

BERWICK BANK WIND FARM ONSHORE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Chapter 1: Introduction

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1. INTRODUCTION

1.1. INTRODUCTION

1. This Environmental Impact Assessment (EIA) Report has been prepared by ITP Energised on behalf of Berwick Bank Wind Farm Limited (BBWFL) (hereafter referred to as “the Applicant”) a wholly owned subsidiary of SSE Renewables Limited (“SSER”). The EIA Report accompanies an application to East Lothian Council (ELC) for consent under The Town and Country Planning (Scotland) Act 1997 to construct, operate and maintain, and decommission onshore grid connection infrastructure associated with the proposed Berwick Bank Wind Farm.
2. Berwick Bank Wind Farm (hereafter referred to as the Project) includes both the offshore and onshore infrastructure required to generate and transmit electricity from the offshore array area to a Scottish Power Energy Networks (SPEN) 400kV Grid Substation located onshore at Branxton, southwest of Torness Power Plant.
3. A separate offshore EIA Report has been submitted to support the applications for the offshore consents, licences, and permissions under the Electricity Act 1989, the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009.

1.2. BACKGROUND

4. In 2010 Seagreen Wind Energy Limited (SWEL) was awarded exclusive development rights to Round 3 Zone 2 (named ‘Firth of Forth Zone’) by the Crown Estate, and subsequently SWEL and the Crown Estate entered into a Zone Development Agreement (ZDA).
5. The ZDA granted SWEL certain seabed rights within the Firth of Forth Zone, such as to identify specific areas for the development of offshore wind farms. Although the boundary of the Firth of Forth Zone was fixed, development phase and project boundaries remained flexible within the Firth of Forth Zone.
6. SWEL opted for a phased approach to the delivery of the projects. Phase 1 offshore wind farm projects consisting of Seagreen Alpha and Seagreen Bravo were awarded consent from Scottish Ministers in October 2014, with a Contract for Difference awarded in 2019 and construction commencing in 2021.
7. Phase 2 of the Firth of Forth Zone includes the development of the Berwick Bank Wind Farm proposal, including the part of the proposal formerly known as Marr Bank Wind Farm. Berwick Bank Wind Farm and Marr Bank Wind Farm have been combined into one single proposal, referred to collectively as Berwick Bank Wind Farm (the Project). The Project array area (the area in which the turbines will be located) is approximately 1,010 km² and is located approximately 37.8 km east of the Scottish Borders coastline (St. Abb’s Head) and 47.6 km to the south east of the East Lothian coastline. A maximum of 307 wind turbines will be installed within the Project array area. Full details of the Offshore works are provided within the offshore EIA Report.
8. The Applicant is applying for 35 year consent to operate the Project. The Applicant has a 50 year Agreement for Lease with Crown Estate Scotland (CES). It may be desirable to ‘repower’ the Project to allow the wind farm to continue operating, subject to appropriate review and consideration that will be made in the future. This document is the EIA Report for the proposed Onshore Transmission Works (OnTW) associated with the Project (hereafter referred to as “the Proposed Development”).

1.2.1. GRID CONNECTION

9. The Applicant has three signed grid connection agreements for the Project with the network operator (National Grid Electricity System Operator (NGESO)). Two agreements are for connection at a point onshore close to the existing Branxton cable sealing end compound around 8 km south west of Dunbar on the East Lothian coast (the Proposed Development). The third connection is located at Blyth, Northumberland (the Cambois connection).
10. The grid connections agreements at Branxton were first secured in 2011 and updated grid connection agreements for the same location were signed in 2020. The Proposed Development comprises the onshore transmission works (OnTWs) required to facilitate these connections at Branxton.
11. The site selection process for the Proposed Development is detailed within Volume 1, Chapter 4.
12. For the purpose of this EIA, the following distinctions are made:
 - The Proposed Development, which is the subject of this onshore EIA Report relates to the OnTW elements of the Project located above (i.e., landward side of) Mean Low Water Springs (MLWS).
 - The Offshore Works, which are covered in the offshore EIA Report, relates to the elements of the Project located below (i.e., seaward side of) Mean High Water Springs (MHWS).
 - It is acknowledged that this approach creates an area of overlap between each EIA, i.e., the “inter-tidal” area between MLWS and MHWS. This is considered appropriate given the overlap between the two respective consenting regimes The approach to this area is set out in Volume 1, Chapter 2.

1.3. PROJECT AND PROPOSED DEVELOPMENT

1.3.1. THE PROJECT

13. The Project comprises an offshore element and an onshore element. The offshore infrastructure encompasses the array area; comprising turbines, turbine foundations, array cables, and a range of offshore substations and offshore interconnector cables; and the export cable corridor which contains the offshore export cable(s). The onshore infrastructure is detailed in Section 1.3.2.
14. The consents licences and permissions which will be sought by the Applicant for the Project include:
 - a Section 36 consent under the Electricity Act 1989 for an offshore generating station in the Scottish offshore region (12-200 nm) where generating capacity exceeds 50 megawatts (MW);
 - Marine Licences under the Marine (Scotland) Act 2010 (0 to 12 nm) and Marine and Coastal Access Act 2009 (MCAA) (Scottish waters beyond 12 nm) for the following:
 - generating station (wind turbines, wind turbine foundations and inter-array cables);
 - transmission infrastructure (Offshore substation platforms (OSPs)/Offshore converter station platforms, interconnector cables, offshore export cables and cable protection); and
 - planning permission under the Town and Country Planning (Scotland) Act 1997 (as amended) for onshore transmission infrastructure landward of MLWS (the Proposed Development).

1.3.2. THE PROPOSED DEVELOPMENT

15. The Proposed Development (the OnTW) comprises onshore components, including the following:

- cable landfall;
 - electricity transmission buildings;
 - onshore cables within a cable corridor between the cable landfall and the new onshore substation, and between the new onshore substation and the National Grid Branxton substation; and
 - associated ancillary infrastructure.
16. Volume 1, Chapter 5 provides a description of the Proposed Development in further detail.
17. The electricity transmission buildings will either be a high voltage alternating current (HVAC) substation comprising of control buildings, internal and external HV equipment and Gas Insulated Switchgear; or a high voltage direct current (HVDC) converter substation comprising of converter buildings, HV internal and external equipment and Gas Insulated Switchgear. The assessments within the EIA have considered the parameters of either design scenario. For the purposes of the EIA Report, the electricity transmission buildings are hereafter referred to as the “onshore substation”, which encompasses either option of a substation or converter substation.

1.3.3. SITE DESCRIPTION

18. The extent of the planning application boundary (hereafter referred to as “the site”) is situated near Torness and the village of Innerwick, south-east of Dunbar located in East Lothian, Scotland (Volume 2, Figure 1.1). The centre of the site is OSGB36, British National Grid (BNG) 373977, 674114. The site is approximately 598 ha in size.
19. The proposed cable landfall is located north-west of Torness Power Plant and Skateraw harbour. The onshore cable corridor runs west of the settlement of Skateraw, under the East Coast Main Line (ECML) railway and the A1 trunk road, to the onshore substation, located in open agricultural land north-east of Innerwick. The onshore cable corridor then runs south through agricultural land between Innerwick and Thorntonloch Glen, crossing underneath existing overhead power lines, to the south of the Braidwood burn and the proposed location of the National Grid Branxton substation. The site is predominantly arable, open agricultural land, interspersed with rural settlements and crossed by transport routes including the ECML and the A1. There is existing industrial development in the wider vicinity including Torness Power Plant and Oxwell Mains Cement Works and Quarry on the coastline.
20. Volume 1, Chapter 4 provides a summary of the site selection process and the environmental and engineering considerations which have been taken into account when defining the site. Volume 1, Chapter 5 provides a detailed description of the site and its context.

1.4. THE APPLICANT

21. As stated in paragraph 1, the Applicant is a wholly owned subsidiary of SSER.
22. SSER is a leading developer, owner and operator of renewable energy across the UK and Ireland, with a portfolio of around 4 GW of onshore wind, offshore wind and hydro. Part of the FTSE-listed SSE plc, its strategy is to drive the transition to a net zero future through the world class development, construction and operation of renewable energy assets.
23. SSER are currently constructing the world’s largest offshore wind energy project, the 3.6 GW Dogger Bank Wind Farm in the North Sea, which is a joint venture with Equinor and Eni, as well as Scotland’s largest and the world’s deepest fixed bottom offshore site, the 1.1 GW Seagreen Offshore Wind Farm in the Firth of Forth, a joint venture with TotalEnergies.
24. When complete, Dogger Bank and Seagreen will help power millions of UK homes and businesses and drive the transition to Net Zero carbon emissions. These assets will join

SSER’s existing operational offshore wind portfolio which consists of 1,092 MW across two offshore joint venture sites, Beatrice and Greater Gabbard, both of which SSER operate on behalf of asset partners.

1.5. PURPOSE OF THE EIA REPORT

25. ITP Energised was appointed by the Applicant to prepare an EIA Report in respect of the Proposed Development in accordance with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (hereafter referred to as the “EIA Regulations, 2017”). The EIA process is the systematic process of identifying, predicting and evaluating the environmental impacts of a proposed development. This EIA Report assesses the likely significant environmental effects predicted to result from the construction, operation and maintenance and decommissioning of the Proposed Development. Further information on the EIA methodology is presented in Volume 1, Chapter 2.
26. The EIA Regulations, 2017 set out when an EIA is required. This may be either where the development is of (a) a type listed in Schedule 1 or (b) a type listed in Schedule 2 likely to have significant effects on the environment by virtue of factors such as its nature, size or location. The Proposed Development is considered to be a Schedule 2 development within the EIA Regulations, 2017. An EIA has been undertaken by the Applicant for the Proposed Development.
27. The main findings and conclusions of this EIA Report are summarised in a Non-Technical Summary (NTS), as required by the EIA Regulations, 2017. The NTS summarises the key findings of the EIA in an easily accessible, non-technical language, ensuring everyone with an interest in the Proposed Development can understand and access information regarding the predicted environmental effects.
28. This EIA Report accompanies the application for consent, being submitted to ELC.

1.6. STRUCTURE OF EIA REPORT

29. The EIA Report is split into six volumes. Volume 1 is structured as set out in Table 1.1.

Table 1.1 EIA Report Volume 1 Structure

Chapter No.	Chapter Title	Overview
Chapter 1	Introduction	Provides an introduction to the Applicant, the Proposed Development and the EIA
Chapter 2	Approach to EIA	Sets out the EIA methodology and process, including justification for those topics scoped out of the EIA, and details of the consultation process
Chapter 3	Policy & Legislation	Sets out the legislation and planning policy context
Chapter 4	Site Selection and Analysis of Alternatives	Provides a description of the design iteration process, including the site selection, consideration of viable alternatives and the design of the proposed infrastructure.
Chapter 5	Proposed Development Description	Provides a description of the existing site, details of the Proposed Development, an explanation of the construction, operation, maintenance and

Chapter No.	Chapter Title	Overview
		decommissioning process, and the need for the development
Chapter 6	Landscape & Visual	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on landscape and visual amenity, taking into account those measures
Chapter 7	Ecology	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on ecology, taking into account those measures
Chapter 8	Ornithology	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on ornithology, taking into account those measures
Chapter 9	Noise	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects of noise on sensitive receptors, taking into account those measures
Chapter 10	Cultural Heritage	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on cultural heritage, taking into account those measures
Chapter 11	Geology, Hydrology, Soils & Flood Risk	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on geology, hydrology, soils and flood risk, taking into account those measures
Chapter 12	Traffic & Transport	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on traffic and transport, taking into account those measures

Chapter No.	Chapter Title	Overview
Chapter 13	Socio-economics	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on socio-economics, taking into account those measures
Chapter 14	Land-use, Tourism & Recreation	Assesses the likely significant effects of the Proposed Development, details measures envisaged to avoid, prevent, reduce or offset effects and reaches a conclusion on the likely significance of the residual effects on land use, tourism and recreation, taking into account those measures
Chapter 15	Summary of EIA Report	Provides a summary of the findings of the EIA Report

30. Volume 2 contains the non-landscape and visual figures that inform the EIA Report.
31. Volume 3 contains the landscape and visual figures, and visualisations.
32. Volume 4 contains supporting information and appendices for each of the technical chapters, and additional studies that have been prepared to inform the relevant assessments as reported in the EIA Report.
33. Volume 5 contains confidential technical appendices.
34. Volume 6 contains the NTS.
35. In addition to the EIA Report, supporting documents which form part of the application submission include a Planning Statement, a Design & Access Statement, and a Pre-Application Consultation (PAC) Report.

1.7. THE EIA PROJECT TEAM

36. ITPenergised was appointed by the Applicant as the Project Manager for the EIA on the Proposed Development.
37. In addition to the preparation of the EIA Report, ITPenergised has undertaken the ecology and ornithology, noise, land use, and tourism assessments. ITPenergised was supported by a range of technical specialists.
38. Table 1.2 outlines the full EIA team and their relevant experience.

Table 1.2 EIA Project Team

Organisation	Consultant/Person	Project Role	Expertise/Competency
ITPenergised	Organisation Summary	Lead Onshore EIA Consultant	ITPenergised is an environmental and energy consultancy, founded in 2013, focusing on renewable energy development and with significant experience in wind and other renewable energy technology applications across the UK.

Organisation	Consultant/Person	Project Role	Expertise/Competency
	Gavin Spowage	EIA Project Director	MSc, BSc (Hons), PIEMA Over 17 years' experience of EIA project management including renewable energy, urban generation, ports & harbours, and residential developments.
	Sarah Tullie	EIA Project Manager	MSc, BSc (Hons). Over 3 years' experience of project managing EIAs for renewable energy developments across Scotland.
	Yasmin Dennis	Land Use, Tourism & Recreation Lead EIA Assistant Project Manager	MSc, BSc (Hons), GradIEMA A background in marine renewable energy and marine biology, with experience in the onshore and offshore EIA process.
	Jenny Diack	Ecology Lead	BSc, MCIEEM Over 15 years' experience in ecological consultancy with a focus on terrestrial ecology. Experience spans field surveys and reporting, stakeholder engagement, Ecological Impact Assessments, and the production of species protection and biodiversity enhancement plans.
	Allan Taylor	Ornithology Lead	MSc, BA, ACIEEM Over 7 years' experience in environmental consultancy with a strong focus on ornithology. Experience includes conservation work for non-profit organisations, field surveying and Ecological and Ornithological Impact Assessment.
	Alasdair Baxter	Noise Lead	BSc, MSc, PGDip, MIOA Over 15 years' experience in noise and vibration assessments for a variety of acoustic projects with expertise in EIAs for schemes within the transport, renewable energy and industrial sectors, noise issues relating to planning applications and feasibility studies to enable appropriate site selection.
Young Planning & Energy Consenting	Grant Young	Planner	Over 12 years' experience in town planning consultancy, experienced in advising across a wide range of development sectors across Scotland.
OPEN	Stuart Cargill	Landscape & Visual Lead	MLA, BA, CMLI Over 14 years' experience as a chartered Landscape Architect

Organisation	Consultant/Person	Project Role	Expertise/Competency
			specialising in landscape planning and Landscape and Visual Impact Assessment (LVIA) and its related fields - TVIA (Townscape Assessment), SLVIA (Seascape Assessment) and SEA (Strategic Environmental Assessment).
CFA Archaeology	Linn Glancy	Cultural Heritage Lead	MA, MA (Hons) AICfA Over 15 years' experience of producing Cultural Heritage EIARs for renewable developments and for other infrastructure, commercial and industrial developments throughout Scotland.
Gondolin Land & Water	Stephen Donnan	Geology, Hydrology, Soils & Flood Risk Lead	MEng (Hons), MSc, GradCIWEM Over 4 years' experience within the water and built environment. Experience providing hydrology and engineering support to renewable and industrial projects through all development and EIA stages.
Pell Frischmann	Gordon Buchan	Traffic & Transport Lead	BEng (Hons), MSc, CMILT, MCIHT Over 26 years' experience in transport planning, specialising in renewable energy transport and access projects across Northern Europe.
Hardisty Jones Associates	Stuart Harding-Jones	Socio-economics Lead	21 years' experience of socio-economic development consultancy for public and private sector clients. Authored and contributed to a wide variety of socio-economic assessments for EIA and as standalone reports across a range of sectors including energy, residential, commercial, employment, education, health and infrastructure.
Atkins	Daniel George	Climate Lead	Three years of experience as environmental consultant for a range of major infrastructure projects. Has been responsible for undertaking carbon modelling assessments using a variety of modelling tools to assess the amounts of CO2e emissions that a scheme will produce during the construction, operation and decommissioning phases of its life.

1.8. AVAILABILITY OF THE EIA REPORT

39. Electronic copies of the onshore (as well as the offshore) EIA Report, including all non-confidential figures, appendices and accompanying documents are available to view on the Project website: <https://www.berwickbank.com/>.
40. A Digital EIA Report can be accessed via the Project website at <https://www.berwickbank.com/>.
41. Electronic copies of the onshore EIA Report can also be accessed, and representations submitted online via the ELC planning portal: <https://pa.eastlothian.gov.uk/online-applications/>.
42. Electronic copies of the offshore EIA Report can also be accessed online via <https://marine.gov.scot/marine-licence-applications>, and representations submitted to Marine Scotland - Licensing Operations Team.
43. Physical hardcopies of the EIA Report will be available for public viewing during the consultation period at suitable locations in agreement with ELC.
44. Copies of documentation or further information on the Proposed Development may also be obtained from the Applicant (contact: berwickbank@sse.com). The NTS will be available free of charge. Hard copies of the main EIA Report will be available at a charge of £600.

1.9. REPRESENTATIONS ON THE APPLICATION

45. Any representations to the application should be made directly to ELC either via the online planning portal, by email to: environment@eastlothian.gov.uk, or in writing to:

East Lothian Council,
John Muir House,
Brewery Park,
Haddington,
East Lothian,
EH41 3HA.

1.10. REFERENCES

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