



Marubeni



Chapter 1: Introduction

Array EIA Report

2024

Version	Comments	Author	Checker	Approver
FINAL	Final	RPS	RPS	RPS

Approval for Issue		
For and on behalf of Ossian OWFL	Paul Darnbrough	28 June 2024

Prepared by:	RPS
Prepared for:	Ossian Offshore Wind Farm Limited (OWFL)
Checked by:	Caitlin Donald
Accepted by:	Fraser Malcolm
Approved by:	Paul Darnbrough

© Copyright RPS Group Plc. All rights reserved.

The report has been prepared for the exclusive use of our client.

The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made.

RPS has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

CONTENTS

- 1. Introduction1
 - 1.1. Introduction.....1
 - 1.2. Project Overview2
 - 1.2.1. ScotWind Leasing Round.....2
 - 1.3. Application For Consent.....2
 - 1.3.1. The Applicant.....2
 - 1.3.2. Application and Associated Documentation.....3
 - 1.3.3. Environmental Impact Assessment.....3
 - 1.4. References8

TABLES

Table 1.1: Array Application Documentation.....	3
Table 1.2: Structure and Content of the Array EIA Report	4
Table 1.3: Qualifications and Experience of the Offshore EIA Report Competent Experts.....	5

FIGURES

Figure 1.1: Location of the Site Boundary Within Which the Array will be Located	1
--	---

1. INTRODUCTION

1.1. INTRODUCTION

1. In January 2022, Ossian Offshore Wind Farm Limited (Ossian OWFL) (hereafter referred to as the 'Applicant') was awarded an Option to Lease Agreement to develop Ossian, an offshore wind farm within the E1 East Plan Option (PO) Area as part of the ScotWind Leasing Round. This project (hereafter referred to as 'Ossian') is a joint venture between SSE Renewables (SSER), Copenhagen Infrastructure Partners (CIP) and Marubeni Corporation (hereafter referred to as 'the Applicant').
2. Ossian is a proposed offshore wind farm located off the east coast of Scotland, approximately 80 km south-east from the nearest point of Aberdeen (see Figure 1.1). The Array is located within the Site Boundary and includes the offshore infrastructure required to generate electricity including the wind turbines (including their floating substructures, as well as the mooring and anchoring systems), the fixed bottom Offshore Substation Platforms (OSPs) and inter-array and interconnector cables. The Array is the subject of this Array Environmental Impact Assessment (EIA) Report.
3. In March 2024, as part of the ongoing Holistic Network Design Follow Up Exercise (HNDFUE), National Grid Electricity System Operator (ESO) published their Transitional Centralised Strategic Network Plan (TCSNP) in the 'Beyond 2030' report (National Grid, 2024). Beyond 2030 sets out National Grid ESO's recommendations to achieve a decarbonised electricity network. The proposed grid design aims to facilitate transmission of a number of offshore wind farm projects. Within this publication it was confirmed that Ossian will be offered two grid connection locations in Lincolnshire, one at Weston Marsh and one at the Lincolnshire Connection Node. Onshore and offshore route optioneering work has now commenced to determine appropriate offshore and onshore export cable corridors, and locations for proposed substation locations. As part of this Ossian has initiated engagement with key stakeholders in Lincolnshire to inform early design and site selection considerations.
4. Due to the ongoing nature of the HNDFUE, and the uncertainty associated with landfall locations, and grid connection dates, the Applicant is currently progressing separate consenting applications for the Proposed offshore export cable corridor(s) and Proposed onshore transmission infrastructure.
5. For the Array, the Applicant will seek the following consents, licences and permissions:
 - a Section 36 consent under the Electricity Act 1989 for an offshore generating station in the Scottish offshore region (12 to 200 nm) where generating capacity exceeds 50 MW; and
 - Two Marine Licences under the Marine and Coastal Access Act 2009 (MCAA) (Scottish waters beyond 12 nm) for the following:
 - generating station (wind turbines, including their floating substructures and mooring and anchoring systems and inter-array cables); and
 - transmission infrastructure (OSPs and interconnector cables within the site boundary).
6. Collectively, the Electricity Works EIA Regulations 2017 and the Marine Works EIA Regulations 2007 are referred to as the EIA Regulations, hereafter.

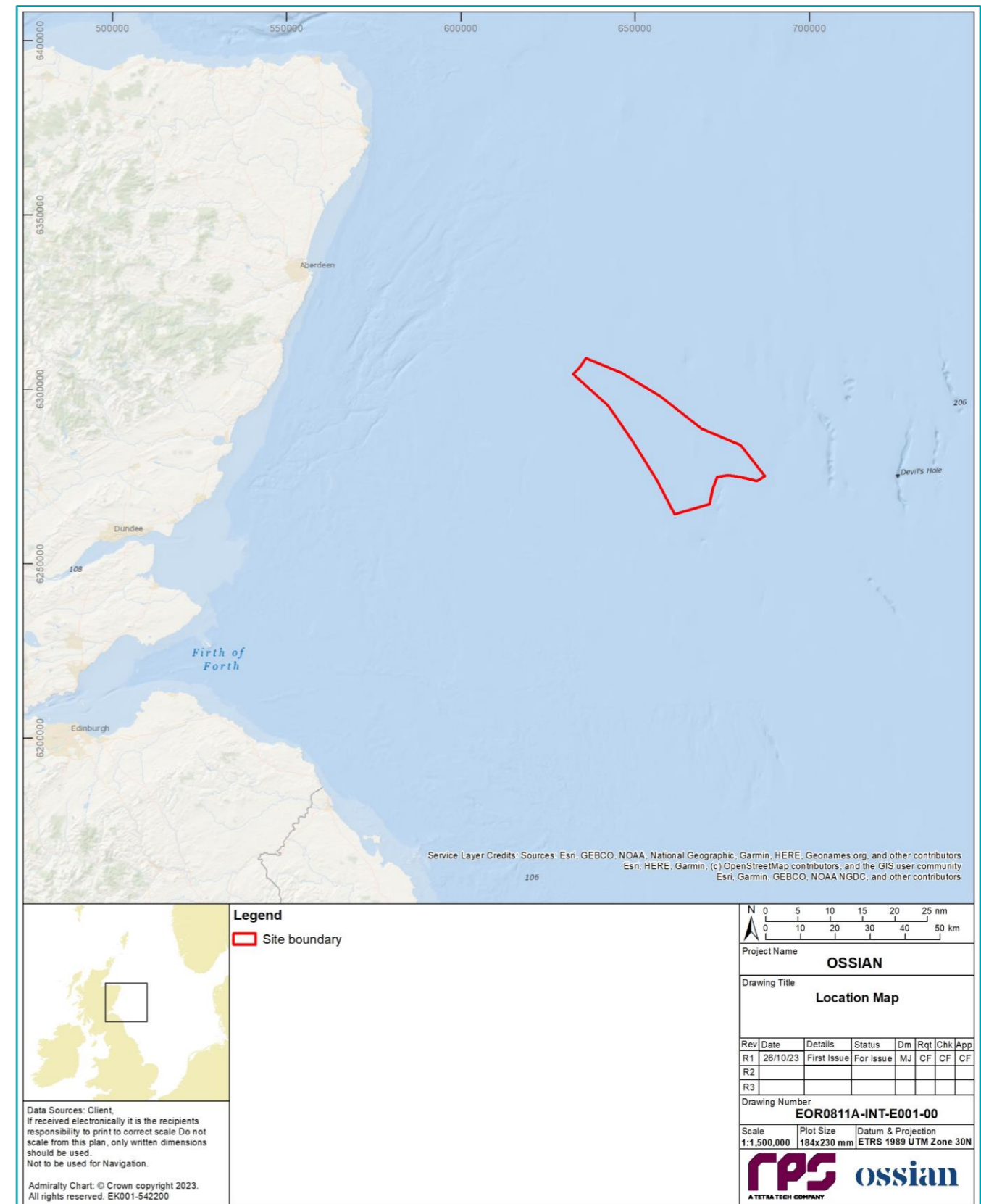


Figure 1.1: Location of the Site Boundary Within Which the Array will be Located

7. The policy and legislative background to the Array, which details the required consents and licenses alongside EU Exit related amendments, can be found in volume 1, chapter 2 and will not be repeated in this chapter.
8. This chapter provides an introduction and overview of the Array, the consents and/or licences which are necessary for the proposed works and details the content of the Array EIA Report. As explained in paragraph 3, separate EIA reports will be provided for both the Proposed offshore export cable corridor(s) and the onshore works by the Applicant. The Proposed offshore export cable corridor EIA report will describe the transmission aspect of Ossian, covering both offshore waters and waters landward of Mean Low Water Springs (MLWS) whilst the Onshore EIA Report will describe the onshore elements of Ossian landward of MLWS and will support the onshore consent and license applications.

1.2. PROJECT OVERVIEW

1.2.1. SCOTWIND LEASING ROUND

9. Crown Estate Scotland (CES) launched the first ScotWind Leasing Round in June 2020. This leasing round gave developers the opportunity to apply for the rights to build offshore wind farms in designated PO areas in Scottish waters. The total generating capacity expected to be built in the next ten years within these specified sites is up to 25 GW. The ScotWind application window for all registered applicants opened in January 2021, with the window closing in July 2021. Option to Lease Agreements were offered in January 2022, with the Applicant being awarded the opportunity to develop within the E1 East PO Area in this Leasing Round. With all Option to Lease Agreements finalised, the total generation capacity of the 20 ScotWind projects stood at just under 27.6 GW (Crown Estate Scotland, 2022).

The Array

10. The site boundary was established through consideration of stakeholder feedback gathered during the pre-application stakeholder engagement phase, as well as review of environmental and engineering constraint analysis.
11. Volume 1, chapter 4 provides information on the site selection and consideration of alternatives for the Array, based on the constraint analysis mentioned in paragraph 10, with a detailed project description for the Array included in volume 1, chapter 3.
12. Key components of the Array include:
 - wind turbines, including floating foundations and mooring, and anchoring systems;
 - inter-array cables;
 - interconnector cables; and
 - OSPs.
13. Mooring and anchoring systems will be used to fix up to 265 floating wind turbines. There will be up to 15 OSPs using piled jackets or suction caisson jackets foundations installed in the Array. Subsea inter-array cables will connect the wind turbines to each other and to the OSPs, while interconnector cables will connect the OSPs to each other.
14. At this stage the overall capacity for the Array is not defined. However, the exported capacity for the Array is expected to be 3.6 GW, although this relies on the number and capacity of the wind turbines installed within the parameters of the Project Design Envelope (PDE) defined for this assessment. The most suitable locations for wind turbines will be determined through detailed site investigation works, which will also further improve understanding of the extent of the area for development. This will allow for the refinement and confirmation of the Array generating capacity prior to construction.

15. The construction activities associated with the Array are expected to last for up to 96 months and are anticipated to commence in 2031. The decommissioning process is likely to follow a similar programme to construction, in a reverse manner. The Applicant is seeking a 35 year consent period.

1.3. APPLICATION FOR CONSENT

1.3.1. THE APPLICANT

16. The Applicant holds vast experience in the renewables sector and an ever-growing portfolio in the offshore wind sector, as described in the following paragraphs.
17. SSER is a leading developer, owner, and operator of renewable energy headquartered in the UK and Ireland, with a growing international presence. SSER's portfolio consists of around 4 GW of onshore wind, offshore wind, and hydro. SSER is part of the FTSE-listed SSE plc, with a strategy to lead the transition towards net zero through world class development, construction, and operation of clean power assets across a diverse mix of renewable technologies.
18. SSE Renewables is investing around £7bn to 2027, or almost £4m a day on average, to support the delivery of SSE's Net Zero Acceleration Programme to address climate change head on. This includes plans to increase installed renewable energy capacity to around 9GW by 2027, including the delivery of the world's largest offshore wind farm in construction. SSE Renewables has a team of around 1,800 renewable energy professionals based across the UK and Ireland, Continental Europe, and Japan, all committed to delivering the green energy the world needs now and in the future. Currently SSER's offshore wind development and construction pipeline in the UK and Ireland are sitting at approximately 8.8GW.
19. SSER boasts the world's largest offshore wind energy project in Dogger Bank Wind Farm, located in the North Sea, which when complete will have a generating capacity of 3.6 GW. The project generated its first power in October 2023. An extension to Dogger Bank (Dogger Bank D) is currently under development. A planning application has also been submitted in their name for Berwick Bank Offshore Wind Farm, which when complete will be one of the largest offshore wind developments in the world, with a generating capacity of 4.1 GW. On top of this, SSER and joint venture partners Total Energies are also responsible for Scotland's largest, and the world's deepest, fixed bottom offshore site in their 1.1 GW joint venture Seagreen Offshore Wind Farm located in the Firth of Forth, which is fully operational.
20. Founded in 2012, Copenhagen Infrastructure Partners P/S (CIP) today is the world's largest dedicated fund manager within greenfield renewable energy investments and a global leader in offshore wind. The funds managed by CIP focus on investments in offshore and onshore wind, solar PV, biomass and energy-from-waste, transmission and distribution, reserve capacity, storage, advanced bioenergy, and Power-to-X. CIP manages 12 funds and has to date raised approximately EUR 26 billion for investments in energy and associated infrastructure from more than 150 international institutional investors.
21. The UK is a core investment market for CIP. It invests across all phases of the energy asset lifecycle (including origination, development, construction, and operations), both as an equity and/or debt partner. To date, CIP has invested more than £1.5bn in UK-based projects and currently has ~18GW in operation, construction or development phase incorporating Offshore wind, Onshore wind, Solar, Battery energy storage, Biomass, Energy from Waste, and Interconnectors. Marubeni Corporation is a Japanese conglomerate with extensive interests in power generation and renewable energy. The company has built considerable offshore wind experience since its first investment into offshore wind in 2011 as the first Japanese IPP to enter the UK offshore wind market. Part of their ever-growing portfolio is their involvement in the development and operation of over 2 GW of onshore and offshore wind farms (Marubeni Offshore Wind Development, 2023).
22. Marubeni played a key role, in conjunction with Akita Offshore Wind Corporation, in delivering the first large scale fixed bottom offshore wind farm in Japan with their projects at Akiko Port and Noshiro Port in the Akita Prefecture. During these projects, Marubeni was responsible for the development, construction

and maintenance, as well as the financing of the project which consisted of 33 wind turbine units with a total output of 140 MW, generating enough energy to power up to 130,000 households (Marubeni Corporation, 2023). The Noshiro Port and the Akiko Port Wind Farms started operation in December 2022 and January 2023, respectively (Akita Offshore Wind Corporation, 2023).

23. 21 Marubeni brings a wealth of sector experience of delivering floating offshore wind to the consortium, including leading floating offshore wind demonstration projects in Japan with five different floating foundations. The Fukushima Floating Offshore Wind Farm was operational between 2013 and 2020, consisting of three floating turbines, with total capacity of 14MW, and one floating substation installed 20km off the coast of Naraha-town (Fukushima prefecture). The Kitakyushu Floating Offshore Wind Farm began operating in 2019, consisting of one floating turbine installed 15km off the coast of Kitayushu-city (Fukuoka prefecture). Marubeni managed the project consortiums for these projects, as well as taking a lead role in consenting and permitting, economics analysis, operation and maintenance, and coordination with fisheries gaining significant experience across the full project lifecycle of floating wind, including the decommissioning process.

The offshore EIA consultant

24. The Applicant appointed RPS Energy Consultants Ltd (hereafter referred to as 'RPS') to lead the production of the Array EIA Report. RPS is a founding member of the Institute of Environmental Management and Assessment (IEMA) as well as a registrant of IEMA Quality Mark scheme. RPS have a lot of experience of writing EIA Reports for offshore wind projects, having written the reports for the Hornsea Projects one, two and three as well working with SSER to deliver the Berwick Bank Offshore EIA Report. As well as the recent experience of the Hornsea and Berwick Bank projects, the relevant experience of RPS technical experts, and the subcontractors used, can be found in Table 1.3.

1.3.2. APPLICATION AND ASSOCIATED DOCUMENTATION

25. Separate consents, licenses and permissions for the offshore (seaward of Mean High Water Springs (MHWS)) and onshore (landward of MLWS) infrastructure of Ossian will be required and will be applied for by the Applicant. The consents, licences and permissions which will be sought by the Applicant relevant to the Array include those listed in paragraph 5, with Table 1.1 providing a summary of the offshore application documentation. As mentioned in paragraph 3, the Proposed offshore export cable corridor(s) and Proposed onshore transmission infrastructure of Ossian and, therefore, the onshore application documentation, will be discussed in a separate EIA Report that will be delivered once the grid connection point has been finalised.
26. More information on the consents, licences and permissions as well as their accompanying policy and legislation for the Array is presented in volume 1, chapter 2.

Table 1.1: Array Application Documentation

Document	Leading Author
Application Forms	
Cover letter	The Applicant
Section 36 application	The Applicant
Marine Licence application	The Applicant
Array EIA Report	
Non-Technical Summary (NTS)	RPS
Volume 1 - Introductory Chapters	RPS
Volume 2 - Array EIA Report Specialist Assessment Chapters	RPS/Anatec/BiGGAR/NIRAS/Osprey/Poseidon/Seiche
Volume 3 - Technical Reports	RPS/Anatec/BiGGAR/HiDef/NIRAS/Osprey/Poseidon/Seiche

Document	Leading Author
Volume 4 - Outline Management Plans including; <ul style="list-style-type: none"> Environmental Management Plan (EMP) Marine Mammal Mitigation Plan (MMMP) Fisheries Management and Mitigation Strategy (FMMS) Navigational Safety and Vessel Management Plan (NSVMP) Scour Protection Management Plan (SPMP) Lighting and Marking Plan (LMP) 	RPS/The Applicant
Offshore Application Accompanying Documents	
Planning and Need Statement	The Applicant
Pre-Application Consultation (PAC) Report	The Applicant/RPS
Gap Analysis (as per requirement following receipt of Scoping Opinion)	The Applicant/RPS
Report to inform Appropriate Assessment (RIAA) including: <ul style="list-style-type: none"> Part 1: Introduction and background Part 2: Special Areas of Conservation (SACs) and annexes Part 3: Special Protection Areas (SPAs) and annexes 	RPS/NIRAS
Derogation documents including: <ul style="list-style-type: none"> Ecological Evidence Report; Compensation Plan; Compensation Measures Overview Report; Compensation Implementation Plan; Compensation Measures EIA; and Compensation Measures Habitat Regulations Assessment (HRA). 	The Applicant/RPS/NIRAS

1.3.3. ENVIRONMENTAL IMPACT ASSESSMENT

Purpose of the Array EIA Report

27. The Applicant has prepared the Array EIA Report, which has been developed to meet the requirements of the EIA Regulations, to accompany applications for consent as detailed in paragraph 5.
28. A description of the Array is presented in the Array EIA Report as well as providing the environmental information that has been collated in order to carry out an assessment of the likely significant environmental effects of the Array on the receiving environment.
29. The Array EIA Report especially:
 - offers technical information to help statutory and non-statutory consultees with their understanding of the Array;

- provides the current environmental baseline information, derived from desktop studies, site-specific surveys and/or consultation;
 - describes the EIA methodology used in the assessments;
 - describes the potential environmental impacts arising from the Array, when considering the baseline information and gathered data, and the analysis and impact assessments completed as part of the EIA process;
 - carries out an assessment of likely significant effect (LSE¹) and considers mitigating actions for these;
 - outlines the level of confidence in the data used in the assessment along with any data limitations, including where any data gaps or shortfalls exist;
 - suggests designed in mitigation measures to avoid, prevent, limit or, wherever possible, offset any significant adverse effects on the environment identified as part of the assessment, and, where appropriate, proposes monitoring arrangements to corroborate findings within the Array EIA Report. Where additional mitigation measures have been identified, the residual significance of effect has also been presented; and
 - provides evidence of the main reasons for site selection and a description of the reasonable alternatives considered for the Array.
30. An overview of the findings of the Array EIA Report in non-technical language will be provided in the NTS. Both the Array EIA Report and the NTS are available for download at: <https://ossian-eia.com/>

Scope of the assessment

31. In March 2023, the Ossian Array EIA Scoping Report was submitted by the Applicant to Marine Directorate – Licensing and Operations Team (MD-LOT) to support a request for a formal Scoping Opinion from Scottish Ministers in relation to the Ossian Array EIA Scoping Report (Ossian OWFL, 2023). The Scoping Opinion provided in response to said request was received June 2023 (MD-LOT, 2023). The representations made as part of the Ossian Array Scoping Opinion (MD-LOT (2023)), together with the pre-Scoping workshops held with stakeholders, provided guidance to the Applicant when defining the proposed scope and approach to the Array EIA Report. As a result of this, the Array EIA Report focuses on the following topic areas:
- Physical Processes;
 - Benthic Subtidal Ecology;
 - Fish and Shellfish Ecology;
 - Underwater Noise;
 - Marine Mammals;
 - Offshore Ornithology;
 - Commercial Fisheries;
 - Shipping and Navigation;
 - Aviation, Military and Communications;
 - Marine Archaeology;
 - Infrastructure and Other Users;
 - Major Accidents and Disasters;
 - Climatic Effects;
 - Socio-economics;
 - Marine Archaeology; and
 - Inter-Related Effects.
32. Details of the consultation with statutory and non-statutory stakeholders carried out by the Applicant during the pre-Scoping, Scoping and EIA phases is presented in volume 1, chapter 5, together with a complete list of stakeholders who were involved in the consultation. A summary of the topic specific consultations is also included in each topic chapter (see volume 2, chapters 7 to 19).

Structure of the Array EIA Report and EIA consultant

33. The Array EIA Report is divided into four volumes:
- volume 1 – Introductory Chapters;
 - volume 2 – Array EIA Report Specialist Assessments Chapters;
 - volume 3 – Array EIA Technical Reports; and
 - volume 4 – Outline Management Plans.
34. Table 1.2 provides a breakdown of the contents of each of the Array EIA Report volumes and the organisations that have contributed to them.
35. The Applicant, aiming to provide a robust and well informed application, has ensured that each technical topic listed in paragraph 31 was delivered by an expert team. Table 1.3 provides details on the qualifications and experience of the competent experts involved in the Array EIA Report.

Table 1.2: Structure and Content of the Array EIA Report

Chapter Number	Chapter Title	Lead Author
Non-Technical Summary		
-	Non-Technical Summary	RPS
Volume 1 – Introductory Chapters		
-	Table of Contents	RPS
-	Glossary	RPS
-	Acronyms	RPS
1	Introduction	RPS
2	Policy and Legislation	RPS
3	Project Description	RPS
4	Site Selection and Consideration of Alternatives	RPS
5	Stakeholder Engagement and Consultation	RPS
6	Environmental Impact Assessment Methodology	RPS
Volume 2 – Array EIA Report Specialist Assessments Chapters		
7	Physical Processes	RPS
8	Benthic Subtidal Ecology	RPS
9	Fish and Shellfish Ecology	RPS
10	Marine Mammals	RPS
11	Offshore Ornithology	NIRAS
12	Commercial Fisheries	Nima Consultants
13	Shipping and Navigation	Anatec
14	Aviation, Military and Communications	Osprey
15	Infrastructure and Other Users	RPS
16	Major Accidents and Disasters	RPS
17	Climatic Effects	RPS
18	Socio-Economics	BiGGAR
19	Marine Archaeology	RPS
20	Inter-Related Effects	RPS
Volume 3 – Technical Reports		
Appendix 5.1	Consultation Responses	RPS
Appendix 6.1	Scoping Report	RPS
Appendix 6.2	Scoping Opinion	RPS

Chapter Number	Chapter Title	Lead Author
Appendix 6.3	Enhancement, Mitigation, and Monitoring Commitments	RPS and The Applicant
Appendix 6.4	Cumulative Effects Appendix	RPS
Appendix 6.5	Cumulative Effects – Location of Projects and Plans	RPS
Appendix 6.6	Transboundary Impacts Screening	RPS
Appendix 7.1	Physical Processes Technical Report	RPS
Appendix 8.1	Benthic Subtidal Ecology Technical Report	RPS
Appendix 9.1	Fish and Shellfish Ecology Technical Report	RPS
Appendix 10.1	Underwater Noise Technical Report	Seiche
Appendix 10.2	Marine Mammals Technical Report	RPS
Appendix 10.3	iPCoD Modelling Report	RPS
Appendix 11.1	Offshore Ornithology Baseline Report	NIRAS
Appendix 11.2	Offshore Ornithology Collision Risk Model (CRM) Technical Report	NIRAS
Appendix 11.3	Offshore Ornithology Displacement Technical Report	NIRAS
Appendix 11.4	Offshore Ornithology MRSea Technical Report	RPS
Appendix 11.5	Offshore Ornithology EIA Population Viability Analysis (PVA) Technical Report	NIRAS
Appendix 12.1	Commercial Fisheries Technical Report	Nima Consultants
Appendix 13.1	Shipping and Navigation Navigational Risk Assessment (NRA)	Anatec
Appendix 14.1	Aviation, Military and Communications Technical Report	Osprey Limited
Appendix 17.1	Climatic Effects Greenhouse Gas (GHG) Technical Report	RPS
Appendix 17.2	Climatic Effects Climate Change Risk Assessment (CCRA) Technical Report	RPS
Appendix 17.3	In Combination Climate Change Impact (ICCI) Assessment	RPS
Appendix 18.1	Socio-Economics Technical Report	BiGGAR
Appendix 19.1	Marine Archaeology Technical Report	RPS
Appendix 19.2	Marine Archaeology Written Scheme of Investigation (WSI) and Protocol for Archaeological Discoveries (PAD)	RPS
Volume 4 – Outline Management Plans		
Appendix 21	Environmental Management Plan (EMP)	RPS and The Applicant
Appendix 22	Marine Mammal Mitigation Plan (MMMP)	RPS and The Applicant
Appendix 23	Fisheries Management and Mitigation Strategy (FMMS)	RPS and The Applicant
Appendix 24	Navigational Safety and Vessel Management Plan (NSVMP)	Anatec and The Applicant
Appendix 25	Scour Protection Management Plan (SPMP)	RPS and The Applicant
Appendix 26	Lighting and Marking Plan (LMP)	Anatec and The Applicant

Table 1.3: Qualifications and Experience of the Offshore EIA Report Competent Experts

Expert	Qualifications	Relevant Experience
RPS: EIA Project Director	BSc, Postgraduate Certificate in Education (PGCE)	The Project Director has over 20 years' experience in the environmental field, including supporting major offshore wind farms in the UK. Their offshore wind farms project experience includes Inch Cape as senior marine mammal advisor, Rhiannon as marine mammal Project Manager and HRA lead, Berwick Bank as offshore EIA and HRA Project Manager/Director, and supporting clients through both the UK Round 4 and ScotWind application processes. They also provides strategic advice into RPS's key offshore wind project portfolio. They have been responsible for the project management and delivery of a range of marine and onshore projects, including environmental aspects of a large onshore infrastructure projects such as the south-west Scotland Connections project and over 17 marine projects including leading on HRA, consenting strategy and marine mammal assessments. Whilst at SNH they provided statutory nature conservation advice on the CES Pentland Firth and Orkney Waters wave and tidal leasing round, including advising projects on site selection, environmental constraints and landfall options.
RPS: Physical Processes Technical Lead	Meng, CEng	The Physical Processes technical lead has 16 years of experience within the coastal team at RPS and has been responsible for the development of numerous hydrodynamic models using the MIKE suite of modelling software, including fluvial, estuarine and coastal modelling. They have been involved in the preparation of EIA Report and technical appendices for a range of studies, including several offshore wind farms in Scottish waters. They worked as the principal modeller for the 'Irish Coastal Protection Strategy Study', which involved tidal and storm surge hindcasting and wave modelling around the entire Irish coastline, in order to establish primary coastal flood risk areas and to produce flood plain mapping for various return period water levels. They were also a key member of the RPS team who provided a real-time storm surge forecasting service for the Irish coastline for 15 years
RPS: Benthic Ecology Technical Lead	BSc (Hons) Marine Biology & Oceanography	The Benthic Ecology technical lead is a highly experienced marine ecologist and project manager, with a history of over 12 years in global marine survey and consulting, including provision of regulatory advice to the Marine Management Organisation (MMO) in support of consenting and licensing for marine developments (construction projects, aggregates, aquaculture, offshore renewables) and baseline characterisation and EIA for offshore renewables, estuarine and coastal constructions, and utilities projects. They have global experience of marine habitat assessment and interpretation of sediment and seawater physico-chemical data, including detailed hydrocarbon interpretation to determine contamination sources. They are also experienced with applying these assessments in an EIA context, to determine the likely effects on specific receptors.

Expert	Qualifications	Relevant Experience
RPS: Fish and Shellfish Ecology Technical Lead	BSc, PhD, ACIEEM	The Fish and Shellfish technical lead is an Associate Director with over 13 years' experience as a marine consultant working in the offshore renewables field. They have a PhD in marine ecology and specialises on the fish and shellfish ecology and benthic subtidal and intertidal ecology, including mapping and assessment of protected and sensitive habitats, EIA, Ecological Impact Assessment (EclA) and Habitats Regulations Assessment for a wide range of industries and developments, particularly offshore renewables and cables. They have also acted as expert witness at hearings for a number of offshore wind farms in the UK, giving evidence on the impact of construction and operation of wind farm infrastructure on seabed habitats, including Annex I habitats of European sites.
RPS: Marine Mammals Technical Lead	BSc (Hons), MSc	The Marine Mammals technical lead is a Principal Consultant with over 13 years of experience in providing ecological advice to inform policy and legislation and technical advice to industry in development of Environmental Impact Assessments and Habitats Regulation Assessments, with a particular specialism in marine mammals. They have provided advice to a wide range of Nationally Significant Infrastructure Projects and major development applications, including offshore wind farm projects in Rounds 2, 3 and 4, nuclear builds, electrical interconnectors, capital dredging, aggregate extraction, oil and gas exploration and seismic/geophysical surveys. They were also heavily involved in the creation of marine mammal management units in UK waters and the designation of harbour porpoise Special Areas of Conservation and the subsequent development of the spatial and temporal underwater noise management thresholds.
Seiche: Underwater Noise Technical Lead	CEng, BSc (Hons) Physics, MIOA, ASA	The Underwater Noise technical lead is a specialist acoustic consultant with a wide range of experience gained over 24 years. They have led underwater noise modelling and assessment studies on a wide range of projects, including offshore wind farms, tidal energy developments, wave energy convertors, ports, harbours, geophysical surveys, interconnectors, pipelines and offshore oil and gas developments.
NIRAS: Offshore Ornithology Technical Lead	BSc (Hons), MSc, BTEC	The Offshore Ornithology technical lead is an experienced Marine Environmental Consultant with a strong background in project management. They have experience covering EIA, consenting, licensing and Geographic Information System (GIS) across marine projects. They have a great deal of experience in telecoms cables (including national and international landings) and offshore wind, including Plan level HRAs (extensions (2019) and Round 4).
HiDef: Operations and Projects Team	BSc (Hons), MArch, APMQ, PMP	HiDef are the market leader in conducting digital aerial surveys and have flown multiple surveys within Scotland, the UK and Europe, contributing high quality data to developers within the offshore wind farm industry. The team are experienced in project management, in data analysis and compiling reports to present alongside EIA applications.

Expert	Qualifications	Relevant Experience
RPS: Offshore Ornithology Technical Lead	BSc (Hons), MSc, PhD	The Offshore Ornithology technical lead is an Associate Consultant specialising in Ornithology and in their 2 years at RPS has helped drive innovation, working on monitoring the effects of offshore wind energy developments on bird populations using a variety of statistical and mathematical modelling approaches as part of the EIA and HRA processes. They have ten years of academic experience as a quantitative ecologist, developing many transferable skills, including project and people management, data acquisition and interpretation, statistical analysis, stakeholder engagement, and communication.
Poseidon (NiMa): Commercial Fisheries Technical Lead	BSc (Hons), BEng (Hons)	The Commercial Fisheries technical lead has worked for fisheries and international environmental consultancy companies as a Senior Consultant. They have managed large renewable energy EIAs for wind and tidal developments, and has completed numerous commercial fisheries and natural fish resource assessments for offshore wind and tidal EIAs, feasibility and scoping studies. They have assisted in the development of industry plans including the recent Scottish Inshore Fishery Groups Model Management Plan and Guidance and the South East Fishing Industry Development Plan. Recent project experience includes Marine Stewardship Council full and pre-assessments in the UK, Sweden and Denmark, and research on life-cycle analysis issues and associated actions to improve sustainability of seafood production and consumption in the UK.
Anatec: Shipping and Navigation Technical Lead	MSc	The Shipping and Navigation technical lead is a Senior Risk Analyst at Anatec Ltd and has over 10 years' experience in shipping and navigation and marine risk assessment, with their specific area of expertise being offshore wind farms. They have been involved in numerous Navigation Risk Assessment processes including for various successfully consented UK wind farm projects and therefore has experience in all associated assessment components including stakeholder liaison, leading hazard workshops, data analysis and interpretation, and software risk modelling.

Expert	Qualifications	Relevant Experience
Osprey: Aviation, Military and Communications Technical Lead	Joint Air Traffic Controllers Course 1988. Dip. Leadership and Management, Lincoln 2006.	The Aviation technical lead has many years of experience in the independent assessment of potential technical impact of wind turbine developments on aviation stakeholders and equipment including radar, navigation beacons and communication links. They are experienced in all stages of wind energy aviation assessment and planning requirements, including scoping, Preliminary Environmental Impact Report (PEIR) and Environmental Statement preparation, Development Consent Order (DCO) proof of evidence preparation, and mitigation of aviation and military impacts. Their significant offshore projects to which he has provided aviation expertise include Neart na Gaoithe Offshore Wind Farm, Inch Cape Offshore Wind Farm, Norfolk Vanguard and Norfolk Boreas, the Thanet Extension and the Hornsea projects. He is competent in stakeholder relationship management and an experienced and facilitator of meetings between developers and receptor organisations. They have experience in the assessment of onshore and offshore wind farms in the UK, France, Norway, Denmark, Republic of Ireland and the Far East.
RPS: Infrastructure and Other Users and Major Accidents and Disasters Technical Lead	MSc Environmental Science, BSc Ocean Sciences, Chartered Environmentalist (Cenv), Chartered Scientist (Csci)	The Infrastructure and Other Users and Major Accidents and Disasters technical lead has over 15 years' experience in the energy sector, including onshore and offshore aspects of exploration, Intervention and production oil and gas operations. They have moved into the renewables sector- specifically offshore wind – where they have gained experience as an EIA offshore coordinator and technical lead (other sea users, major accidents and disasters, marine archaeology and aviation and radar) as well as with Cumulative Environmental Assessment (CEA), the preparation of Series and Dataset metadata templates using the Metadata Maestro tool, emergency response planning, Oil Spill Contingency Planning, environmental audit and environmental permitting specific to the offshore wind sector.
RPS: Climatic Effects Technical Lead	BSc (Hons), MSc, BREEAM UK NC Assessor	The Climatic Effects technical lead has comprehensive experience and technical knowledge in the principles of sustainability including corporate sustainability, climate change and sustainable design. They are experienced in the assessment of impacts of climate change and carbon footprint analysis at both project, including DCO scale, and organisational levels.

Expert	Qualifications	Relevant Experience
BiGGAR: Socio-Economics and Tourism Technical Lead	BEd	The Socio-Economics technical lead is an applied economist with more than 25 years' experience in consultancy. They co-founded BiGGAR Economics in 2002 and were previously manager of Deloitte's economic consulting practice in Scotland and Northern Ireland. They have led all of BiGGAR Economics work in the renewable energy sector, which means that they have been involved in assessing the economic and tourism impacts of more than 60 renewable energy proposals and has provided expert witness at several hearings and inquiries. Their understanding of renewable energy projects and experience of community, social and economic development, have been complimented by wider commissions that have considered the opportunities and requirements of the renewable energy industry.
RPS: Inter-Related Effects Technical Lead	BSc, Postgraduate Advanced Certificate, Practitioner Member (IEMA)	The Inter-Related Effects technical lead is an experienced marine environmental consultant with twenty years of marine-related experience in environmental consultancy obtaining consents and permits for coastal and offshore developments across an extensive and diverse range of projects, from submarine cables, marine renewables to the oil and gas industry. Joining RPS just under 2 years ago, the technical lead now specialised in HRA for offshore renewable projects. In response to stakeholder feedback on the Berwick Bank Offshore Wind Farm project, they developed the first ecosystem-based assessment which then formed part of the inter-related effects chapter of that EIA Report.
RPS: Marine Archaeology Technical Lead	MSc	The Marine Archaeology technical lead is an experienced EIA practitioner with 4 years' experience supporting the renewable energy sector. They have delivered on a number of large and smaller scale projects including numerous impact assessments, post consent plans, marine archaeological surveys, technical reports, and mitigation and monitoring plans. Their technical background in marine archaeology results from her early career as an archaeologist throughout the UK and Northern Europe and experience as a marine archaeologist and marine archaeological consultant. Their recent experience includes providing a high-level desk based feasibility assessment for ScotWind lease areas as part of the latest round of leasing for offshore wind farms off the coast of Scotland, producing technical reports, EIA chapters and WSIs for a number of Offshore Wind Farms and delivering the marine archaeology chapters for both the UK and French aspects for a nationally significant Interconnector
RPS: HRA Technical Lead	BSc, Postgraduate Advanced Certificate	The HRA technical lead is an experienced marine environmental consultant with over eighteen years marine related experience in environmental consultancy obtaining consents and permits for coastal and offshore developments across an extensive and diverse range of projects from, submarine cables, marine renewables to the oil and gas industry. They specialise in EIA, HRA and Strategic Environmental Assessment and are responsible for the successful delivery of consents and assessments for numerous marine projects.

1.4. REFERENCES

Akita Offshore Wind Corporation (2022). *News: Start of Commercial Operation*. Available at: [NEWS/Akita Offshore Wind Corporation \(AOW\)](#). Accessed on: 07 July 2023.

Crown Estate Scotland (2022). *ScotWind Rapid Review*. Available at: [ScotWind Rapid Review - Offshore Wind - Scotland's property - Crown Estate Scotland](#). Accessed on: 06 July 2023.

MD-LOT (2023). *Scoping Opinion for Ossian Array*. Available at: [Scoping - Ossian offshore Wind Farm | Marine Scotland Information](#). Accessed: 21 July 2023.

Marubeni Corporation (2023). *Company Profile*. Available from: <https://www.marubeni.com/en/company/profile/>. Accessed on: 07 July 2023.

Marubeni Offshore Wind Development (2023). *Home Page*. Available at: <https://mowd.jp/en/>. Accessed on: 07 June 2023.

National Grid (2024). *Beyond 2030: a national blueprint for a decarbonised electricity system in Great Britain*. Available at: [download \(nationalgrideso.com\)](#). Accessed on: 26 March 2024.

Ossian OWFL (2023). *Ossian Array EIA Scoping Report*. March 2023. Ossian Offshore Wind Farm Limited.

Ossian



Marubeni



Ossian Offshore Wind Farm Limited

Inveralmond House
200 Dunkeld Road
Perth
PH1 3AQ

Project Office

Fourth Floor
10 Bothwell Street
Glasgow
G2 6NT

ossianwindfarm.com