



Balgray Wind Farm

Chapter 1: Introduction

June 2025



Fred. Olsen Renewables

Contents

1. INTRODUCTION	3
1.2. Previous Application	4
1.3. Application Details	4
1.4. The Applicant.....	5
1.5. Project Team	5
1.6. Structure of Environmental Impact Assessment Report	9



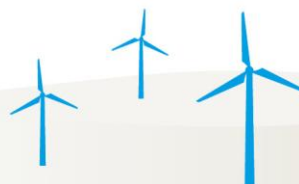
List of Abbreviations

Abbreviation	Description
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
LVIA	Landscape and Visual Impact Assessment
MCIEEM	member of the Chartered Institute of Ecology and Environmental Management
MoD	Ministry of Defence
MW	megawatt
PAC	Pre-Application Consultation



1. Introduction

- 1.1.1. This Environmental Impact Assessment Report (EIAR) has been prepared in support of an application submitted under Section 36 of the Electricity Act 1989 to construct and operate Balgray Wind Farm (the Proposed Development) comprising of 6 turbines of an overall height from base to tip not exceeding 200 m. Associated infrastructure includes 43MW of battery energy storage systems, external transformer housing, crane pads, turbine foundations, access tracks, a substation, underground electricity cables, up to 2 temporary borrow pits, drainage attenuation measures, Health and Safety signage, temporary construction and storage compounds and ancillary infrastructure. The Proposed Development will utilise existing infrastructure on site as far as practical, through upgrading sections of the estate access tracks. See Chapter 3: Description of Development, of the EIAR, for more information.
- 1.1.2. The application has been submitted by Locogen Ltd (Locogen) on behalf of the Applicant, Fred. Olsen Renewables Limited (Fred. Olsen Renewables). This EIAR accompanies an application letter submitted to the Energy Consents Unit (ECU) for consent to develop a wind farm comprising of 6 wind turbines, up to 43MW of battery storage and associated infrastructure.
- 1.1.3. The Proposed Development is located within the Dumfries and Galloway Council area, approximately 6km northeast of Lockerbie. Most of the Proposed Development is on land owned by Balgray Estate, with the access route to the north of the Proposed Development in separate ownership.
- 1.1.4. Figure 1.1, Volume 3a shows the regional context of the Proposed Development.
- 1.1.5. Figure 1.2, Volume 3a shows the location and site layout of the Proposed Development. The application site is centred on British National Grid Coordinates: 316486 588010. The development area within the red line boundary as shown in Figure 1.2 is referred to as 'the Site'. A number of Chapters within this EIAR utilise a more detailed 3D drawing to assist with their assessment. It should be noted that this drawing is indicative only, with the final 3D design subject to detailed ground investigations pre construction.
- 1.1.6. Figure 1.3, Volume 3a shows the Proposed Development area boundary.
- 1.1.7. This EIAR describes the natural and human environment of the area in which the Proposed Development would be situated (if consented). It describes the details of the construction, operational and decommissioning phases, and assesses the potential effects that the development would have on the biological environment, the physical environment and on human health and population, as well as on material assets and cultural heritage. It also describes the policy context for renewable energy within Dumfries and Galloway, Scotland and the UK, and the overall policy context as set out by international



agreements to reduce emissions of climate change gases, and targets set for the growth of renewable energy generation.

1.1.8. The EIAR is accompanied by the following supplementary documents:

- Non-Technical Summary: a summary of the key details of the project in layperson's language and aims to be accessible to a variety of types of readers.
- Pre Application Consultation (PAC) Report: an informative description of the pre-application consultation undertaken for the Proposed Development.
- Planning Statement: considers the Proposed Development against relevant national and regional policies.
- Socio-Economic Benefit and Community Wealth Building Report: a summary of the community benefit package proposed and outline of the potential impacts of the project through the framework of enhanced community wealth/capital.

1.2. Previous Application

1.2.1. A previous application was made to the Scottish Government for a substantially different development known as Newfield Wind Farm (09/C/4/0011) in August 2010, by a different applicant, on land that includes the Site at Balgray. The proposed Balgray Wind Farm development is within a much-reduced development area which is pulled back into Balgray Estate, with a reduced number of turbines to that considered under the Newfield Wind Farm application.

1.3. Application Details

1.3.1. The application is submitted in accordance with:

- The Electricity Act 1989; and
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

1.3.2. The application seeks consent under Section 36 of the Electricity Act 1989. The application also seeks a direction under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 that planning permission be deemed to be granted.

1.3.3. A full scoping report was submitted to the ECU on the 30th of January 2024. A copy of this can be found in Appendix 1.1 in Volume 4 of the EIAR. The full



scoping opinion was received from the ECU on 24th of April 2024. This can be found in Appendix 1.2 in Volume 4 of the EIAR.

1.4. The Applicant

- 1.4.1. The Applicant, Fred. Olsen Renewables (see Table 1.1 below) has been developing and operating wind farms since the mid 1990's and is fully committed to the Scottish and UK renewable energy generation market. In addition to the UK, they now have activities in Norway and Sweden where a number of projects are currently in development.
- 1.4.2. Fred. Olsen Renewables is one of very few developers to take a project from initiation and development, through to operation and ultimately decommissioning. The company continues to operate Scotland's first consented wind farm, Windy Standard Wind Farm, also in Dumfries and Galloway.
- 1.4.3. Fred. Olsen Renewables' portfolio consists of 258 operational turbines, alongside a further 76 consented. This, combined with projects in Norway and Sweden, brings the total operational capacity to 804.9 MW – providing enough power for 698,344 homes.

Table 1.1: Details of the Applicant

Applicant		
Fred. Olsen Renewables Limited	Ochil House, Springkerse Business Park, Stirling, FK7 7XE	Tel: 020 7963 8904 <i>Contact: Nathan Liddell</i>

1.5. Project Team

- 1.5.1. The project has been designed and assessed by the Applicant in association with their lead consultants, Locogen (see Table 1.2). Locogen has been appointed to coordinate and produce this EIAR and associated EIA documentation. The following details also provide a statement of competency under the EIA Regulations.
- 1.5.2. Locogen is an independent Scottish company comprising a team of professional project managers, engineers, planners and environmental consultants with expertise in the development and implementation of low carbon generating technologies.
- 1.5.3. Locogen has extensive experience in the development and delivery of a range of renewable technologies for commercial, public sector and community organisations.
- 1.5.4. The specific services provided for wind energy projects includes (among others):



- Environmental screening and scoping works;
- Management of the EIA, planning submission and appeal process;
- Grid connection applications, negotiations and agreements; and
- Wind monitoring and detailed wind resource and energy yield assessments.

1.5.5. Locogen has successfully project managed the construction of over 40 commercial wind energy projects.

Table 1.2: Details of agent and lead consultancy

Agent, Lead Wind Energy and Planning Consultancy		
Locogen Ltd	4 West Silvermills Lane, Edinburgh EH3 5BD	Tel: 0131 555 4745 <i>Contact: Geum Howatson</i>

1.5.6. Contact details of other consultants involved in the production of the EIAR are provided in Table 1.3.

1.5.7. The LVIA was undertaken by Dale Turner at Pegasus Group. Dale Turner holds a MSc in Environmental Impact Assessment, is an affiliate member of the Institute of Environmental Management and Assessment and has over 15 years' experience in undertaking and overseeing LVIA's for wind energy developments in Scotland, including elsewhere within Dumfries and Galloway. Dale was supported by David Gooch, an experienced Chartered Landscape Architect, and the wider team of Chartered Landscape Architects, GIS specialists and Environmental Planners at Pegasus Group.

1.5.8. The Hydrology chapter was carried out by SLR Consulting Ltd (SLR). Production of that chapter was overseen and reviewed by Brian Dunlop (M.Eng, C.Eng, MCIWEM). He is a Technical Director with SLR and is responsible for undertaking and managing hydrological and hydrogeological assessments. He has more than 30 years' experience in engineering and environmental consultancy. Brian is based in SLR's London office and has authored and reviewed Environmental Statement (ES) chapters covering the assessment of impacts on water resources and flood risk for major infrastructure projects, including HS2, international mining and hydropower projects and a broad range of UK renewable energy projects including hydrogen, wind, solar and associated cable and substation infrastructure.

1.5.9. Access, Traffic and Transport assessments have been carried out by SYSTRA Ltd (SYSTRA). SYSTRA's EIA team has produced Traffic and Transport EIAR chapters and Abnormal Loads assessment reports for numerous wind farm developments within the Dumfries and Galloway administrative area. This chapter has been reviewed by Alan DeVenny BEng, PhD, CEng, MICE who is a Projects Director with SYSTRA. Alan has 25 years' experience working in



traffic and transport consultancy and over 17 years' experience of working on wind farm projects. Alan has advised on over 200 energy developments delivering EIA chapters, access assessments, abnormal load assessments, infrastructure design and traffic management plans.

- 1.5.10. The Noise chapter was prepared by Gavin Irvine from Ion Acoustics Ltd. Gavin Irvine is a member of the Institute of Acoustics and has worked on wind turbine noise assessments for 30 years.
- 1.5.11. The Aviation assessment was prepared by Malcolm Spaven. Malcolm Spaven is the Director of Gladhouse Planning Ltd, a specialist consultancy with 29 years' experience of assessing the impacts of wind energy developments on aviation. He holds an MSc in Rural and Regional Resource Planning and is a qualified commercial pilot and flying instructor.
- 1.5.12. The Socioeconomic, Tourism and Recreation chapter was compiled by MKA Economics who have led the socio-economic, tourism, recreation and land use assessment for over 30 onshore wind farms across Scotland, a number of which being located in Dumfries and Galloway. Additionally, MKA Economics bring local knowledge from the evaluation of regional funding programmes and other leading economic development studies, including Dumfries Town Centre Masterplan and Annan Harbour Masterplan.
- 1.5.13. Ornithology assessments have been carried out by Dr Steve Percival from Ecology Consulting. Dr Steve Percival is a highly experienced consultant ecologist and ornithologist with over three decades of international expertise, having worked on more than 400 onshore and offshore wind and solar energy projects across the UK, Europe, Asia, Africa, and Australasia. He has specialist competence in ornithological survey design, ecological impact assessment, collision risk modelling, and habitat enhancement, with extensive experience in Habitats Regulations Assessments and expert witness at numerous public inquiries. He has provided strategic advice to governments, national infrastructure projects, and international financial institutions, and contributed to the development of bird-wind farm assessment methodologies for UK and international bodies. He has published widely, with over 50 peer-reviewed scientific papers, 150 ecological impact assessments, and 20 technical conference presentations, with particular expertise in the conservation of upland waders, waterfowl population dynamics, and disturbance impacts on estuarine birds.
- 1.5.14. The Cultural Heritage chapter was compiled by Headland Archaeology. Headland Archaeology is a Registered Organisation with the Chartered Institute for Archaeologists and abides by its standards and codes of conduct. As part of the RSK Group, Headland Archaeology is formally recognised as an Historic Environment Service Provider with the Institute of Historic Building Conservation, an externally audited status which confirms our work is carried out in accordance with the highest standards of profession. Cultural Heritage assessments have been carried out by Fraser McFarlane MA (Hons) MLitt



ACIfA. Fraser is a Senior Heritage Consultant at Headland Archaeology and has experience of EIA work on a variety of renewable energy schemes. Prior to this Fraser spent 10 years carrying out archaeological fieldwork.

- 1.5.15. Caledonian Conservation Ltd was commissioned by Locogen to undertake butterfly surveys focussed on marsh fritillary (*Euphydryas aurinia*). The report was written by Niall Currie and map figures were produced by Niall Currie and David Eastwood using ArcGIS Pro. Niall Currie is an Associate member of the Chartered Institute of Ecology and Environmental Management and a professional ecologist specialising in entomology with over 12 years' experience. This report was reviewed by Chris Cathrine, who is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM), a Fellow of the Linnean Society of London, a Fellow of the Royal Entomological Society, and a Fellow of the Royal Society for the Encouragement of Arts, Manufactures and Commerce. Chris has over 17 years' experience as a professional entomologist. Chris holds a NatureScot Schedule 5 marsh fritillary licence.

Table 1.3: Other consultants involved in the production of this Environmental Impact Assessment Report

Consultants		
ORNITHOLOGY CONSULTANCY		
Ecology Consulting	Swallow Ridge Barn, Old Cassop, Durham, DH6 4QB	Tel: 0191 372 0306 <i>Contact: Dr Steve Percival</i>
LANDSCAPE CONSULTANCY		
Pegasus Group	Pavilion Court, Green Lane, Garforth, Leeds, LS25 2AF	Tel: 0113 287 8200 <i>Contact: Dale Turner</i>
HYDROLOGY CONSULTANCY		
SLR Consulting	The Tun, 4 Jackson's Entry, Edinburgh, EH8 8PJ	Tel: 03300 886631 <i>Contact: Gordon Robb</i>
TRAFFIC AND TRANSPORT CONSULTANCY		
SYSTRA Ltd	38 Queen Street, Glasgow, G1 3DX	Tel: 0141 468 4205 <i>Contact: Alan DeVenny</i>
NOISE CONSULTANCY		
Ion Acoustics Ltd	Georges House, 9-10 Bath Street, Bristol, BS1 6HL	Tel: 0117 911 3765 <i>Contact: Gavin Irvine</i>
AVIATION CONSULTANCY		
Gladhouse Planning Ltd, t/a Aviatica	Reservoir House, Gladhouse, Midlothian, EH23 4TA	Tel: 0771 044 7378 <i>Contact: Malcolm Spaven</i>



Consultants

CULTURAL HERITAGE CONSULTANCY

Headland Archaeology	65 Sussex Street Glasgow G41 1DX	Tel: 0141 418 0471 <i>Contact: Fraser McFarlane</i>
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SOCIOECONOMICS CONSULTANCY

MKA Economics Ltd	Scion House, Stirling University Innovation Park, Stirling, FK9 4NF	Tel: 01786 388 803 <i>Contact: Mark Kummerer</i>
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ENVIRONMENTAL CONSULTANCY	Office 2 and 3 Craigarnhall Bridge of Allan Stirling FK103SR	Tel: 01928 726 006 <i>Contact: Chris Catherine</i>
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VIBRATION CONSULTANCY

Xi Engineering Consultants Ltd	Codebase, Argyle House, 3 Lady Lawson Street Edinburgh, EH3 9DR	Tel: 0131 290 2250 <i>Contact: Dale Lafferty</i>
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1.6. Structure of Environmental Impact Assessment Report

1.6.1. The EIAR contains the findings of the assessment of the likely environmental effects of the Proposed Development and comprises the following volumes. The structure of the EIAR has been designed to cover the factors on which the Proposed Development may have an impact, and any interaction between these factors.

Volume 1	Non-Technical Summary
Volume 2	Chapter 1: Introduction
	Chapter 2: Site Selection and Design Evolution
	Chapter 3: Description of Development
	Chapter 4: Approach to EIAR
	Chapter 5: Policy Context



	Chapter 6: Landscape and Visual Impact Assessment (LVIA)
	Chapter 7: Ornithology
	Chapter 8: Ecology
	Chapter 9: Hydrology, Hydrogeology & Geology
	Chapter 10: Noise
	Chapter 11: Cultural Heritage
	Chapter 12: Traffic & Transport
	Chapter 13: Socioeconomics, Tourism & Recreation
	Chapter 14: Aviation & Radar
	Chapter 15: Other Issues
	Chapter 16: Synergistic Effects, Schedule of Environmental Commitments and Residual Effects
Volume 3a	Figures (except Landscape and Visual)
Volume 3b	Landscape and Visual Figures and LVIA and Cultural Heritage Visualisations
Volume 4	Technical Appendices
Supplementary Documents	Non-Technical Summary
	Pre Application Consultation (PAC) Report



	Planning Statement
	Socio-Economic Benefit and Community Wealth Building Report

1.6.2. An outline of Volume 2 is presented below:

- Chapter 1: Introduction, of the EIAR, provides a brief introduction of this document and the application.
- Chapter 2: Site Selection and Design Evolution, of the EIAR, provides a detailed description of the site selection process for the proposed site. This chapter also discusses the design evolution process and mitigation measures that were introduced at the site selection and design stage to reduce environmental impacts.
- Chapter 3: Description of Development, of the EIAR, provides a detailed description of the Proposed Development including details of the construction, operational and decommissioning arrangements.
- Chapter 4: Approach to Environmental Impact Assessment Report, presents a methodology for environmental design and assessment of the Proposed Development through gathering baseline environmental data, mitigation of impacts during site design and final assessment of the significance of residual environmental and human effects of the proposal.
- Chapter 5: Policy Context, of the EIAR, describes the legislative and policy background relevant to the Proposed Development.
- Chapter 6: Landscape and Visual Impact Assessment (LVIA), of the EIAR, provides an assessment of the Landscape and Visual Impacts of the Proposed Development and cumulative LVIA.
- Chapter 7: Ornithology, of the EIAR, describes the ornithological interest at the Proposed Development and assesses the predicted effects on these interests.
- Chapter 8: Ecology, of the EIAR, describes the legislative and policy background relevant to the Proposed Development. provides an overview of the baseline ecological conditions relating to the habitats and (non-avian) fauna present within the Proposed Development area and immediate surrounding environment.



- Chapter 9: Hydrology, Geology and Hydrogeology of the EIAR, assesses the impacts on the hydrological, geological and hydrogeological environment at the Proposed Development.
- Chapter 10: Noise, of the EIAR, assesses the findings of the construction and operational noise assessment that was carried out to assess the noise impact of the Proposed Development.
- Chapter 11: Cultural Heritage Assessment, of the EIAR, considers the potential impacts of the Proposed Development upon cultural heritage assets.
- Chapter 12: Traffic & Transport, of the EIAR, assesses the effects due to transport and access resulting from the construction, operation and decommissioning of the Proposed Development.
- Chapter 13: Socioeconomics, Tourism & Recreation, of the EIAR, assesses the predicted socioeconomic and tourism impacts of the Proposed Development at local, regional and national levels.
- Chapter 14: Aviation & Radar, of the EIAR, assesses the potential for impact upon aviation, Ministry of Defence (MoD) interests, communication operations and existing site infrastructure and demonstrates the consulting process undertaken and outlines mitigation where it is deemed necessary.
- Chapter 15: Other Issues, of the EIAR, assesses the potential impacts on Eskdalemuir Seismic Array, and assesses shadow flicker and ice throw.
- Chapter 16: Synergistic Effects, Schedule of Environmental Commitments and Residual Effects, of the EIAR, summarises the findings of the Environmental Impact Assessment presented in the EIAR chapters described above, assesses synergistic effects and all of the mitigation measures presented in this EIA Report with a summary table of all predicted residual effects.





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