Chapter 1
Introduction

1 Introduction

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1 Introduction

1.1 Introduction

1.1.1 3R Energy Solutions Ltd (3R Energy) on behalf of Hagshaw Hill 3 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 the Hagshaw Hill III Energy Project (hereafter referred to as the 'Proposed Development'), at a site centred at British National Grid (BNG) 281008 630424 (refer to **Figure 1.1**).

1.1.2 The application is supported by this Environmental Impact Assessment (EIA) Report as required by The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations'). This EIA Report has been prepared to assess the environmental impacts of the Proposed Development and accompanies the S36 application.

1.1.3 This chapter provides an introduction to the Proposed Development, as well as providing an overview of the purpose of the EIA Report, its structure and the EIA project team.

1.2 The Applicant

1.2.1 The Applicant for the Proposed Development is Hagshaw Hill 3 Ltd, a member of the 3R Energy group of companies. 3R Energy was established in 2009 and has been developing various scales of renewable energy projects ever since, with its head office situated in Lanark. The company was initially established to help farms and rural businesses benefit from renewable energy, with the mainstay of the business being farm sized wind turbines, Combined Heat and Power (CHP) systems and biomass boilers. More recently, 3R Energy has diversified into larger-scale renewable energy projects and has now developed over 330 MW of onshore wind projects which have now been built within the Hagshaw Energy Cluster (with a further 80 MW of energy storage consented), which together will make a substantial contribution to the local area and to national renewable energy and climate change targets. 3R Energy was also a founding partner of the award-winning Hagshaw Energy Cluster Development Framework project which represents an ambitious vision for the future of the Hagshaw Energy Cluster and surrounds, identifying opportunities to enhance and invest in the local environment, communities and place.

1.2.2 3R Energy is part of a group of companies which also includes: Mitchell Energy Ltd, 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 approximately £6m; and
- employs 15 people as a direct result of its renewable energy and farming operations within the Hagshaw Cluster.

1.2.3 As a local company, 3R Energy is committed to working with the communities closest to the Hagshaw Energy Cluster for the long term to develop and deliver successful projects which create significant and tangible benefits for the local area.

1.3 The Hagshaw Energy Cluster

1.3.1 The Proposed Development is within the Hagshaw Energy Cluster. It is bordered to the north-west by Hagshaw Hill Wind Farm Repowering and Hagshaw Hill Wind Farm Extension, to the north by Douglas West Wind Farm Extension, to the east by Douglas West Wind Farm, and to the west by Galawhistle Wind Farm. **Figure 1.1** shows the cumulative context of the Proposed Development.

1.3.2 The Applicant has developed a detailed understanding of the area, being locally based and having worked with local stakeholders and regulators to successfully develop over 330 MW of renewable generation within the existing Hagshaw Energy Cluster to date which will deliver:

- a saving of over 430,000 tonnes of carbon dioxide (CO_2) entering the atmosphere each year;
- green electricity for over 240,000 average households in Scotland;
- around £1.6 m to local communities every year – which is £4,383 every day or £48 m (indexed) over 30 years; and
- over 1,800 job years of employment in Scotland through the construction and development phases.

1.3.3 The existing Hagshaw Energy Cluster is made up of the following wind energy developments as shown on **Figure 1.1**:

- Hagshaw Hill Wind Farm (operational Repowering scheme - developed by 3R Energy and constructed by ScottishPower Renewables) and Extension;
- Douglas West Wind Farm (developed by 3R Energy and constructed by Greencoat UK Wind plc);
- Douglas West Extension (developed by 3R Energy and constructed by Capital Dynamics);
- Cumberhead West (developed by 3R Energy and constructed by ScottishPower Renewables);
- Galawhistle Wind Farm;
- Nutberry Wind Farm;
- Dalquhandy Wind Farm;
- Cumberhead Wind Farm; and
- Hare Craig Wind Farm.

1.3.4 Work commissioned by NatureScot and with contributions from 3R Energy and other developers as part of the Hagshaw Energy Cluster Development Framework process has drawn together substantial long-term protected species, habitat and ornithological data and insights covering the Hagshaw Energy Cluster area. These data provide useful context on the natural heritage interests of the area and inform opportunities for future restoration and biodiversity enhancement.

1.4 The Site and Proposed Development Description

Site Description

1.4.1 The Proposed Development site is located wholly within the South Lanarkshire Council (SLC) area, with the nearest proposed turbines situated approximately 1.8 km west of Douglas and approximately 3.1 km south of Coalburn (refer to **Figure 1.1**).

1.4.2 The site is accessible from Junction 11 of the M74, which is located north-east of the site, approximately 4.9 km from the nearest proposed turbine. From here, there is direct access to the site via an existing private haul road.

1.4.3 The site comprises an area of approximately 336 hectares (ha) of land. The site broadly slopes up from south-east to north-west, peaking at the summits of Windrow Hill, Rob's Hill and Arkney Hill.

1.4.4 The main watercourses within the site are the Windrow Burn, Robshill Burn and Broadlea Burn, all flowing south-east to the Douglas Water.

1.4.5 The site sits within moorland and areas of agricultural grazing. Directly adjacent to the northern site boundary is the Cumberhead Forest complex which includes a number of operational and under construction wind farms (refer to **Figure 1.1**). The operational Hazelside Farm wind turbine (74 m to tip) is located within the eastern extent of the site. This turbine is under the control of the Applicant

(via a related group company) and details of how this has been appropriately considered in the Proposed Development design iteration can be found in **Chapter 2**.

1.4.6 There are no residential properties within the site boundary. However, there are a small number of scattered residential properties within proximity to the site. The separation distance between the Proposed Development turbines and the nearest properties, at the top of Station Road, is the same as has already been established by the neighbouring, operational Douglas West Wind Farm turbines. The closest property is located approximately 0.75 km east of the nearest proposed turbine. The property called 'Low Broomerside' immediately south-west of the site boundary is under the control of the Applicant (via a related group company). It is not in residential use, and will not be in residential use during the operation of the Proposed Development. Refer to **Chapter 3** for further information on the location and proximity of residential properties in the vicinity of the site.

Environmental Designations

1.4.7 **Figure 1.3a** shows ecological, ornithological and geological designations within 10 km of the Proposed Development site boundary, whilst **Figure 1.3b** shows heritage designations within 5 km.

1.4.8 There are no international designations within the site boundary. However, one Special Protection Area (SPA), one Special Area of Conservation (SACs) and four Sites of Special Scientific Interest (SSSIs) are located within 5 km of the site boundary. An area of ancient woodland adjoins the site to the southwest.

1.4.9 There are no Listed Buildings or Scheduled Monuments within the site boundary. The nearest Scheduled Monuments and Listed Buildings are located within the settlement of Douglas, approximately 1.8 km east of the nearest proposed turbine. Most of the Listed Buildings are located in built-up areas and have settings that are characterised by their townscapes.

1.4.10 The majority of site is located within the Douglas Valley Local Landscape Area (LLA) (**Figure 6.10**), as are the operational Hagshaw Hill Repowering and Hagshaw Hill Extension wind farms.

Overview of Proposed Development

1.4.11 The Proposed Development is planned to comprise approximately 138 megawatts (MW) of renewable energy generation and energy storage output capacity, consisting of approximately 58 MW of wind energy (from up to eight three bladed horizontal axis wind turbines, six up to 200 m blade tip height and two up to 180 m blade tip height, with a rotor diameter up to approximately 163 m, and each with a generating capacity of approximately 7.2 MW), approximately 30 MW of solar energy, and approximately 50 MW of long duration electricity storage (LDES) (refer to **Chapter 3** for further information).

1.4.12 The main elements of infrastructure associated with the Proposed Development include:

- wind turbines;
- wind turbine foundations;
- crane hardstandings;
- photovoltaic (solar) panels and mounting frames;
- inverters and transformers;
- LDES units and associated infrastructure;
- substation and associated electrical equipment;
- on-site access tracks from the existing point of access to and between the wind turbines/ solar panels/ LDES/ substation;
- watercourse crossings;
- temporary construction compounds and laydown areas, with a concrete batching plant at one of the construction compounds;

- borrow pits for excavation of stone to use in the construction of the Proposed Development;
- underground cabling between the wind turbines/ solar panels/ LDES/ substations;
- perimeter fencing; and
- CCTV cameras.

1.4.13 The Proposed Development is described in detail in **Chapter 3**. The proposed layout is illustrated on **Figure 1.2**.

1.4.14 The electricity produced by the Proposed Development will be exported to the wider electricity network by the Transmission Network Operator (TNO). The TNO is currently proposing this to be via a wood pole overhead line (with a section of underground cable) from the on-site substation connecting into another proposed wood pole overhead line near the biomass plant to the west of Douglas West Wind Farm, and onwards to the new Redshaw Transmission Substation near Crawfordjohn (see **Technical Appendix 3.1**). The Proposed Development currently has an anticipated grid connection date of 2030.

1.4.15 The final routing, design and consent for the grid connection cable(s) between the on-site substation and Redshaw Transmission Substation will be the responsibility of the TNO. Further information on the anticipated grid connection for the Proposed Development, based on the information currently available from the TNO, is included in **Chapter 3**.

1.4.16 For the purposes of this application and the EIA Report, a proportionate assessment of the indicative preferred route corridor for an overhead connection (with sections of underground cable) designed by the TNO between the Proposed Development substation and another proposed overhead line to Redshaw Transmission Substation has been undertaken and is provided in **Technical Appendix 3.1**. This presents a desk-based review of environmental constraints and identifies any potential for likely significant effects from the indicative grid route corridor from the on-site substation to the proposed connection point into the overhead line leading to Redshaw Transmission Substation as currently designed by the TNO. However, it must be borne in mind that the grid connection from the on-site substation to Redshaw is the responsibility of the TNO and will be further designed, consulted upon and consented separately by the TNO through the Section 37 process in due course.

1.4.17 Based on the Proposed Development's location and estimated capacity factor, the annual indicative total electricity output for the site from the wind and solar generating components would be an estimated 174,320 megawatt-hours (MWh)[1], per annum. The Proposed Development would generate enough electricity to power approximately 72,339 average Scottish households and would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions.

1.4.18 The Proposed Development's LDES would in addition provide up to 600 MWh of electricity storage to support the National Grid. That is enough electricity to power 139,665 homes for up to 12 hours, further contributing to national targets in terms of energy storage requirements to support the country's transition to a clean power grid.

1.5 Purpose of the EIA Report

1.5.1 SLR Consulting was appointed by the Applicant to undertake an EIA of the Proposed Development and produce an EIA Report 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. 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.

1.5.2 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

[1] Based on Site-specific wind load factor estimate of 29.6%; 2024 industry average solar load factor of 9.5% (DUKES, 2025); and Average annual Scottish domestic household consumption is 3,140 kWh (DESNZ, 2025).

everyone with an interest in the project can understand the information on its predicted environmental effects.

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

1.6 Structure of the EIA Report

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

- **Chapter 1 – Introduction**: provides an introduction to the EIA Report;
- **Chapter 2 – Site Selection & Design Evolution**: provides a description of the site selection and 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 – The Proposed Development**: 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 – Approach to EIA**: 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;
- **Chapter 5 – Planning & Energy Policy Context:** outlines planning and energy policy context;
- **Chapter 6 – Landscape & Visual**: assesses the potential and residual effects on landscape and visual amenity;
- **Chapter 7 – Ecology**: assesses the potential and residual effects on ecology and nature conservation;
- **Chapter 8 – Ornithology**: assesses the potential and residual effects on ornithology;
- **Chapter 9 – Geology, Hydrology, Hydrogeology & Peat**: assesses the potential and residual effects on peat, hydrology, hydrogeology and geology;
- **Chapter 10 – Cultural Heritage**: assesses the potential and residual effects on the historic environment;
- **Chapter 11 – Noise & Vibration:** assesses the potential and residual effects of noise and vibration;
- **Chapter 12 – Access, Traffic & Transport**: assesses the potential and residual effects on access, traffic and transport;
- **Chapter 13 – Schedule of Mitigation**: summarises all of the mitigation and enhancement measures presented in this EIA Report; and
- **Chapter 14 – Summary of Residual Effects**: provides summary tables of all predicted residual effects.

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

1.6.3 **Volume 3** contains the elongated visualisations and photomontages that inform **Chapter 6: Landscape and Visual** and **Chapter 10: Cultural Heritage**.

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 Additional supporting documents which form part of the application submission include a **Non-Technical Summary** of the EIA Report, a **Planning Statement**, an **Economic and Community Impact Report** and a **Pre-Application Consultation (PAC) Report**.

1.7 Assessment Team

1.7.1 The assessment was undertaken by SLR's environmental teams supported by external consultants. **Table 1.1** outlines the full EIA team and their experience.

Table 1.1 - EIA Project Team

Consultant	Input to EIA	Company	Experience
Jenny Hazzard	EIA Project Director	SLR	BSc (Hons) Geological Engineering, MSc Engineering Geology, PISEP. Over 25 years of experience in the environmental consultancy industry.
Charlotte Kenyon	EIA Project Manager	SLR	MA (Hons) History, MSc Environmental Sustainability, AISEP. Four years of experience in environmental consultancy.
Andrew Robertson	EIA Assistant Project Manager & Shadow Flicker Lead	SLR	MA (Hons) Geography, AISEP. 1.5 years of experience as an environmental consultant.
Gregory Walton	GIS Lead	SLR	BSc Environmental Sciences (Hons), MSc Environmental Sciences. Over two years of experience in environmental consultancy.
David Bell	Planning	David Bell Planning Ltd	BSc (Hons) Town & Country Planning, Diploma Urban Design, MCIHT, MRTPI. Over 30 years of experience in planning and development.
Pippa Melville	Planning	David Bell Planning Ltd	BLE (Hons), PgDip Town & Country Planning, MRTPI. Over 25 years of experience in planning and development.
David Gooch	Landscape and Visual Impact Assessment	Pegasus Group	MA (Hons) Landscape Architecture, CMLI. Over 20 years of experience as a landscape architect, with over 10 years of experience in undertaking LVIA for energy developments.
Kate Hobbs	Ecology	MacArthur Green (part of SLR)	BSc (Hons) Zoology, CEnv, MCIEEM. Over 12 years of experience as an ecologist within the environmental industry.
Nadia White	Ecology	MacArthur Green (part of SLR)	Law LLB (Hons) with English Law, Diploma in Professional Legal Practice, Law. Over two years of experience as an ecologist working on onshore wind farm projects.

Consultant	Input to EIA	Company	Experience
Rafe Dewar	Ornithology	MacArthur Green (part of SLR)	BSc (Hons) Zoology, MSc Environmental Sustainability. Over 15 years of ornithology and ecology experience in the consultancy sector.
Simon Waddell	Noise	Accu Acoustics	BSc (Hons) Environmental Geoscience, Postgraduate Diploma in Acoustics and Noise Control (via Institute of Acoustics). Over 14 years of experience in environmental noise, much of which has centred on wind farms and renewable energy development.
Emma Smart	Cultural Heritage	CFA Archaeology	MA Archaeology and Geography. Five years of experience as an archaeologist.
Dr. Jack Litchfield	Cultural Heritage	CFA Archaeology	MA Medieval Studies, PhD Medieval Studies. Over seven years of experience as an archaeological and heritage consultant and researcher specialised in medieval history.
David Nisbet	Geology, Peat, Hydrology & Hydrogeology	SLR	BSc (Hons) Earth Science, FGS. 13 years of experience in environmental consultancy.
Katy Rainford	Geology, Peat, Hydrology & Hydrogeology	SLR	BSc (Hons) Geology and Physical Geography. FGS. MCIWEM. Over eight years of experience as a hydrologist.
Iain Lamb	Traffic & Transport	SLR	BEng (Hons) Civil and Transportation Engineering. Over 30 years of experience in transport planning.
Graeme Blackett	Socio-Economics, Recreation and Tourism	BiGGAR Economics	BA (Hons) Economics. Over 30 years of experience as an economic consultant.
Shane Savage	Aviation & Radar	WFAS Ltd	BSc Combined Sciences (Economics and Geography), Royal Navy (Retd). Over 27 years of experience in the Royal Navy specialising in Air Traffic Control and air defence with a further 20 years of experience as an aviation safeguarding consultant.

1.8 Availability of the EIA Report

1.8.1 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 is published on the application website, in the Herald, the Edinburgh Gazette, and the Carluke and Lanark Gazette.

1.8.2 Printed copies of the NTS and EIA Report are available by request from:

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

Phone: 01555 660 244

Email: info@3renergy.co.uk

Website: https://3renergy.co.uk/projects/hagshaw-hill-iii/

1.8.3 A printed copy of the EIA Report will be available to view during opening hours at the following locations:

Coalburn Miner's Welfare and Social Club
42 Coalburn Road
Coalburn
South Lanarkshire
ML11 0LH

Opening Hours:
Mon-Fri 09:00 to 16:30

St. Brides Community Centre
Braehead
Douglas
South Lanarkshire
ML11 0PT

Opening Hours:
Mon-Thurs 09:00 to 21:30
Fri 09:00 to 15:30

1.8.4 Electronic copies of the EIA Report, including all figures, appendices and accompanying documents are available to view on the project website https://3renergy.co.uk/projects/hagshaw-hill-iii/ and can be accessed at https://www.energyconsents.scot.

1.8.5 Hard copies of the full submission documents can be made available at a charge of £2,000 per copy. Alternatively, a USB copy can be made available on request at a charge of £20, by emailing info@3renergy.co.uk.

1.9 Representations to the Application

1.9.1 Any representations to the application should be submitted via www.energyconsents.scot, using the project name, Hagshaw Hill III Energy Project, and/or the Energy Consent Unit's reference number, ECU00006224. Please note that you must be in possession of a working email address to submit a representation electronically.

1.9.2 If you would prefer to submit your representation by post, please send to the Scottish Government at:

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

1.9.3 Written representations should be dated, clearly stating the name (in block capitals) and full postal address of those making representations.

1.10 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 Energy Security and Net Zero (DESNZ) (2025). Digest of UK Energy Statistics (DUKES): renewable sources of energy. DUKES chapter 6: statistics on energy from renewable sources. Available at: https://www.gov.uk/government/statistics/digest-of-uk-energy-statistics-dukes-2025 Accessed: December 2025

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