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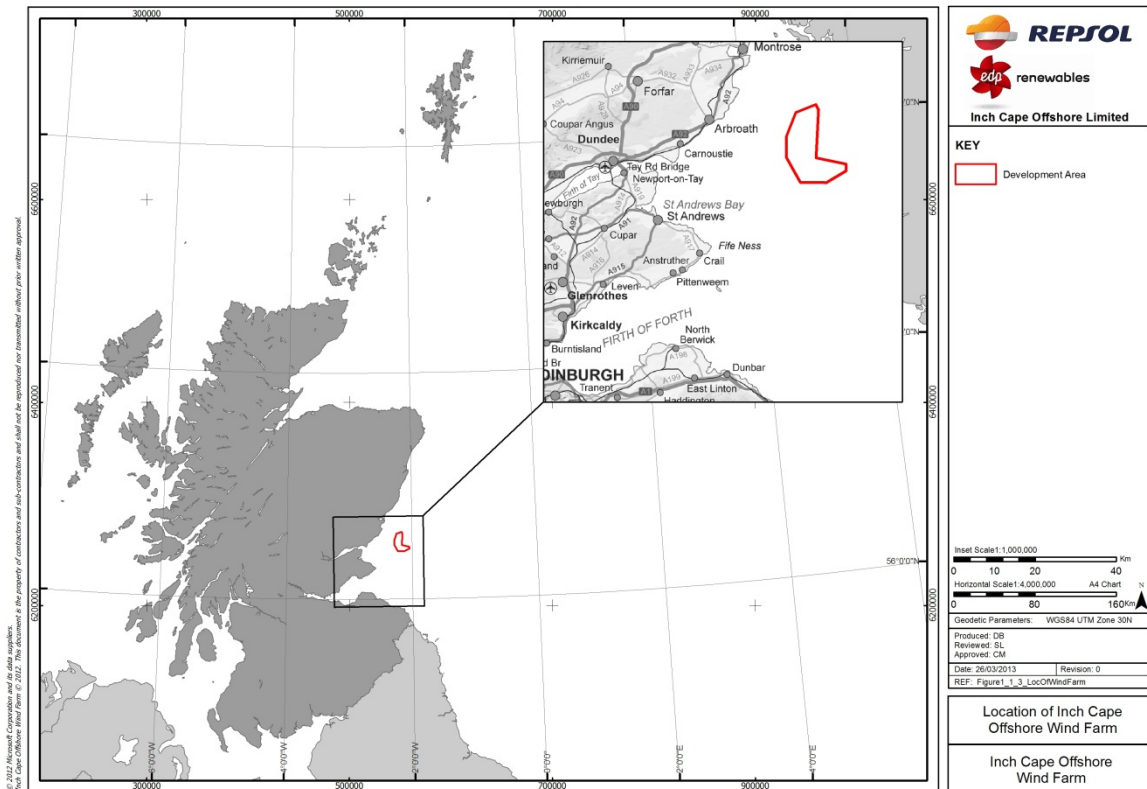
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1 Introduction

1.1 Preamble

- 1 This Environmental Statement (ES) has been prepared by Inch Cape Offshore Limited (ICOL) to accompany an application to construct and operate the Inch Cape Offshore Wind Farm which will be located approximately 15 to 22 kilometres (km) to the east of the Angus coastline in Scotland (see Figure 1.1 below). The Wind Farm has a grid connection agreement for 1,050 Megawatts (MW).

Figure 1.1: Location of Inch Cape Offshore Wind Farm



1.2 The Applicant

1.2.1 Inch Cape Offshore Limited

- 2 ICOL is owned by Repsol Nuevas Energías UK Limited and EDP Renewables UK Limited (EPDR). ICOL has been established to develop, finance, construct, operate, maintain and decommission the Inch Cape Offshore Wind Farm. ICOL is applying for the consents required for the Wind Farm and separately for the associated transmission works. The transmission assets will be transferred to an Offshore Transmission Owner for operation and decommissioning.

1.2.2 Repsol Nuevas Energías UK & EDP Renewables UK

- 3 Repsol Nuevas Energías UK Limited was formed in June 2011 following Repsol's purchase of SeaEnergy Renewables Limited. It has development rights for a total of 1,190 MW in the United Kingdom, comprised of 51 per cent of Inch Cape, 33 per cent of the Moray Firth project (Round 3, Zone 1) with development partners EDPR, and 25 per cent of the Beatrice project with SSE Renewables Limited.
- 4 EDPR is part of the third largest wind energy company in the world (EDP Renewables) and brings significant experience in developing and operating renewable energy projects. In addition to involvement in the Inch Cape Project, EDPR has a majority share (67 per cent) in the Moray Firth project (Round 3, Zone 1).

1.3 Description of the Project

1.3.1 Overview

- 5 In 2008, at the request of the Scottish Government, The Crown Estate (TCE) invited potential developers to submit proposals for offshore wind farm sites within Scottish Territorial Waters (STW).
- 6 A desk study of wind resource and water depth data was undertaken which identified a range of areas along the east coast of Scotland as having the most suitable physical characteristics for the development of an offshore wind farm, as described in *Section 6.2*.
- 7 In June 2011 TCE awarded an exclusivity agreement to develop the Development Area to ICOL.
- 8 The Development Area was included in *Blue Seas - Green Energy: A Sectoral Marine Plan for Offshore Wind Energy in Scottish Territorial Waters: Part A The Plan* (Marine Scotland, 2011). This plan identified Inch Cape as one of six sites, within STW, for potential offshore wind farm development. A Strategic Environmental Assessment (SEA) of the Sectoral Marine Plan was undertaken by Marine Scotland (2010).
- 9 Since the identification of Inch Cape as a potential development area, ICOL has entered into a number of agreements in relation to the Project; these include:
 - An Agreement for Lease with TCE, which gives an exclusive right to develop the Wind Farm and the opportunity to secure a lease giving rights to the seabed.
 - Grid connection agreements with National Grid Electricity Transmission (to export up to 1,050 MW). The agreements are required to transmit generated electricity, for distribution to the UK energy markets.
- 10 ICOL has progressed a number of engineering studies and assessments to gain an understanding of the baseline conditions and development requirements to deliver the Project, this process is described in *Chapter 6: Site Selection and Alternatives* and has been

central to the development of the Design Envelope described in *Chapter 7: Description of Development*.

1.3.2 The Project

- 11 The Project consists of a number of components and all permanent and temporary works required to generate or transmit electricity to the national grid:
- The Wind Farm includes Wind Turbine Generators (WTGs), inter-array cables and up to three meteorological masts (see *Section 1.3.3* and Table 1.1).
 - The Offshore Transmission Works (OfTW) includes the Offshore Export Cable and Offshore Substation Platforms (OSPs) (see *Section 1.3.4* and Table 1.1).
 - The Onshore Transmission Works (OnTW) includes underground electricity cables and an onshore substation (see *Section 1.3.5* and Table 1.1).
- 12 In order to transmit the generated electricity from the Wind Farm to the national grid, a connection will be made through the OfTW and the OnTW.
- 13 The Project proposals are detailed in *Chapter 7*.

1.3.3 The Wind Farm

- 14 The location of the Inch Cape Offshore Wind Farm is shown in Figure 1.1. It is anticipated it will consist of up to 213 WTGs (see *Section 7.5*) which will be secured to the seabed within an area covering approximately 150 km².
- 15 A network of electricity cables will be required to connect the WTGs to the OSPs. These inter-array cables will be laid on the seabed and either buried or protected.
- 16 Up to three meteorological masts will be located within the Development Area. One of these masts has been subject to a separate application process and is expected to be *in situ* in advance of the proposed works.
- 17 The operational life of the Project is not known at this time but it is not expected to be less than 25 years.

1.3.4 The Offshore Transmission Works

- 18 The OfTW includes up to five OSPs, which will collect the electricity generated by the WTGs and process for export. Up to six Offshore Export Cables will be individually buried or protected until landfall near Cockenzie, East Lothian. These cables will be separated from one another within a corridor to allow for construction and future maintenance with the distance reducing in shallower water.

1.3.5 The Onshore Transmission Works

- 19 The OnTW includes an onshore substation which receives power from the Export Cables and processes it for transmission through underground cables to the existing grid network. Initial

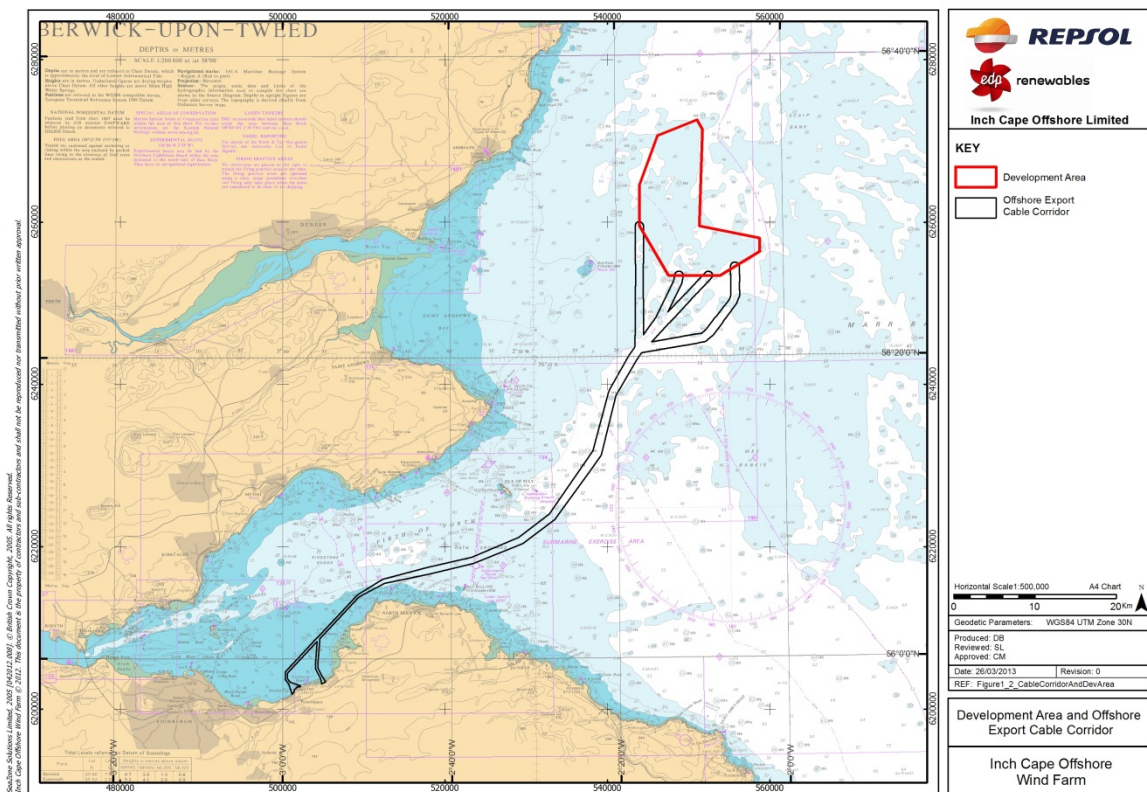
work has indicated a landfall for Export Cables will be possible near Cockenzie (see *Appendix 6B: Landfall Feasibility Study* and *Section 6.3*). The OnTW will be developed as close as practical to the connection point.

- 20 The OnTW will be subject to a separate application to East Lothian Council (see *Section 1.4*) and the impacts of these works have been considered at an appropriate level to inform the assessment in this ES (see *Section 4.4.3*).

1.3.6 Terminology

- 21 Definitions used in this ES are included in the Glossary at the front of this document and at the start of each relevant chapter. The key terms relating to the Project used throughout this ES are included in Table 1.1.
- 22 For the purposes of this assessment the components of the Project introduced in *Section 1.3.2* are separated into three geographical areas; the Development Area, the Offshore Export Cable Corridor (Figure 1.2) and the Onshore Area.

Figure 1.2: Development Area and Offshore Export Cable Corridor



- 23 The Development Area is defined as the area which includes proposed WTGs, inter-array cables, OSPs and initial part of the Offshore Export Cable (part of the OfTW component) and any other associated works (see Figure 1.2).

- 24 The Offshore Export Cable Corridor is defined as the area within which the proposed Offshore Export Cables will be laid outside of the Development Area and up to Mean High Water Springs (see Figure 1.2).
- 25 The Onshore Area is defined as the area above Mean Low Water Springs which includes underground electricity cables connecting to an onshore substation and further underground cables to connect to the national grid at Cockenzie.

Table 1.1: Defined Terms

Term	Meaning
Development Area	The area which includes proposed WTGs, inter-array cables, OSPs and initial part of the Offshore Export Cable and any other associated works (see Figure 1.2).
Export Cables	“Export Cables” are electricity cables 132 KV and above.
Inter-array cables	The electricity cables, which are not transmission voltage, between each WTG and between WTGs and OSPs.
Offshore Export Cable	The proposed Offshore Export Cable and all associated cable protections.
Offshore Export Cable Corridor/Export Cable Corridor	The area within which the proposed Offshore Export Cables will be laid outside of the Development Area and up to Mean High Water Springs (see Figure 1.2).
Offshore Substation Platforms (OSPs)	The proposed OSPs include transformer platforms and AC to DC convertor platforms.
Offshore Transmission Works (OfTW)	The proposed Offshore Export Cable and OSPs. This includes all permanent and temporary works required.
Offshore Wind Farm/Wind Farm	Includes proposed WTGs, inter-array cables, meteorological masts and other associated and ancillary elements and works (such as metocean buoys). This includes all permanent and temporary works required.
Onshore Area	The area above Mean Low Water Springs which includes OnTW.
Onshore Transmission Works (OnTW)	All proposed works within the Onshore Area, typically including underground electricity transmission cables connecting to an onshore substation and further underground cables required to facilitate connection to the national grid. This includes all permanent and temporary works required.
Project	The Project includes the proposed: <ul style="list-style-type: none"> • Wind Farm; • Offshore Transmission Works; and • Onshore Transmission Works.

Term	Meaning
Wind Turbine Generators (WTG)	The installation that converts energy from the wind to electrical power.

1.4 Applications for Consent

26 The Project will require a variety of consents prior to development and these differ for each of the main elements of the Project. The main development consents required are described in *Chapter 3: Regulatory Requirements* and are summarised below.

- Consent under Section 36 of the *Electricity Act 1989* (s.36 Consent), required to construct and operate an offshore generating station (*Section 3.2.4*).
- A declaration under Section 36A of the *Electricity Act 1989*, required to allow WTGs and other structures to interfere with rights of navigation (*Section 3.2.4*).
- Marine Licence(s) under the *Marine (Scotland) Act 2010*, required to construct, alter or improve offshore works and to deposit any structure or cable in the marine environment (Mean High Water Springs to 12 nautical miles) (*Section 3.2.2*).
- Safety zone declaration(s) under s.95 of the *Energy Act 2004* could be applied for in the future, if required. These would allow for restriction of navigation rights around offshore structures. The Act defines standard zones as 500 m during construction and 50 m during operation (*Section 3.2.5*).
- European or UK protected species licences, required to disturb certain protected species (offshore to 12 nm or onshore) under *The Conservation (Natural Habitats, &c.) Regulations 1994* (as amended) (*Section 3.3.3*) and the *Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007* (Great Britain Parliament, 2007a).
- Planning permission under the *Town and Country Planning (Scotland) Act 1997* for the OnTW (see *Section 3.2.3*).

27 Applications for these consents will be determined by the Scottish Ministers (acting through Marine Scotland), with the exception of any safety zone applications which are determined by the Secretary of State for Energy and Climate Change and the planning application for the OnTW which will be determined by East Lothian Council (these will be subject to separate assessment/consideration).

1.5 The Purpose of this Document

1.5.1 Environmental Impact Assessment (EIA)

28 The primary purpose of this ES is to describe any significant environmental effects likely to arise as a result of the Wind Farm and OfTW. This ES meets the requirements of the relevant EIA Regulations (the *Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000* and the *Marine Works (Environmental Impact Assessment) Regulations 2007* (Great Britain Parliament, 2007b)), (see *Section 3.4.2*). This ES will provide the information to facilitate consideration of the application.

29 This ES includes a description of the legal and policy background, reporting of consultations and assessments undertaken as part of the overall Project, definition of the Design Envelope (see *Section 7.4*) and detailed assessments of the potential impacts of the Wind Farm and OfTW. Further details of the EIA methodology are included in *Chapter 4: Process and Methodology*.

1.5.2 Scope of this ES

30 The findings of the EIA process are reported in this ES. In each specialist topic chapter impacts are reported for:

- the Development Area; and
- the Offshore Export Cable Corridor.

31 This approach ensures that similar activities and effects are considered together and that adequate information is clearly presented to allow determination of all relevant applications. Cumulative effects of the Project with other proposals are also considered (see *Section 4.7*).

32 Specific consideration of the impacts of the OnTW will be undertaken as part of a separate consent application process but the cumulative, indirect and secondary impacts are considered in this ES where relevant (see *Section 1.3.5*).

33 This ES also includes information to inform the Appropriate Assessment by Scottish Ministers of impacts on sites designated for their European nature conservation value (see *Section 3.3.3* and *Section 4.8*).

1.6 The EIA Team

34 The EIA team included ICOL staff and technical experts from a number of specialist consultancies as summarised in Table 1.2.

Table 1.2: List of Consultants and Advisors Undertaking Assessments by Discipline

Chapter	Discipline	Company
5	Stakeholder Engagement	Facilitating Change
10	Metocean and Coastal Processes	Intertek METOC Ltd Petrofac Limited
11	Underwater Noise	Subacoustech Ltd
12	Benthic Ecology	AMEC Environment & Infrastructure UK Limited Fugro EMU Limited Envision Mapping Ltd

Chapter	Discipline	Company
13	Natural Fish and Shellfish	The Natural Power Consultants Limited AMEC Environment & Infrastructure UK Limited Envision Mapping Ltd
14	Marine Mammals	The Natural Power Consultants Limited Marine Ecological Research Ltd SMRU Limited SMRU Professor Paul Thompson - University of Aberdeen Natural Research (Projects) Limited
15	Ornithology	RPS Group Plc The Natural Power Consultants Limited Natural Research (Projects) Limited
16	Seascape, Landscape and Visual	SLR Consulting Ltd
17	Cultural Heritage and Marine Archaeology	Wessex Archaeology Ltd
18	Commercial Fisheries	Brown & May Marine Ltd
19	Shipping and Navigation	Anatec Limited
20	Military and Civil Aviation	Osprey Consulting Services Ltd
21	Other Human Considerations	The Natural Power Consultants Limited 6 Alpha Associates
22	Socioeconomics and Tourism	Peter Brett Associates LLP

1.7 ES Structure

1.7.1 Composition

35 This ES comprises of the following volumes:

- Non Technical Summary;
- Volume 1: Main Text;

- Volume 2: Appendices; and
- Volume 3: Visualisations and Figures.

1.7.2 Volume 1

Background and Project Description

- 36 *Chapter 2 to Chapter 6* provide the background of the Project including, relevant policy, legislative context, EIA process and methodology, stakeholder engagement and the process of site selection and consideration of alternatives.
- 37 *Chapter 7* provides a high level description of the Project including the design parameters used with the technical assessments.
- 38 *Chapter 8* outlines benefits which are expected to occur from the delivery of the Project.
- 39 *Chapter 9* provides a description of existing and proposed designated biological and geological conservation sites and associated qualifying features, habitats and species within the region of the Development Area and Offshore Export Cable Corridor.

Existing Physical Environment

- 40 *Chapter 10* and *Chapter 11* provide a description of the existing physical environment and implications of the Project.

Assessment – Biological Environment

- 41 *Chapter 12* to *Chapter 15* detail the assessments and conclusions, carried out in accordance with methodology outlined in *Chapter 4*, of the biological environment.

Assessment – Human Environment

- 42 *Chapter 16* to *Chapter 22* detail the assessments and conclusions, carried out in accordance with methodology outlined in *Chapter 4*, of the human environment.

Summary of Effects

- 43 *Chapter 23* provides a summary of assessments in each technical chapter.

1.7.3 Volume 2

- 44 The Appendices referred to in each chapter in Volume 1 are presented in this Volume.

1.7.4 Volume 3

- 45 Visualisations are contained in this Volume. This Volume also presents the figures found within the text in Volume 1.

1.8 Opportunity to Comment

46 In accordance with legislative requirements and industry best practice, submission of applications will be advertised and this ES will be publically available. Stakeholder engagement will continue into the determination phase. Any formal responses received as part of this phase will be captured as representations to the consent applications and will be considered by Marine Scotland during the determination phase.

47 A copy of the applications, with their respective plans showing the areas to which they relate, together with a copy of this Environmental Statement, are available for inspection, free of charge, via the Project website (www.inchcapewind.com) and during opening hours at:

- Angus Council - Planning and Transport Division, County Buildings, Market Street, Forfar DD8 3LG;
- Dundee Council - Planning and Building Control, Floor 6, Dundee House, 50 North Lindsay Street, Dundee, DD1 1LS;
- Fife Council - Enterprise, Planning and Protective Services, Kingdom House, Kingdom Avenue, Glenrothes, KY7 5LY;
- East Lothian Council, John Muir House, Brewery Park, Haddington, East Lothian, EH41 3HA;
- Dunbar Library, Bleachingfield Centre, Dunbar, EH42 1DX;
- Dundee Central Library, Wellgate, Dundee, Angus DD1 1DB;
- Montrose Library, High Street, Montrose, DD10 8PH;
- Port Seton Library, Community Centre, South Seton Park, Port Seton, EH32 0BG; and
- St Andrews Library, Church Square, St Andrews, KY16 9NN.

48 If you wish to comment on this ES or make representations to Marine Scotland you must do so within 42 days from the first advert. Please write to Marine Scotland at the following address:

Scottish Government
Marine Laboratory
PO Box 101
375 Victoria Road
Aberdeen
AB11 9DB

References

Great Britain Parliament (1989). *Electricity Act 1989*. Available at:
<http://www.legislation.gov.uk/ukpga/1989/29/contents>

Great Britain Parliament (1994). *The Conservation (Natural Habitats, &c.) Regulations 1994*. Available at: <http://www.legislation.gov.uk/uksi/1994/2716/contents/made>

Great Britain Parliament (2004). *Energy Act 2004*. Available at:
<http://www.legislation.gov.uk/ukpga/2004/20/contents>

Great Britain Parliament (2007a). *The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007*. Available at: <http://www.legislation.gov.uk/uksi/2007/1842/contents/made>

Great Britain Parliament (2007b). *The Marine Works (Environmental Impact Assessment) Regulations 2007*. Available at: <http://www.legislation.gov.uk/uksi/2007/1518/contents/made>

Marine Scotland (2010). *Strategic Environmental Assessment (SEA) of Draft Plan for Offshore Wind Energy in Scottish Territorial Waters: Volume 1: Environmental Report*. Available at:
<http://www.scotland.gov.uk/Resource/Doc/312161/0098588.pdf>

Marine Scotland (2011). *Blue Seas - Green Energy: A Sectoral Marine Plan for Offshore Wind Energy in Scottish Territorial Waters: Part A The Plan*. Available at:
<http://www.scotland.gov.uk/Resource/Doc/346375/0115264.pdf>

Scottish Parliament (1997). *Town and Country Planning (Scotland) Act 1997*. Available at:
<http://www.legislation.gov.uk/ukpga/1997/8>

Scottish Parliament (2000). *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000*. Available at: <http://www.legislation.gov.uk/ssi/2000/320/contents/made>

Scottish Parliament (2010). *Marine (Scotland) Act 2010*. Available at:
http://www.legislation.gov.uk/asp/2010/5/pdfs/asp_20100005_en.pdf