

1 Introduction

1.1 Introduction

- 1.1.1 Renewable Energy Systems Ltd (RES) is applying for consent to Scottish Ministers under section 36 of the Electricity Act 1989 (as amended), seeking consent and deemed planning permission to construct and operate the proposed Killean Wind Farm (hereinafter referred to as the “Proposed Development”). This Environmental Impact Assessment (EIA) Report has been prepared in support of this application for consent.
- 1.1.2 This Chapter introduces the Proposed Development and the need for the development, as well as providing an overview of the purpose of the EIA Report, its structure and the technical experts who prepared it. It also identifies where copies of this EIA Report can be viewed and obtained if required.
- 1.1.3 This EIA Report has been prepared by SLR Consulting Ltd (SLR) on behalf of RES (hereinafter referred to as 'the Applicant') to accompany an application for consent to construct and operate the Proposed Development.

Need for Development

- 1.1.4 The UK and Scotland’s current climate change ambitions are amongst the highest in Europe. The Scottish Government declared a climate emergency in May 2019. At the end of March 2020, the Scottish Government brought into force the measures in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 passed by the Scottish Parliament in September 2019.

- 1.1.5 The UK government set a net zero CO₂ emissions target by 2050. In Scotland, The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 was passed in September 2019 which sets out a net zero target by 2045 and further interim targets of reductions in CO₂ emissions of 56% by 2020, 75% by 2030 and 90% by 2040. However, in April 2024, the Scottish Government announced that the interim targets would be scrapped, following a report from the Climate Change Committee which warned that the 2030 target was “no longer credible”. The Scottish Government’s legal commitment to reach net zero by 2045 however remains, as does the Scottish Energy Strategy’s (Scottish Government 2017) target of 50% of all energy (including transport, heat and electricity) being supplied from renewables by 2030.
- 1.1.6 In its advice to the UK and Scottish Governments on achieving the net-zero target, the UK Committee on Climate Change stated that renewable electricity generation “*must quadruple*” and that the Scottish Government should make “*use of planning powers to drive decarbonisation.*” Significant deployment of additional renewable energy capacity, well in excess of historical deployment levels, is therefore needed to achieve the UK and Scottish Governments climate change commitments.
- 1.1.7 In August 2021, Argyll and Bute Council renewed its commitment to playing its part in the global effort to address climate challenges, and has declared a climate emergency. The Council released their Decarbonisation Plan 2022-2025 in 2021 which sets out the Council’s path to Net Zero by 2045. The Decarbonisation Plan details the six areas for action that are required to be undertaken across the Council area by 2045 - in line with the UK Government and The Scottish Climate Change Act 2019. Updates to the Decarbonisation Plan, including updated Action Plans, were approved in October 2023, May 2023 and December 2022.

- 1.1.8 The annual generation from the proposed wind turbines, based on an anticipated 43.77% capacity factor, is estimated at approximately 227.8¹ gigawatt-hours (GWh). The proposed wind turbines will therefore supply renewable electricity equivalent to the approximate annual domestic needs of up to 70,316 average UK households². Each unit of renewable electricity transmitted will displace a unit of conventionally generated electricity, therefore displacing carbon dioxide (CO₂) emissions. It is estimated that the proposed wind turbines will displace approximately 96,587³ tonnes of CO₂ emissions per year, or 4,829,360 tonnes over the anticipated 50-year lifespan of the Proposed Development.
- 1.1.9 As well as making a positive contribution towards action on climate change and renewable energy targets, the Proposed Development would provide opportunities for community investment and create further employment opportunities in the local area.
- 1.1.10 Further information on the need for and benefits of the Proposed Development are provided in **Appendix 13.1: Socio-economic assessment**, and the Planning Statement which accompanies this application.
- 1.1.11 RES is at the forefront of the operation and development of renewables in the UK and fully supports the fight against climate change with this Proposed Development. This would be a fully integrated renewable energy solution in direct response to meeting national and international climate change targets. The Proposed Development would provide clean power to people's homes when they need it most and would represent a state-of-the-art development for Kintyre. As well as contributing to targets for renewable energy, the Proposed Development would provide opportunities for community investment, shared ownership and create further economic benefits, including employment opportunities, in the local area.

¹ For example, using a 43.77% capacity factor, figures are derived as follows: 59.4 MW × 8,760 hours/year × 0.4377 (capacity factor) = 227,755MWh.

² Calculated using the most recent statistics from the Department of Energy Security and Net Zero (DESNZ) showing that mean domestic electricity consumption is 3,239kWh (as of January 2024).
<https://assets.publishing.service.gov.uk/media/65b12dfff2718c000dfb1c9b/subnational-electricity-and-gas-consumption-summary-report-2022.pdf>

³ Using DESNZ's all non-renewable fuels" emissions statistic of 424 tonnes of carbon dioxide per GWh of electricity supplied in the Digest of UK Energy Statistics (July 2023) Table 5.14 ("Estimated carbon dioxide emissions from electricity supplied").
<https://www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes>

1.2 The Proposed Development

- 1.2.1 The Proposed Development is located on the Killean Estate, approximately 2.5km east of Tayinloan, on the Kintyre Peninsula. The site is within the administrative boundary of Argyll and Bute Council (ABC). **Figure 1.1** presents a general context for the location of the site on Kintyre and **Figure 1.2** presents the extents of the site.
- 1.2.2 The site is located to the west of the operational Deucheran Hill Wind Farm (developed by E-ON). Beyond 5km, the existing Beinn An Turc Wind Farm and extensions (81 turbines, 126m tip height, operational capacity 123.6MW) are situated in an area of open moorland at a distance of approximately 5.7km to the south.
- 1.2.3 The Proposed Development comprises up to 9 wind turbines at up to 180m in height.
- 1.2.4 The Proposed Development and associated infrastructure are presented in **Figure 1.3** and described in detail in **Chapter 2: Proposed Development Description** of this EIA Report.
- Planning History**
- 1.2.5 Planning permission (16/03400/S36) was refused by Scottish Ministers in December 2019 for a proposed 15 turbine Killean Wind Farm on the same site. The decision letter stated that the development was not in keeping with the established patterns of existing turbines in the area; and would have unacceptable adverse landscape and visual impacts.

1.3 The Applicant

- 1.3.1 RES is the world's largest independent renewable energy company active in onshore and offshore wind, solar, energy storage and transmission and distribution. At the forefront of the industry for over 40 years, RES has delivered more than 24GW of renewable energy projects across the globe and supports an operational asset portfolio of 41GW worldwide for a large client base. RES employs more than 4,500 people and is active in 21 countries working across onshore and offshore wind, solar, energy storage, green hydrogen and transmission and distribution.

1.3.2 From its Glasgow office RES has been developing, constructing and operating wind farms in Scotland since 1993. RES has developed and/or built 21 wind farms in Scotland with a total generation capacity of 597MW, including Freasdail and Blary Hill Wind Farms in Argyll and Bute. The Applicant has the necessary knowledge and experience in renewable energy to develop the Proposed Development.

Table 1.1: Applicant Details

APPLICANT	
Renewable Energy Systems Ltd	Third Floor, STV, Pacific Quay, Glasgow, G51 1PQ

1.4 Structure of the EIA Report

1.4.1 The EIA Report has been prepared in accordance with the EIA Regulations (2017)⁴ and follows the structure presented in below. Where relevant each EIA Report chapter considers the baseline environment, the likely significant effects for each phase of the Proposed Development and cumulative impacts.

1.4.2 The EIA Report is presented in volumes as follows:

- Volume 1: EIA Report.

1.4.3 The EIA Report written text is structured as follows:

- Chapter 1: Introduction;
- Chapter 2: Proposed Development Description;
- Chapter 3: Design Evolution and Alternatives;
- Chapter 4: Approach to EIA/Climate Change, Legislative and Policy Context;
- Chapter 5: Landscape and Visual Impact Assessment;
- Chapter 6: Cultural Heritage and Archaeology;
- Chapter 7: Ecology;
- Chapter 8: Ornithology;
- Chapter 9: Geology, Hydrology and Hydrogeology;

⁴ The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations')

- Chapter 10: Traffic and Transport;
 - Chapter 11: Acoustics;
 - Chapter 12: Aviation, Radar and Defence;
 - Chapter 13: Other Issues (Telecommunications, Infrastructure, Shadow Flicker, Socio-economics, Carbon Offset and Carbon Payback);
 - Chapter 14: Schedule of Mitigation; and
 - Chapter 15: Summary of Residual and Cumulative Effects.
- 1.4.4 The rest of the EIA Report is structured as follows:
- Volume 2a - 2b: EIA Report Figures and Visualisations; and
 - Volume 3: EIA Report Technical Appendices.
 - Volume 4: Non-Technical Summary (NTS).
- 1.4.5 The technical appendices that are referred to in each Chapter of the EIA Report are compiled separately in Volume 3. They are numbered sequentially for each Chapter in which they are principally referred to.
- 1.4.6 The NTS provides a non-technical overview of the EIA Report and is intended to be read by the general public. It includes a description of the Proposed Development and a summary of the predicted environmental effects.

1.5 EIA Report Project Team

- 1.5.1 This EIA has been led by SLR Consulting Limited (SLR) with assistance from other specialist technical and environmental consultants including Savills (Planning); Ecology Consult (Ecology and Ornithology); Pegasus Group (Landscape); Meinhardt (Engineering and Transport); Biggar Economics (Socio-economics, Tourism and Recreation); DGA Forestry (Forestry); and CFA Archaeology (Cultural Heritage and Archaeology). SLR is a large multi-disciplinary environmental and advisory consultancy. Within the energy sector, SLR provides a wide range of planning, environmental and technical services relating to the design and development of wind farms and other renewable energy developments. The company undertakes all aspects of development support, from initial concept design, through planning and permitting to supporting detailed design, construction management and closure stages with a focus on environmental assessment and management.

- 1.5.2 SLR is a holder of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark. The IEMA Quality Mark is awarded to companies that have achieved the required standards in EIA following regular independent review of EIA work by IEMA. The company has significant experience in the preparation of planning applications and undertaking EIA for a wide variety of projects, including renewable energy, minerals, waste and infrastructure developments.
- 1.5.3 Further information on SLR can be found on its corporate website at www.slrconsulting.com
- 1.5.4 For this project, SLR is responsible for co-ordinating the production of the EIA Report and preparing the Geology, Hydrology, Hydrogeology and Peat assessments.
- 1.5.5 **Table 1.2** lists the consultancies responsible for each technical discipline covered in this EIA Report.
- 1.5.6 SLR confirms on behalf of RES that the technical experts that have carried out the EIA and produced the EIA Report have the skills and relevant competency, expertise and qualifications to undertake EIA for the Proposed Development.

Table 1.2: EIA Team Details

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Landscape and Visual Impact Assessment	Dale Turner, Pegasus	BSc (Hons) MSc IEMA	Dale has extensive experience in the renewable energy sector having delivered numerous EIAs and assessments for onshore wind, solar and Battery Energy Storage System (BESS) schemes across the UK.	Pavilion Court Green Lane Garforth Leeds LS25 2AF
	David Gooch, Pegasus	MA Hons Chartered Member of the Landscape Institute (CMLI)	David has specialized knowledge in LVIA and landscape planning and has authored numerous LVIAs for onshore wind schemes in Scotland and Wales.	Pavilion Court Green Lane Garforth Leeds LS25 2AF

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Cultural Heritage Assessment	Jack Litchfield, CfA Archaeology	BA (hons); MA; PhD; ACIfA	Has experience in producing desk-based assessments, historical background research reports, and contributing to Environmental Impact Assessment reports.	Clayton Business Centre, Midland Road, Leeds, LS10 2RJ
	Mhairi Hastie, CfA Archaeology	BSc; MSc; FSA Scot; MCIfA	Has extensive experience in the production and project management of cultural heritage and archaeology projects, and is familiar with the range of resources and historic sources available for undertaking desk-based research in the region.	Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ
Ecology and Ornithology	Steve Percival, Ecology Consulting	B.Sc. (Hons) degree in Biological Sciences from the University of Durham, UK (awarded in 1984) and a Ph.D. in Zoology from the University of Glasgow, UK (awarded in 1988)/ Member of the Chartered Institute for Ecology and Environmental Management (CIEEM), the British Ecological Society and the British Ornithologists' Union.	As principal of his own private practice, Ecology Consulting, he has a wide experience of nature conservation and wind energy issues, and has been involved in over 380 wind energy projects, including carrying out ecological assessments, preparation of ecological material for environmental statements and giving evidence at public inquiries, in the UK and internationally	Swallow Ridge Barn, Old Cassop, Durham DH6 4QB

Geology, Hydrology and Hydrogeological Assessment	Gordon Robb, SLR Consulting Limited	BSc (Hons) Geography, MSc (Engineering Hydrology), MBA, C.WEM, FCIWEM	He is a Technical Director (Hydrology and Hydrogeology) and has more than 30 years' experience assessing renewable energy and electrical infrastructure projects and specifically their potential effects on soils, geology and the water environment. He is based in Scotland and has worked throughout Scotland, including sites in similar settings to the Proposed Development. He has also prepared and given expert witness testimony for renewable and electrical infrastructure projects.	Suite 50, Stirling Business Centre, Wellgreen, Stirling FK8 2DZ
	Katy Rainford, SLR Consulting Limited	BSc (Hons), MCIWEM, FGS	She is a Senior Hydrologist at SLR Consulting and has over 6 years' experience in the power and built environment sectors, specialising in hydrology and hydrogeology environmental assessments for planning applications across the UK and Ireland. She has prepared a multitude of wind farm EIA chapters including sites in a similar setting to the Proposed Development across Scotland.	

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Peat aspects	Alan Huntridge, SLR Consulting Limited	BSc (Hons) Environmental Management and Technology. MSc Waste Management and Environmental Management.	He is a technical director within SLR's Land Quality team with over 15 years' experience within the land quality sector and is working on a number of EIA projects for proposed on-shore and offshore wind farms, providing both pre and post consent services, in geological and geotechnical services.	
	Ruari Watson, SLR Consulting Limited	BSc (Hons) Civil Engineering	He has over 12 years' experience within the geotechnical engineering sector and is experienced in geological assessments (PLHRA, PMP, BPA and Carbon Balance) for EIA and planning submissions in Scotland and the UK within a wide variety of development projects from large scale energy projects (wind farm, cable routes, substations, pumped storage schemes) as well as both solar and battery energy storage system schemes.	

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Traffic and Transport	Carolyn Rollo, Meinhardt	MA (Hons) MCIHT	16 years	1 st Floor, 9 George Square, Glasgow G2 1DY
	Kyle McKinnon, Meinhardt	MEng MCHIT	11 years	
	Fraser Stewart, Meinhardt	BEng (Hons) MCIHT	8 years	
Acoustic Assessment	Artem Khodov, RES	Member of the Institute of Acoustics (MIOA), MSc in Acoustical Engineering, BEng in Mechanical Engineering.	Six years professional experience in acoustics.	RES, Third Floor, STV, Pacific Quay, Glasgow, G51 1PQ
Socio- Economics	Graeme Blackett, Biggar Economics	BA (Hons) Member of Institute for Economic Development. Member of Economic Development Association Scotland	30 years	BiGGAR Economics, 67 Shandwick Place, Edinburgh, Scotland, EH2 4SD
	Claire Feld Biggar Economics	BA (Hons)	1 year	

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Aviation & Radar	Sam Johnson, RES	MMath Mathematics	Over 20 years working in radar, including over 15 working specifically with aviation and radar in the wind industry	RES, Third Floor, STV, Pacific Quay, Glasgow, G51 1PQ
Other Issues including Shadow Flicker & Telecommunications	Thomas Miller, RES	MChem in Chemistry (Hons), PhD Chemistry, MSc in Renewable Energy Systems and Technology	2 years of experience in energy yield assessments and wind farm development technical work.	RES, Beaufort Court, Egg Farm Lane, Kings Langley, Hertfordshire WD4 8LR
Forestry	Sandy Anderson, Senior Partner, DGA Forestry	BSc (Hons), MBA, MICFor	Sandy has extensive experience in forest management and consultancy within the UK. Since 2000 he has been in over 100 wind farm or other development projects within forestry plantations, in a variety of roles.	The Old Bank 1 John Street Dalbeattie DG5 4AL
	James Anderson, Partner, DGA Forestry	BArch, MSc (Hons)	James has extensive experience in forest management and consultancy within the UK. He has been involved in delivering numerous projects and assessments for various renewable schemes.	The Old Bank 1 John Street Dalbeattie DG5 4AL

TECHNICAL DISCIPLINE	CONSULTANT	QUALIFICATIONS	EXPERIENCE IN RELEVANT TECHNICAL AREA	ADDRESS
Planning	Simon Herriot Savills	BSc(Hons) MRTPI	Simon has over 20 years' experience working on renewable energy projects including onshore wind. He has contributed to and managed numerous EIA Reports for wind energy projects and has acted as an expert witness on wind farm appeals and public inquiries.	Savills, 163 West George Street, Glasgow, G2 2JJ

1.6 Publicity of the EIA Report

1.6.1 Printed copies of the NTS and EIA Report (including figures and appendices) may be obtained from:

RES,
Third Floor,
STV,
Pacific Quay,
Glasgow,
G51 1PQ

Email: danny.mclean@res-group.com

1.6.2 Hard copies of the NTS and EIA Report will be available for viewing in the following locations:

- Campbeltown Library, Aqualibrium, Kinloch Road, Campbeltown, PA28 6EH (during normal opening hours); and
- Tayinloan Village Hall. Tayinloan PA29 6XG (by appointment via tayinloanvillagehall@hotmail.com).

- 1.6.3 The Non-Technical Summary is available free of charge, and a limited number of hard copies of the EIA Report is available for £1,500 per copy. The price of the hard copy reflects the costs of producing the Landscape and Visual visualisations.
- 1.6.4 Alternatively, a DVD or USB memory stick containing PDF files of the EIA Report are available for £15 per CD. These PDF files can also be downloaded for free from the Killean Wind Farm project website page at:
- 1.6.5 <https://www.killean-windfarm.co.uk/>

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

1.8 References

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

The Electricity Act 1989.

The Scottish Energy Strategy 2017.