WORK\75698282\v.3

Environmental Impact Assessment Report

Lairdmannoch Energy Park

Chapter 1: Introduction

Lairdmannoch Energy Park Limited

May 2025

Contents

Contents

Tables

Figures

Technical Appendices

None

Glossary of Terms

Term	Definition
The Applicant	Lairdmannoch Energy Park Limited
The Agent	Atmos Consulting Limited
Environmental Advisors and Planning Consultants	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development
Environmental Impact Assessment Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations)
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations
The Proposed Development	Lairdmannoch Energy Park
The Proposed Development Site	The full application boundary as per Figure 1-1
Solar Development	The area of the Proposed Development that contains the Solar Arrays and associated infrastructure. As shown on Maps 7, 8 and 9 of Figure 3-1.
Wind Development	The area of the Proposed Development that contains the Wind Turbines and associated infrastructure. As shown on Maps 1, 2 and 4 of Figure 3-1.

List of Abbreviations

Abbreviation	Description
agl	Above ground level
ANC	Association of Noise Consultants
ASA	Archaeologically Sensitive Area
BESS	Battery Energy Storage System
CIfA	Chartered Institute for Archaeologists
DGC	Dumfries and Galloway Council
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ECU	Energy Consents Unit
GDSP	Galloway Dark Skies Park
GIS	Geographic Information System
IOA	Institute of Acoustics
LVIA	Landscape and Visual Assessment
NCNR	National Cycle Network Route
NGR	National Grid Reference
NPF4	National Planning Framework 4
NTS	Non-Technical Summary
PAC	Pre-Application Consultation
PLI	Public Local Inquiries
RTPI	Royal Town Planning Institute
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest

1 Introduction

Lairdmannoch Energy Park Limited ('the Applicant') is seeking consent and deemed planning permission under Section 36 of the Electricity Act 1989 (the 'Electricity Act') and deemed planning permission under Section 57 of the Town and Country Planning (Scotland) Act 1997 (the '1997 Act') for the construction and operation of an electricity generating station known as Lairdmannoch Energy Park (the 'Proposed Development').

This Environmental Impact Assessment (EIA) Report has been prepared to accompany the above application in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations').

1.1 The Applicant

Lairdmannoch Energy Park is being developed by Lairdmannoch Energy Park Limited (the Applicant), which is part of a joint venture between Wind 2 Limited (Wind2) and companies managed by Octopus Energy Generation.

Wind2 is a specialist renewable energy developer which is working on the development of a range of renewable energy projects across the UK. The company has personnel in Edinburgh, Perth, Cromarty, Wells (Somerset) and in Mold in North Wales. Further information on Wind2 can be found on its company website at https://wind2.co.uk.

Octopus Energy Generation are one of Europe's largest investors in renewables, managing £6.74 billion of green energy generation across 20 countries producing 3.25GW of renewable energy. Octopus Energy Generation operate wind, solar and battery projects across the UK.

Further information on Octopus Energy Generation can be found on its company website at https://www.octopusenergygeneration.com/. The Applicant is committed to investing in Dumfries and Galloway through renewable energy projects, with the community benefits and additional outcomes that renewable energy development can bring (including construction and post construction employment).

1.2 The Proposed Development

The Proposed Development would consist of nine wind turbines each with a tip height of 180m above ground level (agl), ground mounted solar panels, a battery energy storage system (BESS) and associated infrastructure including:

- Access tracks;
- Turbine foundations and crane hardstandings;
- Substation;
- One borrow pit;
- Underground cabling;
- Temporary construction compound;
- Solar infrastructure including a power station and switching and breaking station; and
- Up to eight watercourse crossings.

The Proposed Development is made up of two renewable technologies (wind and solar) which are discussed in individual detail within this EIA Report. The Proposed Development will feature a BESS which will support the integration of low carbon power generated by the two renewable technologies for export to the National Grid.

The Proposed Development will have an indicative electricity export output of approximately 60MW from wind generation, 20MW from solar and a battery storage capacity of up to 20MW. The total project capacity will be approximately 100MW.

The site layout is presented in **Figure 1-2** in **Volume 4** of this EIA Report.

Final wind turbine location grid references are provided in **Table 1-1.**

Table 1-1: Wind Turbine Location Co-ordinates

Wind Turbine ID	Easting	Northing	National Grid Reference (NGR)	Base Elevation (metres above ordnance datum)
T01	265239	562342	NX648623	207
T02	264844	562621	NX648626	200
T03	265108	561474	NX651614	210
T04	264650	561311	NX646613	197
T05	264681	561843	NX646618	211
T06	264319	562695	NX643626	210
T07	264389	562152	NX643621	224
T08	263755	562598	NX637625	235
T09	263821	562108	NX638621	230

1.2.1 Design Principles

The design principles of the Proposed Development reflect the principles applied to site selection, through establishing a design that captures the maximum amount of wind and solar energy whilst minimising the effects on the environment.

The locations of the wind turbines, solar panels and other proposed infrastructure have been designed to avoid, where possible, identifiable onsite environmental constraints including (but not limited to) gradient, watercourses and sensitive peat habitat, whilst remaining an appropriate distance away from residential properties to reduce potential effects on residential amenity.

The Proposed Development therefore represents an informed and refined layout developed through an iterative design process informed by the results of the various supporting assessments.

1.3 Proposed Development Site

The Proposed Development is located on land northeast of Gatehouse of Fleet and approximately 10km west of Castle Douglas (the 'Proposed Development Site' or 'Site'). The Proposed Development Site lies entirely within the Dumfries and Galloway Council (DGC) planning authority area.

The Site is centred on National Grid Reference (NGR) (approximate) NX 66233 62404 with all infrastructure located approximately 7km from the town of Gatehouse of Fleet.

Access to the Site is anticipated to be from the southwestern access point which travels north on the B727 before turning onto an existing forestry track. From here it travels a distance of approximately 7km before leaving the existing forestry track and turning north to the Proposed Development infrastructure.

The Proposed Development features two access points to the east off the A862 which are anticipated to serve the solar infrastructure. **Figure 1-2** in **Volume 4** of this EIA Report illustrates the access points.

1.3.1 Wind Development and Solar Development

The term 'Wind Development' when used in this EIA Report, refers to the area of the Proposed Development that contains the Wind Turbines and associated infrastructure. As shown on Maps 1, 2 and 4 of **Figure 3-1 Detailed Site Layout.**

Likewise, the term 'Solar Development' refers to the area of the Proposed Development that contains the Solar Arrays and associated infrastructure. As shown on Maps 7, 8 and 9 of **Figure 3-1 Detailed Site Layout.**

1.3.2 Land Use and Context

The Site occupies an area of approximately 612.2 hectares (ha) and is shown bounded by the red line on **Figure 1-1** in **Volume 4** of this EIA Report.

The Site is an irregular parcel of land bounded to the east by the A762 and by existing forestry to the north and south. The southwestern access track passes through existing forestry to join the B727 east of Gatehouse of Fleet as described above.

The northern tip of Loch Mannoch loch lies within the boundary of the Site and the Site is crossed by a number of watercourses, including the Anstool Burn with crosses from north to south to drain into Loch Mannoch.

With the exception of the southwestern access track route, the land cover consists of predominantly upland bog with wet heath in the vicinity of the wind farm infrastructure to the west and lowland pasture to the east in the vicinity of the solar farm infrastructure. The land use across the Site is livestock grazing.

The area surrounding the Proposed Development is home to dispersed settlements connected by minor roads between the A762, A75, B727 and Laurieston Road.

Recreational routes include core paths providing access to moorland and forest areas and the National Cycle Network Route (NCNR) 7 which comes within 5.6km west of the windfarm infrastructure as it progresses along the B796.

Core path 'Gatehouse to Glengap' (reference TWYN/18/17) follows the route of the proposed southwestern access track from the entrance to the Site (the junction of the existing forestry track with the B727 to the east of Gatehouse of Fleet) to the point where the proposed access track leaves the route of the existing forestry track to turn north towards the main site infrastructure.

There is a fixed telecommunication link which intersects the Proposed Development Site boundary in the eastern part.

1.3.3 Site Access

The Site is anticipated to feature three access points as described above with the southwestern access track used for the delivery of materials associated with the construction of the wind farm infrastructure (including wind turbine components) with the solar components expected to be delivered via the A762 and into the Site via the eastern access points.

Wind turbine components are expected to be delivered by sea and follow a designated route from King George V Docks, traverse a series of roundabouts before joining the M8 and travelling east and joining the M74 heading south towards Carlisle. Due to the size of the vehicles and turbine components, it is not possible to join the A75 at Gretna. The existing junction at the southwestern access point will be upgraded to create a bellmouth capable of accommodating abnormal load deliveries.

Figure 1-3 in **Volume 4** of the EIA Report presents the context of the Site and the setting of the Proposed Development, illustrating designated sites within 10 km. These designations are described in more detail below.

1.3.4 Landscape Designations

The Site is not located within any international, national or local landscape related planning designations. The following landscape designations lie within 10 km of the Site boundary:

- Galloway Dark Skies Park (GDSP) – the core and buffer areas of the GDSP are 18km northwest and 3km west of the closest wind turbine;
- Galloway Hills Regional Scenic Area – 0.9km west of the closest wind turbine and 3.8km southwest of the solar panel arrays at their closest point;
- Fleet Valley National Scenic Area – 4km west of the closest wind turbine and 6.7km southwest of the solar panel arrays at their closest point. The southwestern access track passes through the east of this National Scenic Area;
- Solway Coast Regional Scenic Area – 7.9km southwest and southeast of the closest wind turbine and 6.3km south of the solar panel arrays at their closest point; and
- Galloway Hills Regional Scenic Area – Under 1km west to the Proposed Development Site at its closest point.

Full details of these designations can be found in **Volume 2 Chapter 5: Landscape and Visual** of this EIA Report.

Figure 1-3 in **Volume 4** of this EIA Report shows the context of the Proposed Development setting, illustrating designated sites within 10km.

1.3.5 Heritage Designations

There is one Category B Listed Buildings, Kirkconnel Farmhouse and Steading within the Site.

The Loch Mannoch Archaeologically Sensitive Area (ASA) is located within the Proposed Development Site.

There are no further statutory designated heritage assets (World Heritage Sites, Inventory Gardens and Designed Landscapes, Inventory Battlefields and Category A

Listed Buildings or Conservation Areas) which have been identified within the Proposed Development Site.

There are a total of 91 non-designated assets within the Proposed Development Site. There 45 Scheduled Monuments within 10km of the Proposed Development Site. The closest is 'Loch Mannoch, Cairn & Stone Circle N end of, which extends c. 0.80 km from the Proposed Development Site.

There are no Listed Buildings within 1km of the Proposed Development Site.

The nearest Category 'A' Listed Building to a wind turbine is Rusko Castle, 5.7km to the west and in relation to the solar panels, Argrennan House is located 4.6km to the southeast.

1.3.6 Ecological and Ornithological Designations

The Proposed Development Site is located within the transitional area of the Galloway and Southern Ayrshire Biosphere Reserve.

There are no sites carrying statutory natural heritage designations within the Proposed Development Site, however there are 18 statutory designated sites within 10km of the Site boundary which are summarised below:

- Laughenghie and Airie Hills SSSI (0.5km west);
- Woodhall Loch SSSI (3.5km north east);
- Galloway Oakwoods Special Area of Conservation SAC (4.2km west);
- Carstramon Wood SSSI (4.2km northwest);
- Killiegowan Wood SSSI (6.3km west);
- Threave and Carlingwark Loch SSSI (5.4km east);
- Ardwall Hill SSSI (6.9km west);
- Cairnsmore of Fleet Site of Special Scientific Interest (SSSI) / National Nature Reserve (7.6km northwest);
- River Dee (Parton to Crossmichael) Site of Special Scientific Interest SSSI (6.5km north east);
- Loch Ken and River Dee Marshes (Special Protection Area SPA and Ramsar Site) (5.4km east);
- Airds of Kells Woods SSSI (7.9km north);
- Skyreburn Grasslands SSSI (9.4km west).
- Lea Larks SSSI (9.3km north west);
- Lagganmullan SSSI (4.7km west);
- Ravenshall Wood SSSI (8.7km south west);
- Borgue Coast SSSI (5.2km south west);
- Carrick Ponds SSSI (5.5 south west);
- Shoulder o Craig SSSI (8.7km south east).

These are shown on **Figure 1-3** in **Volume 4** for the EIA Report.

1.3.7 Existing Renewable Development

The closest commercial scale operational wind farm to the Site is Blackcraig Hill (19km north of the Site). The operational Plascow wind turbines are more distant at (22km east of the Site).

Two consented single wind turbines were identified at Trostie and High Barcaple within 3km to the south of the Proposed Development Site. These turbines were consented between 2011 and 2013 and not constructed, so have been excluded from further assessment.

Garcrogo resubmission, Barlay Hill and Manhoul are all at Scoping stage and are located approximately 15km north east of the Site.

No solar developments are present within 10km of the Proposed Development.

All wind farms considered as part of the cumulative assessment presented in this EIA Report are shown on **Figure 1-4** in **Volume 4** of this EIA Report.

1.4 Purpose of the EIA Report

This EIA Report presents the findings of the EIA process by describing the Proposed Development, the current conditions at the Proposed Development Site and the likely environmental effects which may result from the construction, operation and decommissioning of the Proposed Development.

The scope of the EIA was determined through a Scoping Opinion from the Energy Consents Unit (ECU) on behalf of the Scottish Ministers in January 2024 (Ref: ECU 00004900 as summarised in Chapter 2: EIA Approach and Methodology of the EIA Report. This Scoping Report is included as **Technical Appendix 2-1** in **Volume 3** of this EIA Report.

Where appropriate, additional mitigation measures designed to avoid, reduce or offset potentially significant effects are proposed and residual effects (those effects that are expected to remain following implementation of mitigation measures) are presented.

In addition, and in accordance with National Planning Framework 4 (NPF4) (Scottish Government, 2023), the EIA Report identifies potential benefit and enhancement measures; particularly with respect to biodiversity, but also in relation to improving access, recreation, socio-economics and heritage enhancement, where reasonably practicable.

As required by the EIA Regulations, the findings and conclusions of the EIA are summarised in a standalone, easily accessible, Non-Technical Summary (NTS). This enables anyone with an interest in the Proposed Development to understand and access information on its potential environmental effects.

1.5 Structure of the EIA Report

The EIA Report is structured as follows:

- Volume 1: Non-Technical Summary;
- Volume 2: Environmental Impact Assessment Report;
- Volume 3: Technical Appendices;
- Volume 4: Figures;

- Volume 5: Confidential Appendix.

Volume 2 of the EIA Report is structured around the following chapter headings:

- Chapter 1: Introduction;
- Chapter 2: EIA Approach & Methodology;
- Chapter 3: Description of Development and Design Evolution;
- Chapter 4: Planning and Energy Policy;
- Chapter 5: Landscape and Visual Impact Assessment;
- Chapter 6: Ecology;
- Chapter 7: Ornithology;
- Chapter 8: Hydrology, Hydrogeology and Geology (including peat);
- Chapter 9: Transport and Access;
- Chapter 10: Cultural Heritage;
- Chapter 11: Noise;
- Chapter 12: Socio-economics, Tourism and Recreation;
- Chapter 13: Climate Change and Carbon Balance;
- Chapter 14: Other Considerations;
- Chapter 15: Schedule of Mitigation; and
- Chapter 16: Summary of Predicted Residual Effects.

1.6 The EIA Team

The EIA was undertaken by Atmos Consulting with assistance from specialist consultants listed in **Table 1-2.** All are suitably qualified and competent experts in their field, as is required under the EIA Regulations.

Table 1-2: EIA Team

EIA Subject	Company	Statement of Competency
Planning Ecology & Ornithology Carbon and Climate Balance Other Considerations	Atmos Consulting	Atmos has a proven track record in the onshore wind sector built up over 15 years of experience working in the industry and leading EIA projects. The team are appropriately qualified and assessments are overseen by experts with at least ten years' experience in their field.
Landscape and Visual	Stephenson Halliday	Stephenson Halliday are a leading authority on Landscape and Visual Impact Assessments (LVIA) to accompany EIA and non-EIA planning applications. They have a team of chartered landscape architects and are pioneers of best practice and see current guidance as a baseline for their work. Stephenson Halliday go beyond expectations to deliver LVIAs and guidance on critical landscape and visual design issues.
Cultural Heritage	AOC Archaeology	AOC is a Registered Organisation of the Chartered Institute for Archaeologists. AOC is ISO 9001:2015 accredited. The staff are qualified professional archaeologists and members of the Chartered Institute for Archaeologists (CIfA) with extensive experience of the preparation of Cultural Heritage

EIA Subject	Company	Statement of Competency
		and Archaeology Impact Assessments for large scale rural and urban wind farm developments.
Hydrology, Geology and Hydrogeology	SLR	SLR's specialists in hydrology, water resources, water treatment, landscape architecture, ecology, climate science, sustainability, and environmental assessment provide a pool of resources that add to a holistic approach to sustainable water management.
Peat	OWC Ltd	Dr Andy Mills was coordinating technical author of the Scottish Government 2007 Peat Landslide Hazard and Risk Assessment Best Practice Guide and the 2017 2nd Edition and was lead checker on behalf of the Scottish Government from 2007 to 2013 and 2015 to 2018. He has delivered numerous assessments under the guidance in Scotland and provided both written and oral evidence in relation to peat as an expert witness.
Flood Risk and Drainage Impact	Weetwood	Weetwood is a leading independent consultancy specialising in flood risk, drainage, water management and utilities and provides development planning advice covering all the utilities. Weetwood have expertise and track record in relation to sites indicated to be at risk of flooding including the identification of flood risk and drainage constraints and the development of cost-effective mitigation measures.
Traffic and Transport	Systra	Systra's team has assisted both Transport Scotland and Highways England in the preparation of guidelines for assessing the impacts of wind farm developments and over 14 years' experience working on EIA transport Chapters for onshore wind in Scotland. The team hold the appropriate qualifications and Charterships.
Noise	Hayes McKenzie	Hayes McKenzie Partnership Ltd has been involved with over 1000 onshore wind projects in the UK and overseas at the planning, post-planning and operational stages of development as well at public inquiry. Hayes McKenzie is a member of the UK Association of Noise Consultants (ANC). All work is carried out in line with recognised industry standards, and best practice of the Institute of Acoustics (IOA) and ANC.
Glint and Glare	PagerPower	Pager Power was established in 1997 and has completed more than 2,100 projects since 2002. Pager Power has undertaken work in 54 countries within Europe, Africa, America, Asia and Australia and are members of the Airport Operators Association as well as a contributor to International Energy Agency Topical Expert Meetings.
Planning Statement	ReAmp	Alison Sidgwick MRTPI is a member of the Royal Town Planning Institute (RTPI) with extensive experience of working in Dumfries and Galloway. Previous experience includes Arecleoch Extension, Killgallioch, Weather Hill Extension, Hare Hill Repowering and Windy Standard. Alison is an experienced planning expert witness, and as such has been involved in a number of Public Local Inquiries (PLI) for Section 36

EIA Subject	Company	Statement of Competency
		applications.
Earthworks and BESS Assessments	Gondolin	Gondolins team has extensive experience, offering services from feasibility studies to planning applications and Environmental Impact Assessments (EIA). Our experienced civil engineers utilise industry-leading software to create efficient, high-level 3D designs, ensuring compliance with project specifications and environmental considerations.
Forestry	Scottish Woodlands	Scottish Woodlands Ltd is a leading forestry management company employing some 270 staff from 19 operational bases throughout the UK. The company engages professionally qualified foresters (ICF) and professionally qualified land agents (RICS) working to ISO 9001, 14001 and 45001 across all areas of the company's operations. Additionally, the company is a member of the Forest Industries Safety Accord.

1.7 Additional Documents

Along with the EIA Report, the application for the Proposed Development is accompanied by a number of supporting documents that should be read in conjunction with this EIA Report. These are summarised below.

1.7.1 Planning Statement

The Planning Statement is intended to allow the Applicant to demonstrate the benefits of the Proposed Development and assess it against policy background and policy requirements including the relevant policy provisions of the statutory Development Plan and any Supplementary Guidance relevant to onshore wind and solar developments.

The Planning Statement presents the arguments in relation to the need for the Proposed Development and concluding with recommendations about the overall acceptability of the proposal in a planning context.

1.7.2 Design and Access Statement

The Design and Access Statement explains the design principles and concepts that have been applied to the Proposed Development and demonstrates the evolution of the design and how the context of the development has influenced the design.

It sets out how the Proposed Development is considered a suitable development for the Proposed Development Site and its setting and aims to demonstrate that the Proposed Development can be adequately accessed by its prospective users.

1.7.3 Pre-Application Consultation Report

The purpose of the Pre-Application Consultation (PAC) exercise is to engage with local communities, so they are better informed about Major and National development proposals and have an opportunity to contribute their views before the planning application is submitted.

The PAC seeks to improve the quality of planning applications, mitigate negative effects where possible, address misunderstandings, and deal with any community issues that arise that can be tackled.

A PAC Report is submitted alongside this EIA Report as a supporting document to the planning application. The PAC Report demonstrates the scope of consultation undertaken with the community and how feedback has been considered, in accordance with applicable guidance.

1.8 Copies of the EIA Report

A copy of the EIAR volumes will be made available for download from the Applicant's project website at: https://lairdmannochenergypark.co.uk/

Paper copies of the NTS are available free of charge from:

- info@wind2.co.uk
- 01352 748300
- Wind2 Limited, 2 Walker Street, Edinburgh, EH3 7LB

Paper copies of the EIA Report (including Supporting Documents and Non-Technical Summary) may be purchased by arrangement from the above address for £1,400 per copy, or free per USB stick copy. The price of the paper reflects the cost of producing all of the Landscape and Visual photographs at the recommended size.

A publicly available hardcopy of the EIAR volumes will be available for viewing at the following address from the 2nd June until the 18th July 2025:

Kirkcudbright Library

Customer Service Centre

Daar Road Offices

Daar Road

Kirkcudbright

DG6 4PJ

United Kingdom

1.9 References

European Council (EC) (1985). Directive on Environmental Assessment (85/337/EEC) as amended by Directive 97/11/EC and Directive 2014/52/EU. European Union, Brussels. [Accessed: 07/03/2025]

Scottish Government, (2006). The Planning etc. (Scotland) Act 2006. [Online] OQPS, available at; https://www.legislation.gov.uk/asp/2006/17/pdfs/asp_20060017_en.pdf [Accessed: 07/03/2025]

Scottish Government, (2019). The Planning (Scotland) Act 2019. [Online] available at; https://www.legislation.gov.uk/asp/2019/13 [Accessed on 07/03/2025]

Scottish Government , (2023). National Planning Framework 4. [Online] available at: https://www.gov.scot/publications/national-planning-framework-4/ [Accessed on 07/03/2025]

Scottish Government (2017). The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 OQPS, available at: http://www.legislation.gov.uk/ssi/2017/102/contents/made [Accessed: 07/03/2025]

UK Government (1989) Electricity Act 1989, Section 36, available at: https://www.legislation.gov.uk/ukpga/1989/29/section/36 [Accessed: 07/03/2025]

UK Government (1997) Town and Country Planning (Scotland) Act 1997 (as amended) Online at: https://www.legislation.gov.uk/ukpga/1997/8/contents [Accessed: 07/03/2025]