requirements, as well as impact assessment approaches and outcomes, to

help co-ordinate responses and identify issues and solutions in advance of the planning application. This is detailed in **Chapter 7: Consultation**.

24. The EIA has been progressed using a proportionate approach to ensure the process and outputs are as efficient, focussed and effective as possible. This responds directly to known issues within the UK planning regime of overly long and complex documentation and unfocussed assessments. The benefits of delivering proportionate EIA, as defined by IEMA (IEMA, 2017) are to:
- Drive collaborative action and understanding across the EIA community
 - Focus assessments so their findings are accessible to all stakeholders
 - Reduce uncertainty and risk within project consenting
 - Save time and costs for developers, consenting authorities and consultees
 - Allow more time to be spent exploring the delivery of environmental improvements.
25. Further discussion on the proportional approach adopted, additional details of the tools and measures identified above, and the processes embedded into the Project are set out in **Chapter 6: EIA Methodology**.

1.6 Structure of this ES

26. This ES covers the Onshore Project. **Table 1.1** outlines the chapters and other supporting documents included in the ES and to be submitted with the planning application.

Table 1.1 Structure of the ES

Section	Chapter
Introductory	Chapter 1: Introduction to the White Cross Offshore Windfarm Project
	Chapter 2: Need for the Project
	Chapter 3: Policy and Legislative Context
	Chapter 4: Site Selection and Assessment of Alternatives
	Chapter 5: Project Description
	Chapter 6: EIA Methodology
	Chapter 7: Consultation
Offshore (considered within the onshore ES)	Chapter 8: Marine and Coastal Processes
	Chapter 9: Marine Water and Sediment Quality
	Chapter 10: Benthic and Intertidal Ecology
	Chapter 11: Marine Mammal and Marine Turtle Ecology
Onshore	Chapter 12: Ground Conditions and Contamination

Section	Chapter
	Chapter 13: Air Quality
	Chapter 14: Water Resources and Flood Risk
	Chapter 15: Land Use
	Chapter 16: Onshore Ecology and Ornithology
	Chapter 17: Onshore Archaeology and Cultural Heritage
	Chapter 18: Noise and Vibration
	Chapter 19: Traffic and Transport
	Chapter 20: Onshore Landscape and Visual Amenity
Scheme Wide Aspects	Chapter 21: Socio-Economics (including Tourism and Recreation)
	Chapter 22: Human Health
	Chapter 23: Climate Change
	Chapter 24: Major Accidents and Disasters
	Chapter 25: Inter-relationships
Other Supporting Documents	Planning Statement
	Sustainability Appraisal
	Community Involvement Statement
	Water Environment Regulations (WER) Compliance Assessment
	Flood Risk Assessment (FRA)
	Transport Statement
	Construction Traffic Management Plan (CTMP)
	Design and Access Statement
	Outline Landscape and Ecology Mitigation Plan
	Wildlife Trigger List & Associated Wildlife Report
	Report to Inform the Appropriate Assessment (RIAA)
	Outline Environmental Management Plan

1.7 References

Committee on Climate Change (2019). Net Zero – The UK’s contribution to stopping global warming. Online. Net Zero - The UK's contribution to stopping global warming - Climate Change Committee (theccc.org.uk). [Accessed April 2023].

Electricity Act 1989.

Environmental Assessments and Miscellaneous Planning (Amendment) (EU Exit) Regulations 2018.

IEMA (2017). Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice. Online. IEMA - Delivering Proportionate EIA. [Accessed April 2023].

Marine and Coastal Access Act 2009.

The Climate Change Act 2008 (2050 Target Amendment) Order 2019.

The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015.

Town and Country Planning Act 1990 (TCPA).

Town and Country Planning (TCPA) (Environmental Impact Assessment) Regulations 2017.