

Chapter 1 Introduction

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1 Introduction

1.1 Background

- 1.1.1 Renewable Energy Systems (RES) Ltd. (hereafter referred to as ‘the Applicant’) is applying to the Scottish Ministers for Section 36 (S36) consent and deemed planning permission, under the terms of the Electricity Act 1989 and the Town and Country Planning (Scotland) Act 1997, for permission to construct and operate Torfichen Wind Farm (hereafter referred to as the ‘Proposed Development’), at site centre British National Grid (BNG) 333932 654430.
- 1.1.2 The application is supported by this Environmental Impact Assessment Report (EIA Report) as required by *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*. This EIA Report has been prepared to assess the environmental impacts of the Proposed Development and accompanies the S36 Application submitted to the Scottish Ministers.
- 1.1.3 This chapter provides an introduction to the Proposed Development and the background of its proposal, as well as providing an overview of the purpose of the EIA Report, its structure and the EIA project team.
- 1.1.4 The Proposed Development has undergone a small name change since the EIA Scoping stage. For avoidance of doubt, any reference to ‘Torfichen Hill Wind Farm’ in supporting assessments undertaken before this change are referring to the Proposed Torfichen Wind Farm Development.

1.2 The Applicant

- 1.2.1 The Applicant ‘RES’, is the world’s largest independent renewable energy company. At the forefront of the industry for over 40 years, RES has delivered more than 23 GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 12 GW worldwide for a large client base. RES employs more than 2,500 people and is active in 14 countries working across onshore and offshore wind, solar, energy storage and transmission and distribution.
- 1.2.2 Drawing on decades of experience in the renewable energy and construction industries, RES has the expertise to develop, construct and operate projects which contribute to a low carbon future by providing a secure supply of sustainable, low cost, clean green energy.
- 1.2.3 RES is committed to finding effective and appropriate ways of engaging with all its stakeholders, including local residents and businesses, and believes

that the opinions of local people are an integral part of the development process.

- 1.2.4 RES is also committed to developing long-term relationships with the communities around its projects. RES has a strong track record of proactively supporting and encouraging community involvement in social and environmental projects near its developments; including through Community Benefit Funds and exploring options for shared community ownership.

1.3 Site and Proposed Development Description

- 1.3.1 The Proposed Development site is located approximately 4 km south of Gorebridge and 9.5 km south-east of Penicuik, within the northern edge of the Moorfoot Hills in the Midlothian Council area (refer to **Figure 1.1**).
- 1.3.2 The site comprises an area of approximately 853 hectares (ha). The site is set within a mixed landscape of undulating farmland, fragmented moorland and forestry which is populated sparsely with settlements. The elevation on site varies from 270 m Above Ordnance Datum (AOD) along the northern boundary of the site to 490 m AOD near the summit of Mauldslie Hill to the south. Elevation generally decreases towards the north-west (refer to Figure 1.2).
- 1.3.3 A number of tributaries to the Black Burn, Latch Burn and Middleton North Burn intersect the site and there is a small area of Ancient Woodland overlapping the northern boundary. The site is primarily agricultural, predominately used for livestock farming.
- 1.3.4 The Moorfoot Hills Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), and RSPB Important Bird Area (IBA) is adjacent to the southern boundary of the site. Gladhouse Reservoir SSSI, Special Protection Area (SPA), Ramsar and IBA sits approximately 700 m north-west.

Overview of Proposed Development

- 1.3.5 The Proposed Development will comprise eighteen, three bladed horizontal axis wind turbines up to 180 m blade tip height, each with a generating capacity of approximately 6 MW.
- 1.3.6 Based on the site-specific capacity factor, the total generating capacity of the Proposed Development is anticipated to be approximately 108 MW, supported by additional energy storage provision of around 50 MW. The associated infrastructure will include: site access, access tracks, crane hardstandings, underground cabling, on-site substation and control building,

energy storage facility, temporary construction compounds, laydown area, potential excavations/borrow workings and potential concrete batching plant.

- 1.3.7 Based on the Proposed Development's location and estimated capacity factor, the annual indicative total electricity output for the site would be 411 Giga-watt hours (GWh) per annum¹. The Proposed Development would generate enough electricity to power approximately 124,899 average Scottish households². The Proposed Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions. The Proposed Development is described in detail in **Chapter 3: Project Description**. The proposed layout is illustrated on **Figure 1.3**.
- 1.3.8 The electricity produced will be exported to the electricity network at distribution level. The proposed point of connection to the wider electricity network is discussed in **Chapter 3**.

1.4 Purpose of the EIA Report

- 1.4.1 ITP Energised 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. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if at all reasonably possible, offset potential significant adverse environmental effects. 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 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 Calculated from 108 MW x 8760 (number of hours per year) x 0.435 (expected onshore wind load factor for the Proposed Development).

² Based on average annual Scottish household electricity consumption of 3.295 MWh, from BEIS Subnational Electricity and Gas Consumption Statistics, Regional and Local Authority, Great Britain, 2021 (UK Government, December 2022)

- 1.4.3 This EIA Report and its NTS accompany the application for S36 consent, being submitted to the Scottish Ministers.
- 1.4.4 The EIA Report is split into five volumes, with the NTS forming a separate document. Volume 1 of this EIA Report is structured as follows:
- Chapter 1 provides an introduction to the EIA Report and its authors;
 - 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 describes 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 outlines the planning and energy policy context;
 - Chapter 6 assesses the effects on landscape and visual amenity;
 - Chapter 7 assesses the effects on archaeology and cultural heritage;
 - Chapter 8 assesses the effects on ecology;
 - Chapter 9 assesses the effects on ornithology;
 - Chapter 10 assesses the effects on geology, hydrology, hydrogeology and peat;
 - Chapter 11 assesses the effects of traffic and transport;
 - Chapter 12 assesses the effects of acoustics;
 - Chapter 13 assesses the effects on socio-economics, recreation and tourism;
 - Chapter 14 reports on other issues including Aviation, Shadow Flicker and the effects on Climate Change;
 - Chapter 15 is the Schedule of Environmental Commitments, which summarises all of the mitigation measures presented in this EIA Report; and
 - Chapter 16 provides summary tables of all predicted residual and cumulative effects.
- 1.4.5 Volume 2 contains the figures that inform the EIA Report.
- 1.4.6 Volume 3 contains the landscape and visual impact assessment visualisations and photomontages that inform **Chapter 6: Landscape and Visual Impact Assessment** and **Chapter 7: Archaeology and Cultural Heritage**.

- 1.4.7 Volume 4 contains supporting information and technical appendices for each of the technical chapters, and additional studies that have been prepared to inform the relevant assessments as reported in the EIA Report.
- 1.4.8 Volume 5 contains confidential technical appendices.
- 1.5.6 Additional supporting documents which form part of the planning application submission include the NTS, a Planning Statement, and a Pre-Application Consultation (PAC) Report.

1.5 Assessment Team

1.5.1 The assessment was undertaken by ITP Energised’s environmental team supported by external consultants. Table 1.1 outlines the full EIA team and their experience.

Table 1.1 EIA Project Team

Consultant	Input to the EIA	Company	Experience
Gavin Spowage	EIA Project Director	ITP Energised	BSc (Hons) Environmental and Management Sciences, MSc Environmental Management, PIEMA. 19 years’ experience in environmental consultancy.
Charlotte Kenyon	EIA Project Manager & Climate Change Assessment	ITP Energised	MA (Hons) History, MSc Environmental Sustainability. Over 1 years’ experience in environmental consultancy.
Gregory Walton	EIA Assistant Project Manager	ITP Energised	BSc (Hons) Environmental Sciences, MSc Environmental Management Seven months’ experience in environmental consultancy.
David Bell	Statutory and Policy Framework	David Bell Planning	BSc (Hons) Town & Country Planning, Diploma Urban Design, MCIHT, MRTPI. 30 years’ experience in planning and development.
David Gooch	Landscape and Visual Impact Assessment	Pegasus Group	MA (Hons) Landscape Architecture, CMLI Over 20 years’ experience as a landscape architect.
Brian Henry	Ecology Assessment	MacArthur Green	MA (SocSci) with Honours in Geography & Physical Geography. MSc River Basin Management. Over 13 years’ experience as an ecologist.
Kate Hobbs	Ecology Assessment	MacArthur Green	BSc (Hons) Zoology.

Consultant	Input to the EIA	Company	Experience
			7 years' experience as an ecologist.
Steve Percival	Ornithology Assessment	Ecology Consulting	BSc Biology (Ecology), Ph.D. Zoology (ornithology). Over 22 years' experience as a consulting ecologist.
Beth Gray	Archaeology & Cultural Heritage Assessment	SLR Consulting	MA (Hons) Archaeology. 7 years' experience as an archaeologist.
Erin Ashby	Archaeology & Cultural Heritage Assessment	SLR Consulting	MA (Hons) Archaeology, MSc Archaeology and Anthropology, PCIfA. 3 years' experience as an archaeologist.
Mike Craven	Acoustics Assessment	RES	BSc Audio Technology, MIOA. 20 years' experience as an acoustic consultant and analyst.
Gordon Buchan	Traffic and Transport Assessment	Pell Frischmann	MSc Transport Engineering, BEng (Hons) Civil & Transportation Engineering, CMILT, MCIHT. 24 years' experience as a transport consultant.
Elaine Moran	Traffic and Transport Assessment	Pell Frischmann	BA (Hons) Civil Engineering, MSc Transport Planning and Engineering. 7 years' experience as a transport consultant.
Antonis Poulakis	Engineering Design	RES	BA (Hons) Civil and Structural Engineering, MSc Civil Engineering. Over 10 years' experience as an engineer.
Ruari Watson	Hydrology, Geology and Hydrogeology Assessment	SLR Consulting	BSc (Hons) Civil Engineering. 11 years' experience as a geotechnical engineer.
Katy Rainford	Hydrology, Geology and Hydrogeology Assessment	SLR Consulting	BSc (Hons) Geological Earth Sciences/Geosciences. Over 5 years' experience as a hydrologist.
Alan Huntridge	Hydrology, Geology and Hydrogeology Assessment	SLR Consulting	BSc Environmental Management & Technology, MSc Waste Management, Energy & Environmental Management. Over 16 years' experience in environmental consulting.
Graeme Blackett	Socio-economics, Recreation and Tourism Assessment	BiGGAR Economics	BA (Hons) Economics. 30 years' experience as an economic consultant.

Consultant	Input to the EIA	Company	Experience
Aimilia Manolakelli	Socio-economics, Recreation and Tourism Assessment	BiGGAR Economics	BA (Hons) Accounting and Economics, MSc Economics. 1 years' experience as an economic consultant.
Sam Johnson	Aviation and Radar Assessment & Shadow Flicker Assessment	RES	MMath Mathematics. Over 20 years' experience in radar including over 15 years working specifically with aviation and radar in the wind industry.

1.6 Availability of the Report

- 1.6.1 In accordance with Section 18 of the EIA Regulations, copies of the EIA Report will be available for inspection by the public, notice of which will be published on the application website, in the Scotsman, the Edinburgh Gazette, and the Midlothian Advertiser.
- 1.6.2 Printed copies of the NTS and EIA Report are available by request from:
Torfichen Wind Farm Project Team
Renewable Energy Systems Ltd.
Third Floor, STV,
Pacific Quay,
Glasgow,
G51 1PQ,
Email: sam.mayes@res-group.com
Website: <https://torfichen-windfarm.co.uk/>
- 1.6.3 The NTS is available free of charge, however hard copies of the EIA Report will be charged at £1,500 per copy. The price of the hard copy reflects the cost of producing the Landscape and Visual visualisations.
- 1.6.4 During the consultation period, a printed copy of the EIA Report is available to view during opening hours at the following locations subject to agreement with Midlothian Council and local communities:
- Middleton Village Community Hall; and
 - Gorebridge Library
- 1.6.5 Electronic copies of the EIA Report, including all figures, appendices and accompanying documents are available to view and download on the project website <https://torfichen-windfarm.co.uk/> and can also be accessed at <https://www.energyconsents.scot/>.

1.6.6 Alternatively, a USB copy can be made available on request at a charge of £15, by emailing sam.mayes@res-group.com.

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

Scottish Government (2017). The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at:

<https://www.legislation.gov.uk/ssi/2017/101/regulation/18/made>

UK Government Department of Business, Enterprise and Industrial Strategy (BEIS) (2022). Subnational Electricity and Gas Consumption Statistics, Regional and Local Authority, Great Britain, 2021. Available at:

<https://www.gov.uk/government/statistics/subnational-electricity-and-gas-consumption-summary-report-2021> Accessed: May 2023

UK Government (1989). Electricity Act 1989. Available at:

<https://www.legislation.gov.uk/ukpga/1989/29/contents>

UK Government (1997). Town and Country Planning (Scotland) Act 1997. Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents>.