1 Introduction

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1 Introduction

1.1 Background and Site Description

1.1.1 Cumberhead West Wind Farm Ltd (hereafter referred to as "the Applicant") intends to apply to the Scottish Ministers for Section 36 (S36) consent and deemed planning permission, under the terms of the Electricity Act 1989, for permission to construct and operate Cumberhead West Wind Farm (hereafter referred to as the "Proposed Development"), at site centre British National Grid (BNG) NS 75107 34361 (refer to Figure 1.1).

1.1.2 This application will be supported by an Environmental Impact Assessment Report (EIA Report) as required by The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

1.1.3 This EIA Report has been prepared to assess the environmental impacts of the Proposed Development and will accompany the S36 Application submitted to the Scottish Ministers.

1.1.4 The Proposed Development will comprise 21 wind turbines up to 200 m blade tip height when vertical, each being around 6 megawatt (MW) in power rating. The combined generation capacity of the turbines will be approximately 126 MW, supported by additional energy storage provision with an output capacity of 40 MW. The associated infrastructure will include: site access, access tracks, crane hardstandings, underground cabling, on-site substation and maintenance building, energy storage compound, temporary construction compounds, laydown area, concrete batching plant, potential excavations/borrow workings and two permanent meteorological masts.

Site Description

1.1.5 The site adjoins an established cluster of wind farms around Hagshaw Hill (Known as the 'Hagshaw Cluster') in rural South Lanarkshire, (refer to Figure 1.2). The site is located approximately 4.3 km to the west of Coalburn, 5.6 km to the south-west of Lesmahagow 7.2 km north-west of Douglas and 6 km north-east of Muirkirk (distances to the nearest turbine).

1.1.6 The site comprises a main Development Area of approximately 898 hectares (ha) of the existing Cumberhead Forest and adjoining land, consisting primarily of commercial coniferous plantation and existing forestry tracks plus a small parcel of farmland around Black Hill and Eaglinside (refer to Figure 16.1). The site boundary also includes the site access track (from junction 11 of the M74 motorway along existing and proposed tracks to the southern corner of the site) which is approximately 16 km long and comprises an area of 151 ha. The site gradually rises from 320 m Above Ordnance Datum (AOD) in the north to 522 m AOD at the summit of Nutberry Hill in the south of the site. The site possesses a strong wind resource.

1.1.7 The total power output of the Proposed Development turbines would be around 126 MW. Based on a calculated site-specific capacity factor, the annual indicative total power output for the site would be around 325 GWh per annum, indicating the Proposed Development would generate enough electricity to power approximately 89,829 average UK households (based on average electricity consumption per household in the UK quoted by RenewableUK in 2019, of 3,618 kWh). The Proposed 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 11).

1.1.8 The electricity produced will be exported to the electricity network. The proposed point of connection to the wider electricity network is via the Coalburn Transmission Substation to the north-east of the site (see Figure 1.2). The Proposed Development holds a contracted grid connection date with National Grid of 2024 which means that preparatory works, beginning with tree felling in advance of construction, would need to commence in 2022 in order to meet current grid connection timescales.

1.1.9 Forming part of an existing cluster of wind farms, with approximately 16.2 km out of 17.6 km of access road (to the main body of the site) direct from a motorway junction already in place, and a

near term grid connection secured, the Proposed Development is capable of delivery in the near-term such that it could make a meaningful contribution to Scotland and the UK's renewable energy and carbon reduction targets from late 2024 onwards.

The Hagshaw Cluster

1.1.10 The Proposed Development forms one component of a wider strategy for the future of the Hagshaw Cluster. This overview intends to set out the projects that comprise the 'Hagshaw Cluster' and explain the various stages of development / operation of these wind farms, with reference to Figure 1.2 and Table 1.1 below. Chapter 3 goes on to provide further background to the Proposed Development and how it fits into a wider strategic plan for the local area.

1.1.11 The 'Hagshaw Cluster' is a term used to describe the grouping of wind farms (operational, consented and proposed) that exist around Hagshaw Hill, to the west of Douglas and south of Coalburn in South Lanarkshire. Table 1.1 and Figure 1.2 set out the wind farm projects which together comprise the Hagshaw Cluster.

Table 1.1 –Wind Farms within the Hagshaw Cluster

Wind Farm	Status	Number of Turbines	Total Output	Grid Connection Date	Project Owner
Hagshaw Hill 1995	Operational	26	15.6 MW	Connected	SPR
Hagshaw Hill Extension	Operational	20	26.4 MW	Connected	SPR
Hagshaw Hill Repowering	Consented	14	84 MW	2024	SPR
Hazelside Farm	1 Operational 1 Consented	2	1.3 MW	Connected TBC	3R
Nutberry	Operational	6	15 MW	Connected	Falck
Galawhistle	Operational	22	66 MW	Connected	Ventient
Douglas West	Construction	13	49.9 MW	2021	Greencoat
Cumberhead	Consented	14	49.9 MW	2022	CWEL
Dalquhandy	Consented	15	45 MW	2022	BayWa
Douglas West Extension	Application	13	78 MW	2024	SPR/3R
Hare Craig	Application	8	50 MW	Unknown	Energiekontor
Proposed Development	Application	21	126 MW	2024	SPR/3R
	Total*	**148**	**591.5 MW**		

Grid connection dates have been taken from the publicly available National Grid Tec Register dated 29.10.20. Total output figures have been taken from planning application submissions or company websites and exclude any energy storage provision.

**Total number of turbines and output of the Hagshaw Cluster assumes original Hagshaw Hill 1995 wind farm is replaced by Hagshaw Hill Repowering.*

1.1.12 Other wind farms that exist in the wider local area are shown on Figure 1.3.

1.2 The Applicant

1.2.1 Cumberhead West Wind Farm Ltd (the Applicant) is a joint venture between local business 3R Energy Solutions Ltd (3R Energy) and ScottishPower Renewables (UK) Limited (SPR). 3R Energy was established in 2009, with its head office now situated in Lanark. The company was initially established to help farms and rural businesses to invest in renewable energy technology, with the mainstay of the business being farm sized wind turbines, CHP systems and biomass boilers. 3R Energy has since diversified into larger scale renewables and has now developed a number of wind farm projects with the Hagshaw Cluster. As a local company 3R Energy is committed to working with communities closest to the Hagshaw Cluster for the long term to develop and deliver successful projects which create significant and tangible benefits for the local area.

1.2.2 3R Energy is part of a family enterprise group which also includes: Holz Energie UK Ltd, also based in Lanark, which is a wholly owned UK import franchise of the successful German wood-gas CHP manufacturer, Holz Energie Wegsheid, Mitchell Farming Partnerships and William Mitchell & Sons (WMS) Ltd, based at Newtonhead Farm Rigside and Hazelside Farm Douglas respectively, which manage the farming assets of the group. Together the group:

- owns and manages 3,500 acres of land in the Douglas Valley;
- has farmed the land for over 120 years;
- generates a combined annual turnover of ca. £6m; and
- employs 15 people on a full and part time basis.

1.2.3 ScottishPower Renewables is part of the ScottishPower group of companies operating in the UK under the Iberdrola Group, one of the world's largest integrated utility companies and a world leader in wind energy. ScottishPower now only produces 100% green electricity – focusing on wind energy, smart grids and driving the change to a cleaner, electric future. The company is investing over £4m every working day[1] to make this happen and is committed to speeding up the transition to cleaner electric transport, improving air quality and over time, driving down bills to deliver a better future, quicker for everyone.

1.2.4 ScottishPower Renewables is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. Its ambitious growth plans include expansion of its existing onshore wind portfolio, investment in new large scale solar deployment and innovative grid storage systems including batteries. The company is also delivering the Iberdrola Group's offshore windfarms in the Southern North Sea off East Anglia.

1.2.5 With over 40 operational windfarms, ScottishPower Renewables manages all its sites through its world leading Control Centre at Whitelee Windfarm, near Glasgow.

1.3 Purpose of the EIA Report

1.3.1 ITPEnergised (ITPE) was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Proposed Development in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('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] *Between 2018 - 2022*

1.3.2 The main findings and conclusions of this EIA Report 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.

1.3.3 This EIA Report and NTS accompany the application for S36 consent, being submitted to the Scottish Ministers.

1.4 Structure of the EIA Report

1.4.1 The EIA Report is split into four volumes, with the NTS forming a separate document. **Volume 1** of this EIA Report is structured as follows:

- 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, 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 assess the potential and residual effects on the forestry resources;
- Chapter 17 provides a summary of all predicted cumulative effects;
- Chapter 18 is the Schedule of Environmental Commitments, which summarises all of the mitigation measures presented in this EIA Report; and
- Chapter 19 provides summary tables of all predicted residual effects.

1.4.2 **Volume 2** contains the figures that inform the EIA Report.

1.4.3 **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 EIA Report. A **Confidential Annex** to the EIA Report, which include confidential information on

protected species will be provided separately to the Scottish Government Energy Consents Unit, South Lanarkshire Council (SLC) and NatureScot.

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

1.4.5 Additional supporting documents which form part of the S.36 Consent application submission include a **Non-Technical Summary** of the EIA Report, a **Planning Statement** and a **Pre-Application Consultation (PAC) Report**.

1.5 Assessment Team

1.5.1 The assessment was undertaken by ITPE's environmental teams supported by external consultants. Table 1.2 outlines the full EIA team.

Table 1.2 EIA Project Team

Consultant	Input to the EIA	Company	Experience
Jenny Hazzard	EIA Project Director and Hydrology, Geology and Hydrogeology Assessment.	ITPEnergised	BSc (Hons) Geological Engineering, MSc Engineering Geology, PIEMA. 20 years of experience in the environmental consultancy industry
Lindsay Smith	EIA Project Manager	ITPEnergised	BSc (Hons) Geography. 10 years' experience in EIA project management.
Jessica Yanetta	EIA Project Manager	ITPEnergised	BSC (Hons) Biology MSc Soil Science and Environmental Sustainability 3 years' experience in environmental planning.
Sarah Tullie	EIA Assistant Project Manager and Shadow Flicker & Telecommunications Assessment	ITPEnergised	BSc (Hons) Zoology MSc Environmental Management. 2 years' experience in environmental planning.
Brian Denney	Landscape and Visual Impact Assessment and Residential Visual Amenity Assessment	Pegasus Group	BA (Hons) Landscape Architecture

Consultant	Input to the EIA	Company	Experience
			PG Diploma Landscape Architecture MIEMA, C.Env, Chartered Landscape Architect Fellow of the Landscape Institute Experienced expert witness. Over 30 years' experience in design and development.
Ian Bennett	Noise and Vibration Assessment	Acia Acoustics	BSc Mechanical Engineering CENg, MIOA Over 30 years' experience
Tim Barratt	Forestry Assessment	Bidwells	MSc. BSc (Hons), MICFor, MRICS. A Partner in Bidwells' Forestry Team, with 20 years' experience working in forestry and the land-based sector across Scotland.
George Mudie	Archaeology & Cultural Heritage Assessment	CFA Archaeology	MA Hons, MCIfA, FSA Scotland, 15 years' experience.
Graeme Blackett	Socio-Economics, Tourism and Recreation Assessment	BiGGAR Economics	BA (Hons) Economics, MIED, Member of the Economic Development Association Scotland. 25 years' experience.
Rafe Dewar	Ecology and Ornithology Assessments	MacArthur Green	BSc. (hons) Zoology; MSc. Environmental

Consultant	Input to the EIA	Company	Experience
			Sustainability MCIEEM. 15 years ecology consultancy experience.
Iain Lamb	Transport and Traffic Assessment	Transport Planning	BEng (Hons) Civil and Transportation Engineering 25 years' experience in transport planning.
Ian Fletcher	Aviation Assessment	Wind Business Support	BEng (Hons) Mechanical Engineering 18 years' experience
David Bell	Planning and Energy Policy	David Bell Planning	BSc (Hons), Dip UD, MCIHT, MRTPI 30 years' experience in planning and development
Graham Young	Engineering Design	AECOM	Associate Director i.Eng., MICE 50 years' experience

1.6 Availability of the EIA Report

1.6.1 Copies of the EIA Report are available from:

3R Energy
Lanark Auction Market,
Hyndford Road,
Lanark
ML11 9AX
Tel: (01555) 660244
Email: info@3renergy.co.uk

1.6.2 Electronic copies of the EIA Report can be accessed at http://www.energyconsents.scot/ or at https://www.3renergy.co.uk/cumberhead-west as required by The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020).

1.6.3 The cost of a hard copy of the EIA Report Volumes 1 and 3 (EIA chapters and technical appendices) is £250.00, and a hard copy of the EIA Report Volume 2 and 4 (figures) is £500.00. In addition, all documents are available (as a PDF) on a USB 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.

1.6.4 Due to COVID-19 pandemic and in-line with The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020) no physical copies of the EIA Report are available for viewing at the point of submission. However, should this

change during the consultation period, the public copies will be made available 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

1.7 Representations to the Application

1.7.1 Any representations to the application should be made directly to the Scottish Government at:

Energy Consents Unit
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Email: representations@gov.scot
Online: http://www.energyconsents.scot/

1.8 References

RenewableUK (2019). UKWED Figures Explained. Available at: http://www.renewableuk.com/en/renewable-energy/wind-energy/uk-wind-energy-database/figures-explained.cfm

Scottish Government (2017). *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*. Available at: http://www.legislation.gov.uk/ssi/2017/101/contents/made

Scottish Government (2020). *The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020*. Available at: http://www.legislation.gov.uk/ssi/2020/123/contents/made

Scottish Natural Heritage (2018). Assessing the impact of repowered wind farms on nature (Consultation Draft). Available at: https://www.nature.scot/sites/default/files/2018-06/Guidance%20-%20Assessing%20the%20impact%20of%20repowered%20wind%20farms%20on%20nature%20-%20consultation%20draft%20-%20June%202018.pdf

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