

East Anglia TWO Offshore Windfarm

Appendix 5.1 Statement of Competency

Preliminary Environmental Information
Volume 3

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Glossary of Acronyms

ATC	Air Traffic Control
Cefas	Centre for Environmental, Fisheries and Aquaculture Science
CIA	Cumulative Impact Assessment
Defra	Department for Environment, Food and Rural Affairs
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
IAPEME	International Advisory Panel of Experts in Marine Ecology
JNCC	Joint Nature Conservation Committee
LVIA	Landscape and Visual Impact Assessment
NATS	National Air Traffic Service
NRA	Navigational Risk Assessment
OPEN	Optimised Environments Limited
PEIR	Preliminary Environmental Information Report
PVA	Population Viability Analysis
SLVIA	Seascape Landscape and Visual Impact Assessment
TMZ	Tranponder Mandatory Zone

5.1 Statement of Competency

5.1.1 Introduction

1. In order to ensure the Preliminary Environmental Information Report (PEIR) is complete and is of a high quality East Anglia TWO Limited has appointed experienced Environmental Impact Assessment (EIA) consultants to undertake the assessment work. This document outlines the relevant expertise and qualifications of the EIA consultants who have undertaken the environmental impact assessment and prepared the PEIR.

5.1.2 Competent Experts

5.1.2.1 Royal HaskoningDHV

2. Royal HaskoningDHV is the UK's leading EIA consultant working in the offshore wind sector, successfully providing environmental, development and consenting support on over 14GW of renewable energy projects across 26 UK offshore wind farm, including six successful DCO applications. In addition, Royal HaskoningDHV holds the EIA quality mark from the Institute of Environmental Management and Assessment.
3. The EIA team is overseen by Paolo Pizzolla as Project Director. Paolo is Renewables Technical Director and an experienced Project Director with Royal HaskoningDHV. Paolo is a chartered professional with 21 years' experience, including his role as the director or manager for seven other offshore windfarm Projects. The EIA process and EIA team has been led by Alex Hampson, an experienced EIA manager with Royal HaskoningDHV. Alex has significant experience of delivering EIAs for complex offshore windfarm projects including Dudgeon Offshore Wind Farm and Triton Knoll Offshore Wind Farms. Paolo and Alex are supported by a dedicated core EIA management team who are all chartered EIA professionals.
4. The majority of the technical impact assessments reported within the PEIR have been led by experienced technical experts from within Royal HaskoningDHV's UK team. The technical assessments draw on the very significant track record of previous offshore wind impact assessments Royal HaskoningDHV has successfully undertaken.
5. Royal HaskoningDHV's lead authors are senior and chartered professionals with a significant track record in undertaking technical assessment and EIA in their discipline. The team undertaking the EIA for the proposed East Anglia TWO project are predominantly Royal HaskoningDHV professional consultants. The team is comprised of a dedicated core team of EIA professionals who take the lead role in the co-ordination and management of the EIA and the preparation of the PEIR. The core team is then supported by

- a wider team of technical specialists taking responsibility of the data collection, data analysis and technical impact assessment.
6. Royal HaskoningDHV undertook the technical impact assessment and were lead authors on the following impact assessment chapters within the PEIR:
- **Chapter 7 Marine Geology, Oceanography and Physical Processes;**
 - **Chapter 8 Marine Water and Sediment Quality;**
 - **Chapter 9 Benthic Ecology;**
 - **Chapter 10 Fish and Shellfish Ecology;**
 - **Chapter 11 Marine Mammals;**
 - **Chapter 12 Offshore Ornithology;**
 - **Chapter 16 Marine Archaeology and Cultural Heritage;**
 - **Chapter 17 Infrastructure and Other Users;**
 - **Chapter 18 Ground Conditions and Contamination;**
 - **Chapter 19 Air Quality;**
 - **Chapter 20 Water Resources and Flood Risk;**
 - **Chapter 21 Land Use;**
 - **Chapter 22 Onshore Ecology;**
 - **Chapter 24 Archaeology and Cultural Heritage;**
 - **Chapter 25 Noise and Vibration;**
 - **Chapter 26 Traffic and Transport;**
 - **Chapter 27 Human Health;** and
 - **Chapter 30 Tourism, Recreation and Socio-Economics.**
7. Each lead author is a member of a relevant professional body and takes responsibility for the quality and veracity of the data gathered and used in the assessment, the impact assessment methodology to be undertaken, the impact assessments made and any proposed mitigation and monitoring measures proposed. The lead author is usually supported by a team and their work is subject to both technical and consistency review by a Technical Director and the EIA core team.
8. A small number of the technical assessments and associated PEIR chapters have been undertaken by specialist consultancies outside Royal HaskoningDHV. These include **Chapter 13 Commercial Fisheries** (Brown and May Marine Limited) **Chapter 14 Shipping and Navigation** (Anatec Limited), **Chapter 15 Civil and Military Aviation and Radar** (Cyrrus Limited) **Chapter 23 Onshore Ornithology** (MacArthur Green), **Chapter 28**

Seascape, Landscape and Visual Impact Assessment, Chapter 29 Landscape and Visual Impact Assessment (Optimised Environments). Information about these companies are presented below.

5.1.2.2 Brown and May Marine Limited

9. Brown and May Marine Limited are one of the UK's leading commercial fisheries and fish ecology consultancies with extensive expertise in offshore fishery surveys, liaison with commercial fishermen and representative groups and in undertaking commercial fisheries and fish ecology impact assessments EIA in relation to offshore wind and other marine sectors.
10. Brown and May Marine Limited undertook the commercial fisheries data gathering and authorship of the technical report and **Chapter 13 Commercial Fisheries** of the PEIR.
11. The EIA team is overseen by Brown and May Marine Ltd's Managing Director, Stephen Appleby. Stephen has 35 years' offshore industry experience undertaking commercial fisheries and fish ecology related studies for the oil, gas, cabling and offshore wind farm industries. The delivery of the PEI chapter and supporting technical report has been led by Sara Xoubanova, an experienced EIA senior consultant with over 10 years of experience. Sara has undertaken and reviewed commercial fisheries and fish ecology ES chapters and technical reports for a wide range of offshore wind farm projects in the UK. Stephen and Sara are supported by a dedicated technical team of GIS analysts, fisheries experts, liaison officers and marine biologists which provides technical inputs and data analysis to inform the commercial fisheries assessments.
12. The commercial fisheries PEIR carried out for the proposed East Anglia TWO project draws on Brown and May Marine Ltd's extensive track record of previous offshore wind farm impact assessments, including, but not limited to, East Anglia ONE, East Anglia THREE, Dogger Bank Creyke Beck, Dogger Bank Teesside, Rampion Offshore Wind Farm, Beatrice Offshore Wind Farm, Moray East Offshore Wind Farm, Firth of Forth Project Alpha and Bravo, Westernmost Rough, Walney Extension, Burbo Bank Extension, Thanet, Thanet Extension, Dudgeon, Docking Shoal and Race Bank. In addition Brown & May Marine Ltd have worked for electricity interconnectors and oil and gas developments through the UK and Europe

5.1.2.3 Anatec Limited

13. Anatec is a market leader in risk based decision making in relation to shipping, navigation and offshore developments, and has supported many of the wind, wave and tidal renewable energy projects within the UK's Renewable Energy Zone as well as projects within mainland Europe and North American waters.

14. Anatec's Principal Risk Analysts have been at the forefront of the marine and risk assessment fields for the past 15-20 years. The Principal Risk Analysts are supported by a technical team of around 10 people who specialise in offshore risk assessments and collision/allision modelling in line with regulator guidance.
15. Anatec has undertaken the Shipping and Navigational impact assessments for a number of offshore wind farms within the Southern North Sea area including Norfolk Vanguard, Norfolk Boreas, East Anglia ONE and East Anglia THREE. Consequently, Anatec are familiar with the shipping and navigation receptors and effects within the area of the North Norfolk Coast (nearshore and offshore). As part of the scope for the proposed East Anglia TWO project Anatec also undertook the marine traffic surveys and the technical reports (Navigational Risk Assessment (NRA)) as well as lead authoring on **Chapter 14 Shipping and Navigation**. Technical leads were Ali McDonald and Sam Westwood.
16. Over the past 10 years, Anatec have completed NRAs and Environmental Statement (ES) chapters for the majority of rounds 1, 2 and 3 (initial projects and Zonal assessments) offshore wind, wave and tidal sites in the UK, as well as a significant number of interconnectors and pipelines. A sample of key offshore wind projects outside of the southern North Sea area includes Dogger Bank Creyke Beck, Dogger Bank Teesside, Hornsea One, Hornsea Two, Hornsea Three and Rampion.

5.1.2.4 Cyrrus Limited

17. Cyrrus Limited is a leading independent international consultancy providing a range of specialist aviation support services. Cyrrus is focused on bringing creative, contemporary solutions to the challenges facing the airport and air traffic industries. Their industry background and experience enable Cyrrus to provide high quality consultancy services in order to understand and resolve the disparate objectives of the aviation and renewable energy industries. Cyrrus' team has significant strength in depth, and provides the skill sets necessary to ensure project objectives are achieved. Our team has successfully worked in collaboration with aviation stakeholders (including the Ministry of Defence (MoD) and NATS) providing well-reasoned technical argument and quality outcomes.
18. Cyrrus undertook the technical impact assessment and Simon McPherson was lead author for **Chapter 15 Civil and Military Aviation and Radar**.
19. Additionally, Cyrrus has extensive experience of Air Traffic Control (ATC) radar and Air Defence radar operations regarding the effects of wind turbines and has previously addressed the aviation issues associated with many wind

energy developments including Holbeach Marsh, Floods Ferry, Bamff, Green Knowes, and others. Most recently, Cyrrus engaged with National Air Traffic Service (NATS), Ministry of Defence (MoD) and other aviation stakeholders to address the aviation issues associated with the East Anglia THREE offshore windfarm.

20. Another core workstream is airspace design and Airspace Change Process. For example, in order to resolve the impact associated with the development of the London Array wind farm on Manston Airport's ATC radar operation, Cyrrus developed and consulted upon the first Transponder Mandatory Zone (TMZ) to be introduced over an offshore windfarm. The airport has since closed but the TMZ operates successfully to mitigate radar interference at London Southend Airport

5.1.2.5 MacArthur Green

21. MacArthur Green is one of the leading technical ornithology consultancies in the UK. The team at MacArthur Green have undertaken technical ornithological impact assessments in relation to for a number of the largest UK offshore wind projects including Beatrice, Hornsea Project One, East Anglia THREE and the Dogger Bank offshore wind projects. MacArthur Green has also provided guidance on ornithological monitoring for several consented windfarms including Triton Knoll, Dudgeon, Beatrice, East Anglia ONE and The European Offshore Wind Development Centre and has prepared guidance notes on principles for assessment of impacts on bird populations, and strategic level assessments, for bodies such as Scottish Natural Heritage, Natural England, Joint nature Conservation Committee (JNCC), The Crown Estate, Marine Scotland, Department of Environment Food and Rural Affairs (Defra) and Cefas. Working with the Universities of Glasgow, Liverpool, Leeds and Highlands & Islands, MacArthur Green has recently supported four PhD studentships on developing understanding of interactions between marine renewables and seabirds.
22. MacArthur Green undertook the technical impact assessments for offshore and onshore ornithology and was lead author for **Chapter 23 Onshore Ornithology**.
23. The MacArthur Green Team for offshore renewables includes Dr Mark Trinder, Professor Bob Furness and Rafe Dewar.
24. Dr Mark Trinder is project manager for offshore assessment work. He has established a strong reputation for the delivery of population models and analytical assessments for the investigation of potential impacts on bird populations, particularly in relation to renewable developments. He has particular expertise in coding in R, in statistical analysis and Population

- Viability Analysis (PVA). He has been centrally involved in strategic and industry guidance work. Mark led on the ornithological assessment for the Beatrice offshore wind farm in the Moray Firth, as well as on offshore ornithology for East Anglia THREE, and has provided key technical inputs to the assessments for the Hornsea and Dogger Bank projects.
25. Professor Bob Furness is an internationally renowned ornithologist with a 35 year track record of high quality research and project supervision. Bob's work at MacArthur Green has focused on strategic projects developing methodologies to assess or mitigate impacts of offshore renewables. Bob chaired an International Advisory Panel of Experts in Marine Ecology (IAPEME) appointed by the Danish Government to advise on the monitoring of environmental impacts of their demonstration offshore wind farms Nysted and Horns Rev, the first two large offshore wind farms to be constructed. Bob is a member of the Board of Scottish Natural Heritage, chairs the SNH Scientific Advisory Committee, and is a member of JNCC's marine sub-group advising on Marine Protected Areas.
26. Rafe Dewar is project manager for onshore ornithology assessment work. Rafe is an experienced senior ecologist specialising in ornithology, with over 13 years work in the consultancy sector. He has been involved in ornithological matters throughout the application process for some of the largest offshore renewables projects in the world, from scoping stage to surveying, to public hearings. He has been the lead ornithology author of various EIA Reports, Habitats Regulations Assessments, technical reports and Habitat Management Plans for offshore and onshore renewable energy projects. Relevant project experience includes work on the Hornsea, East Anglia, Galloper, Greater Gabbard, LID, LINCS, Inch Cape, Beatrice, Atlantic Array and Argyll Array Offshore Wind Farms, and the MeyGen Tidal Energy project.

5.1.2.6 Optimised Environments

27. Optimised Environments Limited or "OPEN" is a multi-disciplinary design company with masterplanning, urban design, landscape architecture and environmental planning at its core. OPEN are lead author on **Chapter 28 Seascape, Landscape and Visual Impact Assessment** (SLVIA) and **Chapter 29 Landscape and Visual Impact Assessment** (LVIA).
28. OPEN's LVIA assessor, Simon Martin, has over 16 years' experience preparing LVIA's for energy developments. Simon was project manager for delivery of landscape related consent conditions for the onshore infrastructure required for East Anglia ONE Offshore Windfarm and is also currently leading the SLVIA's for Thanet Extension Offshore Wind Farm and Moray East Offshore Wind Farm. OPEN's LVIA project director, Lynda Thomson, has over

20 years' experience working in the renewables sector, more recently specialising in Seascope LVIA for offshore wind farms and LVIA for the associated onshore infrastructure.

29. The team at OPEN has gained a considerable level of knowledge of energy related LVIA and are specialists in this field, having carried out the LVIAs for over 100 wind farms since 1998, working with many of the major renewable energy companies across the UK.

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