

Neart na Gaoithe Offshore Wind Farm: Onshore Works Environmental Statement Appendices

Prepared by  
LUC  
on behalf of  
Mainstream Renewable Power

November 2012



## Preface

This Environmental Statement has been prepared in support of an application for planning permission to construct and operate grid connection infrastructure associated with the Neart na Gaoithe Offshore Wind Farm ('the Onshore Works') located within East Lothian.

The Environmental Statement comprises the following documents:

- Onshore Works Environmental Statement and Figures (incorporating a Non-Technical Summary)
- Onshore Works Environmental Statement Appendices

In addition to the above, the planning application is accompanied by a Planning Statement, Design and Access Statement and a Pre-application Consultation Report.

Copies of all these documents or further information on the Development may be obtained from:

Mainstream Renewable Power Ltd.  
Abbey Business Centre, 'The Beacon'  
176 St. Vincent Street  
Glasgow  
G2 5SG

The Non-Technical Summary and Planning Statement are available free of charge. A hard copy of the main Environmental Statement and Appendices costs £300.00. In addition, all documents are available in electronic format (as PDF for screen viewing only) on CD/DVD for £20.00.

The Environmental Statement is available for viewing by the public during normal opening hours at the following location:

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

Comments on the Planning Application should also be forwarded to this address.

The Environmental Statement is also available to view online at [www.neartnagaoithe.com](http://www.neartnagaoithe.com)

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<b>Client Contact(s):</b>	Ewan Walker		
QA	Name	Signature	Date
LUC Principal in Charge	Joanna Wright	<i>Joanna Wright</i>	9 <sup>th</sup> November 2012
LUC Project Manager	Juliette Young	<i>Juliette Young</i>	9 <sup>th</sup> November 2012
LUC Assistant Project Manager	Elizabeth Davies	<i>EDavies</i>	9 <sup>th</sup> November 2012
Report checked by	Ewan Walker (Environment Manager)	<i>Ewan Walker</i>	9 <sup>th</sup> November 2012
Report authorised by	David Sweeney (Scotland Country Manager)	<i>David Sweeney</i>	9 <sup>th</sup> November 2012

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## Glossary

Term	Definition
Busbar	Group of conductors designed to make a common connection between several circuits with the same voltage level
Cable	Insulated conductor comprising a single-core cable or combination of three conductors insulated from one another in the case of a three-core cable
Circuit	A group of three conductors composed by either three (3no.) single-core cables or one (1no.) three-core cable
Circuit Breaker	Device designed to interrupt high levels of current so as to protect electrical equipment from damage caused by current surges
Construction	The phase in which all permanent and temporary onshore works required for the NNG project to operate will be completed
Construction Sequencing	The order in which various construction activities are scheduled to occur relative to one and other
Crossing	A point at which there exists a natural or man-made structure/geographical feature which must be crossed by the proposed cable as part of the onshore works
Decommissioning	The phase in which all necessary works are undertaken to remove the NNG wind farm from operation
Demobilisation	The dis-assembly and removal of plant, equipment and personnel from a given site upon completion of works
Duct	A tube into which the electrical cable is installed for the purpose of offering physical protection to the cable)
Dynamic Reactive Power Compensation	The act of either delivering or absorbing reactive power to fulfill the grid code requirements with a near-instantaneous response to changes in the system voltage
Earthing	The act of connecting one point of a circuit to earth making its voltage level equal to zero
Earth Link Box	Device designed to enable a rigid connection to earth of the cable sheath making its voltage equal to zero
Exclusion Zone	A zone to which, for health and safety reasons, public access is to be temporarily restricted for a particular element of the onshore works
Export Cable Landfall	The area enclosed by the red line boundary between MLWS and the proposed transition pit at Thorntonloch beach
Gabion Basket	Metallic (usually steel) cages or baskets containing large pieces of stone, typically used for the purposes of erosion control or as a means of soil stabilization
Geographic Co-ordinate System	The geographic co-ordinate system used throughout this document is British National Grid OSGB 1936
Geotechnical	The term used to refer the engineering of earth materials in civil engineering projects
Grid	The national electrical transmission grid
Grid Connection	The connection of the NNG project to the national electrical transmission grid
Harmonic Filter	Device designed to remove harmonic currents from the grid, thereby avoiding damage caused by non linear loads in the system
HDPE	High Density Polyethylene
HVAC	High Voltage Alternating Current
Intertidal Area	The area enclosed by the red line boundary between MLWS and MHWS at Thorntonloch beach
Isolator	Device designed to isolate two points of the same circuit (usually connected) providing a visible gap between them
Joint Pit	The enclosure housing the underground cable joints
Jointing	The process of connecting the ends of two different cables by means of an insulated joint
LAT	Lowest Astronomical Tide, defined as the lowest sea level predicted to occur under average meteorological conditions, ignoring any effects attributable to storm surges (CIRIA 1996)
MHWS	Mean High Water Springs, defined as the average height throughout a year of two successive high waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest (CIRIA 1996)
Micrositing	Minor alterations to the site/path of a given element of onshore works within authorised limits, e.g. slight deviations to precise cable route within the allowable cable corridor
MLWS	Mean Low Water Springs, defined as the average height throughout a year of two successive low waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest (CIRIA 1996)
Mobilisation	The transport, assembly and other preparations of plant, equipment and personnel such that a given set of works may commence
Onshore Substation	The proposed electrical substation to be located at the existing Crystal Rig wind farm to enable connection the electrical transmission grid

## Acronyms/Abbreviations

ADS	Archaeology Data Service	ELCAS	East Lothian Council Archaeology Service
AADT	Annual Average Daily Traffic	EMF	Electromagnetic Fields
AGLV	Area of Great Landscape Value	EPS	European Protected Species
AOD	Above Ordnance Datum	ES	Environmental Statement
AONB	Area of Outstanding Natural Beauty	EU	European Union
AQAP	Air Quality Action Plan	FEH	Flood Estimation Handbook
AQMA	Air Quality Management Area	FRA	Flood Risk Assessment
ATC	Automatic Traffic Counter	FTE	Full Time Equivalent
AWI	Ancient Woodland Inventory	FTOWDG	Forth and Tay Offshore Wind Developers Group
BAP	Biodiversity Action Plan	GBR	General Binding Rules
BGS	British Geological Survey	GCN	Great crested newt
BOCC	Birds of Conservation Concern	GDL	Garden and Designed Landscape
BSI	British Standards Institution	GHG	Greenhouse Gas
CAR	The Water Environment (Controlled Activities) (Scotland) Regulations 2011	GIS	Geographical Information Systems
CDM	Construction, Design and Management Regulations	GLA	Greater London Authority
CEMP	Construction and Environmental Management Plan	GLVIA	Guidelines for Landscape and Visual Impact Assessment: Second Edition
CFA	CFA Archaeology Ltd	GPS	Global Positioning System
CIRIA	Construction industry research and information association	GW	Gigawatt
CO <sub>2</sub>	Carbon Dioxide	GWTE	Groundwater dependent terrestrial ecosystems
DBA	Desk Based Assessment	HAP	Habitat Action Plans
dB	Decibel	HDD	Horizontal Directional Drilling
DCLG	Department for Communities and Local Government	HDV	Heavy Duty Vehicle
DECC	Department of Energy and Climate Change	HER	Historic Environment Records
Defra	Department for Environment, Food and Rural Affairs	HGDL	Historic Garden and Designed Landscape
DFT	Department for Transport	HGV	Heavy Good Vehicle
DMRB	Design Manual for Roads and Bridges	HRA	Habitat Regulations Assessment
DWS	District Wildlife Sites	HS	Historic Scotland
EA	Environment Agency	HIS	Habitat Suitability Index
EC	European Commission	IEEM	Institute of Ecology and Environmental Management
EclA	Ecological Impact Assessment	IEMA	Institute of Environmental Management and Assessment
ECML	East Coast Main Line	IFA	Institute for Archaeologists
ECoW	Ecological Clerk of Works	IPCC	Intergovernmental Panel on Climate Change
EHO	Environmental Health Officer	IPPC	Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control
EIA	Environmental Impact Assessment	JNCC	Joint Nature Conservation Committee
ELC	East Lothian Council	kHz	Kilohertz
		kJ	Kilojoule

km	Kilometre	PAC	Pre-application Consultation
kV	Kilovolt	PACC	Pre-Application Community Consultation
LA	Local Authority	PAN	Proposal of Application Notice
LAQM	Local Air Quality Management	PAN	Planning Advice Note
LAT	Lowest Astronomical Tide	PCN	Potato Cyst Nematode
LBAP	Local Biodiversity Action Plan	PEPFAA	Prevention of Environmental Pollution from Agricultural Activity
LCA	Landscape Character Area(s)	PPS	Planning Policy Statement
LCT	Landscape Character Type(s)	PPV	Peak Particle Velocity
LDV	Light Duty Vehicle	PROW	Public Rights of Way
LHA	Local Highways Authority	PM	Particulate Matter
LI	Landscape Institute	RAP	Renewables Action Plan
LMO	Land Managers Option	RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
LNR	Local Nature Reserve	RDC	Rural Development Contract
LVIA	Landscape and Visual Impact Assessment	RIGS	Regionally Important Geological/Geomorphological Sites
LWS	Local Wildlife Site	RoW	Rights of Way
MarLIN	United Kingdom Marine Life Information Network	SAC	Special Area of Conservation
MHWS	Mean High Water Springs	SAM	Scheduled Ancient Monument
MLWS	Mean Low Water Springs	SAP	Species Action Plans
MMU	Minimum Mappable Unit	SBC	Scottish Borders Council
NAQS	National Air Quality Strategy	SCADA	Supervisory Control and Data Acquisition
NGET	National Grid Electricity Transmission	SDP	Strategic Development Plan
NMRS	National Monuments Record of Scotland	SEA	Strategic Environmental Assessment
NNG	Neart na Gaoithe	SEPA	Scottish Environmental Protection Agency
NnGOWL	Neart na Gaoithe Offshore Wind Farm Limited	SESplan	South East Scotland Strategic Development Plan Authority
NNR	National Nature Reserve	SIMD	Scottish Index of Multiple Deprivation
NO <sub>2</sub>	Nitrogen Dioxide	SINCS	Sites of Interest for Nature Conservation
NO <sub>x</sub>	Nitrogen Oxides	SNH	Scottish Natural Heritage
NPF2	National Planning Framework 2	SOC	Scottish Ornithologist Club
NPS	National Policy Statement	SO <sub>x</sub>	Sulphur Oxides
NRP	Natural Research (Projects) Ltd	SPA	Special Protection Area
NSCA	National Society for Clean Air and Environmental Protection	SPP	Scottish Planning Policy
NTS	Non Technical Summary	SPT	Scottish Power Transmission
NVC	National Vegetation Classification	SPAD	Scottish Palaeoecological Archive Database
NVZ	Nitrate Vulnerable Zone	SRMP	Soil Resource Management Plan
OCT	Open Cut Trenching	SSSI	Site of Special Scientific Interest
OD	Ordnance Datum	SuDS	Sustainable Drainage Systems
OS	Ordnance Survey	SWT	Scottish Wildlife Trust

T&SS	Technical & Safety Services
TA	Transport Assessment
TCE	The Crown Estate
TCP	Town and Country Planning Act
TMP	Traffic Management Plan
TTRO	Temporary Traffic Regulation Orders
UK	United Kingdom
UKBAP	United Kingdom Biodiversity Action Plan
VDV	Vibration Dose Values
WICLB	The Wildlife Information Centre for the Lothians and the Borders
WSI	Written Scheme of Investigations
XLPE	Cross linked polyethylene
ZTV	Zone of Theoretical Visibility