



Offshore Wind Power Limited

West of Orkney Windfarm Onshore EIA Report

Volume 1, Chapter 1 - Introduction

WO1-WOW-CON-EV-RP-0081: Approved by S.Kerr

Document Control Oct 20 2023

ASSIGNMENT L100632-S06

DOCUMENT L-100632-S06-A-ESIA-001



REVISIONS & APPROVALS

This report has been prepared by Xodus Group exclusively for the benefit and use of Offshore Wind Power Limited. Xodus Group expressly disclaims any and all liability to third parties (parties or persons other than Offshore Wind Power Limited) which may be based on this report.

The information contained in this report is strictly confidential and intended only for the use of Offshore Wind Power Limited. This report shall not be reproduced, distributed, quoted or made available – in whole or in part – to any third party other than for the purpose for which it was originally produced without the prior written consent of Xodus Group and Offshore Wind Power Limited.

The authenticity, completeness and accuracy of any information provided to Xodus Group in relation to this report has not been independently verified. No representation or warranty express or implied, is or will be made in relation to, and no responsibility or liability will be accepted by Xodus Group as to or in relation to, the accuracy or completeness of this report. Xodus Group expressly disclaims any and all liability which may be based on such information, errors therein or omissions therefrom.

A01	10/10/2023	Issued for Use	AF	LS	LS	OWPL
R03	09/06/2023	Re-issued for Review	AF	LS	LS	OWPL
R02	23/01/2023	Re-issued for Review	AF	LS	LS	OWPL
R01	25/11/2022	Issued for Review	AF	LS	LS	OWPL
REV	DATE	DESCRIPTION	ISSUED	CHECKED	APPROVED	CLIENT



CONTENTS

1	INTRODUCTION	5
1.1	The Project	5
1.2	The developer	7
1.3	Purpose of the Onshore EIA Report	7
1.4	Project definitions	9
1.5	The EIA team	12
1.6	Structure of the Onshore EIA Report	17
1.7	Opportunity to comment	18
1.8	References	19
1.9	Abbreviations	20



PAGE LEFT INTENTIONALLY BLANK



1 INTRODUCTION

1.1 The Project

The Applicant, Offshore Wind Power Limited (OWPL) is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located approximately 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney. Crown Estate Scotland (CES) awarded OWPL an Option Agreement Area (OAA) within the "N1" Plan Option (PO) to the west of Orkney in January 2022 for the development of the proposed Project following the ScotWind leasing round. The ScotWind leasing round was launched in June 2020 and resulted in 17 developments being awarded OAA's in January 2022. A further three developments were awarded OAAs in April 2022 as part of the ScotWind clearing process. Considering the additional clearing process, the ScotWind leasing round brings a new potential energy supply of 27.6 Gigawatt (GW) from the 20 developments. The Scottish Government published the Sectoral Marine Plan for Offshore Wind Energy in October 2020 following over two years of extensive analysis, consideration and engagement with a wide range of stakeholders.

The Project has a grid connection agreement with National Grid for a connection to the grid network in Caithness on mainland Scotland. This connection will be to a new Scottish Hydro Electric Transmission plc (SHET-L) substation, with the preferred location of this substation located north of Spittal Hill at Banniskirk (Scottish and Southern Electricity Networks (SSEN, 2023). The Project has two landfall options in Caithness, these are located at Greeny Geo and Crosskirk, where the offshore export cables from the OWF will be brought to shore.

OWPL are responsible for the construction and operation of their own onshore substation (in order to ensure its power is grid compliant). The onshore substation will be located to the west of the preferred SHET-L substation location at Achalone and will encompass an area of up to approximately 24 hectares (which includes the bunding and landscaping). Onshore export cables will be buried within the onshore export cable corridor from the selected landfall location(s) to the onshore substation. The location of the onshore Project's Red Line Boundary (RLB), known throughout this Onshore EIA Report as the 'onshore Project area', within which the landfall options, onshore export cable corridors and onshore substation are to be located, is shown in Figure 1-1.

OWPL have submitted an Application for the onshore Project (which includes the onshore components of the Project landward of Mean Low Water Springs (MLWS)) to allow for export of power to Caithness. A separate consent application has also been submitted for the offshore Project (which includes the offshore components of the Project seaward of Mean High Water Springs (MHWS)) in order to consent the OWF. To this end:

- OWPL are seeking Planning Permission in Principle (PPP) for the onshore Project under the Town and Country Planning (Scotland) Act 1997 (as amended), the Application for which has been submitted to The Highland Council (THC) for approval. This Onshore Environmental Impact Assessment (EIA) Report, presented herein, supports this Application; and
- OWPL have also submitted a separate application for Section 36 Consent for the offshore Project, as required under the Electricity Act 1989, a declaration under Section 36A of the Electricity Act 1989 to extinguish public rights of navigation so far as they pass through those places within the Scottish Marine Area where the Wind Turbine Generators (WTGs) will be located, and Marine Licences, as required under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009. The consent and Marine Licence applications were submitted to the Marine Directorate for determination in September 2023. The Offshore EIA Report supports this application.

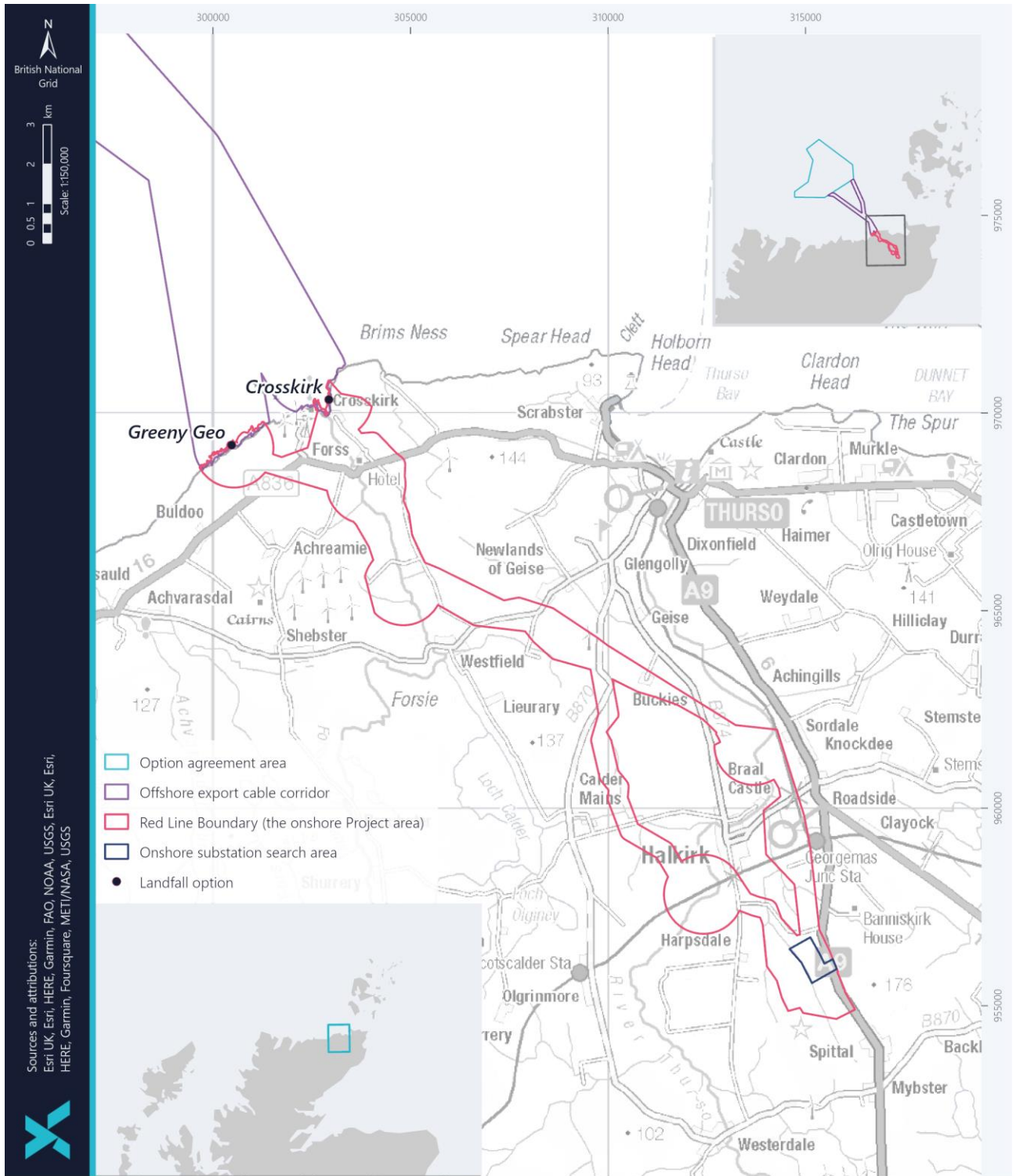



Figure 1-1 Onshore Red Line Boundary overview



The proposed Flotta Hydrogen Hub (Flotta, Orkney) provides a second power export opportunity for the Project. OWPL are currently negotiating the terms of this private wire export option through a 'Power Purchase Agreement' (PPA). These negotiations will provide clarity on the timing for the availability of this power export option and will determine the timing of a subsequent separate planning application to the local authority (Orkney Islands Council (OIC)) required for the onshore elements of this connection and a separate Marine Licence application for the marine transmission infrastructure to the Flotta Hydrogen Hub. As such, the Flotta connection is not considered further within this Onshore EIA Report.

1.2 The developer

OWPL is comprised of the following companies working together in a consortium to deliver the Project.

	<p>CORIO - Corio Generation is a Macquarie Green Investment Group portfolio company, operating on a standalone basis. Corio has a project pipeline of over 20 GW. Their global team of offshore wind specialists take projects from origination, through development and construction, and into operations.</p>
	<p>TotalEnergies – one of the largest offshore operators on United Kingdom (UK) continental shelf, majority owner of Seagreen OWF and the Shetland Gas Plant. Targeting 35 GW of renewables by 2025 and 100 GW by 2030.</p>
	<p>Renewable Infrastructure Development Group (RIDG) – Scottish offshore wind project developer with over 40 years' experience in the sector, set up to deliver high value projects alongside strategic partners.</p>

1.3 Purpose of the Onshore EIA Report

In accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (the EIA Regulations), an EIA is specifically required for the onshore Project (see chapter 3: Planning policy and legislative context for further information).

An EIA Report contains specific information on a project's potential environmental effects as identified through the EIA. This Onshore EIA Report presents such information for the onshore Project, describing its potential environmental effects during the construction, operation and maintenance, and decommissioning stages.

This Onshore EIA Report takes account of the relevant advice set out by THC within their Scoping Opinion received on the 9th May 2022¹. Additionally, this Onshore EIA Report has been prepared in accordance with relevant guidance, including, but not limited to, those set out in the Scottish Government Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment (as amended) (Scottish Government, 2013) and the Institute of Environmental Management and Assessment (IEMA) Guidance on Delivering Proportionate EIA (IEMA, 2017), both of which emphasise the importance of achieving a proportionate EIA scope, focussed on potential significant effects.

¹ <https://wam.highland.gov.uk/wam/applicationDetails.do?activeTab=documents&keyVal=R860YHIH0HZ00>



The National Planning Framework 4 (NPF4) was adopted by Scottish Ministers on 13th February 2023 (Scottish Government, 2023). NPF4 replaces NPF3 and the Scottish Planning Policy (SPP). NPF4 represents a package of planning policies to guide planning and development and sets out sustainable policies against which planning applications will be assessed up to 2045. The onshore Project is classed as a 'National Development', as set out in NPF4. Policy 3 outlines that for National Developments specifically, proposals will only be supported where they can demonstrate how they meet a set of criteria aimed at securing conservation, restoration and enhancement of biodiversity. The Onshore EIA Report considers biodiversity enhancement measures and the relevant policies presented within NPF4. The topic specific chapters presented within this Onshore EIA Report ensure the assessments undertaken align with the requirements of these policies where appropriate.

Additionally, for ecology related chapters, the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) has been followed to ensure conformance to best practice.

This Onshore EIA Report presents the EIA for the onshore Project and provides the environmental information required to enable a robust assessment of the potential significant effects on identified receptors throughout the onshore Project's life-cycle (as summarised in section 1.1 and detailed in chapter 5: Project description). These assessments are presented within the topic-specific chapters of this Onshore EIA Report (chapters 8 to 17) and cover the receptor topics outlined in section 1.6, as agreed through stakeholder consultation.

Several supporting studies have also been prepared in support of this Onshore EIA Report for specific technical considerations. The supporting studies provide further information on certain surveys, modelling, and research undertaken to underpin the findings of this Onshore EIA Report upon which the assessment of significant environmental effects has been based.

Whilst the onshore Project is the focus of this Onshore EIA Report, where the potential exists for offshore Project works to impact the onshore receptors, this has been identified and assessed in this Onshore EIA Report. Each topic-specific chapter presents a whole Project assessment of the relevant offshore impacts alongside the onshore impacts. This approach ensures this Onshore EIA Report provides a full assessment of any combined effects of the onshore Project and the offshore Project and ensures neither the offshore Project nor the onshore Project are considered in isolation. A summary of the key findings of the Offshore EIA Report is also provided in chapter 18: Offshore summary.

The Habitats Regulations require for the consideration of potential effects from projects and plans on European sites, including Special Areas of Conservation (SACs), candidate SACs (cSACs), Special Protection Area (SPAs), potential SPAs (pSPAs), Sites of Community Importance (SCI) and Ramsar sites. An Onshore Habitats Regulations Appraisal (HRA) Screening report (OWPL, 2023) was submitted to THC in May 2023 and outlined the details of the onshore Project and an assessment of whether, in view of best scientific knowledge, there was the potential for the onshore Project, individually or in combination with another plan or project, to have potential for Likely Significant Effect (LSE) on a European site. An Onshore Report to Inform Appropriate Assessment (RIAA) has been submitted alongside this Onshore EIA Report and provides the Competent Authority with the information, required to assist them in undertaking an Appropriate Assessment (AA) and determine whether there is any 'adverse effect on site integrity' on European sites from the onshore Project.



1.4 Project definitions

The definitions described in Table 1-1 have been used throughout this Onshore EIA Report to describe the specific components and areas relating to the Project.

Table 1-1 Project definitions

TERM	DEFINITION
Project components	
West of Orkney Windfarm / 'the Project'	The entire offshore and onshore Project, including all offshore components and onshore components and all Project stages from pre-construction to decommissioning. For the avoidance of doubt this does not include the offshore or onshore infrastructure associated with the connection to the Flotta Hydrogen Hub.
Onshore Project	The entire onshore Project, which defines the RLB for the PPP Application, including all onshore components landward of MLWS (underground cables, onshore substation, access, and all other associated infrastructure) and all Project stages from construction to decommissioning. The onshore Project is the focus of this Onshore EIA Report.
Offshore Project	The entire offshore Project, which defines the RLB for the Section 36 consent and the Marine Licence applications, including all offshore components seaward of MHWS (WTGs, cables, foundations, Offshore Substation Platforms (OSPs) and all other associated infrastructure) and all Project stages from pre-construction to decommissioning, including temporary works.
Landfall	The location where the export cables will be brought ashore. The interface between the offshore and onshore Project.
Onshore export cables	The buried electricity circuits ² , each consisting of three power cables, an earth cable, and a fibre optic communications cable buried as one unit within a single trench running from the Transition Joint Bays (TJB) (landward of MLWS) to the onshore substation, connecting the Project to the grid.
Onshore substation	Contains the electrical components for transforming the power supplied from the Project via the offshore and onshore export cables to meet the export requirements.

² The onshore export cables will be laid in circuits (up to five circuits buried in five separate trenches) with each comprising a series of grouped cables as described. For ease of the reader, only the term 'onshore export cables' is retained throughout the topic specific chapters.



TERM	DEFINITION
Onshore transmission infrastructure	The proposed onshore transmission infrastructure comprising the onshore export cables and onshore substation.
Transition Joint Bays (TJB)	Concrete structures within which offshore export cables and onshore export cables are spliced together.
Cable Joint Bays (CJBs)	Concrete structures which maintain the continuity of the onshore export cables over the distance of the onshore export cable route by joining sections of the onshore export cables and thus, enable the transmission of electricity.
Wind Turbine Generator (WTG)	The WTGs consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment which generate electricity.
Foundation	The foundation on which the WTGs or OSPs are installed.
Offshore export cables	A high voltage alternating current (HVAC) subsea power cable system, consisting of a three-core armoured submarine power cable with one (or more) fibre optic units embedded in the interstice, running from the OSPs to the TJB (up to the point of MHWS). The offshore export cables transmit the electricity generated from the OWF to the onshore export cables for transmission onwards to the onshore substation.
Offshore Substation Platform (OSP)	Offshore platforms consisting of HVAC substations.
Offshore transmission infrastructure	The proposed transmission infrastructure comprising OSPs, and associated foundations and the offshore export cables.

EIA Project boundaries

Onshore Project area	The onshore Project area is the RLB for the PPP Application. This encompasses the area within which all onshore components landward of MLWS will be located. This includes the underground cables, onshore substation, access, and all other associated onshore infrastructure. The RLB is referred to herein as the 'onshore Project area'.
Option Agreement Area (OAA)	The OAA covers the array area in which the generation infrastructure including WTGs, OSPs, interconnector cables and inter array cables will be located. The OAA is the area of seabed that OWPL have been awarded through the ScotWind leasing process, over which CES will grant a lease in the event that the developer succeeds in obtaining all the necessary consents and the Project achieves Final Investment Decision (FID).
Onshore export cable corridor	The area within which the onshore export cables will be installed.



TERM	DEFINITION
Onshore substation search area	The area within which the onshore substation will be located.
Indicative substation layout	The preferred layout for the onshore substation which is located within the onshore substation search area.
Offshore export cable corridor	The area within which the offshore export cables will be installed.
Study areas	
Onshore study area	Receptor specific area used to characterise the baseline. Each topic-specific chapter will define what is considered to be the onshore study area (for that particular topic) and refer to this throughout as e.g. the landscape and visual onshore study area.
Offshore study area	Receptor specific area used to characterise the baseline. Each topic-specific chapter will define what is considered to be the offshore study area (for that particular topic) and refer to this throughout as e.g. the benthic ecology offshore study area.
EIA terminology	
Onshore EIA Report	A report documenting the findings of the environmental impact assessment for the onshore Project in accordance with relevant regulations, including a summary of the findings of the EIA for the offshore Project.
Offshore EIA Report	A report documenting the findings of the environmental impact assessment for the offshore Project in accordance with relevant regulations, including a summary of the findings of the EIA for the onshore Project.
Mitigation measures	<p>Measures considered within the topic-specific chapters in order to avoid impacts or reduce them to acceptable levels.</p> <ul style="list-style-type: none"> • Primary mitigation - measures built into the design of the Project which reduce or avoid the likelihood or magnitude of an adverse environmental effect, including location or design. Primary mitigation measures do not require additional action to be taken; • Secondary mitigation – are additional measures implemented to further reduce environmental effects to 'not significant' levels (where possible) and do not form part of the fundamental design of the onshore Project; and • Tertiary mitigation – are measures that are required through standard practice or to meet legislative requirements and are independent of the EIA (i.e. they would be implemented regardless of the findings of the EIA). <p>Primary and tertiary mitigation are referred to as embedded mitigation. Secondary mitigation is referred to as additional mitigation.</p>



TERM	DEFINITION
Whole Project assessment	The consideration of offshore Project impacts affecting onshore receptors to provide a holistic assessment of the whole Project. Each topic-specific chapter presents a whole Project assessment of relevant offshore impacts to ensure that any interactions are identified and assessed.
Cumulative assessment	The consideration of potential impacts that could occur cumulatively with other relevant projects (i.e. developments), plans and activities, that could result in a cumulative effect on receptors.
Transboundary assessment	The consideration of impacts from the Project which have the potential to have a significant effect on another European Economic Area (EEA) state's environment. Where there is a potential for a transboundary effect, as a result of the Project, these are assessed and detailed within the relevant EIA chapter.
Project Design Envelope (PDE)	Project parameters that are assessed as part of the EIA for the Project.
Worst Case Scenario (WCS)	The design parameters for the different elements of the Project (both on and offshore) considered to be a worst case for any given topic specific assessment.
Non-statutory engagement	stakeholder Stakeholder engagement undertaken with non-statutory consultees and the public.
Statutory stakeholder consultation	Stakeholder consultation undertaken with statutory consultees (e.g. NatureScot and Historic Environment Scotland (HES)).
Regulator	Consenting authority (e.g. THC / Marine Directorate - Licensing Operations Team (MD-LOT)).

1.5 The EIA team

Xodus Group Limited (Xodus) was appointed by OWPL to lead the production of the Onshore EIA Report. Xodus have been supported during the EIA by a number of specialists, independent and suitably qualified consultants and subcontractors.

Xodus have project managed the production of this Onshore EIA Report, including the compilation of the baseline data, analysis and interpretation, the assessment process, including Cumulative Impact Assessment (CIA), consenting, mitigation and monitoring.

Specialist consultants, listed in Table 1-2 below, have supported the EIA to date, including consultation with relevant stakeholders and preparation of the specialist chapters of the Onshore EIA Report. In line with the requirements of the EIA Regulations, Table 1-2 provides a brief summary of the relevant expertise and experience of the technical consultants involved in preparing this Onshore EIA Report.



Table 1-2 Specialist consultants part of the onshore EIA team

TECHNICAL SPECIALISM	CONSULTANT	RELEVANT EXPERTISE AND EXPERIENCE
Introductory chapters	Xodus	Xodus is an independent, international energy consultancy with a track record of EIA development in all areas of offshore wind and associated onshore planning applications. Xodus are responsible for the production of this Onshore EIA Report and have authored the introductory chapters and some of the following topic specific chapters.
Land-use and other users, including forestry	Xodus (with support from Fountain Forrestry)	<p>Lead author is Jenni O’Neill, BSc Earth Science MRes Environmental Engineering, Associate of IEMA. Jenni is an Environmental Consultant at Xodus with over 3 years’ experience in the environmental and consenting industry. Jenni’s role in Xodus is focussed on supporting environmental assessments and EIAs for renewable and infrastructure developments in the UK. Jenni’s project experience includes environmental consultancy support for renewable energy developments including; onshore wind, battery storage, solar array, substation and grid connection infrastructure.</p> <p>Fountain Forestry is an independent forestry management company, they have undertaken the woodland and forestry surveys for the onshore Project and provided input into the forestry impact assessment, forestry management and mitigation strategies presented within the onshore EIA Report. Lead surveyor and reporting undertaken by Peter Mitchell (Forest Manager) who has over 20 years’ experience in forestry management and associated survey work.</p>
Geology and hydrology	Water Research Centre (WRc) (RSK)	<p>WRc provides technical research and innovation services to the global water, waste management and energy sectors. RSK’s hydrogeologists provide a range of groundwater-related services, including EIA services.</p> <p>Lead author Dr Catherine Isherwood (PhD, MSc, MSci, BA) is a hydrology and hydrogeology specialist with over 16 years’ experience working in the environmental sector, focusing on geoscience, hydrogeology and hydrology. Catherine is a chartered Geologist and fellow of the Geological Society of London. Catherine is currently a Principal Hydrogeologist with WRc. She has worked on developments abroad and throughout the UK, including field experience. Catherine has been a leading specialist for hydrology and hydrogeology EIAs for a wide range of infrastructure, natural resources and energy developments. Associated with her EIA work, she has also produced a number of successful applications for environmental permits and authorisations under a range of different regulatory regimes. Changes to the regulatory regime in Scotland have added to her already considerable experience of developing pollution prevention and water management plans for developments including major windfarm developments.</p>



TECHNICAL SPECIALISM	CONSULTANT	RELEVANT EXPERTISE AND EXPERIENCE
Freshwater ecology	Trex Ecology	<p>Trex Ecology provide specialist, independent services and support which focus on the freshwater environment. This includes baseline fish population and fish habitat assessments; freshwater pearl mussel survey and advice; habitat restoration guidance, design and monitoring; EIA, planning and licensing and monitoring services.</p> <p>Lead author Tommy McDermott is Director of Trex Ecology Ltd. He is primarily a fish ecologist specialising in the links between hydroecology and habitats and salmonid communities. Following his degree (BSc (Hons) and postgraduate (MRes), Tommy spent five years as a macroinvertebrate and hydromorphology Research Associate at Queen's University Belfast / Northern Ireland Environment Agency, after which he moved into consulting with roles as Senior Aquatic Ecologist and Senior Project Manager / Fisheries Scientist in England and Scotland. He has led aquatic elements for several renewable and linear infrastructure developments in the last five years and regularly provides design, construction and monitoring guidance for diverse programmes. He is a full member of the Institute of Fisheries Management, a Scottish Fisheries Coordination Centre accredited Team Leader and holds a freshwater pearl mussel licence.</p>
Terrestrial non-avian ecology	Caledonian Conservation (with support from Practical Land Management)	<p>Caledonian Conservation is an ecological consultancy which provides services to a range of sectors. Caledonian Conservation have supported many renewable energy developments across stages of development, including ecology and ornithology feasibility studies, pre-application surveys, stakeholder consultation, bird collision risk modelling, Ecological Impact Assessment, Ornithological Impact Assessment, Habitat Management Plans, discharge of conditions, pre-construction surveys, Ecological Clerk of Works (ECoW), and post-consent monitoring.</p> <p>Lead author is Chris Cathrine BSc (Hons) who is the director of Caledonian Conservation. Chris is a full Member of CIEEM and a Fellow of Linnean Society of London, Royal Entomological Society. Chris has over 14 years' experience working as an ecological consultant and has worked on a wide range of Ecological Impact Assessments (EclA) for developments, Site Condition Monitoring of protected sites, conservation research, habitat management, policy, guidance, training courses, university lecturing, and public interpretation. Chris's areas of expertise include birds (holding a licence for all Schedule 1 species in Scotland), reptiles, amphibians (holding great crested newt licences for Scotland and England), and invertebrates (particularly spiders, beetles, and true bugs).</p> <p>Practical Land Management is a land management company based in Brora. Practical Land Management have extensive experience in game management maximising productivity and environmental benefits particularly in an upland environment and have undertaken the deer surveys and led the deer management strategies for the onshore Project. Lead surveyor is Robbie Rowantree (MSci) who is a Land Manger and has over 10 years' experience in deer and land management strategies.</p>



TECHNICAL SPECIALISM	CONSULTANT	RELEVANT EXPERTISE AND EXPERIENCE
<p>Terrestrial archaeology and cultural heritage</p>	<p>Orkney Research Centre for Archaeology (ORCA)</p>	<p>ORCA is a commercial and applied research unit within the University of the Highlands and Islands (UHI) Archaeology Institute at Orkney College UHI and is a Registered Organisation of the Chartered Institute for Archaeologists. ORCA is experienced in advising on the marine and onshore cultural heritage implications of proposed developments. ORCA provide marine and onshore historic environment EIA services, including, baseline assessments, desk-based assessments, walkover surveys, interpretation, analysis of onshore and offshore geotechnical datasets for archaeological and palaeo-environmental potential, and provision of management and mitigation strategies.</p> <p>Lead author is Gareth Talbot, BSc (Hons) Archaeology who has been a full member of the Chartered Institute for Archaeologists since 2007. Gareth joined ORCA Archaeology in January 2023 as Senior Project Officer from Atkins where he was an Associate heritage consultant. Gareth has over 25 years' experience in academic and commercial archaeology, with particular experience in consultancy and project management. As part of his consultancy work, Gareth has authored and managed the production of a large number of historic environment EIA chapters for onshore projects, railway and road schemes, and power generation facility projects across Scotland and the rest of the UK.</p>
<p>Air quality</p>	<p>Xodus</p>	<p>Technical lead Dr Anthony (Tony) Millais (PhD. Biochemistry; MSc. Toxicology; BSc (Hons) Biochemistry & Microbiology) has an extensive research background in environmental chemistry, biodegradation, ecotoxicology, environmental modelling and risk assessment gained over 30 years in university, industry and government sectors. Tony is also a member of the Institute of Marine Engineering, Science and Technology. At Xodus, Tony is the subject matter expert for environmental chemistry and dispersion modelling. Tony has a wide experience of environmental assessment, permitting and technical support in all environmental compartments, including atmospherics, groundwater and marine.</p>
<p>Noise and vibration</p>	<p>Hoare Lea</p>	<p>Hoare Lea's acoustic group have supported projects including windfarms within the UK and abroad, and act as independent noise consultants for WTG manufacturers, windfarm developers and local authorities. Hoare Lea assists in planning issues for a wide-ranging experience of a large number of industrial and commercial schemes. This has included several substation projects of varying scale.</p> <p>Lead author is Sarah Gilston, MSc Acoustics, member of the Institute of Acoustics. Sarah is an Acoustic Consultant at Hoare Lea with over 6 years' experience in acoustics. Sarah's role in Hoare Lea is focused on supporting environmental noise assessments and EIAs for renewable energy developments. Sarah's recent project experience and focus has been in the energy sector working on solar farm, battery energy storage, substation and grid connection infrastructure projects.</p>



TECHNICAL SPECIALISM	CONSULTANT	RELEVANT EXPERTISE AND EXPERIENCE
Access, traffic and transport	Systra	<p>Systra specialise in public transport and mobility solutions. Systra’s transport planning assess all relevant issues including current and future travel requirements, urban planning, economic and social development, and environmental protection.</p> <p>Lead author for the access, traffic and transport chapter is Alan DeVenny BEng, PhD, CEng. Alan is a full member of the Institute of Civil Engineers. Alan is a Projects Director with Systra with 22 years’ experience working in traffic and transport consultancy and over 12 years’ experience of working on windfarm developments. Alan has advised on over 130 energy developments delivering EIA chapters, access assessments, infrastructure design and traffic management plans.</p>
Landscape and visual	WSP	<p>WSP is a global engineering professional services consultancy. WSP provide environmental services of which, Landscape and Visual Impact Assessment (LVIA) is an established expertise. WSP is a registered practice of the Landscape Institute.</p> <p>Lead Author is Julia Goodwin, Master of Liberal Arts (MLA), is a professionally registered Landscape Architect (PrLArch) and Associate Member of the Landscape Institute with over 20 years of experience in LVIA for developments across a range of sectors, including renewables and infrastructure. In addition to her extensive work on LVIA as part of EIA and Environmental Appraisal consenting processes, Julia’s experience includes initial landscape and visual appraisals to inform site selection and landscape design, with mitigation measures based on an understanding of local context. Julia has experience with renewables and infrastructure projects within sensitive landscapes, including National Parks, Wild Land and Special Landscape Areas across the UK.</p>



1.6 Structure of the Onshore EIA Report

An overview of the structure of the Onshore EIA Report is provided in Figure 1-2.

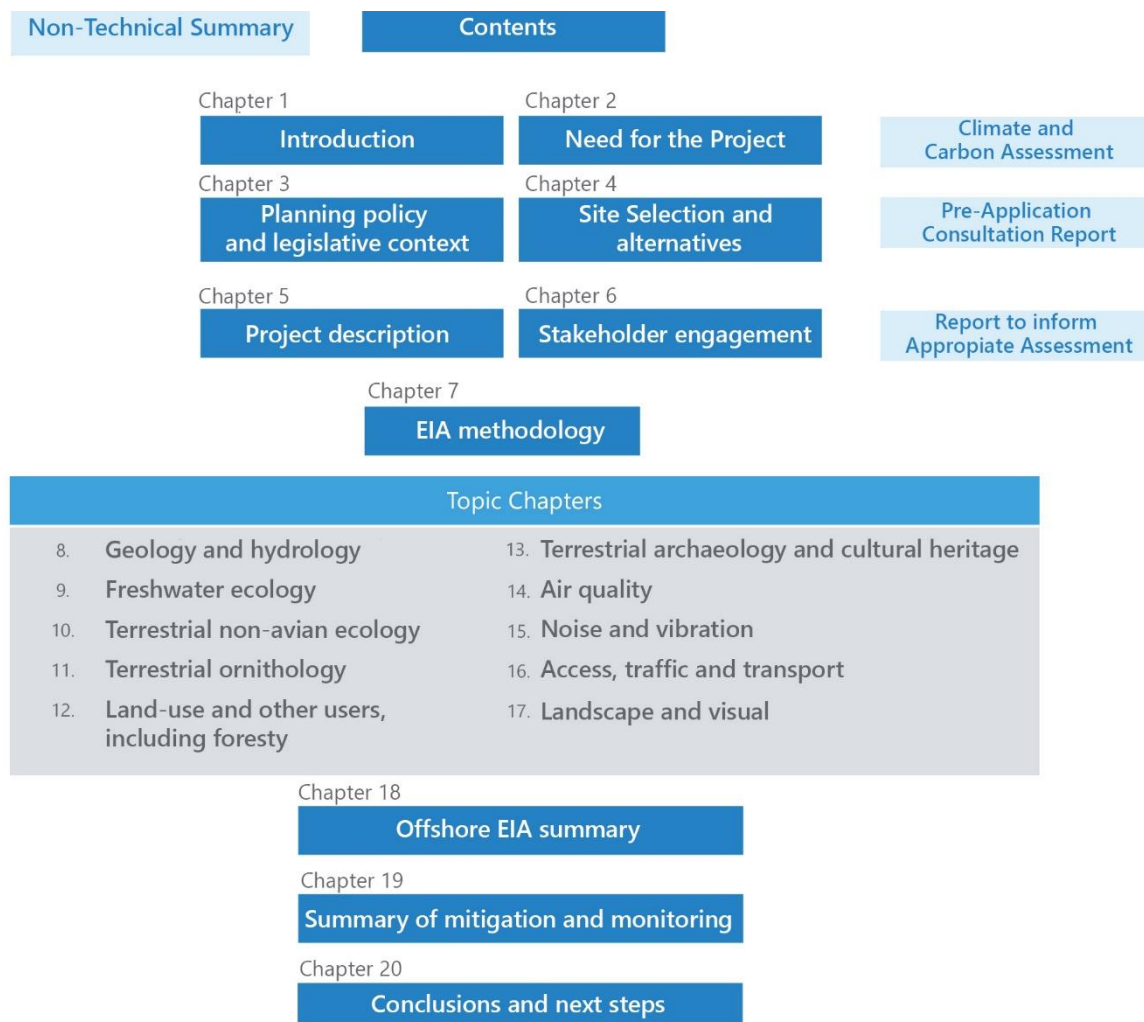


Figure 1-2 Structure of the Onshore EIA Report

Xodus, as an accredited member of IEMA, are independently recognised for producing high standard EIA Reports in accordance with best practice. The voluntary commitments to obtain the EIA Quality Mark are independently reviewed on an annual basis by IEMA to ensure registered organisations continue to deliver added value for their clients.

Alongside the Onshore EIA Report, supporting studies are submitted providing additional information, background research and further analysis. The following Outline Management Plans (OMPs) have also been provided:

- OMP1: Outline Construction Environmental Management Plan (CEMP);
- OMP2: Outline Construction Traffic Management Plan (CTMP); and
- OMP3: Outline Peat Management Plan (PMP).



1.7 Opportunity to comment

In accordance with legislative requirements and industry best practices, submission of the onshore Project Application will be advertised, and this Onshore EIA Report will be publicly available. Stakeholder engagement will continue following submission, and there will be an opportunity to make formal representations to THC.

Hard copies of the Application together with the Onshore EIA Report and other documentation are available to view publicly at the locations detailed in Table 1-3.

Table 1-3 Onshore EIA Report hard copy public locations and times

LOCATION	ADDRESS	OPENING HOURS
Thurso Library	Davidson's Lane Thurso KW14 7AF	Monday and Wednesday - 10am - 6pm Tuesday and Friday - 10am - 8pm Thursday and Saturday - 10am - 1pm Friday - 10am - 8pm
Bettyhill Hotel	A836 Bettyhill KW14 7SP	Monday to Sunday - 3pm - 10.30pm
The Highland Council Headquarters	Glenurquhart Road Inverness IV3 5NX	Monday to Friday - 8am - 4pm
Ulbster Arms Hotel	Bridge Street Halkirk KW12 6XY	Monday-Sunday - 4.30pm - 8.30pm
West of Orkney Windfarm	32 Charlotte Square Edinburgh EH2 4ET	Monday to Friday - 9am - 5pm

Hard copies of the Onshore EIA Report can be purchased for £350 (info@westoforkney.com), and electronic copies of this Onshore EIA Report, including all figures, supporting studies, and accompanying documents, are available to view on the Project website at www.westoforkney.com. Anyone having difficulty accessing the Application documents through this website can contact (info@westoforkney.com) for assistance.

The Application documents are also available via THC planning portal at <https://wam.highland.gov.uk/wam/>. If you wish to comment on this Onshore EIA Report or make representations to THC, you must do so within the representation period specified in the relevant newspaper advert or in any neighbour notification or consultation letter you receive.

A full guide on how to make a formal representation to THC and THC's formal representation process is available on THC's website at: www.highland.gov.uk/info/planning_applications.



1.8 References

CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland.: Terrestrial, Freshwater, Coastal and Marine version 1.2 – Updated April 2022. Available online at: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf> [Accessed 4/10/22].

IEMA (2017). Delivering Proportionate EIA. Available online at: <https://www.iema.net/resources/reading-room/2017/07/18/delivering-proportionate-eia> [Accessed 06/07/2022].

OWPL (2023). West of Orkney Windfarm, Onshore HRA Screening Report. L-100632-S09-A-REPT-002_A01. Available online at: <https://wam.highland.gov.uk/wam/applicationDetails.do?keyVal=RUQZ1PIH0IQ00&activeTab=summary> [Accessed 30/08/2023].

Scottish Government (2013). Planning Advice Note 1/2013: Environmental Impact Assessment. ISBN: 9781782568469. 30 August 2013. Available online at: <https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/pages/2/> [Accessed 13/01/22].

Scottish Government (2023). National Planning Framework 4. ISBN 9781805254829. Available online at: <https://www.gov.scot/publications/national-planning-framework-4/documents/> [Accessed 22/05/2023].

SSEN (2023). Spittal Consultation Substation Options Map Feb-March 23. 27 February 2023. Available online at: <https://www.ssen-transmission.co.uk/projects/project-map/new-spittal-area-400kv-substation/> [Accessed 25/05/2023].



1.9 Abbreviations

ACRONYM	DEFINITION
AA	Appropriate Assessment
BA	Bachelor of Arts
BEng	Bachelor of Engineering
BSc	Bachelor of Sciences
CEMP	Construction Environmental Management Plan
CEng	Chartered Engineer
CES	Crown Estate Scotland
CIA	Cumulative Impact Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
CJB	Cable Joint Bays
cSAC	candidate Special Areas of Conservation
CTMP	Construction Traffic Management Plan
EcIA	Ecological Impact Assessments
ECoW	Ecological Clerk of Works
EEA	European Economic Area
EIA	Environmental Impact Assessment
FID	Final Investment Decision
GW	Gigawatt



ACRONYM	DEFINITION
HES	Historic Environment Scotland
HRA	Habitats Regulations Appraisal
HVAC	High Voltage Alternating Current
IEMA	Institute of Environmental Management and Assessment
km	Kilometre
LVIA	Landscape and Visual Impact Assessment
LSE	Likely Significant Effect
MA	Master of Arts
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High Water Springs
MLA	Master of Liberal Arts
MLWS	Mean Low Water Springs
MRes	Master of Research
MSc	Master of Science
MSci	Master in Science
NPF	National Planning Framework
OAA	Option Agreement Area
OMP	Outline Management Plan
ORCA	Orkney Research Centre for Archaeology



ACRONYM	DEFINITION
OSP	Offshore Substation Platform
OWF	Offshore windfarm
OWPL	Offshore Wind Power Limited
PAN	Planning Advice Note
PDE	Project Design Envelope
PhD	Doctor of Philosophy
PMP	Peat Management Plan
PO	Plan Option
PPA	Power Purchase Agreement
PPP	Planning Permission in Principle
PrLArch	Professional Landscape Architect
pSPA	potential Special Protection Area
RIAA	Report to inform Appropriate Assessment
RIDG	Renewable Infrastructure Development Group
RLB	Red Line Boundary
SAC	Special Areas of Conservation
SCI	Sites of Community Importance
SHET-L	Scottish Hydrogen Electric Transmission plc
SPA	Special Protection Area



ACRONYM	DEFINITION
SPP	Scottish Planning Policy
SSEN	Scottish and Southern Electricity Networks
THC	The Highland Council
TJB	Transition Joint Bay
UHI	University of Highlands and Islands
UK	United Kingdom
WRc	Water Research Centre
WCS	Worst Case Scenario
WTG	Wind Turbine Generator