

1 Introduction

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1. Introduction

1.1 Background and Site Description

Introduction

- 1.1.1 Douglas West Wind Farm Ltd is proposing revisions to a consented wind energy development, Douglas West Wind Farm, which lies 11 km south west of Lanark, in rural South Lanarkshire. The revised scheme, comprising 13 turbines each with a generating capacity of around 3.8 MW (hereafter referred to as the Revised Development), has been designed to optimise the Consented Development (comprising 15, 3 MW turbines) at Douglas West to maximise energy production from the site, within acceptable limits, to ensure that the project is viable subsidy-free.
- 1.1.2 This Environmental Statement (ES) has been prepared to assess the environmental impacts of the Revised Development and will accompany the planning application submitted to South Lanarkshire Council (SLC) under *Section 42 of the Town and Country Planning (Scotland) Act 1997 (as amended)* seeking permission to construct and operate the Revised Development for a period of 25 years.

Site Description

- 1.1.3 The site is located approximately 11 km south west of Lanark, 1.6 km north of Douglas and 1.3 km south of Coalburn (to the nearest turbine) in rural South Lanarkshire. The site is part of a former surface coal mine and is therefore by its nature well located, remote from surrounding villages and isolated dwellings and benefits from direct access from the M74 motorway via Junction 11 (Poniel). The elevation of the site ranges from 220 metres (m) to 310 m above ordnance datum (AOD). The site occupies an area of approximately 2.45 square kilometres (km²) or 245 hectares (ha). The central grid reference for the site is 281791 632782. The site location and Planning Application Boundary are shown in Figure 1.1.
- 1.1.4 The site lies within an area of low grade agricultural land, with a large section of the site having been disturbed by the previous opencast operations and restored to a varying degree (refer to Figure 3.1). There is also a large area of hardstanding to the east of the site where the former Dalquhandy Opencast Disposal Point (DP) was located. The aerial photograph below (Plate 1.1) from September 1990 shows the opencast operation being undertaken at the site and the coal processing plant that was on the DP hardstanding that remains on site today (Plate 1.2).



Plate 1.1 – Aerial photograph of the northern extent of the site and DP area (1990)



Plate 1.2 – Aerial photograph of the DP area including CHP plant (2017)

- 1.1.5 The Revised Development comprises 13 wind turbines of up to a maximum blade tip height of 149.9 m when vertical, each being around 3.8 megawatt (MW) in power rating. As with the Consented Development, a number of ancillary development components are also proposed, including a construction compound / concrete batching and turbine laydown area; hardstandings adjacent to the wind turbines for construction, maintenance and decommissioning cranes; access tracks; underground cables between turbines; an onsite substation and maintenance building with welfare facility; and a new permanent meteorological monitoring mast.
- 1.1.6 The revised site layout is shown in Figures 1.2 (aerial mapping) and Figure 3.5 (OS mapping).
- 1.1.7 The total power output of the Revised Development would be around 49 MW. Based on a calculated site specific capacity factor, the annual indicative total power output for the site would be around 137 GW hours per annum, indicating the Revised Development would generate enough electricity to power over 34,300 average UK households (based on RenewableUK, 2016 UK average domestic household consumption is 3,994 kWh), and displace around 58,910 tonnes of carbon dioxide annually (1,472,750 tonnes over the proposed 25 year lifetime of the Revised Development). The Revised Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions (further information is provided on this matter in Chapter 3).
- 1.1.8 The electricity produced will be exported to the electricity network. The proposed point of connection to the network is via the 132 kV Coalburn substation to the north-east of the site. The grid connection is currently being progressed by the Applicant with both the local distribution and transmission licence holders. A proportion of the electricity produced at the site may also be used to provide power to new industry within the consented Industrial Area within the east of the site, on the DP hardstanding and surrounding areas (refer to Figure 3.2).

1.2 The Applicant

1.2.1 Douglas West Wind Farm Ltd, hereafter referred to as ‘the Applicant’, is a partnership between 3R Energy Solutions Ltd and Blue Energy Projects Holdings Ltd.

3R Energy Solutions Ltd

1.2.2 3R Energy Solutions Ltd (3R Energy) was established in 2009 to help farms and rural businesses reduce their energy costs, with the mainstay of the business being farm sized wind turbines, CHP systems and biomass boilers. The Revised Development represents an exciting next step in the development of the business into larger-scale renewables and builds on 3R Energy’s existing skills and current customer offering, as well as helping to grow and diversify the business for the future.

1.2.3 3R Energy is a local company (based in Lanark) committed to working with the local community in Douglas and Coalburn to develop a successful project at the site which delivers significant and tangible benefits for the surrounding communities.

Blue Energy Projects Holdings Ltd

1.2.4 Blue Energy Projects Holdings Ltd (Blue Energy) is a leading investor in renewable energy infrastructure, with a commitment to long-term investment in the sector. Blue Energy have been brought into the project as 3R Energy’s funding partner and bring with them a strong track record in delivering onshore wind development in the UK.

1.3 Planning History

1.3.1 A Scoping Opinion was first sought from SLC in March 2012, by the previous developer Community Windpower, for a wind energy development of up to 15 turbines up to a maximum tip height of 150m. A Scoping Opinion was subsequently issued by South Lanarkshire Council (SLC) in June 2012 (further detail on this is provided in Chapter 4).

1.3.2 In the intervening period 3R Energy took ownership of the development proposals and decided to develop an integrated renewable energy project at the site. A planning application was submitted in July 2015, by 3R Energy, for a development comprising 15 wind turbines, up to 126.5 m blade tip height, and an associated Wood Fuel Drying Facility (WFDF). Consent for the application, the Consented Development, was granted in February 2016 (Appendix 1.1).

1.3.3 Two subsequent Non-Material Variation Submissions to increase the tip height to 131 m and the rotor size to 113 m (CL/15/0273/1), and relocate the substation and construction compound (CL/15/0273/2) have also been consented (Appendix 1.2).

1.3.4 A separate planning permission (CL/16/0157) was also granted to amend the means of powering the WFDF from wind turbines to a wood gas combined heat and power (CHP) plant, and for the WFDF to be constructed as a stand-alone development. The WFDF is now built and operational within the northern extent of the DP area.

1.3.5 3R Energy has also been granted planning permission in principle (Planning Reference: CL/17/0157) for the phased development of the wider extent of the DP area for a mix of Class 4 (Business), 5 (General Industrial) and 6 (Storage or Distribution) uses including associated landscaping, service facilities, SUDS/drainage features, internal roadways, infrastructure, parking and other ancillary works (refer to Figure 3.2).

1.3.6 Chapter 2 details the revisions to the Consented Development which have been designed to maximise energy production, within acceptable limits, to ensure that the project is viable in a

subsidy free market. Table 1.1 below summarise the main changes proposed between the Consented Development and the Revised Development.

Table 1.1 - Proposed Changes to the Consented Development

Characteristic	Consented Development	Revised Development
Number of Wind Turbines	15	13
Turbine Capacity	Around 3 MW each	Around 3.8 MW each
Overall Wind Farm Capacity	Around 45 MW	Around 49 MW
Maximum Hub Height	85 m	No Change
Maximum Rotor Diameter	113 m	132 m
Maximum Tip Height	131 m	149.9 m
Wood Fuel Drying Facility	Included	Not Included

- 1.3.7 The proposed increase to the installed capacity of each turbine is from around 3 MW each as permitted, to around 3.8 MW each, which results in a development with a total generating capacity of around 49 MW from the 13 turbines. This increase in generator size, coupled with greater wind yields from taller turbines with bigger rotors, results in around a 25 % increase in energy generation from the site compared to that which could be generated by the 15 consented 3 MW turbines.

1.4 Purpose of the Environmental Statement

- 1.4.1 ITP Energised (ITPE) was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Revised Development in accordance with the *Town and Country Planning (Scotland) Act 1997 (as amended)*, and the *Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011* ('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 ES, which identifies the methodologies used to assess the environmental effects predicted to result from the construction, operation and decommissioning of the Revised 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.
- 1.4.2 The main findings and conclusions of this ES are summarised in a Non-Technical Summary (NTS), as required by the EIA Regulations. The NTS, provided as a stand-alone document, summarises the key findings of the EIA in easily accessible, non-technical language, ensuring everyone with an interest in the project can understand and access information on its predicted environmental effects.
- 1.4.3 This ES and NTS accompany the application for planning permission under the *Town and Country Planning (Scotland) Act 1997 (as amended)* being submitted to SLC.

1.5 Structure of the Environmental Statement

- 1.5.1 The ES is split into four volumes, with the **NTS** forming a separate document. **Volume 1** of this ES is structured as follows:
- Chapter 2 provides a description of the design iteration process, detailing how the Revised 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 Revised Development, the construction, operation and maintenance processes, decommission process, need for the development and carbon considerations;
- Chapter 4 is 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;
- Chapter 5 is the planning policy context;
- Chapter 6 assesses the potential and residual effects on landscape and visual amenity;
- Chapter 7 assesses the potential and residual effects on ecology and nature conservation;
- Chapter 8 assesses the potential and residual effects on ornithology;
- Chapter 9 assesses the potential and residual effects on noise and vibration;
- Chapter 10 assesses the potential and residual effects on the historic environment;
- Chapter 11 assesses the potential and residual effects on hydrology, hydrogeology and geology;
- Chapter 12 assesses the potential and residual effects on traffic and transport;
- Chapter 13 assesses the potential and residual effects on socio-economics, tourism and recreation;
- Chapter 14 assesses the potential and residual effects on aviation, radar and telecommunications;
- Chapter 15 assesses the potential and residual effects from shadow flicker and reflectivity;
- Chapter 16 provides a summary of all predicted cumulative effects;
- Chapter 17 is the Schedule of Environmental Commitments, which summarises all of the mitigation measures presented in this ES; and
- Chapter 18 provides summary tables of all predicted residual effects.

1.5.2 **Volume 2** contains the figures that inform the ES.

1.5.3 **Volume 3** 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 ES. **Confidential Annexes** to the ES which include confidential information on protected species will be provided separately to SLC and Scottish Natural Heritage (SNH).

1.5.4 **Volume 4** contains the landscape and visual impact assessment visualisations that inform Chapter 6 Landscape and Visual Assessment.

1.5.5 Additional supporting documents which form part of the planning application submission include a **Planning Statement**, a **Design & Access Statement** and a **Pre-Application Consultation Report**.

1.6 Assessment Team

1.6.1 The assessment was undertaken by ITPE's environmental teams supported by the following external consultants:

- ACIA Acoustics (Noise Assessment);
- Mott MacDonald (Historic Environment Assessment);
- BiGGAR Economics (Socio-Economic Assessment);
- ITPenergised (Geology, Hydrology and Hydrogeology, and Shadow flicker Assessments);

- MacArthur Green (Ecology and Ornithology Assessments);
 - Dunnock Environmental Services & Starling Learning (Ecology / Ornithology Surveyors);
- Pegasus Group (Landscape and Visual Assessment and Residential Visual Amenity Assessment);
- Transport Planning (Traffic and Transport Assessment);
- 3R Energy (Policy and Consenting Framework);
- P4 Projects (Access Strategy / Heritage Trail); and
- Wind Business Support (Aviation & Telecommunications Assessment).

1.7 Availability of the Environmental Statement

1.7.1 Copies of the ES are available from:

3R Energy
 Lanark Auction Market,
 Hyndford Road,
 Lanark
 ML11 9AX

Tel: (01555) 660244

Email: info@3renergy.co.uk

1.7.2 The cost of a hard copy of the ES Volumes 1 and 3 (ES chapters and technical appendices) is £250.00, and a hard copy of the ES Volume 2 and 4 (figures) is £500.00. In addition, all documents are available (as a PDF) on a DVD for £15.00. The Non-Technical Summary (NTS) is available free of charge. Copies of the other supporting documents are also available in hard copy with the cost to be confirmed on request.

1.7.3 Copies of the ES will also be available for viewing during opening hours at the following locations:

South Lanarkshire Council
 Planning and Building Standards HQ
 Montrose House
 154 Montrose Crescent
 Hamilton
 ML3 6LB

Coalburn Miners Welfare
 42 Coalburn Road
 Coalburn
 ML11 0LH

St.Brides Centre
 Braehead
 Douglas
 ML11 0PT

1.8 Representations to the Application

1.8.1 Any representations to the application should be made directly to South Lanarkshire Council Planning Department at:

Planning and Building Standards

Montrose House

154 Montrose Crescent

Hamilton

South Lanarkshire

ML3 6LB

Email: planning@southlanarkshire.gov.uk

1.9 References

RenewableUK (2017). *UKWED Figures Explained*. Available at:

<http://www.renewableuk.com/en/renewable-energy/wind-energy/uk-wind-energy-database/figures-explained.cfm>

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