NORTH FALLS

Offshore Wind Farm

PRELIMINARY ENVIRONMENTAL INFORMATION REPORT

Chapter 1 Introduction

Document Reference No: 004447019-05
Date: May 2023
Revision: 05

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Project	North Falls Offshore Wind Farm
Sub-Project or Package	Environmental Impact Assessment
Document Title	Preliminary Environmental Information Report Chapter 1 Introduction
Document Reference	004447019-05
Revision	05
Supplier Reference No	PB9244-RHD-PE-ZZ-RP-YE-0041

Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
01	01/10/21	For NFOW review	BH	GK	-
02	03/08/22	For NFOW review	BH	GK	-
03	25/08/22	For NFOW review	BH	GK/GC	-
04	20/02/23	For NFOW review	GK	GC	-
05	21/04/23	Final	HF/GK	GK	JP/TC/DH/AP

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Glossary of Acronyms

AfL	Agreement for Lease
DCO	Development Consent Order
DESNZ	Department of Energy Security and Net Zero
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
GGOW	Greater Gabbard Offshore Wind Farm
GW	Gigawatt
HRA	Habitats Regulations Assessment
IEMA	Institute of Environmental Management and Assessment
km	Kilometre
MEEB	Measures of Equivalent Environmental Benefit
MW	Megawatt
NFOW	North Falls Offshore Wind Farm Ltd
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Projects
NTS	Non-Technical Summary
Ofgem	Office of Gas and Electricity Markets
OFTO	Offshore Transmission Owner
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
PEIR	Preliminary Environmental Information Report
RWE	RWE Renewables UK Swindon Limited
SoCC	Statement of Community Consultation
SSER	SSE Renewables Limited
UK	United Kingdom
WTG	Wind Turbine Generator

Glossary of Terminology

Array areas	The two distinct offshore wind farm areas (including the 'northern array area' and 'southern array area') which together comprise North Falls offshore wind farm.
Array cables	Cables which link the wind turbine generators with each other and the offshore substation platform(s).
Cable circuit	A bundle which could comprise three power cables; three telecommunications cables; and one earth cable
Five Estuaries	Five Estuaries Offshore Wind Farm
Interconnector cable	Cable between the northern and southern array areas
Interconnector cable corridor	The corridor of the seabed between the northern and southern array areas within which the interconnector cable will be located.
Landfall	The location where the offshore export cables come ashore.
Landfall search area	Locations being considered for the landfall, comprising the Essex coast between Clacton-on-Sea and Frinton-on-Sea.
National Grid connection point	The grid connection location for the Project. National Grid is proposing to construct new electrical infrastructure to allow the Project to connect to the grid, and this new infrastructure will be located at the National Grid connection point.
Offshore cable corridor	The corridor of seabed from array areas to the landfall within which the offshore export cables will be located.
Offshore export cables	The cables which bring electricity from the array areas to the landfall.
Onshore cable corridor(s)	Onshore corridor(s) within which the onshore export cables and associated infrastructure will be located. A final onshore cable route for which consent will be sought will be selected from within these corridor(s).
Onshore export cables	The cables which take the electricity from landfall to the onshore substation. These comprise High Voltage Alternative Current (HVAC) cables, buried underground.
Onshore project area	The boundary within which all onshore infrastructure required for the Project will be located (i.e. landfall; onshore cable route, accesses, construction compounds; onshore substation and National Grid substation extension), as considered within the PEIR.
Onshore substation	A compound containing electrical equipment required to transform and stabilise electricity generated by the Project so that it can be connected to the national grid.
Onshore substation zone	Area within which the onshore substation will be located.
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.

1 Introduction

1.1 Purpose of this document

1. This document is the Preliminary Environmental Information Report (PEIR) for North Falls Offshore Wind Farm (herein 'North Falls' or 'the Project').
2. The purpose of the PEIR is to provide preliminary environmental information in relation to the Environmental Impact Assessment (EIA) to allow stakeholders to develop an informed view of the effects of North Falls, as required by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations 2017).
3. This PEIR describes the baseline environment; EIA methodology; likely significant effects (assessed to date); and any proposed mitigation measures. It also sets out the consultation undertaken to date on the EIA (Chapter 7 Technical Consultation, Volume I).
4. The EIA considers likely significant effects associated with the construction, operation, maintenance and decommissioning phases of North Falls for the Project alone and provides an assessment of the cumulative effects with other plans and projects.

1.1.1 Consultation

5. This PEIR has been informed by a Scoping Opinion that was provided by the Planning Inspectorate in August 2021, along with ongoing technical consultation via the Evidence Plan Process (EPP) (discussed further in Chapter 7 Technical Consultation, Volume I).
6. The PEIR has been produced to support public and stakeholder consultation under Sections 42, 47 and 48 of the Planning Act 2008. A Statement of Community Consultation (SoCC) was released on 27th March 2023, which outlines the plans for ongoing consultation.
7. North Falls Offshore Wind Farm (NFOW) (the 'Applicant') will have regard to feedback from the consultation and, where practicable and appropriate, will use it to inform the ongoing design of North Falls and the scope of the final impact assessment which will be reported in the Environmental Statement (ES). The ES will be submitted as part of an application for a Development Consent Order (DCO) pursuant to Section 37 of the Planning Act 2008. Further detail on the legislative context for North Falls is provided in Chapter 3 Policy and Legislative Context (Volume I).
8. This PEIR can be downloaded at www.northfallsoffshore.com and a hard copy will be available to view at North Falls public consultation events planned for June 2023.
9. If you have any questions or feedback on this PEIR, please get in touch via:

   Email: contact@northfallsoffshore.com

   Website form: www.northfallsoffshore.com/contact/

Address: FREEPOST North Falls

North Falls Offshore Wind Farm Limited
Company number: 12435947
Registered address: Windmill Hill Business Park, Whitehill Way, Swindon, Wiltshire SN5 6PB

10. The PEIR consultation closes on Friday 14th July 2023**.**

1.2 Background to North Falls

11. In February 2017, The Crown Estate launched an opportunity for existing wind farms to apply for project extensions. NFOW applied for a lease to develop an extension to the western boundary of the existing Greater Gabbard Offshore Wind Farm (GGOW). In August 2019, The Crown Estate consulted on and then concluded a plan-level Habitats Regulations Assessment (HRA) for the proposed extension projects and confirmed that Greater Gabbard Extension, now named North Falls Offshore Wind Farm would be among seven projects that would be awarded an Agreement for Lease (AfL).

12. North Falls would make an important contribution to United Kingdom (UK) policies and targets through the generation of clean, low carbon, renewable electricity (see Chapter 2 Need for the Project, Volume I).

13. The key components of North Falls comprise:

- Offshore:
  - Wind turbine generators (WTGs) and their associated foundations;
  - Up to two offshore substation platforms (OSP) and their associated foundations to facilitate the export of electricity;
  - Subsea cables:
    - Array cables between the WTGs and OSP(s);
    - Interconnector cable between the northern and southern array areas; and
    - Export cables between the OSP(s) and landfall; and
  - Scour protection around foundations and subsea cables where required.
- Onshore;
  - Landfall;
  - Onshore cables and associated link boxes;
  - Onshore substation; and
  - Connection to the national grid.

14. The North Falls project area comprises:

- The offshore project area:
  - Two offshore wind farm areas (hereafter the ‘array areas’, comprising the southern array area and northern array area) - within which the wind turbine generators, offshore substation platform and array cables will be located;

- Interconnector cable corridor - the corridor of the seabed between the northern and southern array areas within which the interconnector cable will be located;
- Offshore cable corridor - the corridor of seabed from array areas to the landfall within which the offshore export cables will be located;

- The onshore project area:
  - Landfall search area - locations being considered for the landfall, comprising the Essex coast between Clacton-on-Sea and Frinton-on-Sea;
  - Onshore cable corridor - Onshore corridor within which the onshore export cables and associated infrastructure will be located. A final onshore cable route for which consent will be sought will be selected from within the corridor; and
  - Onshore substation zone - Area within which the onshore substation will be located.

15. The North Falls array areas are split into two boundaries to facilitate a shipping route, discussed further in Chapter 5 Project Description (Volume I) and Chapter 15 Shipping and Navigation (Volume I). The array areas have a total area of 150km^2 located approximately 22km (at the closest point) off the East Anglian coastline.

16. The offshore cable corridor runs from the southern array area to the landfall search area between Clacton-on-Sea and Frinton-on-Sea, routing around various constraints discussed further in Chapter 4 Site Selection and Assessment of Alternatives (Volume I).

17. Onshore export cables will then transport the electricity to an onshore substation located near Ardleigh within the Tendring district of Essex, before it enters the national grid. The offshore and onshore project locations are shown in Figures 1.1 and 1.2 (Volume II), respectively. Details of the Project Design Envelope is provided in Chapter 5 Project Description (Volume I).

1.3 Co-operation with other projects

18. Recognising feedback received from stakeholders to date, NFOW is committed to working with the Department of Energy Security and Net Zero (DESNZ) to explore grid connection options, as part of the Offshore Transmission Network Review (OTNR) process.

19. The OTNR aims to deliver changes around the National Grid that would pave the way for more coordinated grid opportunities. This review has brought together government departments and industrial bodies, as well as key stakeholders involved in the delivery of offshore wind, interconnectors and offshore networks. The process of the OTNR is to identify and remove the complex commercial, legislative and regulatory hurdles needed to make this feasible.

20. NFOW has committed to exploring coordinated network designs, along with four other projects in East Anglia: Five Estuaries, National Grid Electricity Transmission's Sea Link, and National Grid Ventures' EuroLink and Nautilus.

As such, NFOW is currently reviewing the following options for the Project's National Grid connection point:

- Option 1: Onshore electrical connection at a National Grid connection point within the Tendring peninsula of Essex, with a project alone onshore cable route and onshore substation infrastructure;
- Option 2: Onshore electrical connection at a National Grid connection point within the Tendring peninsula of Essex, sharing an onshore cable route (but with separate onshore export cables) and/or co-locating separate project onshore substation infrastructure with another project (i.e., Five Estuaries), where practicable; or
- Option 3: Offshore electrical connection, supplied by a third party electricity distribution network provider. Such a connection will potentially be identified through the OTNR process, in which NFOW is actively engaged.

21. These options are discussed further in Appendix 6.1 Grid Connection Optionality – Worst Case Assessment (Volume II) and Chapter 5 Project Description (Volume I).

22. NFOW continues to engage with Government, Office of Gas and Electricity Markets (Ofgem) and other developers to explore the potential options. NFOW is also aware of the desire to reform legislation to facilitate wider co-operation between projects (not just offshore wind farms) in the future, for example through the current review of the existing energy National Policy Statements (NPS). Opportunities for co-operation will continue to be explored throughout the project development phase, taking into account the relevant policy requirements at the time.

1.4 The Applicant and the North Falls team

23. NFOW is a consortium between SSE Renewables Limited (SSER) and RWE Renewables UK Swindon Limited[1] (RWE), both of which are highly experienced developers. Both organisations are committed to developing renewable energy in the UK.

24. SSER is a leading developer, owner and operator of renewable energy across the UK and Ireland, with a portfolio of around 4 gigawatts (GW) of onshore wind, offshore wind and hydro. Part of the SSER strategy is to drive the transition to a net zero future through the world class development, construction and operation of renewable energy assets.

25. SSER is a partner in the following existing UK offshore wind farms (operational or under construction):

- Beatrice – operational in north Scotland (588 megawatts (MW));
- Greater Gabbard – operational off the cost of Suffolk (504MW);

[1] RWE Renewables UK Swindon Limited is owned by RWE Renewables UK Holdings Limited, whose parent company is RWE AG, hereafter collectively referred to as 'RWE'.

- Dogger Bank A, B and C offshore wind farms (formerly known as Creyke Beck A and B, and Teesside A) – under construction, off the coast of North East England (3600MW (3.6GW) in total); and
- Seagreen – under construction, off east of Scotland (1,075MW (1.075GW)). Consent for a further 36 turbines has also been granted for Seagreen 1A.

26. RWE is one of the world's leading renewable energy companies. The company has onshore and offshore wind farms, photovoltaic plants and battery storage facilities with a combined pro-rata capacity of approximately 9GW.

27. RWE is a partner or full owner in the following existing UK offshore wind farms (operational or under construction):

- Greater Gabbard (as above);
- Galloper – operational off the coast of Suffolk (353MW);
- Gwynt y Môr – operational in North Wales (576MW);
- Humber Gateway - operational off the coast of East Yorkshire (219MW);
- London Array - operational off the coast of Kent/Essex (630MW);
- Rampion - operational off the coast of Sussex (400MW);
- Rhyl Flats – operational in North Wales (90MW);
- Robin Rigg - operational in the Solway Firth (180MW);
- Scroby Sands - operational off the coast of Norfolk (60MW);
- Sofia – under construction, off the coast of North East England (1,400MW); and
- Triton Knoll – operational off the coast of Lincolnshire (857MW).

28. This extensive portfolio provides NFOW with valuable lessons learned and experiences from consenting, constructing and operating offshore wind farms, which will be used to inform the design of North Falls. It also provides a sounds understanding of the potential impacts of the project through the ability to draw on available monitoring data.

29. In addition to the portfolio of existing offshore wind farms, RWE and SSER are in the process of consenting a range of other wind farms. For example:

- RWE is leading the development of Awel-y-Mor offshore wind farm off the coast of North Wales; Five Estuaries off the east coast of England and Dogger Bank South offshore wind farms, off the north east coast of England.
- SSER is leading the development of Berwick Bank offshore wind farm off the east coast of Scotland; and is a partner in the Ossian offshore wind farm off the east coast of Scotland; and Dogger Bank D offshore wind farm, off the north east coast of England

30. Royal HaskoningDHV has been commissioned by NFOW as the consultant to lead the North Falls EIA, with support from additional consultants who are responsible for specialist topics.

31. Royal HaskoningDHV has provided environmental, development and consenting support on over 14GW of renewable energy projects across 27 UK offshore wind farms over the last 15 years. Its EIA activities and ES are

accredited by the Institute of Environmental Management and Assessment (IEMA) under the EIA Quality Mark Scheme. This demonstrates Royal HaskoningDHV's expertise in the field and commitment to ensuring EIA is maintained at high quality, in accordance with best practice and therefore satisfies the requirements of the EIA Regulations 2017 which state that the developer must ensure the ES is prepared by competent experts.

1.5 Purpose of North Falls

32. Climate change as a result of greenhouse gas emissions is a global issue associated with impacts on weather, ecosystems, human health and welfare. The UK has made commitments internationally to limit global temperature increases and reduce carbon emissions (further detail is provided in Chapter 3 Policy and Legislative Context, Volume I). Production of electricity using clean, renewable sources such as offshore wind is a critical component in achieving these commitments.

33. North Falls would make a substantial contribution, both to the achievement of UK decarbonisation targets and to global commitments to mitigating climate change. By generating low carbon, renewable and low cost electricity in the UK, North Falls will also help to reduce the UK's reliance on imported energy and to improve energy security. Further detail is provided in Chapter 2 Need for the Project (Volume I).

1.6 Consent and EIA process

34. The overall objective of the EIA process is to identify likely significant adverse effects resulting from a project, allowing them to be avoided or minimised where possible, as well as identifying any potential beneficial effects.

35. North Falls has a planned capacity of more than 100MW and therefore is considered a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008. As noted above, the EIA Regulations apply to the DCO application for North Falls.

36. This PEIR sets out the preliminary findings of the EIA, which will be reviewed, updated as necessary and reported on within the ES, supporting the application for development consent. The assessment methodology that has been applied to the development of the PEIR is explained in further detail in Chapter 6 EIA Methodology (Volume I).

1.7 The PEIR structure

37. The PEIR reports on the likely significant effects associated with the onshore and offshore infrastructure required for North Falls, described further in Chapter 5 Project Description (Volume I).

38. The PEIR comprises three volumes:

- Volume I: PEIR chapters (chapter list shown in Table 1.1);
- Volume II: Figures; and
- Volume III: Appendices.

39. In addition to the above, a Non-Technical Summary (NTS) is provided which summarises the key baseline data and findings of the PEIR.

40. A draft Report to Inform Appropriate Assessment and Marine Conservation Zone Assessment is also provided with the PEIR, alongside draft HRA compensation options and Measures of Equivalent Environmental Benefit, where appropriate.

Table 1.1 PEIR Volume I chapter list

Section	Chapter headings
Introductory	Chapter 1 Introduction Chapter 2 Need for the Project Chapter 3 Policy and Legislative Context Chapter 4 Site Selection and Assessment of Alternatives Chapter 5 Project Description Chapter 6 EIA Methodology Chapter 7 Technical Consultation
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Onshore	Chapter 19 Ground Conditions and Contamination Chapter 20 Onshore Air Quality Chapter 21 Water Resources and Flood Risk Chapter 22 Land Use and Agriculture Chapter 23 Onshore Ecology Chapter 24 Onshore Ornithology Chapter 25 Onshore Archaeology and Cultural Heritage Chapter 26 Noise and Vibration Chapter 27 Traffic and Transport Chapter 28 Human Health
Wider scheme impacts	Chapter 29 Seascape, Landscape and Visual Impact Assessment Chapter 30 Landscape and Visual Impact Assessment Chapter 31 Socio-economics Chapter 32 Tourism and Recreation Chapter 33 Climate Change

1.8 References

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