

East Anglia THREE

# Chapter 1

Introduction

**Environmental Statement**

Volume 1

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Chapter 1 Introduction figures are presented in **Volume 2: Figures**. Relevant figures are listed in the table below.

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1.2	Onshore Cable Route
1.3	Landfall and the Substation Location

## 1 INTRODUCTION

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### 1.1 The Purpose of this Document

1. This document is the Environmental Statement (ES) for the proposed East Anglia THREE Offshore Windfarm project (henceforth referred to as the proposed East Anglia THREE project). A full project description is given in Chapter 5 Description of the Development. This document provides the Environmental Impact Assessment (EIA) for the proposed project covering all topics, following a Scoping Opinion from the Planning Inspectorate in 2012. This document builds upon, and updates the information previously provided within the Preliminary Environment Information Report (PEIR), which was submitted for stakeholder consultation in May 2014.
2. The purpose of this ES is to report on the necessary information and impact assessments undertaken as required by the Environmental Impact Assessment Directive, EIA Directive (85/337/EEC) and more specifically under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009. This ES has been produced in order to be submitted as part of an application for the Development Consent Order (DCO) as required under Section 37 of the Planning Act 2008.
3. This ES describes the impacts associated with the proposed East Anglia THREE project as well as the associated infrastructure both onshore and offshore. This document covers the whole of the proposed East Anglia THREE project lifetime. It considers environmental impacts which may arise from the construction phase; the operational phase (including maintenance activities) and the decommissioning phase of the East Anglia THREE windfarm and its associated infrastructure.

### 1.2 Background

4. East Anglia Offshore Wind Limited (EAOW) has a Zone Development Agreement with The Crown Estate to develop up to 7.2 gigawatts (GW) of wind capacity off the coast of East Anglia, in Zone 5, under the Round 3 Offshore Wind Licensing Arrangements. EAOW has renamed this zone the East Anglia Zone. The East Anglia Zone will be developed as a number of individual windfarms, each dependent on securing the relevant statutory consents and approvals.
5. The first project to be brought forward in the East Anglia Zone was the East Anglia ONE Offshore Windfarm Project (East Anglia ONE), the DCO application for which was submitted in November 2012 and was granted consent by the Department for Energy and Climate Change (DECC) on the 17<sup>th</sup> of June, 2014.

6. The proposed East Anglia THREE project comprises the second project to be developed within the zone. There is a long term aspiration for the development of several offshore windfarm projects within the wider East Anglia Zone.
7. The proposed East Anglia THREE project would comprise offshore wind turbines and offshore electrical platforms, and offshore and onshore export cables taking power to onshore electrical substations.
8. The proposed East Anglia THREE project would have an installed generating capacity of up to 1,200 megawatts (MW). The western boundary of the East Anglia THREE site is approximately 69km from the port of Lowestoft. The East Anglia THREE site and offshore cable corridor are shown in *Figure 1.1* and the onshore cable route is shown in *Figure 1.2*. The landfall and the proposed substation locations are shown in *Figure 1.3*.
9. The DCO application for the proposed East Anglia THREE project includes all the windfarm elements as well as associated development relating to offshore and onshore electrical transmission works that are deemed necessary for its construction and operation and for the transmission of power to the National Grid.
10. During the offshore cable corridor selection process for East Anglia ONE, provision was made for the installation of export cables from two further windfarms. The proposed East Anglia THREE project would therefore utilise the offshore cable corridor identified by East Anglia ONE as well as the same landfall location and entire length of the onshore cable route to Bramford substation in Suffolk, where the project is proposed to connect to the National Grid.
11. Through its DCO application, East Anglia ONE has obtained consent to lay ducts along the onshore cable route within which the cables for two future projects may be installed at a later date. East Anglia ONE Limited has made a commitment to install these ducts and therefore this ES has been produced based on the approach to construction where ducts will be in place and that the proposed East Anglia THREE project will utilise these ducts by pulling cables through them. Therefore this ES does not present the two scenarios described in the Preliminary Environmental Information Report, as Scenario 2 (open trenching for cable installation for the proposed East Anglia THREE project) is redundant.
12. The proposed East Anglia THREE project would be constructed using either a “Single Phased” approach or a “Two Phased” approach with each phase comprising up to 600MW.

### 1.3 The Developer and Project Team

13. EAOW is a joint venture owned 50:50 by ScottishPower Renewables (UK) Limited (SPR) and Vattenfall Wind Power Ltd (VWPL) and has been created for the development of the East Anglia Zone as part of The Crown Estate's Round 3 process. East Anglia THREE Limited (EATL) has been incorporated in order to develop the proposed East Anglia THREE project.
14. SPR is part of the Iberdrola group, one of the largest utilities in the world and the leading wind energy producer. Committed to sustainable value creation for all stakeholders, Iberdrola is focused on the Atlantic Area and has a renewables capacity of over 24,900 MW. In addition to a strong global onshore portfolio including Whitelee (the UK's largest onshore windfarm), and investment in the emerging marine energy industry, Iberdrola's global offshore wind business is managed from Glasgow and is currently progressing the development of offshore wind throughout the UK, Germany and France, cementing its position at the forefront of the renewable energy industry.
15. Vattenfall is one of Europe's largest generators of electricity and the largest producer of heat. The Parent Company, Vattenfall AB, is 100%-owned by the Swedish state. Vattenfall owns and operates a broad range of assets across Europe from six energy sources – biomass, coal, hydro, natural gas, nuclear and wind power. The company's main business interests are in Sweden, Germany, the Netherlands, Denmark and the UK. Vattenfall sees wind power as a cornerstone of its total energy mix and currently has over 1000 turbines installed in its core markets. In the UK, Vattenfall owns and operates Thanet, Kentish Flats, Kentish Flats Extension and Ormonde Offshore Wind Farms.
16. In addition to SPR and Vattenfall, The Crown Estate also participates in the development of the East Anglia Zone as a development partner, co-investing with developers up to the point of consent.
17. Royal HaskoningDHV (RHDHV) has been commissioned by EATL as the lead consultant for the East Anglia THREE EIA. RHDHV is supported through the EIA process by a number of additional consultants who are responsible for particular specialisms. RHDHV are an environmental and engineering consultancy with specialist expertise in offshore renewable energy. RHDHV have provided consenting support on over 14GW of renewable energy projects across 18 offshore windfarms. RHDHV's EIA activities and ESs are accredited by the Institute of Environmental Management and Assessment (IEMA) under the EIA Quality Mark Scheme. This

demonstrates RHDHV's commitment to ensuring EIA is maintained at high quality and best practice.

#### 1.4 Purpose of the Project

18. Climate change is a global issue and is widely considered to be caused by the increase of carbon emissions into the atmosphere. Generating and harnessing energy from renewable sources such as offshore wind is one of the solutions available to reduce carbon emissions, whilst answering the challenges of meeting energy demand as part of a balanced energy portfolio. The East Anglia Zone, including East Anglia THREE, would make a significant contribution both to the achievement of these UK targets and to the global responsibility towards mitigating climate change. By generating sustainable electricity in the UK, the proposed East Anglia THREE project will also help to reduce the UK's reliance on imported energy. Further detail is provided on this in Chapter 2 Need for the Project and Chapter 3 Policy and Legislative Context.

#### 1.5 EIA process

19. Wind energy has an important potential in carbon emissions reduction and has a relatively low environmental impact in comparison with other technologies (IPCC 2011). EIA is a procedure required under the terms of European Union Directive 85/337/EEC (as amended by Directive 97/11/EC), on assessment of the effects of certain public and private projects on the environment. It has been transposed into English law for Nationally Significant Infrastructure Projects (NSIPs) by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009.
20. The threshold for a development project to be considered as a NSIP is 100MW offshore and therefore as the proposed East Anglia THREE project has a planned capacity of up to 1,200MW, the project fits within this category. An EIA, in accordance with the 2009 Regulations has therefore been completed for the proposed project, and this is explained in further detail in Chapter 6 Environmental Impact Assessment Methodology.



## 1.6 The ES Structure

21. The ES covers the offshore windfarm and the offshore and onshore electrical transmission works. The ES comprises of three volumes:

- Volume 1: Environmental Statement chapter (ES Chapter list shown in *Table 1.1*);
- Volume 2: Figures;
- Volume 3: Appendices.

**Table 1.1. ES Chapter list.**

Section	Chapter
Introductory	1: Introduction
	2: Need for the Project
	3: Policy and Legislative Context
	4: Site Selection and Alternatives
	5: Description of the Development
	6: EIA Methodology
Offshore	7: Marine Geology, Oceanography and Physical Processes
	8: Marine Water and Sediment Quality
	9: Underwater Noise and Vibration and Electromagnetic Fields
	10: Benthic Ecology
	11: Fish and Shellfish Ecology
	12: Marine Mammal Ecology
	13: Offshore Ornithology
	14: Commercial Fisheries
	15: Shipping and Navigation
	16: Aviation and MOD
	17: Offshore Archaeology and Cultural Heritage
	18: Infrastructure and Other Users
Onshore	19: Soils, Geology and Ground Condition
	20: Air Quality
	21: Water Resource and Flood Risk
	22: Land Use
	23: Terrestrial Ecology
	24: Onshore Ornithology
	25: Onshore Archaeology and Cultural Heritage
	26: Noise and Vibration
	27: Traffic and Transport
East Anglia THREE project wide chapters	28: Socio-Economics
	29: Seascape, Landscape and Visual Amenity
Summary and conclusion	30: Summary and conclusion

22. In addition, a separate stand-alone Non-Technical Summary (NTS) is available which summarises the key baseline data and findings of the ES.
23. There is also a list of acronyms and glossary of terms document provided with the ES.

## 1.7 References

Intergovernmental Panel on Climate Change (IPCC) (2011) *IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation. Prepared by Working Group III of the Intergovernmental Panel on Climate Change* Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

**Chapter 1 Ends Here**