

BERWICK BANK WIND FARM ONSHORE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Acronyms, Abbreviations, Units, & Glossary

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Prepared by: **ITP Energised**
Prepared for: **SSE Renewables**

Checked by: **ITP Energised**
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Approved by: **SSE Renewables**

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ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Definition
AADT	Annual Average Daily Traffic
AAWT	Annual Average Weekday Traffic
ACoW	Archaeological Clerk of Works
AfL	Agreement for Lease
AOD	Above Ordnance Datum
ATC	Automatic Traffic Counter
AWI	Ancient Woodland Inventory
BBS	Breeding Bird Survey
BBWL	Berwick Bank Wind Limited
BoCC	Birds of Conservation Concern
BGS	British Geological Survey
BNG	British National Grid
BoP	Balance of Plant
BRES	Business Register and Employment Survey
BS	British Standard
CA	Conservation Area
CAPEX	Capital Expenditure
CAR	Controlled Activities Regulations
CBC	Common Bird Census
CCP	Climate Change Plan

Acronym / Abbreviation	Definition
CEA	Cumulative Effect Assessment
CEMP	Construction Environmental Management Plan
CES	Crown Estate Scotland
CIfA	Chartered Institute for Archaeologists
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CMS	Construction Method Statements
COPA	The Control of Pollution Act
CPO	Compulsory Purchase Order
CRTN	Calculation of Road Traffic Noise
CTMRP	Construction Traffic Management & Routing Plan
DEVEX	Development Expenditure
DMRB	Design Manual for Roads and Bridges
DPSG	Designation Policy and Selection Guidance
DTM	Digital Terrain Model
Dunbar ERF	Dunbar Energy Recovery Facility
DWPA	Drinking Water Protected Area
EA	Environment Agency
ECML	East Coast Main Line
ECoW	Ecological Clerk of Works
eDNA	Environmental DNA
EEA	European Economic Area
EclA	Ecological Impact Assessment

Acronym / Abbreviation	Definition
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EIA Report	Environmental Impact Assessment Report
ELC	East Lothian Council
ELCAS	East Lothian Council Archaeology Service
EMF	Electric and Magnetic Fields
EMS	Environmental Management System
EPS	European Protected Species
ESA	Environmentally Sensitive Area
ETG	Expert Topic Group
EU	European Union
eVDV	Estimated Vibration Dose Value
EZOI	Ecological Zone of Influence
FEH	Flood Estimation Handbook
FOI	Freedom of Information
FoV	Field of View
FRA	Flood Risk Assessment
FTE	Full-time Equivalent
FTOWDG	Forth and Tay Offshore Wind Developers Group
GCN	Great Crested Newt
GDL	Garden and Designed Landscape
GDP	Gross Domestic Product
GI	Ground Investigation

Acronym / Abbreviation	Definition
GIS	Gas Insulated Switchgear
GLVIA	Guideline for Landscape and Visual Impact Assessment
GPP	Guidance for Pollution Prevention
GVA	Gross Value Added
GWDTE	Groundwater Dependent Terrestrial Ecosystem
HDD	Horizontal Directional Drilling
HEMP	Habitat Enhancement and Management Plan
HEPS	Historic Environment Policy for Scotland
HER	Historic Environment Record
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HJA	Hardisty Jones Associates
HLA	Historic Landuse Assessment
HRA	Habitat Regulation Appraisal
HSE	UK Health and Safety Executive
HSI	Habitat Suitability Index
HV	High Voltage
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAQM	Institute of Air Quality Management
IEF	Important Ecological Feature
IEMA	Institute of Environmental Management and Assessment
IGDL	Inventory Garden and Design Landscape

Acronym / Abbreviation	Definition
INNS	Invasive Non-Native Species
IOF	Important Ornithological Feature
ISO	International Standards Organisation
ITL1	International Territorial Level 1
LB	Listed Building
LBAP	Local Biodiversity Action Plan
LBS	Local Biodiversity Site
LCA	Landscape Character Assessment (Chapter 6)
LCA	Land Capability for Agriculture (Chapter 14)
LCT	Landscape Character Type
LDP	Local Development Plan
LEMP	Landscape and Ecological Management Plan
LF	Land Fall
LGV	Light Goods Vehicle
LNCS	Local Nature Conservation Site
LNR	Local Nature Reserve
LSE	Likely Significant Effects
LTS	Local Transport Strategy
LVIA	Landscape and Visual Impact Assessment
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MS-LOT	Marine Scotland Licensing Operations Team
MSP	Member of the Scottish Parliament

Acronym / Abbreviation	Definition
N/A	Not Applicable
NCLAs	National Landscape Character Areas
NCR	National Cycle Route
NGESO	National Grid Electricity System Operator
NIEA	Northern Ireland Environment Agency
NnG	Nearr na Gaoithe
NNR	National Nature Reserve
NPF	National Planning Framework
NPF4	National Planning Framework 4
NRHE	National Record of the Historic Environment
NRTF	National Road Traffic Forecast
NSR	Noise Sensitive Receptor
NTS	Non-Technical Summary
NVC	National Vegetation Classification
NWSS	Native Woodland Survey Scotland
OLMP	Outline Landscape Mitigation Plan
OMS	Operations, Maintenance and Service
ONS	Office for National Statistics
OPEN	Optimised Environments
OPEX	Operational Expenditure
OS	Ordnance Survey
OSP	Offshore Substation Platform
OfTW	Offshore Transmission Works

Acronym / Abbreviation	Definition
OnTW	Onshore Transmission Works
OWEPS	Offshore Wind Energy Policy Statement
OZoI	Ornithological Zone of Influence
PAC	Pre-Application Consultation
PAN	Planning Advice Note
PAYE	Pay as You Earn
PCP	Pollution Contingency Plan
PDE	Project Design Envelope
PEA	Preliminary Ecological Appraisal
PFA	Pulverised Fuel Ash
PoE	Port of Entry
PPG	Pollution Prevention Guidelines
PPV	Peak Particle Velocity
PWS	Private Water Supply
RAG	Red Amber Green
RIAA	Report to Inform Appropriate Assessment
RIGS	Regionally Important Geological and Geomorphological Site
RSS	Regional Spatial Strategy
SA	Seascape Character Area
SAC	Special Area of Conservation
SBC	Scottish Borders Council
SBL	Scottish Biodiversity List
SCA	Seascape Character Assessment

Acronym / Abbreviation	Definition
SDP	Strategic Development Plan
SEPA	Scottish Environment Protection Agency
SESplan	The Edinburgh and South East Scotland Strategic Development Plan
SG	Supplementary Guidance
SIC07	Standard Industrial Classification 2007
SINC	Sites of Interest for Nature Conservation
SLA	Special Landscape Area
SLVIA	Seascape, Landscape and Visual Impact Assessment
SM	Scheduled Monument
SMC	Scheduled Monument Consent
SNH	Scottish Natural Heritage (NatureScot)
SOWEC	Scottish Offshore Wind Energy Council
SPA	Special Protection Area
SPEN	Scottish Power Energy Network
SPG	Supplementary Planning Guidance
SPP	Species Protection Plan (Chapter 7)
SSC	Suspended Sediment Concentrations
SSER	SSE Renewables Ltd
SSSI	Site of Special Scientific Interest
STEM	Science, Technology, Engineering and Mathematics
SUDS	Sustainable Urban Drainage System
SUW	Southern Upland Way
SWEL	Seagreen Wind Energy Ltd

Acronym / Abbreviation	Definition
SWT	Scottish Wildlife Trust
TAN	Technical Advice Note
TPC	Travel Plan Coordinator
TRL	Transport Research Library
TRRL	Transport and Road Research Library
TS	Transport Scotland
TTWA	Travel to Work Areas
TWIC	The Wildlife Information Centre
UK	United Kingdom
UKBAP	United Kingdom Biodiversity Action Plan
VDV	Vibration Dose Value
WBS	Wintering Bird Survey
WCA	Wildlife and Countryside Act
WEWSA	The Water Environment and Water Services (Scotland) Act 2003
WFD	Water Framework Directive
WHO	World Health Organisation
WQMP	Water Quality Monitoring Programme
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator
ZDA	Zone Development Agreement
ZTV	Zone of Theoretical Visibility

UNITS

Unit	Definition
Decibel (dB)	A unit of noise level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μ Pa, the threshold of normal hearing is 0dB, and 140dB is the threshold of pain. For sound power level the reference quantity is 1pW. A change of 1dB is only perceptible under controlled conditions. Under normal conditions a change in noise level of 3dB(A) is the smallest perceptible change.
dB(A)	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness.
GW	gigawatts
ha	hectare
Hz	derived unit of frequency in the International System of Units (SI) and is defined as one cycle per second
km	kilometre
kV	kilovolts
$L_{A10, T}$	The A weighted noise level exceeded for 10% of the specified measurement period (T). L_{A10} is the index generally adopted to assess traffic noise.
$L_{A90, T}$	The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142:2014+A1:2019 it is used to define the 'background' sound level.
$L_{Aeq, T}$	The equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq, T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.
L_{Amax}	The maximum A-weighted sound pressure level recorded during a measurement.
m	metre
m^2	Square metre
MPH	miles per hour
MW	mega watt
$\mu g/m^3$	ambient concentration of a pollutant in micrograms per cubic metre
%	Percentage
£	Pound Sterling
£ bn	Billion pounds
£ m	Million pounds

GLOSSARY

Term	Definition
Abnormal Indivisible Loads	Loads / vehicles which exceed the maximum vehicle weight, axle weight or dimensions which are set out in the Road Vehicles (Construction and Use) Regulations 1986 as amended.
All industries	This industry definition includes all Standard Industrial Classification 2007 (SIC07) codes and can be thought of as the 'whole' economy.
Annual Average Daily Traffic Flows (AADT)	The average traffic flow over the course of a full year which passes a particular location on the road network each day.
Automatic Traffic Counter (ATC)	Equipment which is laid across a road and measures traffic characteristics such as the number of vehicles passing over it, speed and classification.
Balance of Plant (BoP)	<p>Infrastructural components of a wind farm, except the turbine itself.</p> <p>In the context of power engineering, refers to the supporting components and auxiliary systems of a power plant needed to deliver the energy, other than the generating unit itself. These may include transformers, inverters, switching and control equipment, protection equipment, power conditioners, supporting structures etc., depending on the scheme.</p>
Bathing Water Directive (SEPA)	The Bathing Water Directive is concerned with the quality of bathing waters, including the sea, inland lochs and rivers. A bathing water is one where a large number of people are expected to bathe and a permanent bathing prohibition, or permanent advice against bathing, has not been issued.
Birds Directive	Council Directive 2009/147/EC on the conservation of wild birds. The Directive aims to protect all European wild birds and the habitats of listed species, in particular through the designation of Special Protection Areas.
CadnaA	A noise modelling software package.
Category A listed building	Buildings of special architectural or historic interest which are outstanding examples of a particular period, style, or building type and listed under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. (DPSG 2019, Annex 2).
Category B listed building	Buildings of special architectural or historic interest which are major examples of a particular period, style, or building type and listed under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. (DPSG 2019, Annex 2).
Category C listed building	Buildings of special architectural or historic interest which are representative examples of a period, style, or building type and listed under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. (DPSG 2019, Annex 2).

Term	Definition
Conservation Area	Areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance designated under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997).
Core Paths	Paths, waterways or other ways of crossing land to help people exercise their access rights under The Land Reform (Scotland) Act 2003.
Effect	The term 'effect' is defined as the consequences for the receptor of an impact. The use of the word 'effect' rather than 'impact' at the end of species and designated site accounts is based on the wording of the EIA Regulations which requires the determination of 'likely significant effects'.
EIA Regulations, 2017	The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.
Full-time equivalent (FTE)	Indicates the work-time of an employed person in a way that makes jobs comparable (e.g. an FTE of 1.0 is equivalent to a full-time worker), while an FTE of 0.5 signals half a full-time worker.
Heavy Goods Vehicle (HGV)	All goods vehicles > 3.5 tonnes gross maximum weight.
High Voltage Alternating Current (HVAC)	High Voltage Alternating Current (HVAC) can be used to transmit power from the offshore substation to the onshore substations. HVAC systems use alternating current for the transmission of electrical power, increasing the voltage of the AC power generated by the WTG's to a higher voltage to allow efficient transmission over long distances and connection to at the transmission system.
High Voltage Direct Current (HVDC)	High Voltage Direct Current (HVDC) can be used to transmit power from offshore substations to onshore substations. HVDC systems use direct current for the transmission of electrical power, using converters at the offshore substation to converter AC power generated by the WTG to DC, and returning the power to AC at the onshore substation for connection to the AC transmission grid.
Impact	Used commonly throughout the EIA process and is defined as a change experienced by a receptor (this can be beneficial, neutral or adverse).
Impact Industries	Various permutations of impact industries are utilised, each defined in volume 4, appendix 13.4. These impact industries should not be seen as representing only activity that currently contributes to the offshore wind sector. Instead, these impact industries should be seen as representative activities in industries that can contribute either directly or indirectly to the construction, operation and maintenance, and decommissioning of offshore energy infrastructure.
International Territorial Level 1	Geocode standard for referencing the subdivisions of the United Kingdom for statistical purposes, used by the Office for National Statistics (ONS). ITL1 statistical regions correspond with the regions of the UK as used by the ONS.

Term	Definition
Inventory Gardens and Designed Landscapes	<p>Gardens and designated landscapes listed in the inventory of gardens and designated landscapes under section 32A of the Ancient Monuments and Archaeological Areas Act 1979. The inventory includes gardens and designed landscapes of national importance. Sites are assessed for their:</p> <ul style="list-style-type: none"> - Artistic interest - Historical interest - Horticultural interest - Architectural interest - Archaeological interest - Scenic interest - Nature conservation interest. (DPSG 2019, Annex 3)
Inventory Battlefield	<p>Battlefields listed in the inventory of historic battlefields under section 32B of the Ancient Monuments and Archaeological Areas Act 1979. The inventory lists nationally important battlefields. To decide if a battlefield is nationally important, its cultural significance is examined under three headings.</p> <ul style="list-style-type: none"> - Historical association - Significant physical remains and/or archaeological potential - Battlefield landscape <p>(DPSG 2019, Annex 4)</p>
Landfall	<p>A landfall is where the offshore (sub-marine) export cables come to shore and are connected to the onshore cables at a buried transition pit.</p>
Light Goods Vehicle (LGV)	<p>All commercial vehicles < 3.5 tonnes gross maximum weight.</p>
Mean Speed	<p>Average speed.</p>
Offshore Wind Sector	<p>This industry definition represents activity that is currently supported by the offshore wind sector.</p>
Offshore Works	<p>The offshore components of the Project located below Mean High Water Springs, including offshore wind turbines, inter-array cables, offshore export cables, cable protection and offshore substations.</p>
Onshore Substation	<p>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 referred to as the “onshore substation”, which encompasses either option of a substation or converter substation.</p>

Term	Definition
Onshore Transmission Works (OnTW)	The onshore components of the Project located above Mean Low Water Springs. Includes cable landfall, onshore cables and onshore substation.
Open Cut Trenching (on land)	Open cut trenching is a traditional method of cable installation. On land it requires opening up the surface of the ground through excavation to the required depth to lay the cable. Following installation, the trench will be backfilled and land that is used for temporary access will be restored.
Open Cut Trenching (at landfall)	Open cut trenching at the cable landfall location would follow the method described above but also require temporary sheet pile walls allowing the opening of a trench through unstable wet beach sands. Across the nearshore, high-energy littoral zone, shallow water dredging techniques would be employed. Once sufficient depth is reached, submerged trenching equipment will take over.
Person-years employment	The term 'person year' in employment terms is often used in construction labour reporting, in which one construction person year represents the work done by one person in a year comprising a standard number of working days. This method of measuring jobs created is important, as many workers working on the Project will work for a fixed period or be involved in other projects in parallel.
Project	Berwick Bank Wind Farm, comprising the Offshore Works and Onshore Transmission Works (OnTW).
Proposed Development	The proposed Onshore Transmission Works (OnTW) required to enable the grid connection for the Berwick Bank Wind Farm.
Receptor	Used throughout the Environmental Impact Assessment (EIA) process and is defined as the element in the environment affected by a development (e.g. a badger in the case of ecology).
Scheduled Monument	<p>A scheduled monument is a nationally historic building or site that is included in the Schedule of Monuments kept by Historic Environment Scotland under the Ancient Monuments and Archaeological Areas Act 1979. The particular significance needed to define the monument as of 'national' importance may be established in terms of one or more of the following:</p> <p>a) It contributes significantly to our understanding or appreciation of the past, or has the potential to do so. It may do so in itself, or as part of a monument type, or as a geographical group of related monuments.</p> <p>b) It retains structural, architectural, decorative or other physical remains to the extent that it makes a significant contribution to our understanding or appreciation of the past. The remains can be upstanding fabric, evidence of buried archaeological structures and deposits, scatters of artefacts or a combination of these.</p> <p>c) It is a rare example of a monument type when assessed against current knowledge of Scotland's history, archaeology and/or architecture, and of the region in which the monument is found.</p>

Term	Definition
	<p>d) It is a particularly representative example of a monument type when assessed against knowledge of Scotland’s history, archaeology and/or architecture and of the region in which the monument is found.</p> <p>e) It has research potential which could significantly contribute to our understanding or appreciation of the past.</p> <p>f) It makes a significant contribution to the landscape and/or our understanding of the historic landscape. This may include the relationship of the monument to other monuments or natural features in the landscape, and/or the significance of its setting in understanding the monument or the monument type.</p> <p>g) It has significant associations with historical, traditional, social or artistic figures, events, movements and/or practices that are of national importance. (DPSG 2019, Annex 1)</p>
Section 96 Agreement	Agreement pursuant to Section 69 of the Roads (Scotland) Act 1984.
Sub-national	Geography that is smaller than a National Study Area, but larger than a Local Study Area (Socio-economics).
The Applicant	Berwick Bank Wind Farm Limited (BBWFL) is a wholly owned subsidiary of SSE Renewables Limited and will hereafter be referred to as ‘the Applicant’.
The Site	The extent of the Proposed Development site boundary which encompasses the boundary of the land to be developed, shown on Volume 2, Figure 1.1.
Trenchless technology	Trenchless technology is a type of subsurface construction work which can be completed without the need for continuous open trenches. The operation can be completed using a number of methods, materials and equipment capable of installing new below ground cabling with minimal disruption to the at-surface infrastructure or activities. Some examples of this construction method include Horizontal Direction Drilling (HDD), Pipe Thrusting and Micro-tunnelling.
85 th Percentile Speed	The speed at or below which 85% of all vehicles are recorded to travel.

