1 Introduction

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1 Introduction

1.1 Executive Summary

1.1.1 This chapter sets out the background to the Proposed Development and information as to the purpose of the Environmental Impact Assessment Report (EIA Report) and where the EIA Report can be viewed.

1.2 Introduction

1.2.1 Rigghill Wind Farm Limited is a joint venture between Burcote Wind Limited and ERG. Burcote Wind Limited is an independent renewable energy company based in Dunfermline, Fife. The company specialises in large scale onshore wind projects, recognising that such projects play an important role in tackling climate change and reducing greenhouse gas emissions, as well as contributing to the social and economic well-being of rural communities.

1.2.2 ERG is the number one wind power operator in Italy and a top ten player in the European onshore wind market, owning and operating clean energy and low impact assets including wind, hydro, solar and natural gas in seven countries across Europe. ERG generates approximately 7,500 GWh of energy per year, of which close to 50% is generated from wind. ERG also manages the entire value chain of wind power generation from the identification of high potential sites to the development, construction, operation and maintenance of wind farms.

1.2.3 Rigghill Wind Farm Limited (hereafter referred to as 'the Applicant') are preparing an application for the construction and operation of the Rigghill Wind Farm (hereafter referred to as 'the Proposed Development') located approximately 1.5 km south-east of Skelmorlie in North Ayrshire.

1.2.4 The Applicant has submitted an application to North Ayrshire Council under the Town and Country Planning Act (Scotland) 1997 (as amended). This application is supported by an EIA Report as prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (hereafter referred to as 'the EIA Regulations').

1.2.5 It should be noted at the time of writing (January 2019) that the Brexit negotiations are still ongoing. The European Union (Withdrawal) Act 2018 specifies that EU-derived domestic legislation will continue to have effect in domestic law after the UK formally exits the EU. Therefore, this EIA Report continues to reference EU-derived legislation as appropriate.

1.2.6 The Applicant believes in engaging with the community from the outset of the project and to ensure that local views are accommodated where possible. All of Burcote and ERG's projects are developed with a strong commitment to local communities to ensure that local amenities are protected where possible, environmental effects are minimised, and local employment opportunities and community benefit funds are provided to maximise local benefits.

1.3 Background and Site Description

Site Description

1.3.1 The Proposed Development site is located south-east of Skelmorlie, North Ayrshire. It comprises of the western extent of Ferret of Keith Moor and the upper part of Skelmorlie Glen. The central grid reference for the site is British National Grid 221492, 666156 and it occupies an area of approximately 332 hectares (ha). The site location and site boundary are shown in Figure 1.1.

1.3.2 The site comprises largely of open upland. Skelmorlie Glen Site of Special Scientific Interest (SSSI), which carries Skelmorlie Water, is located within the centre and western boundary of the site and is designated for upland mixed ash woodland (refer to Chapter 7 for further details). Skelmorlie Water bisects the Site, entering the Proposed Development boundary at its north-eastern extent and exiting at its south-western extent.

1.3.3 There are a number of minor watercourse and drainage ditches which cross the Site and flow into Skelmorlie Water to the west and Outerwards Reservoir to the east, including Rigghill Burn, Fank Burn and numerous un-named watercourses (refer to Chapter 10 for further details).

1.3.4 There is one residential property located within the site boundary, Fardens, which will be uninhabited for the duration of construction, operation and decommissioning of the Proposed Development and accordingly is not treated as a residential receptor.

1.3.5 The site is located within the Clyde Muirshiel Regional Park. On the site's eastern boundary is Renfrewshire Heights Special Protection Area (SPA) and SSSI which is designated for hen harriers (*Circus cyaneus*) (refer to Chapter 6 for further details).

1.3.6 To the west of the site is the Firth of Clyde, leading to the Irish Sea, and the Isle of Bute. Parts of the coastal edge are modified with marinas at Largs and Inverkip, jetties and the extensive power stations and industrial works at Hunterston extending into the Firth. There are a number of coastal communities including Greenock and Largs, approximately 9.6 km to the north and 4.7 km to the south.

1.3.7 The village of Skelmorlie is located to the west of the Site. Wemyss Bay merges with Skelmorlie on its northern side, and it is here that the train line from Glasgow terminates. Wemyss Bay also contains the port for the ferry between Rothesay on the Isle of Bute and the mainland.

1.3.8 The A76 follows the coast connecting Skelmorlie to Greenock and Largs. A minor, un-classified road, Brisbane Glen Road, traverses to the south-east of the site boundary, passing to the east of Outerwards Reservoir.

The Proposed Development

1.3.9 The Proposed Development comprises ten stand-alone, three bladed horizontal axis turbines of up to a maximum height 149.9 m from ground to blade tip when vertical. The overall capacity of the Proposed Development will be approximately 42 MW[1].

1.3.10 A number of ancillary elements are also proposed, including a temporary construction compound; permanent hard-standings adjacent to the turbines for maintenance and decommissioning cranes; temporary blade laydown areas; site entrance and access tracks; underground cabling between turbines; external transformers; a borrow pit search area; an on-site substation compound; and a permanent meteorological monitoring mast. The Proposed Development site layout is shown in Figure 1.2.

1.3.11 The proposed locations of the turbines have been identified in order to enable the EIA to assess fully the Proposed Development for which permission is being sought (refer to Figure 1.2). The British National Grid coordinates denoting where each of the turbines are proposed to be located are listed in Table 3.1.

1.3.12 Whilst the location of the infrastructure described above has been determined through an iterative environmental based design process, there is the potential for these exact locations to be altered through micro-siting prior to construction. A micro-siting allowance of up to 50 m in all directions is being sought in respect to each turbine and its associated infrastructure in order to address any potential difficulties which may arise in the event that preconstruction surveys identify unsuitable ground conditions or environmental constraints that could be avoided. It is proposed that the micro-siting of all infrastructure will be subject to an appropriately worded planning condition.

1.3.13 The total power output of the Proposed Development would be approximately 42 MW[1]. Based on the Department for Business, Energy and Industrial Strategy (BEIS) capacity factor for new wind farms in Scotland (BEIS, 2019), the annual indicative total power output for the site would be approximately 129,507 MW hours per annum[2], indicating the Proposed Development would

[1] 42 MW is target capacity. Actual installed capacity may be greater or less dependent on turbine model selection but will not be greater than 50 MW.

[2] This has been calculated by multiplying the target capacity of the Proposed Development by the hours in a year (8760) and the capacity factor (35.2%) (BEIS, 2019).

generate enough electricity to power the equivalent of 34,729 average UK households[3] (based on average annual electricity consumption per household in the UK, quoted by RenewableUK in 2019, of 3,729 kWh).

1.3.14 The Proposed Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions.

1.4 Need for Development

1.4.1 The science behind climate change is well established and points strongly towards a need to reduce our reliance on fossil fuels in order to avoid negative economic, environmental and social effects. International and European commitments to reducing CO_2 and other greenhouse gas emissions and tackling climate change have been made by all major economies. In response to these issues, The UK has made significant, legally binding commitments to increase the use of renewable energy. In October 2019, the Scottish Government set a legally binding target to achieve net-zero greenhouse gas emission by 2045 at the latest (Scottish Government, 2019), and a 75% reduction by 2030. These targets are very challenging and the Proposed Development would help in achieving those commitments.

1.5 Purpose of the EIA Report

1.5.1 ITPEnergised (ITPE) was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Proposed Development in accordance with the EIA Regulations. The EIA process is the systematic process of identifying, predicting and evaluating the environmental impacts of a proposed development. The EIA process is reported in this EIA Report, which identifies the methodologies used to assess the environmental effects predicted to result from the construction, operation and decommissioning of the Proposed Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if at all possible, offset potential significant adverse environmental impacts. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented.

1.5.2 The main findings and conclusions of the EIA are summarised in a Non-Technical Summary (NTS), as required by the EIA Regulations. The NTS provides a stand-alone document which summarises the key findings of the EIA in easily accessible, non-technical language, ensuring everyone with an interest in the Proposed Development can understand and access information on its predicted environmental effects.

1.5.3 This EIA Report and NTS accompany the application for consent, being submitted to North Ayrshire Council.

1.6 Structure of the EIA Report

1.6.1 The EIA Report is split into five volumes, with the NTS forming a separate document. Volume 1 of the EIA Report is structured as follows:

- Chapter 1 provides an introduction to the Applicant, the Proposed Development and the EIA;
- Chapter 2 provides a description of the design iteration process, detailing how the Proposed Development evolved through the course of the assessment process and the elimination of alternative development options;
- Chapter 3 provides a description of the existing Site, details of the Proposed Development, the construction, operation and maintenance processes, decommissioning process, and need for the development;
- Chapter 4 sets out the methodology of the EIA process including the scope of the process, justification for topics scoped out of the EIA, and details of the Public Consultation process;

[3] This has been calculated by dividing the annual energy output (129,507 MWh) by annual UK average household consumption (3.729 MWh) (RenewableUK, 2019)

- Chapter 5 assesses the potential and residual effects on landscape and visual amenity;
- Chapter 6 assesses the potential and residual effects on ornithology;
- Chapter 7 assesses the potential and residual effects on ecology and nature conservation;
- Chapter 8 assesses the potential and residual effects on noise;
- Chapter 9 assesses the potential and residual effects on cultural heritage;
- Chapter 10 assesses the potential and residual effects on geology, peat, hydrology and hydrogeology;
- Chapter 11 assesses the potential and residual effects on traffic and transport;
- Chapter 12 assesses the potential and residual effects on socio-economic, recreation and tourism;
- Chapter 13 assesses the potential and residual effects on aviation and radar;
- Chapter 14 assesses the potential and residual effects of shadow flicker;
- Chapter 15 assesses the potential and residual effects on telecommunications;
- Chapter 16 discusses the planning policy and context of the Proposed Development;
- Chapter 17 is the Schedule of Environmental Commitments, which summarises all of the mitigation measures presented in this EIA Report; and
- Chapter 18 provides summary tables of all predicted residual effects.

1.6.2 Volume 2 contains the figures that inform the EIA Report (with the exception of the landscape and visual assessment graphics).

1.6.3 Volume 3 contains the landscape and visual assessment graphics.

1.6.4 Volume 4 contains supporting information and appendices for each of these technical chapters, and additional studies that have been prepared to inform the relevant assessments as reported in the EIA Report.

1.6.5 Volume 5 contains confidential technical appendices.

1.6.6 Additional supporting documents which form part of the application submission include a Non-Technical Summary of the EIA Report, a Planning Statement, a Pre-Application Consultation (PAC) Report and a Design and Access Statement (DAS).

1.7 EIA Project Team

1.7.1 The assessment was undertaken by the ITPE environmental team supported by external consultants as shown in Table 1.1 below.

Table 1.1 – EIA Team

Person	Role	Expertise	Qualifications
Rebecca Todd (ITPE)	EIA Project Director, editor and author of introductory, concluding, shadow flicker, aviation and telecommunication chapters.	Over 12 years' experience leading and undertaking EIAs across a range of sectors, including wind farms across Scotland.	PIEMA, BSc (Hons)

Person	Role	Expertise	Qualifications
Stuart Winter (JLL)	Planning and consenting lead	Planner with over 15 years of experience across the UK within both local authority and private sectors.	MRTPI BLE (Hons)
Jo Philips (OPEN)	Landscape and visual lead	Chartered landscape architect with over 14 years' experience across multiple wind farm sites.	BA (Hons), Dip UD, MLI
Mikael Forup (ITPE)	Ecology lead	14 years of experience as an ecological project manager and advisor, undertaking assessments for over 15 wind farms.	BSc (Hons), PhD Restoration Ecology; CEnv, FCIEEM
Richard King (ITPE)	Ornithology Lead	Over 12 years' experience as ecologist, including 10 assessing infrastructure developments.	BSc (Hons), MSc, MCIEEM
Jenny Hazzard (ITPE)	Geology, hydrology and hydrogeology	Over 19 years of consulting experience in geology, peat, hydrogeology and water resources.	BSc, MSc, PIEMA
Lynne Roy (AOC Archaeology)	Cultural Heritage lead	A Project Manager with 14 years' of experience in the historic environment, specialising in preparing Environmental Impact Assessments.	BA (Hons), MSc, MCIfA, FSA Scot
Gordon Buchan (Pell Frischmann)	Traffic and Transport lead	Transport planner with over 23 years' experience and has worked on over 400 wind farm projects across the UK, Ireland and Northern Europe.	BEng (Hons), MSc, CMILT, MCIHT
Scott McGarva (Pell Frishmann)	Engineering Lead	Civil Engineer and Project Manager with over 20 years' experience working on onshore renewable energy schemes within the UK and Ireland from pre-planning through to onsite delivery.	HNC Civil Engineering, MCIHT, CMILT
Simon Waddell (ITPE)	Noise and vibration lead	Principal Noise Consultant with over 9 years' experience as a technical specialist in environmental noise.	BSc, MIOA, PGDip
Graeme Blackett	Socio-economic support	Economist with over 25 years' experience, specialising in the wind sector.	BA (Hons), MEDAS, MIED

Person	Role	Expertise	Qualifications
(BiGGAR Economics)			

1.8 Availability of the EIA Report

1.8.1 Copies of the EIA Report are available from:

Rigghill Wind Farm Limited,

15 Furzton Lake,

Shirwell Crescent,

Furzton.

Milton Keynes,

MK4 1GA

Email: Info@burcotewind.com

1.8.2 Electronic copies of the EIA Report can be accessed at www.rigghillwindfarm.com

1.8.3 Hard copies of the NTS are available for free from the Applicant and a hard copy of the EIA Report Volumes 1, 2, 3, and 4 are available for £1,250.00 (including printing and distribution). In addition, all documents are available (as a PDF for screen viewing only) on a DVD for £10.00.

1.9 Representations to the Application

1.9.1 Any representations to the application should be made directly to North Ayrshire Council at: eplanning@north-ayshrie.gov.uk

1.10 References

BEIS (2019). *The Renewables Obligation for 2019/20. Calculating the Level of the Renewables Obligation for 2019/20*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/747218/2019-20-renewables-obligation-level.pdf

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Scottish Government (1997). *Town and Country Planning (Scotland) Act 1997.* Available at: http://www.legislation.gov.uk/ukpga/1997/8/contents

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Scottish Government (2019). Climate Change Action. *Available at:* https://www.gov.scot/news/climate-change-action-1/

UK Government (2018). *European Union (Withdrawal) Act 2018.* Available at: http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted

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