

## 1 Introduction

1 This Environmental Statement (ES) has been prepared by LUC on behalf of Neart na Gaoithe Offshore Wind Farm Limited (NnGOWL). The ES accompanies an application for permission to construct and operate grid connection infrastructure associated with the Neart na Gaoithe Offshore Wind Farm (hereafter referred to as ‘the Onshore Works’). The Onshore Works are located wholly within East Lothian, Scotland (see **Figure 1.1**).

### 1.1 The Aim of the Document

2 As required under The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011, an Environmental Impact Assessment (EIA) has been undertaken. Where an EIA is required, the findings must be provided to the determining authority by the applicant in the form of an ES. The application for planning permission for the Onshore Works is made to East Lothian Council under the Town and Country Planning (Scotland) Act 1997, as amended.

3 In addition to the introductory chapters that provide relevant background information, this ES includes chapters dedicated to each specialist topic area, presenting the results of surveys carried out and full assessments of potential significant impacts associated with the Onshore Works. This includes during the construction and operational phases. Decommissioning is considered in this ES; see paragraphs 20 and 21 below.

4 Within the chapters of this ES, reference is made to the offshore ES to highlight any links, particularly in regard to the assessment of the intertidal area. The planning application (‘red line’) boundary for the Onshore Works extends to the low water mark (Mean Low Water Springs). Below this level, any works form part of the offshore works. However, interactions between the onshore and offshore elements, including the potential for significant effects, have been considered as part of the cumulative assessment for the Onshore Works within the ES.

5 Consents for the offshore works have been applied for separately under Section 36 of the Electricity Act 1989 and Section 25 of the Marine (Scotland) Act 2010. An application for consent for the offshore works has been submitted (July 2012) and a separate ES has been prepared to accompany this application. This is available to view online at <http://www.neartnagaoithe.com/>.

6 The Onshore Works and the Offshore Works are known collectively as ‘The Project’.

### 1.2 Background to the Proposed Development

7 In May 2008, The Crown Estate (TCE) invited developers to bid for potential offshore wind farm sites within Scottish Territorial Waters. Following the bid, TCE offered exclusivity agreements for ten sites around Scotland, with the potential to generate a total of over 6 gigawatts (GW) of offshore wind power. One of these exclusivity agreements was granted for the construction of the Neart na Gaoithe Offshore Wind Farm and NnGOWL subsequently entered into an Agreement for Lease with TCE in July 2011.

### 1.3 The Developer

8 NnGOWL is the developer of Neart na Gaoithe Offshore Wind Farm. NnGOWL is a subsidiary undertaking of International Mainstream Renewable Power Limited (hereinafter referred to as ‘Mainstream’) and was incorporated specifically for the development of Neart na Gaoithe Offshore Wind Farm (which includes the associated Onshore Works).

### 1.4 The Promoter

9 Mainstream is the promoter of Neart na Gaoithe Offshore Wind Farm. Mainstream was founded by Eddie O’Connor in 2008 to develop wind and solar plants around the world. The company has a global development portfolio of over 15 GW, consisting of both onshore (wind and solar) and offshore wind projects across four continents. Mainstream is one of Europe’s leading offshore wind developers with up to 7,600 megawatts (MW) over three projects in Scotland, England and Germany. Collectively, Mainstream has over 600 years of combined experience in those areas critical to project development.

10 Mainstream is developing the 4,000 MW Hornsea Zone off the east coast of England with its joint venture partner Siemens Projects Ventures GmbH (through joint venture company SMart Wind Limited) and investor, Dong Energy. SMart Wind Limited was awarded the rights to develop the Hornsea Zone by TCE in December 2009. Mainstream is

also actively developing wind and solar plants onshore in the US, Canada, Chile and South Africa and is currently progressing the 1.2GW Horizont offshore wind farm off the coast of Germany.

11 The development of three offshore wind farm sites in parallel allows economies of scale to be built up during the development and construction processes. Environmental experience and knowledge is shared between projects, thereby reducing environmental risk.

### 1.5 The Consultants and Project Team

12 LUC has been appointed as the EIA Project Manager for the Onshore Works. LUC is registered to the Institute of Environmental Management and Assessment (IEMA)’s EIA Quality Mark, having made a commitment to excellence in the EIA activities delivered. IEMA reviews each registrant’s compliance with the EIA Quality Mark Commitments on an ongoing basis to ensure registrants maintain high standards both now and in the future. LUC is responsible for the non-technical summary, introductory and summary chapters and the ecology, landscape and social and economic assessments. Input from specialists on other topic areas is detailed in **Table 1.1**.

Topic Area	Specialist
Ornithology	Natural Research Projects Limited
Cultural Heritage	CFA Archaeology
Geology, Ground Conditions, Groundwater and Coastal Processes	Border Geo-science
Hydrology, Flood Risk, Water Resources and Surface Water Quality	Kaya Consulting
Soils, Agriculture and Land Use	The Scottish Agricultural College (SAC)
Access, Traffic and Transport	Arup
Air Quality	
Noise and Vibration	
Socioeconomic Effects	Input from SQW

Table 1.1: Project Team and Specialist Topic Area

13 EMU Ltd specialises in consultancy, research and survey in the marine sector and was appointed to undertake the EIA for the offshore works. LUC has worked closely with EMU to ensure a coordinated approach to the assessment of both onshore and offshore components. Part of EMU’s work involved surveys of the intertidal area at the cable landing point which, as explained, has fed into the assessment of the Onshore Works.

14 Facilitating Change (UK) Ltd. is a facilitation company that works with clients in both the public and private sector. The organisation specialises in the design, delivery, reporting and project management of public and stakeholder engagement for major developments. Mainstream has engaged relevant public and stakeholder groups throughout the planning process and Facilitating Change has played a key role in this.

15 Xero Energy Ltd offers expert advice in the field of electricity grid connection and integration of generation from renewable devices. Xero Energy’s work has included aspects of engineering consultancy and survey work for the Onshore Works for the project as well as commercial support for the project’s grid connection agreements.

### 1.6 The Application

16 A connection to the electricity transmission network (‘the grid’) for the Neart na Gaoithe offshore wind farm has been secured at Crystal Rig II onshore wind farm in East Lothian, approximately 7 km south west of the settlement of Innerwick. The landing point for the proposed offshore cable is at Thorntonloch.

- 17 Consent is being sought for all works taking place within the ‘red line’ boundary, henceforth known as the ‘Application Boundary’. The Application Boundary is shown on **Figure 1.1**. The Application Boundary covers a distance of 12.3km from the landfall point at Thorntonloch to the substation at Crystal Rig wind farm. The width of the corridor within the Application Boundary is 30 m wide along the majority of the proposed route. At certain points, the corridor is widened (for example, where the route runs close to mature trees). The main ‘working corridor’ is likely to be 20 m for the majority of the route. This will allow 10 m for micrositing.
- 18 The 20 m wide temporary working corridor will accommodate the following elements:
- A trench of approximately 2 m in width.
  - Heavy vehicle access for which 5 m will be required.
  - Lay down of equipment, materials and spoil for which 5 m will be required.
  - Contingency space to avoid the trench collapsing under load for which 2 m is provided from the edge of the trench.
  - Vehicle/pedestrian access for which 3 m will be required.
  - A further 3 m to establish temporary fencing and to allow space for vehicle turning and car parking.
- 19 At certain locations, construction access points have been identified to enable construction traffic to connect with the local road network. Temporary construction compounds have also been identified midway along the route and at the site of the new substation. The access points and temporary construction compounds are within the Application Boundary.
- 20 The new substation will be located adjacent to an operational onshore wind farm (known as Crystal Rig).
- 21 Before construction of the offshore project can commence, a decommissioning plan for the Offshore Works must be agreed with the Department for Energy and Climate Change. After the lifetime of the Neart na Gaoithe offshore wind farm (assumed to be up to 50 years from the start of offshore operation<sup>1</sup>), the Onshore Works are likely to remain in situ as part of the functioning transmission network. However, following consultation with East Lothian Council (ELC) it was agreed that the likely effects of decommissioning the Onshore Works would be considered in this ES.
- 22 Separate consent is being sought by Scottish Power Transmission (SPT) to connect Neart na Gaoithe to the National Grid. This is henceforth known as ‘the SPT NnG Scheme’.
- 23 The EIA has been completed on the basis of the above.

### 1.7 The Onshore Works

- 24 Throughout this ES, the term ‘Onshore Works’ has been used. The ‘Onshore Works’ comprise the following components:
- Landfall;
  - Cable Corridor;
  - Substation Site.
- 25 The ‘Landfall’ lies between Mean Low Water Springs and the transition pits at Thorntonloch. The onshore cables will connect to the offshore cables close to the landfall point at Thorntonloch, which will comprise a sunken concrete pit, housing the interface point (‘transition pits’).
- 26 The ‘Cable Corridor’ relates to the area within the Application Boundary from the transition pits to the substation site and includes the main ‘working corridor’. Temporary works taking place within the ‘Cable Corridor’ include:
- Establishing jointing pits.
  - Excavating the trench (or undertaking trenchless techniques where trenching is not possible/appropriate).
  - Laying down the cables.

- Heavy vehicle access.
- Small vehicle/pedestrian access.
- Establishment of temporary fences.
- Establishment of temporary construction access points.
- Car parking.
- Temporary storage of materials/spoil as sections of cable are laid.
- Reinstatement of land once sections of cables have been laid.
- Establishment and maintenance of temporary construction compounds for the duration of construction.

27 The trench will contain six electric cables and two communications (fibre optic) cables. The electrical cables are split into two groups of three and each group is called a ‘circuit’. Each group of ‘electrical’ cables also contains one of the communication cables. The two circuits and communication cables are collectively named ‘The (Onshore) Cable’.

28 A new substation will be constructed in the immediate vicinity of the existing Crystal Rig II substation. The Application Boundary at the substation site includes all land which will be required for construction of the substation (including space for a temporary construction compound), as well the permanent substation site (which is smaller than the temporary construction area in this location).

### 1.8 Environmental Statement

29 In addition to project management of the EIA, and co-ordination of the preparation of the ES, LUC has provided expertise in relation to planning, landscape and visual amenity, ecology and socioeconomic assessment, supported by specialist sub-consultants teams who have provided expertise in the relevant topic areas.

30 The structure of the ES is presented in the list below:

- Chapter 1: Introduction (LUC).
- Chapter 2: Climate Change and the Need for the Project (LUC).
- Chapter 3: EIA Methodology and Approach (LUC).
- Chapter 4: Site Selection and Alternatives (LUC).
- Chapter 5: Project Description (LUC).
- Chapter 6: Legislation and Planning Policy (LUC).
- Chapter 7: Engagement and Commitments (LUC).
- Chapter 8: Terrestrial and Inter-tidal Ecology and Ornithology (LUC/Natural Research Projects Limited).
- Chapter 9: Cultural Heritage (CFA Archaeology).
- Chapter 10: Landscape and Visual Amenity (LUC).
- Chapter 11: Geology, Ground Conditions, Groundwater and Coastal Processes (Border Geoscience).
- Chapter 12: Hydrology, Flood Risk, Water Resources and Surface Water Quality (Kaya Consulting).
- Chapter 13: Soils, Agriculture and Land Use (SAC).
- Chapter 14: Access, Traffic and Transport (Arup).
- Chapter 15: Air Quality (Arup).
- Chapter 16: Noise and Vibration (Arup).
- Chapter 17: Socioeconomic Effects (LUC).
- Chapter 18: Summary (LUC).

31 The ES is prefaced by a Non-Technical Summary (NTS) of its findings. A stand-alone NTS has also been produced.

32 In addition, a separate Planning Statement has been prepared. The Planning Statement does not form part of the ES. Its purpose is to demonstrate how the Onshore Works respond to, and comply with, relevant local and national planning policy and guidance in the context of the relevant Development Plan and other material considerations that may affect planning determination of the proposal.

<sup>1</sup> A licence for the sea bed will be provided for 50 years.