Chapter 1
Introduction

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

A TETRA TECH COMPANY

PARK WIND
JERA GROUP

Energy for generations

ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report
Chapter 1: Introduction

MDR1520B
EIAR – Chapter 1
A1 C01
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1 CHAPTER 1 – INTRODUCTION

1.1 Introduction

The Oriel Wind Farm Project (hereafter referred to as "the Project") is a proposed offshore wind farm in the Irish Sea, off the coast of County Louth (approximately 22 km east of Dundalk town centre and 18 km east of Blackrock). Oriel Windfarm Ltd (hereafter referred to as "the Applicant") is proposing to develop the Project.

The Project will have a maximum export capacity (MEC) of 375 MW and will consist of 25 offshore wind turbine generators (WTGs). The closest wind turbine will be approximately 6 km from the closest shore on the Cooley Peninsula. The offshore cable corridor extends approximately 11 km southwest from the offshore wind farm area to a landfall location south of Dunany Point. From the landfall, the underground onshore cable will connect the offshore wind farm to an onshore substation, located at Stickillin, east of Ardee, which will then connect to the existing National Electricity Grid at this point. The onshore cable route is approximately 20.1 km length and is predominantly routed along public roads.

The Applicant was granted a Maritime Area Consent (MAC) in December 2022 (Ref. MAC No. 2002-MAC-001). The Applicant has prepared this Environmental Impact Assessment Report (EIAR) to support an application for permission to construct and operate the Project under the Planning and Development Act 2000, as amended.

1.2 The Applicant

The Applicant, Oriel Windfarm Limited is an Irish company established in 2005 to develop the Project. The Project is a joint venture between Parkwind N.V. and ESB Wind Development a wholly owned subsidiary of Electricity Supply Board (ESB). A joint venture agreement has been executed between Parkwind and ESB to formalise the joint development of the project. Parkwind hold a controlling number of shares in the joint venture company.

1.2.1 Parkwind

Parkwind was founded in Belgium in 2012 as a full life-cycle business that develops, finances, and operates offshore wind farms. Since July 2023, Parkwind has been operating as part of JERA Co., Inc. one of the largest power generational companies in the world. Together, Parkwind and JERA have more than a decade of experience and over 1,500 MW of offshore wind assets under operational management and construction in Belgium and Germany, the UK, Taiwan and Japan, in addition to an extensive pipeline of offshore wind projects in development around the world including in Belgium, Germany, Ireland, the UK, Norway, Greece, and Australia/New Zealand.

Parkwind currently has 771 MW under operational management spread across four wind farms in the North Sea and 577 MW under development; it has steadily become one of Europe's leading independent offshore industry companies. Parkwind has recently completed a fifth wind farm in the German Baltic Sea. The Arcadis Ost project is a 257 MW wind farm located north-east of the island of Rügen, Germany.

1.2.2 ESB

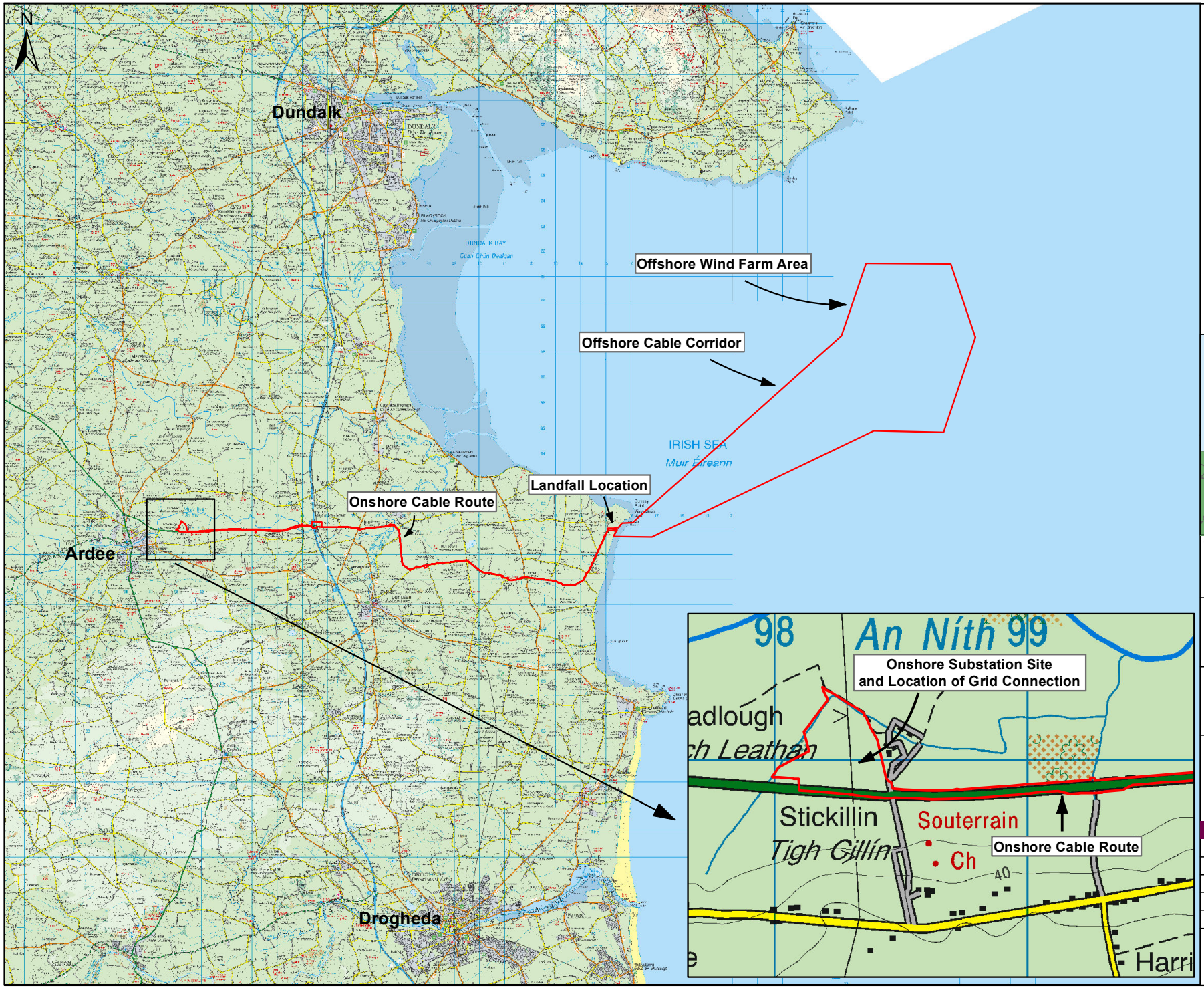
ESB, is Ireland's leading electricity utility which was established in 1927. The Irish Government are the majority shareholders of ESB. As the national electricity provider, ESB invest in wind farm energy in order to deliver long-term social, economic and environmental benefits for the state.

Since the 1980s, ESB have been involved in the development and construction of wind farms in Ireland and the UK, through to their operations and maintenance. Launched in 2023, *Networks for Net Zero Strategy* outlines ESB's commitment to futureproofing Ireland's electricity network and making the country's goal of net zero by 2050 a reality. ESB plan to deliver a fivefold increase in their renewable generation portfolio to 5,000 MW by 2040.

1.3 Project overview

The Project will comprise of onshore and offshore infrastructure and includes the following key components, which are described further in chapter 5: Project Description.

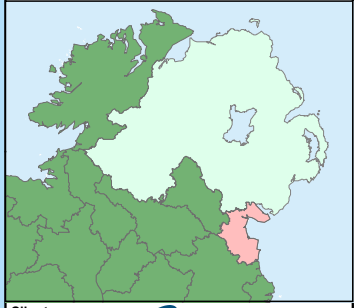
- 25 wind turbine foundations (monopiles) attached to the seabed and associated scour protection;
- 25 WTGs (each comprising a tower section, nacelle and three rotor blades);
- One offshore substation (OSS) and associated foundation (monopile) attached to the seabed;
- A network of 41 km of inter-array cables linking the individual wind turbines to each other and to the offshore substation and associated cable protection;
- A 16 km offshore cable (located in an offshore cable corridor);
- 20.1 km of onshore cables (three) which will be connected to the single offshore cable at a Transition Joint Bay (TJB), a fully buried concrete chamber located at the landfall. The three onshore cables will be installed in the same trench and buried for the entirety of the length from the TJB to the onshore substation; and
- An onshore substation The onshore substation will consist of two parts: a gas insulated switchgear equipment (GIS) located inside a building and outdoor air insulated switchgear equipment (AIS). The GIS will be owned by EirGrid and operated by the ESB Networks as Transmission System Operator. The AIS will form part of the offshore grid which will be owned and operated by EirGrid. Transmission cables from the onshore substation will connect to an existing overhead power line through two new line/cable interface (pylon) masts.



Legend

Planning Application Boundary

Data Sources: OWL, OSi.



Client

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

Project

Oriel Wind Farm Project

Figure 1-1:
Overview of Oriel Wind Farm Project

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Issue Details

Drawn By: NR	**Project No.** MDR1520b
Checked By: CC	**File Ref:** MDR1520bArc3072F02
Approved By: CC	
Scale: 1:200,000 @ A4	**Projection:** ITM (IRENET95) Geographic Co-ordinates: ETRS89
Date: 12/01/2024	

1.4 Need for the Project

1.4.1 The climate imperative

The United Nations COP 28 conference which took place in November – December 2023 recognised international scientific research which indicates that global greenhouse gas emissions need to be cut 43% by 2030, compared to 2019 levels, to limit global warming to 1.5°C. The *Climate Action Plan 2024* (CAP 2024)[1] notes, *inter alia*, that the world's climate is changing rapidly with temperatures increasing faster since 1970 than in any other 50-year period over at least the last 2,000 years. Met Éireann's Annual Climate Statement for 2023 has revealed that 2023 was the warmest year on record in Ireland, with above average rainfall.

The energy sector is a significant generator of greenhouse gas. Offshore wind energy is positioned to play a key role in helping to achieve national renewable energy and decarbonisation targets through use of renewable energy sources. These targets are driven by European policy, with the European Union (EU) setting overall renewable energy targets for the EU, and specific targets being set for each member state. The Revised Renewable Energy Directive which came into force on 20 November 2023 sets an overall renewable energy target of at least 42.5% binding at EU level by 2030. The CAP 2024 targets 80% renewable electricity in Ireland by 2030. The widespread development of offshore wind energy is a vital vehicle for achieving our renewable energy targets.

The Project can also contribute towards Ireland's net-zero emissions targets and our transition to a low-carbon and climate-resilient, biodiversity-rich, environmentally-sustainable and climate-neutral economy as underpinned by the *Climate Action and Low Carbon Development (Amendment) Act 2021*. In addition to the economic gains of pursuing this development, greenhouse gas emissions would be reduced through the displacement of fossil fuel-related energy usage. Energy demand is increasing across all sectors in Ireland. However, in order to become sustainable and carbon neutral, these energy demands need to be offset by electricity generated from renewable sources.

Furthermore, the other key national plans such as the *National Planning Framework* (NPF) and the *National Development Plan 2018 – 2027*, call for increased electrification of the heat and transport sectors. Schemes such as the Renewable Electricity Support Scheme (RESS) aims to decarbonise electricity generation. This would strengthen Ireland's overall performance in terms of sustainable development, in line with the United Nations Sustainable Development Goals – particularly Goal 7 (Affordable and Clean Energy) and Goal 13 (Climate Action) (UN, 2015), inevitably leading to improved environmental and societal wellbeing.

1.4.2 National target of at least 5 GW of offshore renewable energy

In response to the climate imperative, the government has set at national target of at least 5 GW (i.e. 5,000 MW) of offshore wind energy by 2030 in the CAP. The *National Marine Planning Framework* (NMPF), which is Ireland's national marine spatial plan, published in June 2021, supports offshore renewable energy development, recognising it as a pathway to decarbonisation and it also includes the target for at least 5 GW. The decarbonisation pathway to 2030 as set out in the *Programme for Government Our Shared Future* also outlines that at least 5 GW of offshore wind is required in the renewable electricity mix by 2030 off Ireland's eastern and southern coast.

At present, there are just 0.025 GW / 25 MW of offshore wind energy being generated in Ireland. In proposing to generate up to 0.375 GW / 375 MW, which would represent approximately 6.6% of the 5 GW of offshore wind energy objective, the Project can help enable the achievement of the national target when operational. In addition, the Project has a number of advantages meaning that it can contribute to meeting 2030 renewable energy targets:

- Significant preparatory work including extensive consultation and long running environmental assessments with surveying and data collection have been undertaken;
- It was granted a MAC by the Minister for the Environment, Climate and Communications;

[1] Currently published in draft format.

- It is located along the east coast where the grid infrastructure is already in place to accommodate the energy being generated; and
- Experienced operators (including Parkwind and ESB) are strategic partners with the applicant and are driving the Project forward.

1.4.3 National energy security

Energy security is a cornerstone of national societal and economic well-being. While this has long been understood at EU and national levels, recent events, including the Covid-19 pandemic and the Russian invasion of Ukraine have reinforced the risks inherent in long supply chains and dependence upon other states for energy sources.

REPowerEU, presented by the European Commission in May 2022 is a joint European action for more affordable, secure and sustainable energy. REPowerEU is an emerging policy that has arisen from the global energy market disruption caused by Russia's invasion of Ukraine. The REPowerEU Plan seeks to accelerate clean energy transition; diversity energy sources; and reduce demand.

A key objective is to reduce dependence on fossil fuels and increase European renewables target for 2030 from 40% to 45%. Wind energy generation is identified as one means of addressing this, specifically generating 80 GW of wind energy by 2030 and 300 GW by 2050.

The Department of the Environment, Climate and Communications published *Energy Security in Ireland to 2030* in November 2023. This report notes that Ireland is currently one of the most energy import dependent countries in the EU, having imported 77% of its energy supply in 2021. It further notes that, "*investment in a diverse number of renewable energy sources, Ireland will reduce its dependence on imported fossil fuels and dramatically reduce its vulnerability to energy shocks."*

Ireland's *Offshore Renewable Energy Development Plan* (OREDP) identifies the Irish marine area as one of the most productive in Europe, with a potential for large scale development of offshore renewable energy technologies. Therefore, the development of the Irish offshore wind energy sector has the potential to provide Ireland and indeed neighbouring European states with a reliable, resilient energy source for the foreseeable future.

1.4.4 Positive economic impacts

From an economic perspective, *The EU Blue Economy Report 2023* identifies marine renewable energy (offshore wind) development to be an established sector in Europe since 2021 and an increasingly important area for employment, gross value addition, gross profit, net investment in tangible good and turnover. While the economic advantages of the development of marine renewable energy in Ireland are significantly underdeveloped when compared to Germany, Denmark and the Netherlands, it is clear that the development of offshore wind farms in Ireland will have a very positive impact on the economy broadly through the provision of clean, reliable, cost-effective energy and a reduction in the need to import fossil fuels.

In addition, the development of the Project will generate employment directly at construction, operational and maintenance, and decommissioning phases, while also generating indirect and induced employment. Chapter 18: Population and Human Health of the EIAR has found that there is the potential for the Project to provide minor to moderate beneficial effects in relation to population and human health which are significant in EIA terms.

Offshore wind energy development therefore has a critical role to play in contributing to national and EU targets, with the Project capable of delivering up to 375 MW of offshore wind energy for Ireland.

1.5 Purpose of the EIAR

In accordance with Directive 2014/52/EU, amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (European Union, 2014) and European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) (DHPLG, 2018), this Environmental Impact Assessment Report (EIAR) has been produced.

The purpose of the EIAR is to present the environmental information which has been gathered to inform an assessment of the likely significant environmental effects of the Project. The EIAR specifically:

- Provides statutory and non-statutory consultees with technical information to enable an understanding of the Project. This includes a detailed description of the Project, including its location, design characteristics, and construction, operational and maintenance, and decommissioning phases (see chapter 5: Project Description);
- Provides a description of the reasonable alternatives considered for the Project and an indication of the main reasons for the option selected, including considering the effects of the Project on the environment (see chapter 4: Consideration of Alternatives);
- Presents the existing environmental baseline information, established from desktop studies, site-specific surveys and/or consultation (see volumes 2B and 2C);
- Indicates any limitations encountered during the compilation of the environmental information, including the acknowledgement of any data gaps or deficiencies and confidence in the information gathered (see volumes 2B and 2C);
- Describes the methodology used within the Environmental Impact Assessment (EIA) process (see chapter 3: EIA Methodology and the methodologies set out in volumes 2B and 2C);
- Presents the potential environmental impacts arising from the Project, based upon the baseline information and data gathered, and the analysis and impact assessments completed (see volumes 2B and 2C); and
- Proposes measures to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, proposes monitoring arrangements. Where mitigation measures have been identified, the residual significance of effect has also been identified (see volumes 2B and 2C).

It is intended that the EIAR is read alongside the EIAR Non-Technical Summary (NTS) (volume 1), which provides a brief non-technical overview of the information presented in the EIAR (volume 2A, 2B and 2C).

1.6 Structure of the application

A number of supporting documents are required to be submitted as part of the planning application, including:

- Planning Report;
- Planning Particulars;
- Planning Drawings
- EIAR;
- Report to Inform Screening for Appropriate Assessment (AA); and
- Natura Impact Statement (NIS).

The supporting documents have been prepared on behalf of the Applicant by RPS with input from a team of specialists (see section 1.9).

1.7 Other consents and licences

A Dumping at Sea permit will be required for the disposal of a substance or material at sea under the Foreshore and Dumping at Sea (Amendment) Act 2009.

As outlined in chapter 5: Project Description, the soil and rock arising from the drilling for the installation of the foundations will be returned to the area adjacent to the foundation location through a fall pipe below the sea surface to minimise dispersion of the drill arisings. This and other construction activities which result in the redistribution of material in the marine environment will result in the requirement for an application for a Dumping at Sea permit to be submitted to the Environmental Protection Agency.

A road opening licence for consent to allow works to be carried out on a public road will also be required from Louth County Council in accordance with the Roads Act 1933-2023.

1.8 EIAR structure

Table 1-1 below provides a breakdown of the EIAR volumes, chapters and technical reports.

Table 1-1: EIAR structure.

Volume	Chapter no.	Appendix no.	Title	Competent expert
1			Non-Technical Summary	RPS: Cathriona Cahill
2A	1		Introduction	
	2		Policy and Legislation	RPS: Valerie Brennan
	3		Environmental Impact Assessment Methodology	RPS: Cathriona Cahill
	4		Consideration of Alternatives	Oriel: Richard Church
	5		Project Description	Oriel: Garrett Connell, Richard Church;
				ESB: Mairéad Hogan
	6		Consultation	RPS: Cathriona Cahill
		3-1	Cumulative Impact Assessment Screening Annex	RPS: Cathriona Cahill
		4-1	Preliminary Landscape Assessment of Design Options	RPS: Raymond Holbeach
		4-2	Landfall Options – Survey Report	Oriel: Richard Church
		5-1	Construction Environmental Management Plan	RPS: Cathriona Cahill, Kevin Linnane
		5-2	Environmental Management Plan (including Marine Pollution Contingency Plan)	
		5-3	Marine Invasive Non-Indigenous Species Management Plan	RPS: Kevin Linnane
		5-4	Marine Megafauna Mitigation Plan	RPS: Tessa McGarry
		5-5	Marine Megafauna: Vessel Code of Conduct	
		5-6	Fisheries Management and Mitigation Strategy	RPS: Kevin Linnane
		5-7	Emergency Response Co-operation Plan	NASH Maritime: Adam Fitzpatrick
		5-8	Lighting and Marking Plan	
		5-9	Construction Traffic Management Plan	RPS: Shane Wimsey
		5-10	Marine Archaeological Management Plan	RPS: Lesley Dalgleish
		5-11	Supporting Information Demonstrating the Applicant's Experience on Other Offshore Wind Farm Projects	Oriel: Richard Church
		5-12	Construction Methodology – Onshore Cable	
		5-13	UXO Desk Study	RPS: Victoria Phillips
		5-14	Cable Rating Report	Oriel: Garrett Connell
		5-15	Engineering Services Report – Onshore Substation	ESB: Mairéad Hogan
		6-1	Public and Other Stakeholders Consultation Report	Murray Group: Paul O'Kane
2B	7		Marine Processes	RPS: Naomi Shannon
	8		Benthic Subtidal and Intertidal Ecology	RPS: Kevin Linnane
	9		Fish and Shellfish Ecology	

Volume	Chapter no.	Appendix no.	Title	Competent expert
	10		Marine Mammals and Megafauna	RPS: Tessa McGarry
	11		Offshore Ornithology	RPS: Nick Goldsmith
	12		Commercial Fisheries	RPS: Kevin Linnane
	13		Shipping and Navigation	NASH Maritime: Adam Fitzpatrick
	14		Aviation, Military, and Communications	RPS: Stuart Sharp, Coleman Aviation: Mike Coleman
	15		Marine Archaeology	RPS: Lesley Dalgleish
	16		Infrastructure, Marine Recreation and Other Users	RPS: Stuart Sharp
		7-1	Marine Processes Technical Report	RPS: Naomi Shannon
		7-2	Water Framework Directive Assessment Report	RPS: Mark Magee
		8-1	Intertidal Phase 1 Report	RPS: Kevin Linnane
		8-2	Benthic Survey Report	RPS: Kevin Linnane
		9-1	Fish and Shellfish Ecology Technical Report	RPS: Kevin Linnane
		9-2	Herring Spawning Technical Report	BlueWise Marine: John Breslin
		10-1	Marine Mammals and Megafauna Technical Report	RPS: Tessa McGarry
		10-2	Subsea Noise Technical Report	Seiche: Simon Stephenson
		10-3	Marine Mammal Population Modelling Report (iPCOD)	RPS: Tessa McGarry
		11-1	Offshore Ornithology Technical Report	RPS: Nick Goldsmith
		11-2	Ornithological and Marine Megafauna Aerial Survey Results	
		11-3	Migratory Geese Survey Report	
		11-4	Offshore Ornithology Collision Risk Modelling	
		11-5	Offshore Ornithology Displacement Analysis	
		11-6	Offshore Ornithology Migratory Non-Seabirds Collision Risk Modelling	
		11-7	Offshore Ornithology Apportioning Impacts to Individual Colonies	
		12-1	Commercial Fisheries Technical Report	RPS: Kevin Linnane
		13-1	Navigation Risk Assessment	NASH Maritime: Adam Fitzpatrick
		14-1	Aviation Technical Report	Coleman Aviation: Mike Coleman
		14-2	Communications Technical Report	RPS: Stuart Sharp
		15-1	Marine Archaeology Technical Report	RPS: Lesley Dalgleish
2C	17		Climate	RPS: Paul Chadwick
	18		Population and Human Health	RPS: Michael Higgins, Ryngan Pyper
	19		Onshore Biodiversity	RPS: Miles Newman
	20		Land and Agriculture	RPS: Conrad Wilson
	21		Soil, Geology and Hydrogeology	RPS: Eoin Hurst
	22		Hydrology and Flood Risk	RPS: Uzzal Mandal
	23		Air Quality	RPS: Paul Chadwick
	24		Risk of Major Accidents and Natural Disasters	
	25		Noise (Airborne) and Vibration	RPS: John Mahon
	26		Cultural Heritage	Courtney Deery: Siobhan Deery
	27		Seascape, Landscape and Visual Amenity	RPS: Raymond Holbeach

Volume	Chapter no.	Appendix no.	Title	Competent expert
	28		Traffic and Transport	RPS: Ronan Grealy
	29		Material Assets	RPS: Cathriona Cahill
	30		Resource and Waste Management	RPS: Conor McGovern
	31		Bats in the Marine Environment	RPS: Miles Newman
	32		Interactions	RPS: Cathriona Cahill
		18-1	Population and Human Health Baseline Information	RPS: Michael Higgins, Ryngan Pyper
		19-1	Onshore Biodiversity – Supporting Information	RPS: Miles Newman
		19-2	Intertidal Bird Survey and Onshore Bird Survey Reports	
		19-3	Terrestrial Habitat Balance Sheet	
		21-1	Coastal Erosion Assessment Report	RPS: Paul Jennings
		22-1	Flood Risk Assessment	ESB: Harry Griffin
		25-1	Baseline Noise Monitoring Results	RPS: John Mahon
		25-2	Noise Modelling Methodology	
		26-1	Cultural Heritage Report	Courtney Deery: Siobhan Deery
		27-1	Seascape, Landscape and Visual Amenity – Accompanying Graphics	RPS: Raymond Holbeach
		28-1	Traffic Survey Data	RPS: Ronan Grealy
		31-1	Offshore Bat Survey Technical Report	RPS: Miles Newman

1.9 List of EIAR expert contributors

The list of the EIAR expert contributors outlining their competence and experience, including relevant qualifications is provided in Table 1.2.

Table 1-2: Qualifications and relevant experience of EIAR topic authors.

Expert	Qualifications	Relevant experience
NASH Maritime: Adam Fitzpatrick	BSc (Hons)	Adam Fitzpatrick is a Maritime Senior Consultant specialising in projects related to navigational risk in both harbour and offshore environments having worked in the maritime sector for over 12 years. He has provided expert navigational support on maritime infrastructure projects and offshore renewable energy projects throughout the consenting process. He is an experienced mariner, having worked as a deck officer in towage, cruise vessels and military operations.
RPS: Cathriona Cahill	BSc (Hons), MSc, CSci	Cathriona Cahill is a Senior Associate with RPS and a Chartered Scientist. Cathriona holds an honours degree in Environmental Science (BSc) and a master's degree in Environmental Engineering (MSc). She has over 20 years' experience and specialises in the environmental assessment of infrastructural projects and plans. She has managed the delivery of EIS/EIARs and NIS to support consent applications for major infrastructural projects in Ireland.
RPS: Conrad Wilson	BAgrSc (Hons), MIEnvSc	Conrad Wilson is a Senior Associate with RPS with over 25 years' experience as an agricultural advisor and in landowner engagement and EIA co-ordination. He has worked on a wide range of projects involving environmental assessment, mediation between disputing parties and assessing the impacts of linear infrastructure on land use and agronomy.
RPS: Eoin Hurst	BEng (Hons), DIC, MSc, MIEI	Eoin Hurst has over 12 years' experience and holds a BE and Diploma of Imperial College London in Civil Engineering, and MSc in Environmental Technology. He has worked in the fields of civil and environmental engineering, environmental impact assessment, contaminated land assessment and remediation, environmental due diligence, hydrogeology, water management, air quality and climate change policy. Eoin has experience in environmental infrastructure assessments, feasibility studies, policy assessment and development, and permitting and regulatory compliance.
Oriel: Garrett Connell	BSc (Hons), MBA	Garrett Connell is the Country Manager Ireland for Parkwind. Garrett has an honours degree in Geology (BSc) and Masters of Business Administration (MBA). He has over 20 years' experience in infrastructure development including multi-disciplinary environmental and engineering consultancy, onshore and offshore wind farm development, and marine renewable energy technology R&D. He has experience in marine renewable energy project development across multiple jurisdictions internationally.
ESB: Harry Griffin	BA BAI (Hons), MEng, CEng, MIEI	Harry Griffin has nine years' experience in hydrological/hydrogeological assessment, flood risk analysis and drainage design. He provides expert advice to key stakeholders across ESB business units on a wide range of subjects, including preparation of planning and tender drawings and documentation plus Industrial Emissions Licences for Battery Energy Storage Systems, Flexible Generation, Emergency Generation and Open Cycle Gas Turbine projects. He prepared the Hydrology and Hydrogeology chapter for the Derrybrien Wind Farm Remedial EIAR. He has also carried out a large number of hydrological assessments and drainage designs for electrical substations and wind farms across the country.
BlueWise Marine: John Breslin	BSc (Hons), MSc	John Breslin is the Managing Director at BlueWise and holds an honours degree in Marine & Fisheries Biology (BSc) and a master's degree by research (MSc), research title "The location and extent of the main herring (*Clupea harengus*) spawning grounds around the Irish Coast". John has over 30 years' experience delivering marine projects and has specialised in using acoustics for assessing the abundance of Irelands herring stocks, mapping Irelands marine cSAC's and managing Irelands Research Vessel Fleet and SmartBay Ireland's Marine and Renewable Energy Test

Expert	Qualifications	Relevant experience
		Site. Currently, he runs a consultancy specialising in providing Environmental Assessments & Planning, Health Safety Environmental & Quality Management, Stakeholder Engagement & Promotion, Strategic Technical Advisory services to clients.
RPS: Dr John Mahon	BA BAI (Hons), PhD, CEng, MIEI, MIA	Dr John Mahon is an Associate at RPS and a Chartered Engineer. John holds a BA BAI in Mechanical Engineering and PhD in Acoustics and Vibration, both from Trinity College Dublin. John has 18 years' experience in environmental projects including planning applications and Environmental Impact Assessments for a wide range of strategic infrastructure projects including linear transport projects. He has contributed to Irish wind energy association planning group and provided expertise on the area of wind turbine noise. He also sits on the Irish Committee for Standardization CEN/TC226/WG 6 in relation to Road traffic noise reducing devices.
RPS: Dr Kevin Linnane	BSc, PhD, ACIEEM	Dr Kevin Linnane is a Principal Marine Ecologist with over 15 years' experience as a marine consultant working in the offshore renewables field. Kevin has a PhD in marine ecology and specialises on the benthic subtidal and intertidal ecology, including mapping and assessment of protected habitats, EIA, Ecological Impact Assessment (EcIA) and Habitats Regulations Assessment for a wide range of industries and developments, particularly offshore renewables and cables. Kevin recently completed a study on offshore electrical cable installation, protection and seabed recovery on behalf of the Crown Estate to inform future leasing rounds. Kevin has 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 Natura 2000 sites.
RPS: Lesley Dalgleish	BA (Hons), MA	Lesley Dalgleish is a Senior Marine Consultant with RPS. Lesley holds an honours degree in Archaeology and a master's degree in Marine Archaeology. She has over 10 years' experience in professional archaeology and has specialised in the technical delivery of environmental assessment of offshore infrastructural projects and plans for seven years. She is the Technical Lead for the marine archaeology inputs for delivery of EIA/EIARs to support consent applications for multiple offshore wind developments in the UK and Ireland.
ESB: Mairéad Hogan	BA, MSc, DipEnvEng, PMP	Mairéad Hogan has an MSc in Sustainable Development and a Diploma in Environmental Engineering. She has worked for over 22 years in the energy sector in a diverse range of roles aimed at achieving energy and climate targets. Energy projects which Mairéad has worked on include onshore and offshore wind farms, flexible generation, and Battery Energy Storage Systems (BESS). Mairead's experience of both the planning and construction phase allows a deep understanding of the impacts of energy projects, and ensures that mitigation measures proposed are practical, achievable and cost-effective.
RPS: Mark Magee	BA (Mod), MSc, CSci, CEnv, CWEM, MCIWEM	Mark is a Technical Director with RPS and holds a BA in Natural Sciences with a moderatorship in Environmental Science and an MSc in Environmental Engineering. He is a chartered environmentalist, chartered scientist and chartered water and environmental manager with 24 years' experience in aquatic ecology, catchment management/river basin planning, Water Framework Directive compliance and environmental appraisal of infrastructure projects.
RPS: Michael Higgins	BA (Hons), MSc, HDip, MIPI, CIHT	Michael Higgins is an experienced Transport and Urban Planner with over 12 years' experience. He holds a BA in Economics and English, an MSc in Regional and Urban Planning and a HDip in Education. He is a corporate member of the Irish Planning Institute (IPI) and a member of the Institute of Highways and Transport (IHT). He has worked on a diverse portfolio of land use, transportation and development projects in both the public and private sectors in Ireland and the UK and has experience in the areas of planning, transport and land use assessment, mobility management plans, EIARs and site development appraisals.

Expert	Qualifications	Relevant experience
Coleman Aviation: Mike Coleman (RAF) (Retd.)	Wing Commander	Wing Commander Mike Coleman (RAF) (Retd.) is Director of Coleman Aviation Ltd which provides independent consultancy services to the wind farm industry on aviation issues. Mike retired from the Royal Air Force in 2012 after 27 years' service; a career in which he first served as a Tornado GR1 navigator and subsequently as an Air Traffic Controller. He has provided consultancy services for over eight years on many wind farm related aviation issues. These issues have included civil airport radar safeguarding, Ministry of Defence (MoD) Air Traffic Control radar, Air Defence radar, Low Flying, aviation lighting, helicopter operations and Met Office radar. In doing so, he has been required to engage with a wide variety of Irish and UK aviation stakeholders including Irish Aviation Authority, National Air Traffic Services (NATS), MoD, Civil Aviation Authority (CAA), numerous civilian airports and helicopter operators; he has also authored the assessments on aviation for many EIAs.
RPS: Dr Miles Newman	BSc, MSc, PGDip, PhD, CEnv, MCIEEM	Dr Miles Newman is a Principal Ecologist in RPS with over 12 years of experience working in the private sector, research, academia and Non-Governmental Organisations (NGOs). He holds a PhD in Botany, Postgraduate Diploma in Statistics, MSc in Biodiversity and Conservation and a BSc (Hons) in Environmental Management. He is a Chartered Environmentalist and a Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Miles provides key ecological inputs on projects including ecological surveying and coordination, Ecological Impact Assessments (EcIA), mitigation strategy development, Ecological Clerk of Works, long-term site management plans, and operational stage surveying and reporting.
RPS: Dr Naomi Shannon	PhD, MSc, BEng, PGCHET	Dr Naomi Shannon is a Senior Engineer in RPS and holds a doctorate in Computational Fluid Dynamics, a master's degree in Engineering Computation and an honours degree in Civil Engineering. Naomi has over 20 years' post-doctoral experience in computational modelling of a wide range of hydraulic processes in the coastal, river and estuarine environment and also in the undertaking of EIAs (including screening, scoping, and preparation of EIAR and technical appendices). This experience includes being a key member in a number of projects relating to estuarine hydrodynamics and sediment transport such as offshore wind farms, dredging plume modelling, aggregate extraction, and sea dumping for EIAs for major port developments.
RPS: Nick Goldsmith	BSc (Hons), MSc	Nick Goldsmith is a Senior Ornithological Consultant with RPS and holds a BSc in Marine Zoology and an MSc in Marine Biology. Nick has over 7 years' experience in ornithological assessment, surveying and research and has provided key ornithological expertise to the preparation of Environmental Impact Assessments, Strategic Environmental Assessments, Habitat Regulation Assessment and environmental feasibility reports for multiple projects throughout the UK, including several which are nationally significant infrastructure projects. Nick has managed and aided other ecologists on a range of ornithological surveys including GPS tagging of intertidal waterbirds, WeBS and BBS surveys and the use of novel techniques to monitor coastal waterbirds such as camera traps and thermal imagery. He also has considerable knowledge of the regulatory framework (as he was seconded as an ornithological advisor at NatureScot), providing expert opinion on marine and terrestrial casework.
RPS: Paul Chadwick	BA (Hons), MPhil, AIEMA	Paul Chadwick is a Technical Director in RPS with over 21 years' experience. Paul specialises in the fields of air quality and climate. He has considerable experience, both academic and professional, in ambient air quality and a wide range of atmospheric pollutants from waste / wastewater, road traffic, air traffic, industrial and stationary sources. As a result of two years research in atmospheric chemistry, he has an in-depth knowledge of the chemical and physical transformations associated with local and regional air pollution and climate change.
RPS: Dr Paul Jennings	BEng (Hons), PhD, DipArb, MIEI, CEng, RoGEP (Advisor)	Paul Jennings is a Geotechnical Engineer with over 38 years' experience of design and construction of sub-surface structures, foundations, earthworks, infrastructure and earth retaining structures, planning, supervision and interpretation of ground investigation; and providing

Expert	Qualifications	Relevant experience
		expert geotechnical advice and reporting. Paul has particular experience in providing detailed design and expert advice for slope stability problems, soft ground engineering, infrastructure, deep excavations and forensic investigation of ground failure.
Murray Group: Paul O'Kane	BA (Hons), MA (Hons)	Paul O'Kane is a Director at Murray Group with over 30 years' experience corporate communications and journalism. Paul has extensive experience across all facets of corporate communications including media relations, public affairs, financial communications, reputation management, social media and crisis management. He previously held the role of Chief Communications Officer (CCO) at daa, the company that own and operate Dublin and Cork Airports. During his period as CCO with daa, Paul was also a member of the company's Executive Leadership Team. He also served as the inaugural Chairman of ACI Europe's Digital Communications Forum from 2013 until 2015.
RPS: Raymond Holbeach	BSc (Hons), MLArch, CMLI, MILI	Raymond Holbeach is an RPS Director, Chartered Member of the Landscape Institute and Member of the Irish Landscape Institute and a member of the Institute of Environmental Management and Assessment. He has over 30 years' experience of landscape and environmental consultancy in both public and private sectors. Acting as a landscape architect, Raymond has completed landscape and visual impact assessments for over 40 wind farm applications throughout the UK and Ireland including providing expert witness evidence on a large number of projects.
Oriel: Richard Church	BSc (Hons), MSc	Richard Church is the Consents Manager for Oriel Windfarm Limited with over 25 years' experience in the development and consenting of large infrastructure projects with most of this in the renewables sector. He has held project manager, director and technical reviewer roles for the preparation of EIA reports for a diverse range of new developments including water and wastewater treatment plants, wind farms, open cast coal, underground mining and hospitals, acting as expert witness on several planning inquiries. He held a role as hydropower development manager for RWE Innogy in the UK and was promoted to Marine Technology Manger where he oversaw the RWE Innogy investment in tidal turbine technologies and projects. Richard joined the Oriel team in April 2019.
RPS: Ronan Grealy	BE (Hons), MEngSc, CEng, MIEI	Ronan Grealy is an Associate at RPS with 18 years' experience working in the transportation sector within RPS. Ronan has a wide range of experience and skills in the delivery of transport and land use development plan projects through concept, appraisal, stakeholder consultation, planning and preliminary design stages. Ronan's key competency is preparing and managing Transport Assessments (TAs) (EIS), preparing Sustainable Transport Plans and preparing Urban Area Transportation Studies including junction designs and operational assessments. Ronan has also worked as a project communication consultant on a €500M energy project called The Grid Link Project where he liaised directly with the project team, key stakeholders, interest groups, facilitated consultation workshops and analysing stakeholder feedback.
RPS: Ryngan Pyper	BA (Hons), MA (Hons), PGDip, GDip, PGDip	Ryngan Pyper is the Director of Health and Social Impact at RPS. Ryngan has over 15 years' experience as a professional consultant and works across the fields of public health, environmental science and impact assessment. Ryngan provides health input into EIA for major infrastructure schemes including road transport. He also advises Government and professional bodies on good practice. Ryngan has advised the World Health Organization on addressing health in EIA and in 2021 was involved in the updated HIA Guidance for Ireland and Northern Ireland for the Institute of Public Health, incorporating the most recent developments and best practice in the field. Ryngan is the current chair of the health section of the International Association for Impact Assessment.
RPS: Shane Wimsey	HC, BEng, BSc, BEng (Hons), HDip, MIEI	Shane Wimsey is a Project Engineer in the roads and transportation department of RPS with over seven years' experience working on a range of projects. Shane has experience working with multidisciplinary engineering consultancies, a precast concrete manufacturer, a design and build contractor and a number of local authorities. Shane's experience

Expert	Qualifications	Relevant experience
		involves projects in the transport, structural, water, wastewater, energy, commercial, environmental, electrical and mechanical sectors. He has worked on all stages of projects from planning, feasibility proposals, preliminary, design review, tender, construction and as-built.
Seiche: Simon Stephenson	CEng, BSc (Hons) Physics, MIOA, ASA	Simon Stephenson is a Senior Marine Acoustician at Seiche and specialises in both airborne and underwater noise from marine projects, including within the offshore renewables, oil and gas, electricity transmission and port sectors. He is a Chartered Engineer, a full member of the Institute of Acoustics (MIOA), Associate of the Acoustical Society of America (ASA) and is a committee member of the IOA Noise and Vibration Engineering Group. Simon holds a BSc honours degree in physics. He has over 25 years' relevant experience in the areas of underwater acoustics, noise impact assessments, noise control engineering, environmental and underwater noise modelling and marine acoustics research.
Courtney Deery Heritage Consultancy: Siobhan Deery	MA, BA, HDip, MIAI	Siobhan Deery is a senior partner of Courtney Deery Heritage Consultancy with over 20 years' experience working in the private sector as a field archaeologist. For the last 10 years she has specialised in impact assessment in archaeology and cultural heritage and has experience in a wide variety of environmental assessment and management projects, particularly in the preparation and coordination of EIA studies and in specialist archaeological and cultural heritage inputs to planning and heritage related areas and for management and conservation plans. She has carried out several studies within rural, urban and historic industrial environments. Siobhan has extensive experience in the liaison with project design teams, regulatory authorities, local landowners and other environmental disciplines.
RPS: Stuart Sharp	BSC (Hons), MSc, CEnv, CSci	Stuart Sharp is a Principal Consultant with RPS, a Chartered Environmentalist and a Chartered Scientist. Stuart holds a honours degree in Ocean Science (BSc) and a masters in Environmental Studies (MSc). He has over 16 years' experience in environmental permitting and assessment, now specialising in human topics (other sea users, marine archaeology, aviation and radar, major accidents and disasters). He has managed the delivery of numerous EIAs (UK based and international) and developed sections of EIS/EIARs to support planning applications and foreshore licence applications for major infrastructure projects in the UK.
RPS: Dr Tessa McGarry	BSc (Hons), MRes, PhD	Dr Tessa McGarry is a Principal Marine Ecologist at RPS has specific project experience as a lead marine mammal advisor for a number of offshore wind farm developments, both in the UK and overseas, from planning through to post-consent. Tessa has been heavily involved in the development of marine mammal mitigation strategies for the offshore sector and has also led field-based research studies on testing suitable mitigation approaches, including the use of Acoustic Deterrent Devices, under the Offshore Renewables Joint Industry Programme. Recently, Tessa co-authored a reference report on behalf of Joint Nature Conservation Committee (JNCC) for use by UK statutory consultees on ADD availability, technical capacity and effectiveness in deterring marine mammals from injury zones.
RPS: Dr Uzzal Mandal	BSc, PhD, CEng, MSc, MIEI, MIAHS	Dr Uzzal Mandal is an Associate in RPS with over 31 years of experience in hydrology, flood risk assessment, hydraulic modelling and detailed design of flood relief and highway drainage works in both Ireland and outside of Ireland. He has carried out hydrological impact assessments and detailed designs of the hydrological and hydraulic aspects of a number of major road and gas field development projects. He has carried out flood risk assessments for several major commercial and residential developments.
RPS: Valerie Brennan	BA International (Hons), H Dip Ed, MSc, MRTPI MIPI	Valerie Brennan is the Planning Business Unit Director of the planning unit with RPS. She is a Chartered Town Planner and is the Immediate Past Chair of the Royal Town Planning Institute. Valerie has over 19 years professional planning experience advising on a wide range of strategic infrastructure, commercial and renewable energy projects in the areas of project management, feasibility studies, masterplans,

Expert	Qualifications	Relevant experience
		environmental impact assessment management, statutory approval procedures, planning appeals, stakeholder and public consultation.
RPS: Victoria Phillips	BSc (Hons)	Victoria Phillips is the Technical Director of Marine UXO Operations in RPS and has over 15 years' experience in the UXO industry. Within the Explosives Engineering Services, Victoria's responsibilities include the management of marine UXO project operations. Victoria project manages all marine nearshore and offshore UXO project operations and consultancy with experience Globally and has led the project team on a significant number of UXO assessment and mitigation projects providing UXO consultancy to a wide variety of global organisations including Elia, TenneT, Energinet, BP, Iberdrola, Shell and Exxon Mobil.

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