Chapter 1: Introduction

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Introduction

1.1 This Environmental Impact Assessment Report (hereafter referred to as 'EIA Report') has been prepared by LUC and supporting specialist consultants on behalf of Car Duibh Wind Farm Limited (Ltd) (a company wholly owned by Statkraft UK Limited, hereafter referred to as 'the Applicant'). It accompanies an application for consent to construct and operate an up to 13 turbine wind farm (with associated infrastructure) known as An Carr Dubh Wind Farm (hereafter referred to as 'the Proposed Development') in Argyll and Bute Council (ABC) administrative area¹. Turbine 1 (T1) of the Proposed Development is the closest to Inveraray, located approximately 6 kilometres (km) to the north-west, and T13 is the closest to Dalavich, approximately 4.5km to the east. The location of the Site is shown in Figure 1.1.

1.2 As the Proposed Development has a generating capacity in excess of 50 megawatts (MW), consent is required from Scottish Ministers under Section 36 of the Electricity Act 1989 (hereafter referred to as 'the Act'), in consultation with relevant statutory consultees, including ABC. In addition, a request is being made by the Applicant that planning permission is deemed to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended.

1.3 The application for consent is accompanied by this EIA Report which presents the findings of the EIA undertaken in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (hereafter referred to as 'the EIA Regulations'). This EIA Report presents information on the identification and assessment of the likely significant environmental effects of the Proposed Development.

The Proposed Development

1.4 The Proposed Development is described in detail in Chapter 4: Project Description. In summary, it will comprise:

- Up to 13 wind turbines (including internal transformers), each up to a maximum blade tip height of 180m. The currently considered candidate turbine has a rated capacity of 6.6MW;
- Foundations supporting each wind turbine;
- Associated crane hardstandings and adjacent laydown areas at each turbine location;
- A network of onsite access tracks of approximately 23.1km (of which 6.6km will be upgraded existing track and 16.5km will be new track):
- 105 watercourse crossings and associated infrastructure, i.e. culverts (31 upgraded existing crossing and 74 new crossings);
- A network of underground cables and cable trenches to connect the turbines to the onsite substation;
- A permanent meteorological mast of up to 102.5m in height, and associated track;
- Vehicle turning heads;
- Onsite passing places (location and size to be determined by the turbine supplier);
- Site signage;
- A permanent compound containing the control building, substation and 20MW energy storage facility; and
- An Outline Restoration and Enhancement Plan (OREP) for peat, biodiversity, landscape and forestry (provided as Appendix 8.5).

1.5 In addition to the above components of the operational Proposed Development, construction of the Proposed Development will also require the following components:

- One temporary construction compound;
- A concrete batching area (location to be confirmed however this is likely to be in the new borrow pit, or construction compound, as identified by the Contractor and agreed in the CEMP);
- The creation of one temporary borrow pit for the extraction of stone, and the reopening/use of two existing borrow pits;
- Junction widening and upgrades at the A83 and the A819; and
- Felling of approximately 3.77 hectares (ha) of forestry to facilitate access during construction.

1.6 Two blade transfer areas may also be required to facilitate construction of the Proposed Development; however, these do not form part of this application for consent, as there is a degree of uncertainty associated with the final locations and requirements. These are described, as far as is possible, and considered in the 'in combination' assessment section of the relevant assessment chapters.

1.7 The expected operational life of the Proposed Development is 40 years from the date of commissioning. Up to 18 months are required for construction (an indicative construction programme can be found in Chapter 4). It is anticipated that construction of the Proposed Development will commence in 2027. Following the 40 year operational period, the Proposed Development will be fully decommissioned, or an application may be made to extend the operational life of the Proposed Development or replace the turbines. Decommissioning will last approximately 12 months. This will involve the removal of the turbines, hardstandings, electrical equipment and control building.

The Applicant

1.8 The application will be made by Car Duibh Wind Farm Ltd (a wholly owned subsidiary of Statkraft UK Ltd). Statkraft is a leading company in hydropower internationally and is Europe's largest generator of renewable energy. The Group produces hydropower, wind power, solar power, gas-fired power and supplies district heating. Statkraft is a global company in energy market operations and has 5,300 employees in 21 countries.

1.9 Statkraft is at the heart of the UK's energy transition. Since 2006, Statkraft has gone from strength to strength in the UK, building experience across wind, solar, hydro, storage, grid stability, EV charging, green hydrogen and a thriving markets business. Statkraft has invested over £1.3 billion in the UK's renewable energy infrastructure and facilitated over 4GW of new-build renewable energy generation through Power Purchase Agreements (PPA). In the UK Statkraft employs over 300 staff in England, Scotland, and Wales, and plays a key role in helping the global business reach its goal of 9GW of developed wind and solar power by 2025.

Legislative Requirements for EIA

1.10 As the Proposed Development exceeds the threshold for wind farms set out within Schedule 2 of the EIA Regulations, and as it is considered that it can potentially result in significant effects, an EIA is required. Where an EIA is required, the information must be provided to the determining authority by the Applicant in the form of an EIA Report. This EIA Report presents the findings of the EIA undertaken for the Proposed Development and has been compiled in accordance with Regulation 5 and Schedule 4 of the EIA Regulations. Further details regarding the EIA legislative requirements are provided in Chapter 2: Approach to the EIA.

Supporting Documents

1.11 The Planning etc. (Scotland) Act 2006 introduced a mandatory requirement for a Design and Access Statement to be prepared in support of all 'major' developments. Although not required for applications submitted under the Act, a Design and Access Statement has been prepared for the application as good practice. This explains the design principles and concepts that have informed the Proposed Development layout. Information on how the layout has been generated and a discussion on the scale and appearance of the Proposed Development are included, together with the consideration of issues associated with vehicular access

¹ The Proposed Development was originally called Car Duibh Wind Farm but was renamed An Càrr Dubh Wind Farm following local feedback and further advice to reflect both local Gaelic and the wind farm location

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and transport links. The Design and Access Statement does not form part of the EIA Report and further information on site selection and design is provided in Chapter 3: Site Selection and Design Strategy.

1.12 A Pre-Application Consultation (PAC) Report has been produced by McMillan Consultancy. Although also not required for applications submitted under the Act, pre-application consultation is required for major and national developments under the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 (as amended). The PAC has therefore been prepared as good practice, and presents a summary of the public consultation that was undertaken for this application, including examples of material provided and feedback given. Further information on consultation is also provided in Chapter 2.

1.13 In addition, a separate Planning Statement has been prepared by David Bell Planning. The purpose of this is to appraise the Proposed Development in the context of the relevant Development Plan and other material considerations to determine its compliance with local and national policy. There is no legislative requirement for the submission of a Planning Statement, although it is now also regarded as good practice. The Planning Statement does not form part of the EIA Report.

Climate Change and Renewable Energy Legislation and Policy

1.14 The issues of climate change, renewable energy generation and carbon dioxide (CO₂) emissions have become increasingly important in the UK as well as in international policy and legislation in recent years. One of the primary aims of the UK government is to move the UK towards a low zero carbon economy. This relates to all sectors of business and industry and all policy frameworks that affect the general public.

1.15 UK legislation and policy is, in turn, driven by international co-operation to cut the emission of greenhouse gases, through the United Nations Framework Convention on Climate Change (UNFCC). This includes the 'Kyoto Protocol'2, which became a legally binding treaty on 16th February 2005, and the 'Paris Agreement'³. Ratified in the UK in November 2016, the Paris Agreement sets out the ambition of holding the increase of global average temperature to "well below 2°C" and pursuing efforts to limit temperature increase to 1.5°C. The commitments set out in the Agreement were reaffirmed in the Glasgow Climate Pact (November 2021)⁴. The Pact emphasises the role of phasing down the use of all fossil fuels across the energy sector and scaling up clean power.

1.16 In response to the declaration of a national climate emergency in May 2019, a net-zero carbon emissions target by 2050 became law with the updating of the UK Climate Change Act, compared to an 80% reduction by 2050, as set by the Climate Change Act 2008⁵. Like the UK Government, the Scottish Government also responded to the climate emergency and in 2019, First Minister Nicola Sturgeon called on the Scottish Government to set a net-zero emissions target for 2045, five years ahead of the UK Government. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019⁶ received Royal Assent on 31st October 2019 and the net-zero target is now enacted by law.

1.17 Although energy policy is reserved to the UK Government, the devolved Scottish Government has also published a suite of policy in relation to renewable energy and climate change which continues to drive Scotland's low carbon ambitions. The following publications are particularly relevant:

- The Scottish Climate Change Plan Update (2020)⁷.
- The Scottish Energy Strategy (2017)⁸;
- The Draft Energy Strategy and Just Transition Plan (January 2023); and
- The Onshore Wind Policy Statement (2022)⁹.

1.18 The Scottish Government also committed to updating its Climate Change Plan to account for the new targets. In 2020, the Climate Change Plan 2018 was updated to represent the latest set of targets over the period to 2032 as based on the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Targets also include the world-leading interim goal of a 75% reduction in emissions by 2030 (relative to the 1990 baseline).

1.19 The Scottish Energy Strategy, which calls for a 50% 'all energy' from renewables target by 2030, emphasises that onshore wind is now one of the cheapest forms of electricity and will therefore continue to play an important role in realising the Scottish Government's Climate Change ambitions. Scottish energy and climate change goals mean that onshore wind is vital to Scotland's

future, and will help to decarbonise our electricity, heat and transport systems, boosting our economy, and meeting local and national demand

1.20 The Onshore Wind Policy Statement 2022 sets out the up-to-date national policy position in relation to onshore wind. The Ministerial Foreword sets out that "Scotland has been a frontrunner in onshore wind and, while other renewable technologies are starting to reach commercial maturity, continued deployment of onshore wind will be key to ensuring our 2030 targets are met". It adds that "This statement, which is the culmination of an extensive consultative process with industry, our statutory consultees and the public, sets an overall ambition of 20GW of installed onshore wind capacity in Scotland by 2030". The last paragraph states "By acting now, we can set Scotland on a pathway to meeting our ambitious climate change targets in a way that is aligned to the needs of our citizens, supports a just transition and delivers opportunities for all".

1.21 More detail on statutory and policy framework is provided in Chapter 5: Statutory and Policy Framework of the EIA Report and the Planning Statement.

Benefits of the Proposed Development

Environmental Benefits

Carbon Emissions Offset

1.22 The principal atmospheric pollutants produced by burning fossil fuels are CO₂, sulphur dioxide (SO₂), and oxides of nitrogen (NO_x). In contrast, the harnessing of wind energy is non-consumptive and produces no gases or other by-products. The key environmental benefit of the Proposed Development will be the generation of electricity from a renewable energy source that will reduce or avoid the use of fossil fuels through the displacement of electricity generated from other sources of energy, or add to renewable electrical capacity which can contribute to decarbonisation in other sectors such as transport and heat.

1.23 The purpose of the Proposed Development is to generate electricity from a renewable source of energy, offsetting the need for power generation from the combustion of fossil fuels in a range of sectors. Consequently, the electricity that will be produced by the Proposed Development results in a saving in emissions of CO₂ with associated environmental benefit. The 'payback time' is defined as the length of time (in months) required for the Proposed Development to be considered a net avoider of emissions rather than a net emitter. The calculation of payback time includes a consideration of emissions resulting from the construction and operational phases, and the quantification of the carbon storage loss as a result of loss of peat within the Site (expressed as CO₂ emissions).

1.24 Use of the Scottish Government's latest carbon calculator¹⁰ with best estimate values, based on available information and assuming that fossil fuel electricity generation will be replaced, indicates that the Proposed Development will pay back the carbon emissions associated with its construction and operation in approximately 8 months and overall will save approximately 40,000 tonnes of CO₂e per year over its operational lifetime by displacing fossil fuel use. Further details are provided in Appendix 14.1: Carbon Balance Assessment.

Outline Restoration and Enhancement Plan

1.25 As part of the Proposed Development, an Outline Restoration and Enhancement Plan (OREP) has been prepared (Appendix 8.5). Proposals include restoration and enhancement to the peat resource on the Site by infilling of the eroded areas of peat, reprofiling hagged peat and drain blocking. These measures will address potential and ongoing carbon loss by:

- Allowing excavated peat to be put in areas where it has a good chance of remaining wet, as well as translocating (rather than losing) habitats that are part of the development land-take; and
- Preventing/reducing further erosion of bare peat in other locations.

1.26 Restoration of peatland habitats will also encourage retention of carbon through prevention of further erosion, restoration of bog function and potentially bog-building. This may in turn provide ecology and ornithology benefits through improved and increased availability of bog habitats (including supporting prey species).

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² United Nations (1998) Kyoto Protocol to the United Nations Framework Convention on Climate Change

³ United Nations (2015) The Paris Agreement

⁴ United Nations (2021) The Glasgow Pact

⁵ UK Government (2008) The Climate Change Act

⁶ Scottish Government (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act

⁷ Scottish Government (2018) The Scottish Government's Climate Change Plan, Third Report on Proposals and Policies 2018-2032 (RPP3)

⁸ Scottish Government (2017) The Scottish Energy Strategy: The Future of Energy in Scotland

⁹ Scottish Government (2022) Onshore Wind Policy Statemen

¹⁰ Scottish Government (2016) Carbon Calculator Tool V1.7.0 [online]. Available at: http://informatics.sepa.org.uk/CarbonCalculator/

1.27 Riparian tree planting has also been proposed. New woodland habitats will provide foraging and sheltering opportunities for a variety of species. Riparian planting will also improve watercourse guality.

1.28 There is also the potential for benefits in terms of landscape and visual qualities by creating a more intact and higher quality landscape as a result of repair of areas of scarring for peat, softening of harsh coniferous plantation edges, and increased presence of woodland and scrub in areas which are appropriate for planting, including along watercourses.

1.29 In addition a water vole monitoring regime is proposed which can allow assessment of the density of and variation within the population and monitoring of mink rafts could act as a warning system of a possible predation issue in the area. Pine marten and red squirrel boxes are proposed which will enhance denning opportunities for pine marten on the Site.

Community Benefits

1.30 It is estimated that the number of households that can be potentially powered by the Proposed Development is 95,872 per annum¹¹.

1.31 The Applicant is committed to setting up a Community Benefit Fund in line with Scottish Government Good Practice Principles. The fund would contribute £5,000 per MW of installed capacity over the operational life time of the Proposed Development, should it be consented. At this stage based on the candidate turbine, the wind farm will have a maximum installed capacity of up to 85.8MW, which will mean a maximum of £429,000 available for community benefit per annum (the amount of community benefit available will be determined by the actual installed capacity of the wind farm, should it be consented and constructed).

1.32 The Applicant is not prescriptive in the way the Community Benefit Funds are set up and administered but are keen to ensure Community Benefit Funding meets local needs and delivers projects which can meet short term needs and deliver long term sustainable benefits to the local communities. Examples of previous projects include education activities, sustainable energy schemes and schemes to promote recreation.

1.33 Separate to the Community Benefit Fund the Applicant is keen to explore the opportunity of shared ownership of the Proposed Development, should there be interest from the local community to take this forward.

1.34 A broadband feasibility study has been undertaken which suggested that communities near the Proposed Development could benefit from improved broadband. Further assessment is recommended to be undertaken once the Scottish Government's R100 programme has been completed in the area. This further study would help determine the opportunity for the provision of improved broadband provision for commercial and residential properties which could be, should the community wish be, partially or fully funded by the community benefit fund associated with the Proposed Development.

1.35 Further details on economic benefits are provided in Chapter 13: Socio-Economics.

Energy Security Benefits

1.36 There is a drive to reduce the UK's reliance on fossil fuels and boost the sources of homegrown energy for better energy security in the long-term as set out within the British Energy Security Strategy (2022). This states that "Onshore wind is one of the cheapest forms of renewable power." The Proposed Development will make a notable contribution to the home grown electricity within Scotland, with the potential to power approximately 95,872 homes as noted above¹¹.

The EIA Report Structure

1.37 This EIA Report presents the findings of the assessment of the likely significant environmental effects of the Proposed Development during construction and operation. Whilst a detailed assessment of effects during the decommissioning phase has not been undertaken, a method statement will be prepared and agreed with the relevant statutory consultees prior to decommissioning of the Proposed Development.

1.38 The general methodology for the EIA Report is detailed in Chapter 2, and the EIA process has also been used to inform the iterative design process for the Proposed Development (see Chapter 3).

1.39 The EIA Report comprises four volumes:

¹¹ This figure was calculated using the RUK assumption using the number of megawatts installed, multiplied by wind load factor expressed as a fraction of 1, multiplied by number of hours in a year, divided by average annual domestic electricity consumption expressed in MWh.

- Volume 1: Written Text
- Volume 2: Figures
- Volume 3(a)-3(d): Landscape and Visual Impact Assessment (LVIA) and Cultural Heritage Assessment Visualisations (NatureScot format)
- Volume 4(a) Appendices

1.40 In addition to the standalone Non-Technical Summary (NTS) accompanying the EIA Report, the following documents also support the application as noted above:

- A Design and Access Statement (prepared by LUC);
- A Pre-Application Consultation Report (prepared by McMillan Consultancy); and
- A Planning Statement (prepared by David Bell Planning).

1.41 Chapters 1-5 of Volume 1 of the EIA Report are the introductory chapters and comprise the following:

- Chapter 1: Introduction (this Chapter) provides a brief introduction to the Proposed Development, the legislative requirements and outlines the structure of the EIA Report.
- Chapter 2: Approach to the EIA provides more details on the EIA process including consultation.
- Chapter 3: Site Selection and Design Strategy summarises the reason for selection of the location of the Proposed Development. The approach to the design strategy and information on how the layout has evolved through the EIA process is also detailed.
- Chapter 4: Project Description provides a detailed description of the Proposed Development.
- Chapter 5: Statutory and Policy Framework summarises the legislative and policy background relevant to the Proposed Development. It refers to energy and planning policy at a national and local level.

1.42 Chapters 6-14 of Volume 1 describe the likely significant effects of the Proposed Development on a topic-by-topic basis as set out in Table 1.1. Box 1 below provides further information on the structure of each chapter. The assessment section of each topic chapter is structured in a way that is most logical for that particular topic area, and whilst maintaining the general structure identified below, may include other sections specific to that particular topic.

1.43 Finally, Chapter 15: Summary of Significant Effects provides a consolidated summary of all likely significant effects of the Proposed Development identified through the EIA process.

1.44 The EIA Report has been compiled by LUC on behalf of the Applicant. Whilst LUC had overall responsibility for the EIA Report, sub-consultants prepared specialist chapters and provided input as outlined in Table 1.1 below.

Table 1.1: Structure of the EIA Report and responsibilities

Chapter Number	Title	
Chapter 1	Introduction	
Chapter 2	Approach to the EIA	
Chapter 3	Site Selection and Design Strategy	
Chapter 4	Project Description	
Chapter 5	Statutory and Policy Framework	
Chapter 6	Landscape and Visual Amenity	

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Organisation Responsible	
LUC	
LUC	
LUC	
LUC with inputs from Pell Frischmann	
David Bell Planning	
LUC with inputs from Wind Power Aviation Consultants (WPAC)	

Chapter Number	Title	Organisation Responsible
Chapter 7	Geology, Hydrology, Hydrogeology and Peat	Kaya Consulting (hydrology) and East Point Geo (peat)
Chapter 8	Ecology	LUC
Chapter 9	Ornithology	Avian Ecology
Chapter 10	Cultural Heritage	LUC
Chapter 11	Noise and Vibration	Hoare Lea
Chapter 12	Traffic and Transport	Pell Frischmann
Chapter 13	Socio-Economics	LUC and MKA Economics
Chapter 14	Other Issues (including aviation and climate change)	WPAC (aviation), LUC (climate change), Carbon Forecast (carbon balance)
Chapter 15	Summary of Significant Effects	LUC

Structure of the EIA Report Assessment Chapters

Introduction: Provides a description of the study area and outlines the effects which have been assessed in full, and those which have been 'scoped out' of the EIA.

Scope of the Assessment: Details key issues, appropriate to the topic, that the assessment has addressed.

Assessment Methodology: Summarises the key methods used in the assessment (desk-based study, field survey, consultation and consideration of significance of effect, including criteria used).

Existing Conditions: Summarises the baseline situation, including field survey results where appropriate, and the way in which the baseline may alter as a result of climate change.

The 'Do Nothing' Scenario: Describes the predicted environmental conditions and proposed or likely changes likely to occur in the absence of the Proposed Development.

Wind Farm Design Considerations: Describes the constraints taken account of in designing the layout and any modifications to the layout as part of the iterative design process.

Micrositing Allowance: Provides details of the way in which effects may change as a result of implementing a 50m micrositing allowance on all infrastructure.

Good Practice Measures: Details the measures assumed to be in place during construction of the Proposed Development or integral to the design prior to the assessment being undertaken. These measures are not consideration to be mitigation.

Assessment of Effects: Provides an overview of the type of effects considered in the assessment:

- Construction Effects: Describes the predicted effects, proposed additional mitigation and residual effects associated with construction of the Proposed Development.
- Operational Effects: Describes the predicted effects, proposed additional mitigation and residual effects associated with operation of the Proposed Development.
- Cumulative Effects Assessment: Describes the incremental construction/operational effects associated with adding the Proposed Development to the other wind farms being considered in the cumulative assessment. Proposed additional mitigation measures and residual cumulative effects are also described.

Interrelationship between Effects: Describes the indirect and secondary effects resulting from the interaction of separate direct effects arising both within a topic area and interrelated with other topics areas.

Further Survey Requirements and Monitoring: Describes any additional survey work or monitoring proposed, including that to monitor the effectiveness of proposed mitigation.

Summary of Significant Effects: Includes a table summarising any identified significant effects including mitigation measures and residual effects.

Statement of Expertise

1.45 Regulation 5 (5) (a-b) of the EIA Regulations states "In order to ensure the completeness and guality of the EIA report—

- a. the developer must ensure that the EIA report is prepared by competent experts; and
- b. the EIA report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts".

1.46 The EIA process was managed by LUC. LUC is a Registrant of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark Scheme which allows organisations that lead the co-ordination of statutory EIAs in the UK to make a commitment to excellence in EIA activities, and to have this commitment independently reviewed on a regular basis.

1.47 Details have been provided in Appendix 1.1: Statement of Expertise regarding each chapter author's professional expertise. These details are also provided in each assessment chapter (Chapters 6-14) for ease of reference.

Availability

1.48 Copies of this EIA Report and further information may be obtained by contacting Car Duibh Wind Farm Ltd on 0800 772 0668 or by emailing <u>uk-post@statkraft.com</u>. A hard copy of the EIA Report is available at cost of printing and postage. Hard copies of the Non-Technical Summary (NTS) are available free of charge.

1.49 The EIA Report will be available for viewing online on the Scottish Government Energy Consents Unit (ECU) portal, ABC planning portal and on the application website: http://www.ancarrdubh.co.uk/.

1.50 A printed copy of the EIA Report and supporting documents is available for public inspection at Argyll and Bute's Lochgilphead Customer Service Point, which is located at 1A Manse Brae, Lochgilphead, PA31 8RD.

Representations

1.51 Any representations on the application may be submitted via the ECU website at www.energyconsents.scot/Register.aspx; by email to the Scottish Government, Energy Consents Unit mailbox at representations@gov.scot; or by post to the Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation.

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