



Wind Power North Two Limited

Balblair Wind Farm

Environmental Impact Assessment Report (Volume 2)

663896



JANUARY 2025



PREFACE

Wind Power North Two Limited (the ‘Applicant’), a company wholly owned by Vestas A/S is proposing to develop the Balblair Wind Farm, north west of Bonar Bridge, within the administrative area of The Highland Council Local Authority. The proposed Development comprises the construction and operation of up to eight wind turbines, with six having a maximum blade tip height of 180 m and two having a maximum blade tip height of 200 m, and battery energy storage, together with associated infrastructure and ancillary development, including biodiversity enhancements.

RSK Environment Limited (RSK) has been instructed by the Applicant to prepare the Environmental Impact Assessment (EIA) Report which will be submitted with the application for consent to be made to Scottish Ministers under Section 36 of the Electricity Act 1989. The EIA Report describes the findings of environmental assessments undertaken and the likely significant effects of the proposed Development on the environment. The EIA Report is presented in four volumes:

- **Volume 1:** Non-Technical Summary
- **Volume 2:** Main Report
- **Volume 3:** Figures and Visualisations
- **Volume 4:** Technical Appendices

When the Section 36 consent application is lodged with Scottish Government Energy Consents Unit (ECU), the Applicant will advertise the application in accordance with the Electricity (Applications for Consent) Regulations 1990 and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 confirming where the EIA Report is publicly available (on line and in person) and by what means and what date representations can be made on the application.

A copy of the consent application, with a plan showing the land to which it relates, together with a copy of the EIA Report, will be available for public inspection, free of charge on the application website (<https://balblairwindfarm.co.uk/>) and on the Scottish Government’s Energy Consents website (Reference: ECU00005055).

A copy of the consent application, along with a copy of the EIA Report will be available for public inspection at the offices of the local planning authority, The Highland Council.

The Applicant will make the EIA Report available for public inspection, free of charge at:

Location	Opening Hours	Address
Bonar Bridge Library	Monday: 10 am – 12:30 pm, 2:30 – 5 pm Tuesday: 10 am – 12:30 pm Wednesday: 10 am – 12:30 pm Thursday: 10 am – 12:30 pm, 5:30 – 8 pm Friday: 10 am – 12:30 pm Saturday: Closed Sunday Closed	Carnegie Library West End, Bonar Bridge, IV24 3EA.



Paper copies of the EIA Report are available for purchase, subject to a charge of £1,250, and are available on request from Laurie McGee, RSK Environment Limited, 65 Sussex Street, Glasgow, G41 1DX, email lmcgee@rsk.co.uk, phone +44 7779 649919.

Paper copies of the Non-Technical Summary are available free of charge, also upon request made to the above. Requests for paper copies should be directed to RSK Environment.

EIA Quality Mark

This Environmental Statement, and the Environmental Impact Assessment (EIA) carried out to identify the significant environmental effects of the proposed development, was undertaken in line with the EIA Quality Mark Commitments.

The EIA Quality Mark is a voluntary scheme, operated by IEMA, through which EIA activity is independently reviewed, on an annual basis, to ensure it delivers excellence in the following areas:

- *EIA Management*
- *EIA Team Capabilities*
- *EIA Regulatory Compliance*
- *EIA Context & Influence*
- *EIA Content*
- *EIA Presentation*
- *Improving EIA practice*



To find out more about the EIA Quality Mark please visit: <http://www.iema.net/eia-quality-mark/>

GLOSSARY

air quality standard	concentration of a pollutant, over a specified period, above which adverse effects on health and/or the environment may occur, and which should not be exceeded
alternatives	different design, layout and technological possibilities that could be considered during project development that have potential to fulfil the project objectives
ambient	of or relating to the immediate surroundings of something (e.g. ambient noise level)
ancient woodland	woodland that has existed continuously since at least AD 1600
appropriate assessment	process whereby projects, either alone or in combination, are considered to see if it can be ascertained that they will not adversely affect the integrity of a European protected site
assessment	process by which information about effects of a proposed plan, project or intervention is collected, assessed and used to inform decision making
avoidance	form of mitigation consisting in preventing the impact from happening. E.g. placement of access roads outside of rare habitats.
baseline conditions	existing environmental state of an area before a proposed project or development begins, including existing and committed developments.
baseline studies	work done to determine and describe the environmental conditions against which any future changes can be measured or predicted and assessed
biodiversity	variety of life forms; different plants, animals and microorganisms; the genes they contain; and the ecosystems they form
catchment	drainage/basin area within which precipitation drains into a river system and eventually into the sea
committed development	development projects that are either under construction or have valid planning permissions/consents
compensation	measures taken to offset the unavoidable negative environmental impacts of a development by counterbalancing them with environmental gains, aiming to achieve a net neutral or beneficial outcome
competent authority	authority responsible for determining the application for consent, permission, licence or other authorisation to proceed with a development
construction phase	period during which the building or assembling of a proposed Development and its infrastructure is undertaken
consultation	process by which those organisations or individuals with an interest in the area associated with the proposed Development are identified and engaged as part of the EIA process
consultation bodies	organisations that the competent authority is required to consult by virtue of the EIA Regulations

Controlled Activities Regulations	Controlled Activities Regulations (CAR), also known as the Water Environment (Controlled Activities) (Scotland) Regulations 2011, apply regulatory controls over activities which may affect Scotland's water environment. SEPA risk assesses the proposed activities before granting an authorisation if it is appropriate. The type of authorisation depends on the environmental risk, and could be General Binding Rules, registration, or a licence.
controlled waters	surface waters, ground waters and coastal waters to which UK pollution legislation applies
culvert	pipe or box-type conduit through which water is carried under a structure
cumulative impact	impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project. cumulative impact may arise as the result of (a) the combined impact of a number of different environmental topic-specific impacts from a single environmental impact assessment project on a single receptor/ resource or (b) the combined impact of a number of different projects within the vicinity (in combination with the environmental impact assessment project) on a single receptor/resource.
decommissioning	period during which a development and its associated infrastructure are removed from active operation
design event	event such as a rainstorm or flood of given magnitude and probability (usually derived from previous records)
do-nothing scenario	the conditions that would persist in the absence of the implementation of a development
effect	term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact with the importance (or sensitivity) of the receptor or resource in accordance with defined significance criteria. For example, land clearing during construction results in habitat loss (impact), the effect of which is the significance of the habitat loss on the ecological resource.
EIA Regulations	generic term referring to Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
emission standard	maximum amount or concentration of a pollutant allowed to be emitted from a particular source
emissions inventory	collection of data relating to the characteristics of processes or activities that release pollutants into the atmosphere
Energy Consents Unit (ECU)	part of the Scottish Government's Energy Division, the unit processes and administers energy infrastructure applications for Scottish Ministers under the 1989 Electricity Act; the unit is made up of two teams, the Section 36 team and the Section 37 team,
enhancement	measure that seek to improve an environmental condition and is over and above what is required to mitigate the adverse effects of a project

environmental assessment	method and a process by which information about environmental effects is collected, assessed and used to inform decision-making. Assessment processes include strategic environmental assessment, assessment of implications on European sites, and environmental impact assessment.
environmental impact assessment	statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. Involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Regulations, including the publication of an EIA Report. The aim is to ensure that potential significant effects on the environment are thoroughly evaluated and taken into account during the decision-making process
Environmental Impact Assessment Report	otherwise known as an EIA Report. Document produced in accordance with the EIA Regulations that reports the outcomes of the EIA process
environmental information	information that must be taken into account by the decision maker (the competent authority) before granting any kind of authorisation where the EIA process applies. It includes the Environmental Impact Assessment Report, including any further information, any representations made by any body invited to make representations, and any representations duly made by any other person about the environmental effects of the development
environmental management plan	structured plan that outlines the mitigation, monitoring and management requirements arising from an environmental impact assessment
estuary	downstream part of a river where it widens to enter the sea
European protected species	all the plant and animal species included in the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) Schedule 2 and Schedule 4
European site	sites that make up the European ecological network (also known as Natura 2000 sites). These include sites of community importance (SCIs), special protection areas (SPAs) and potential SPAs (pSPAs), special areas of conservation (SACs) and candidate or possible SACs (cSACs or pSACs), and Ramsar sites.
evaluation	determination of the significance of effects. Evaluation involves making judgements as to the value of the receptor/resource that is being affected and the consequences of the effect on the receptor/resource based on the magnitude of the impact.
existing environment	see 'baseline conditions'
Gate check	Procedure adopted by the Energy Consents Unit to review work undertaken by the applicant for a Section 36 or Section 37 development prior to submission of their EIA Report and consent application.
Habitats Regulations	The Conservation (Natural Habitats) Regulations 1994 (most recently amended in 2012), is more commonly known as the Habitats Regulations. The Habitats Regulations cover requirements for sites that are internationally important for threatened habitats and species (e.g. Natura sites), species that require strict protection (e.g. European protected species), and other aspects of the previous Habitats Directive.

Habitats Regulations assessment	assessment of the impacts of implementing a plan, policy or project on a European site, the purpose being to consider the impacts of a plan or project against conservation objectives of the site and to ascertain whether it would adversely affect the integrity of the site
hydraulics	processes and regimes of water flow (velocities, volumes, duration, frequency etc) in hydrological systems such as surface waters and groundwater
hydrodynamics	mechanical properties of fluids, such as those concerned with flow
hydrogeology	study of the distribution and movement of groundwater
impact	change that is caused by an action; for example, land clearing (action) during construction that results in habitat loss (impact)
intertidal	area of land between mean high water and mean low water
invertebrates	animals without backbones
local development	development type identified as local under the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009
major development	development type identified as major under the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009
mean (high/low) water	highest/lowest average level water reaches on an outgoing tide
Megawatt (MW)	a unit of power equal to one million watts (1,000 kilowatts). It is used to quantify the potential generation of electricity or the power rating of the proposed Development
method statement	document that sets out intended working or survey practices
mitigation	measures intended to avoid, minimise, restore and offset adverse environmental, social, and economic effects within the broader context of sustainable and inclusive growth
monitoring	continuing assessment of the performance of the project, including mitigation measures. This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted.
national development	development type identified as national under the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009
non-statutory consultee	organisations and bodies that may be consulted on relevant planning applications
non-technical summary	information for the non-specialist reader to enable them to understand the main predicted environmental effects of the proposal without reference to the main EIA Report
operation	functioning of a development on completion of construction
pasture	grassland maintained primarily for and by grazing, and on which grazing stock is kept for a large part of the year
phase 1 habitat survey	Recognised methodology used for collating information on the habitat structure of a particular site.
photomontage	superimposing of an image onto a photograph to create a realistic representation of proposed or potential changes to a view
piling	installation of bored and driven piles into the ground

planning authority	local authority that is empowered by law to exercise planning functions for a particular area of the United Kingdom
pollution	any increase of matter or energy to a level that is harmful to living organisms of their environment (when it becomes a pollutant)
preferred option	chosen design option that most successfully achieves the project objectives and becomes subject to further design and assessment
programme	series of steps that have been identified by the applicant, or series of projects that are linked by dependency
project	One (or more) aspect of a programme or plan that has been identified by the applicant and usually involves a direct physical intervention
project objectives	objectives of the project, set by the applicant
proposed Development	a plan or project that the applicant or promoter seeks to implement
Ramsar	areas designated by the UK Government under the International Ramsar Convention (the Convention on Wetlands of International Importance)
receptor	defined individual environmental feature usually associated with population, fauna, flora, water bodies, soils, landscapes and cultural heritage features with the potential to be affected by a project
residual effect	those effects that remain following the implementation of mitigation measures
resource	defined but generally collective environmental feature usually associated with soil, water, air, climatic factors, landscape, material assets, including the architectural and archaeological heritage that has potential to be affected by a project
roosting site (birds)	place where birds rest or sleep
roosting site (bats)	place where bats live (e.g. built structures and trees)
run-off	precipitation that flows as surface water from a site, catchment or region water bodies such as rivers and lakes and ultimately flows to the sea
Section 36 Application	in Scotland, the construction and operation of onshore electricity generating stations with a capacity exceeding 50 MW requires an application to be made to Scottish Ministers under section 36 of the Electricity Act 1989. Where they meet the relevant criteria of the EIA Regulations, applications to the Scottish Ministers need to be accompanied by an EIA Report. The Energy Consents Unit's Section 36 team will process applications for on-shore power station applications, including wind farms over 50MW.
Section 37 Application	in Scotland, applications for powerlines and wayleaves should be made to Scottish Ministers under section 37 of the Electricity Act 1989. Where they meet the relevant criteria of the EIA Regulations, applications to the Scottish Ministers need to be accompanied by an EIA Report.
Schedule 1 project	plans or projects listed Schedule 1 of the EIA Regulations
Schedule 2 project	plans or projects listed in Schedule 2 of the EIA Regulations

scoping	process of identifying the issues to be addressed by the environmental impact assessment process. It is a method of ensuring that an assessment focuses on the important issues and avoids those that are considered not significant.
scoping opinion	opinion provided by a competent authority that indicates the issues an environmental impact assessment of a proposed Development should consider
screening	formal process undertaken to determine whether it is necessary to carry out an environmental impact assessment and publish an Environmental Impact Assessment Report in accordance with the EIA Regulations
sediment	organic and inorganic material that has precipitated from water to accumulate on the floor of a water body, watercourse or trap
semi-natural	habitat, ecosystem, community, vegetation type or landscape that has been modified by human activity but consists largely of native species and appears to have similar structure and functioning to a natural type
significance	see 'significance of effect'
significance of effect	measure of the importance or gravity of the environmental effect, defined by either generic significance criteria or criteria specific to the environmental topic
significant environmental effect	environmental effect considered material to the decision-making process
sites of special scientific interest	main national conservation site protection measure in Britain designated under the Wildlife and Countryside Act 1981
special area of conservation	international designation implemented under the Habitats Regulations for the protection of habitats and (non bird) species
special protection area	sites designated under the previous EU Directive (79/409/EEC) for the conservation of wild birds
stakeholder	organisation or individual with a particular interest in the project
study area	spatial area within which environmental effects are assessed (i.e. extending a distance from the project footprint in which significant environmental effects are anticipated to occur). This may vary between the topic areas.
threshold	specified level in grading effects (e.g. the order of significance)
visual amenity	value of a particular view or area in terms of what is seen
vehicle movement	a single vehicle trip to or from the site during the construction, operation, or decommissioning phases. This includes movements by HGVs (heavy goods vehicles), abnormal loads, and LGVs (light vehicles). Each movement accounts for both arrival and departure.
visualisation	computer generated wireline or photomontage illustrating change over time of the landscape where the proposed Development will be located
wildlife corridor	linear habitats/landscape features such as hedgerows that may increase connectivity by acting as routes between habitat patches
worst case	principle applied where environmental effects may vary (e.g. owing to seasonal variations) to ensure the most severe effect is assessed

ABBREVIATIONS

AA	appropriate assessment
AADT	Annual Average Daily Traffic
AESLQ	Assessment of Effects on the Special Landscape Qualities
AIL	Abnormal Indivisible Load
ALARP	as low as reasonably practicable
AOD	above Ordnance Datum
ATC	Automatic Traffic Counter
ATMP	Abnormal Load Transport Management Plan
BAP	biodiversity action plan
BAT	best available techniques
BDMP	Bird Disturbance Management Plan
BEA	biodiversity enhancement area
BEMP	biodiversity enhancement and management plan
BESS	Battery Energy Storage System
BFI	Base Flow Index
bgl	below ground level
BGS	British Geological Survey
BMS	Battery Management System
BNG	biodiversity net gain
BoCC	Birds of Conservation Concern
BP	borrow pit
BPM	Best Practicable Means
bpph	bat passes per hour
BS	British Standard
CA	competent authority
CAA	Civil Aviation Authority
CAR	Controlled Activities Regulations
CaSPlan	Caithness and Sutherland Local Development Plan
CC	Construction Compound
CCoP	construction code of practice
CD	chart datum
cd	candela
CEMP	construction (or contract) environmental management plan
CHVP	cultural heritage viewpoint

CIEEM	Chartered Institute of Ecology and Environmental Management
CIfA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Centre
CLVIA	Cumulative Landscape and Visual Impact Assessment
COSHH	control of substances hazardous to health
CRAA	Collision Risk Analysis Area
CRF	Clyde River Foundation
CRM	Collision Risk Modelling
CRTN	calculation of road traffic noise
CTMP	Construction Traffic Management Plan
dB(A)	decibel (A-weighted), a unit of noise measurement
DBA	desk-based assessment
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DNO	Distribution Network Operator
DPSG	Designation Policy and Selection Guidance
EcIA	ecological impact assessment
ECoW	Ecological Clerk of Works
ECU	Energy Consents Unit
EHO	environmental health officer
EIA	environmental impact assessment
EIAR	Environmental Impact Assessment Report or EIA Report
ELC	European Landscape Convention
EPR	Environmental Permitting Regulations
EPS	European protected species
EQS	Environmental Quality Standards
EU	European Union
FBA	Freshwater Biological Association
FLS	Forestry and Land Scotland
FRA	flood risk assessment
GCR	Geological Conservation Review
GDL	garden and designed landscapes
GHG	greenhouse gas
GIS	geographic information system
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPS	global positioning system
GW	gigawatts

GWDTE	Groundwater dependent terrestrial ecosystems
HAP	habitat action plan
HASID	hazard identification
HDV	heavy duty vehicle
HEPS	Historic Environment Policy for Scotland
HER	Historic Environment Record
HES	Historic Environment Scotland
HGV	heavy goods vehicle
HIA	health impact assessment
HOST	hydrology of soil types
HRA	Habitats Regulations appraisal
HRSG	Highland Raptor Study Group
HSE	Health and Safety Executive
HVAC	heating, ventilation, and air-conditioning
HwLDP	Highland-wide Local Development Plan
IEF	Important Ecological Feature
IEMA	Institute of Environmental Management and Assessment
IHBC	Institute of Historic Building Conservation
ILP	Institute of Lighting Professionals
INNS	invasive non-native species
IOA	Institute of Acoustics
IPP	Independent Power Producer
JNCC	Joint Nature Conservation Committee
JRC	Joint Radio Company
km	kilometre
kV	Kilovolt
LAQM	local air quality management
LBAP	local biodiversity action plan
LCA	landscape character area
LCA	landscape character assessment
LCT	landscape character types
LCT	landscape character type
LDP	local development plan
LGV	light goods vehicle
LI	Landscape Institute
LiDAR	Light detection and ranging
LLA	Local Landscape Area

LNR	local nature reserve
LSE	Likely Significant Effect
LTP	local transport plan
LVIA	landscape and visual impact assessment
MAGIC	Multi-Agency Geographic Information for the Countryside
MV	Medium Voltage
MW	Megawatts
NBN	National Biodiversity Network
NCI	Nature Conservation Importance
NER	Neutral Earth Resistor
NFPA	National Fire Protection Association
NHZ	Natural Heritage Zone
NID	National Infrastructure Directorate
NNR	national nature reserve
NO _x	oxides of nitrogen
NPF	National Planning Framework
NRHE	National Record of the Historic Environment
NRTF	National Road Traffic Forecasts
NS	NatureScot
NSA	National Scenic Area
NSL	Noise Sensitive Location
NTS	non-technical summary
NVC	National Vegetation Classification
OBEMP	Outline Biodiversity Enhancement Management Plan
OCEMP	Outline Construction Environmental Management Plan
OCTMP	Outline Construction Traffic Management Plan
OHL	Overhead Line
OS	Ordnance Survey
OSA	Outer Study Area
OWESG	Onshore Wind Energy Supplementary Guidance
PA	Planning authority
PAC	pre-application consultation
PAN	proposal of application notice
PCS	power conversion systems
PLHRA	Peat landslide hazard and risk assessment
PM ₁₀	Particulate matter (with an aerodynamic diameter below 10 µm)
PMP	Peat Management Plan

PoE	Port of Entry
PSRA	Peat Slide Risk Assessment
PWS	private water supply
RCS	river corridor survey
RHS	river habitat survey
RIGS	regionally important geological and geomorphological site
RSPB	Royal Society for the Protection of Birds
RVAA	Residential Visual Amenity Assessment
SAC	special area of conservation
SBB	Scarce Breeding Bird
SBL	Scottish Biodiversity List
SCADA	Supervisory control and data acquisition
SEPA	Scottish Environment Protection Agency
SHEPD	Scottish Hydro Electric Power Distribution
SINC	site of importance for nature conservation
SLA	special landscape area
SM	scheduled monument
SoCC	statement of community consultation
SoS	Secretary of State
SPA	special protection area
SPR	standard percentage of rainfall
SRMS	Scottish Raptor Monitoring Scheme
SS	Substation
SSSI	site of special scientific interest
STE	serrated trailing edge
SuDS	sustainable drainage system
SWT	Scottish Wildlife Trust
TA	transport assessment
TA	Technical Appendix
TCPSA	Town and Country Planning (Scotland) Act
THC	The Highland Council
TIA	traffic impact assessment
TMP	traffic management plan
TNO	Transmission Network Operator
TPO	tree preservation order
TRICS	Trip Rate Information Computer System
UHF	Ultra High Frequency

UK	United Kingdom
UKBAP	United Kingdom Biodiversity Action Plan
VAR	volt-ampere reactive
VEC	valued ecological component
VER	valued ecological receptor
WEBS	Wetland Bird Survey
WFD	Water Framework Directive
WLA	Wild Land Area
WQM	Water Quality Management
WSI	Written Scheme of Investigation
ZTV	zone of theoretical visibility

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