Section 1
INTRODUCTION

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Term	Definition
Capacity factor	The capacity factor of any power plant is the percentage of generation of its actual generation against its theoretical maximum generation.
Cumulative impacts	Defined as effects on the environment which are caused by the combined results of past, current and future activities
Crane Hardstands	An area of compacted crushed stone, concrete or other suitable material that enables cranes, cars and other vehicles to be safely parked and operated on the area.
Environmental Impact Assessment Report	Statutory obligation to provide environmental impact assessments for certain projects or developments. The Environmental Impact Assessment Report (EIAR) is the collation of these assessments.
Hub Height	The distance measured from the surface of the wind turbine tower foundation to the height of the wind turbine hub, to which the turbine blades are attached.
Meteorological Mast	Mast used for housing meteorological measuring equipment to measure wind speed and direction.
Shadow Flicker	The flickering effect caused when rotating turbine blades periodically cast a shadow over the surrounding area as they rotate.
Tip Height	The distance measured from the surface of the wind turbine tower foundation to the maximum height the turbine tip reaches when the turbine blade is in a vertical position.

Abbreviations

Abbreviation	Description
CWL	Community Windpower Limited
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
kV	Kilovolt
LVIA	Landscape and Visual Impact Assessment
MoU	Memorandum of Understanding
NTS	Non-Technical Summary
SES	Scottish Energy Strategy
TWh	Terawatt Hour
ULEV	Ultra-low Emissions Vehicles

Section 1: Introduction

1.1 The Proposal

1.1.1 This Environmental Impact Assessment Report (EIAR) has been prepared to accompany the planning application for a wind farm and associated infrastructure situated within Dumfries and Galloway. The wind farm is located approximately 5 km south east of Moffat and 11 km north east of Lockerbie as shown in Figures 1.1 and 1.2. These distances are calculated to the nearest turbine. The central point of the wind farm is NY155985.

1.1.2 Scoop Hill Community Wind Farm will comprise of 75 wind turbines, associated access tracks, crane hardstands, three meteorological masts, substation/control room buildings and compound plus 3 satellite substations, together with temporary construction and storage compounds, a temporary substation construction compound, 8 temporary borrow pits and the extension of 6 existing borrow pits. A Primary Energy Storage Facility with up to three further satellite energy storage facilities will also be constructed as part of this application to store electrical energy generated by Scoop Hill Community Wind Farm.

1.1.3 The nearest wind farm to the scheme is Little Hartfell which was consented in September 2019, located approximately 6km to the south east, which will comprise of 9 wind turbines with a tip height of 160m. An overview of the operational and consented wind farms in the surrounding area is shown in Figure 1.3.

1.1.4 Of the 75 proposed turbines, 4 of them will have a maximum tip height of 180m; 47 turbines will have a maximum tip height of 200m; 2 turbines will have a maximum tip height of 225m, and the remaining 22 turbines will have a maximum tip height of 250m. The candidate turbine has a typical rated capacity of up to 7MW, giving the scheme an overall generating capacity of 525 MW. The underground 33 kV cables routed from the proposed turbines would be brought to three satellite substations within the wind farm, where the voltage would be stepped up to 132kV. From the satellite substations, 132kV cables would transmit the generated electricity to the primary onsite substation. The primary onsite substation will connect to the grid substation at Bearholm, Moffat, located only 3km from the proposed site.

1.1.5 The Moffat 400/132kV substation is built into the Scotland – England 400kV interconnector, which transmits electrical energy between England and Scotland and houses, through two 400/132kV 240MVA transformers.

1.1.6 The planning application also includes energy storage facilities. The primary energy storage facility will be situated adjacent to the primary substation on the site accommodating the temporary Substation Construction Compound and will have a minimum capacity of 250MW. Up to three further satellite energy storage facilities situated adjacent to the satellite substations are also proposed. The same underground cables used for the transmission of the generated energy from the wind turbines will connect the energy storage facility to the wind farm's point of connection within the primary onsite substation. The design and inclusion of the energy storage facility provides real-time grid stabilisation to the National Grid, allowing excess electricity generated from renewables, in this instance Scoop Hill Community Wind Farm, to be stored in the energy storage facility during times of low demand. This stored capacity can then be fed back into the grid during times of peak demand.

1.1.7 The scheme at Scoop Hill will use the latest technologically advanced wind turbines also referred to as '*next-generation*' wind farms which have a far superior and higher efficiency and availability percentage and will exceed the 26% capacity factor used for older wind energy schemes and turbine technology. Given this and the predicted wind regime data obtained from the temporary on-site meteorological masts and other wind data sources, the anticipated capacity factor is likely to be in the region of 50%. Nonetheless, although these are realistic assumptions, for the purpose of this EIAR and resulting calculations, a more conservative capacity factor of 45% will be used in the energy and emission calculations which are detailed in Section 2: Detailed Project Description of this EIAR.

1.1.8 The Scoop Hill Community Wind Farm proposal will have an operational life of up to 40 years, therefore CWL and the Applicant are seeking planning permission for 40 years from when the turbines are fully installed and commissioned.

1.2 The Applicant/Developer

1.2.1 The Applicant is CWL Energy Limited, which is a sister company to Community Windpower Limited (CWL). CWL Energy Limited will be the company for which the Scoop Hill Community Wind Farm will be developed, constructed and operated by however for sake of clarity, CWL will be making the application on behalf of CWL Energy Limited. Therefore, the EIAR will subsequently reference CWL in its documentation.

1.2.2 Formed in 2001, CWL is a Scottish focused independent UK renewable energy company working closely with host communities to build onshore wind farms that can provide tangible economic, educational and environmental benefits to whole communities and local schools.

1.2.3 CWL and the Applicant believe in an open and consultative approach with our host communities during the development stage of a wind farm project and during all stages of the planning process. By learning from our development, construction and operation of medium scale wind farms in Scotland, we use our extensive knowledge and experience to design sites that are sympathetic to local landscapes and can provide generation to meet local and Scottish energy needs.

1.2.4 CWL is committed to investing in Scotland and the Scottish economy and operate a '*Buy Scottish*' policy which is implemented on all our wind farms, ensuring a large proportion of the significant investment required for the construction and operation of our wind farms is retained in Scotland.

1.2.5 CWL have seven operational wind farms in Scotland, totalling 221.25 MW:

- Dalry Community Wind Farm in North Ayrshire which has a generating capacity of 18MW and became operational in June 2006;
- Aikengall Community Wind Farm in East Lothian which has a generating capacity of 48MW and became operational in March 2009;
- Millour Hill Community Wind Farm in North Ayrshire which has a generating capacity of 18MW and became operational in the summer of 2012;
- Calder Water Community Wind Farm in South Lanarkshire which has a generating capacity of 39MW and became operational in December 2013;
- Millour Hill Extension in North Ayrshire which has a generating capacity of 6.4MW and became operational in January 2016;
- Aikengall II (Wester Dod) Community Wind Farm in East Lothian which has a generating capacity of 60.8MW and became operational in November 2017;
- Sanquhar Community Wind Farm in Dumfries and Galloway which has a generating capacity of 31.05MW, completed construction in December 2017 and became operational in March 2018.

1.2.6 CWL has a further three consented wind farms in Scotland totalling 123.5 MW:

- Sneddon Law Community Wind Farm in East Ayrshire which will have a generating capacity of 30MW;
- Sanquhar 'Six' Community Wind Farm in Dumfries and Galloway which will have a generating capacity of 18MW; and
- Aikengall IIa Community Wind Farm in East Lothian and Scottish Borders which will have a generating capacity of 75.5MW.

1.2.7 CWL also have two applications under Section 36 of The Electricity Act 1989 which are currently being considered by the Energy Consents Unit:

- Sanquhar II Community Wind Farm located on the border of Dumfries and Galloway and East Ayrshire which will consist of 44 turbines with a generating capacity of 308 MW; and
- Faw Side Community Wind Farm located on the border of Dumfries and Galloway and Scottish Borders which will consist of 45 turbines with a generating capacity of 315 MW.

Investment in Scotland

1.2.8 Since 2006, Community Windpower Ltd (CWL) has invested over £375 million for its seven operational wind farms in Scotland. This will increase to £625 million by the end of 2023 and £1.5 billion by 2025.

1.2.9 CWL are committed to investing in Scotland and the Scottish economy and have established a successful '*Buy Scottish*' initiative which is already being implemented for CWL's operational wind farm portfolio, and also includes the Scoop Hill Community Wind Farm proposal and the work undertaken to date during the development stage. The development, construction and operation of the proposed Scoop Hill Community Wind Farm will provide a large volume of financial investment into the local and regional economies, throughout the 18-month construction phase and the 40-year operational lifetime of the wind farm. This is estimated to be an initial investment of £530 million through development and construction, and a further £32.9 million per annum to operate the wind farm per annum. Overall, Scoop Hill Community Wind Farm will provide economic investment of over £1.8 billion over its lifetime.

1.2.10 The provision of 11 permanent jobs in the form of six turbine engineers, one supervisor and four maintenance workers would also be needed to support the project throughout. Expenditure via business rates to the local authority; rents, and contracts with contractors and sub-contractors during the construction phase, will also deliver a significant and positive financial boost to the local areas surrounding the wind farm. The business rates would total at approximately £6.56 million per annum.

1.2.11 In terms of community benefit funding for Scoop Hill Community Wind Farm, the Applicant and CWL are liaising with Community Councils, Local Development Groups, local communities, and other local organisations for suggestions on how Community Assets can be developed and funded, which not only benefit the local host communities, but enhance the local area, potentially bringing social, economic, and environmental benefits into the local host communities. Community benefit funding to be administered by Trust Funds will also be provided in the host communities of Scoop Hill Community Wind Farm.

1.2.12 The application for the proposed wind farm will be supported by a separate outline planning application for a 'Visitor Centre'. The proposed Visitor Centre will be subject to further consultation and community engagement to establish its viability and preferred uses. Notwithstanding this, CWL believe a Visitor Centre, located within the Scoop Hill Community Wind Farm, could provide a valuable tourist attraction, a local and regional educational facility and a recreational asset that would act not only as a catalyst for tourist growth but would facilitate healthy outdoor recreational activity in a diverse and safe environment. Further outline information of the proposed Visitor Centre is provided in the accompanying 'Commitment to Communities' report.

1.2.13 The submission of the Scoop Hill Community Wind Farm application comes at a time when the COVID 19 pandemic has triggered a monumental social and economic shock. GDP is falling and unemployment levels are rising resulting in a marked decline in confidence in Scotland's economic outlook. In response to this crisis the First Minister of Scotland stated, *'Our economic recovery must be a green recovery'*.

1.2.14 Section 5 of this EIAR and the accompanying 'Commitment to Communities Report' explain how the proposed development will create significant economic investment and long-term employment opportunities in Dumfries and Galloway and beyond thereby contributing to this green recovery.

1.3 The EIAR

1.3.1 This EIAR has been produced to accompany the application made to the Scottish Government Energy Consents Unit (ECU) under Section 36 of the Electricity Act 1989 for consent to construct a wind farm comprising 75 turbines for a 40-year operational period.

1.3.2 The Environmental Impact Assessment (EIA) process ensures that all the potential impacts associated with the site selection, design, construction, operation and decommissioning are identified and assessed. Appropriate mitigation measures are identified to minimise any potential impacts.

1.3.3 The purpose of this EIAR is to convey the findings and conclusions of the EIA, which has been undertaken for the proposed wind farm. It describes the natural and human environment of the area where the wind farm is to be situated. It provides details of the scheme during its construction, operational and decommissioning phases and assesses the potential impacts and their significance on the local environment.

1.3.4 It also sets out the policy context for renewable energy within Scotland, Dumfries and Galloway and the UK. These are in the context of international agreements for climate action, reductions in greenhouse gas emissions along with EU, UK and Scottish targets for the growth of renewable energy.

1.3.5 The preparation of this EIAR has been an iterative process to ensure that the maximum generation of the wind farm is balanced with local environmental and policy constraints. The design of the wind farm has been achieved following a series of iterations to the layout as a result of information gathered during the extensive scoping activities and consultations with the local host communities and consultees, in addition to the knowledge and experience gained through the development, construction and operation of CWL's portfolio of onshore wind farms.

1.3.6 This Volume (Volume I) presents the main EIAR. Volume II comprises the figures to accompany the Landscape and Visual Impact Assessment (LVIA). Volume III consists of the visualisations to accompany the LVIA.

1.3.7 A standalone Planning Statement has been produced to accompany the S36 application.

1.3.8 A Non-Technical Summary (NTS) has also been produced which provides a brief description of the proposed development, describes potential effects and outlines the measures to mitigate any potentially negative effects.

1.3.9 Copies of the NTS are available to download from the Applicants Scoop Hill Community Wind Farm website www.scoophillwindfarm.scot, the Energy Consents Unit portal, and the Dumfries and Galloway Council planning portal.

1.3.10 This EIAR has considered the advice within the *Environmental Impact Assessment Guide* issued by the Institute of Environmental Management and Assessment in 2016.

1.4 Stages of Project Development

The Scoping Process

1.4.1 The aim of the scoping process was to gather information on the environmental constraints surrounding the potential wind farm development for the chosen site. This is done initially by desk-based studies of public and non-public information.

1.4.2 Scoping is a vital early step in the preparation of the EIA. The scoping assessment informs the EIA by identifying issues that are likely to be important and eliminating those that are not.

Scoping Report

1.4.3 A Scoping Report was submitted to the Scottish Government ECU on 8th May 2019. The intention of the scoping exercise was to gain agreement from all key parties on how the EIA should be undertaken, including the scope of issues to be addressed and the method of assessments to be used. A Scoping Opinion was received from the Scottish Government ECU on 28th August 2019.

Environmental Impact Assessment

1.4.4 Early consultations concentrated on the relevant consultees and involved discussions on the findings of the scoping process, to gain agreement on the extent and nature of the potential impacts, seek additional information and agree the specification for further survey work.

1.4.5 The responses to the scoping consultation informed the Applicant of which specific environmental fields needed to be studied further. From these assessments, the significance of potential negative impacts was calculated, and mitigation measures designed to minimise any potential impacts.

1.4.6 The Applicant employed experienced independent professionals and consultants to conduct surveys and analyse the potential impacts. These are listed in Appendix 1.2, along with their relevant experience to demonstrate competency.

Gate-checking

1.4.7 The responses to the scoping consultation formed the basis of the gate-checking procedure. The Applicant submitted information to the Scottish Government's ECU and relevant consultees on the following:

- Addressing scoping consultation responses;
- Layout and Design improvements;
- Pre-application consultation;
- Anticipated timescales;
- Proposed consultee list; and
- Public viewing locations for the application documents.

EIA Report (EIAR)

1.4.8 The EIAR incorporates the findings from the EIA and the written reports. It is the complete final document detailing all aspects of the wind farm development process and is submitted with the wind farm planning application to the Scottish Government's ECU.

1.4.9 From the scoping and consultation process, it was agreed that the following detailed assessments would be investigated:

- Landscape and Visual Impact Assessment, including Residential Visual Amenity, night-time aviation lighting, Wild Land and Cumulative Impacts;
- Ecology and Ornithology, including Bat, Mammal and Habitat surveys and fish surveys;
- Cultural Heritage;
- Hydrology, Hydrogeology and Geology;
- Noise;
- Traffic and Transport;
- Forestry;
- Human Health and Population;
- Shadow Flicker;
- Telecommunication Interference;
- Aviation; and
- Avoidance and mitigation of potential impacts.

1.4.10 An outline of the project development process is provided in Table 1.1.

Table 1.1 – Project Development Process

Site Identification	**Stage 1: Project Data Gathering** Basic site investigation including wind speeds, electrical infrastructure, access, planning regulations and cumulative impact of other wind farms.
Pre-Scoping	**Stage 2: Consultation** Initial meetings and correspondence with the Scottish Government ECU and other consultees/stakeholders.
	Stage 3: Environmental Data Gathering Collection of public information within a suitable Area of Search (up to a maximum of 45 km buffer from the wind farm site boundary), gathered from public sources on the internet and written correspondence.
Scoping	**Stage 4: Scoping Report** Production and submission of Scoping Report to the Scottish Government ECU to initiate the formal scoping exercise to obtain a Scoping Opinion.
	Stage 5: Scoping Consultation The Scoping Report was issued to the relevant consultees, which included statutory and non-statutory bodies for their comment.
	Stage 6: Scoping Opinion The Scottish Government ECU collate information provided by consultees to produce the Scoping Opinion, which is then dispatched to the developer/applicant.

	Stage 7: Identification of Environmental Sensitivities Identification of receptors and the key environmental sensitivities, which could potentially be affected by the proposed wind farm development. Consultation with regulatory authorities to discuss aspects associated with the wind farm.
	Stage 8: Evaluation of Significance Evaluation of significance, including qualitative estimation of magnitude and severity of impacts on the surrounding environment.
Environmental Impact Assessment (EIA)	**Stage 9: Alteration to Wind Farm Project Design** Attention to design mitigation to minimise potential impacts.
	Stage 10: EIA Tender A number of environmental consultants were asked to bid for individual EIA sections e.g. ecology, landscape and visual, noise and cultural heritage.
	Stage 11: Commissioning of EIA Environmental consultants selected, and EIA work commissioned.
	Stage 12: Undertaking of EIA A detailed assessment of the identified potential significant effects associated with the project activities.
	Stage 13: Consultation Presentation of project to statutory consultees to obtain comments on the project and suitability of mitigation/management measures.
	Stage 14: Alteration to Wind Farm Project Design Consideration of project alterations to minimise significant adverse effects. Further assessment of the project after any such alterations.
	Stage 15: Mitigation Measures Identification and definition of mitigation measures to be applied to minimise, eliminate or manage the identified potential significant environmental effects.
	Stage 16: Review Review of consultees' comments and revision of the mitigation measures.
Gate-checking	**Stage 17: Gate-checking Procedure** Submission of gate-checking document to the Scottish Government ECU. Issued to consultees for review and comment.
EIA Report	**Stage 18: Production of EIAR and Accompanying Documents** Presentation of the findings of the baseline studies and mitigation measures and the significance of the residual wind farm effect on the environment.
Gate-checking	**Stage 19: Gate-checking 2 Procedure** Meeting with ECU to discuss and check the full EIAR and supporting documents, in order to complete the Gate-check 2 Check List.
Submission	**Stage 20: Planning Application Submission** Submission of wind farm planning application to the Scottish Government ECU.

1.5 Project Environmental Consultants

The Project Team

1.5.1 The Applicant has project managed the production of the EIAR and has brought together a specialist team to complete the individual studies mentioned previously. Specialist independent consultants who have extensive knowledge, experience and specific technical skills were contracted to complete the assessment to a high standard. The specialists employed in addition to the Applicant's own in-house professionals, are listed in Table 1.2.

Table 1.2 – Project Environmental Consultants

Environmental Assessment	Environmental Consultant
Ecology and Ornithology	Starling Learning 22 Braehead, Lochwinnoch, Renfrewshire, PA12 4AS
Landscape and Visual Impact	Optimised Environments Quartermile Two, 2nd floor, 2 Lister Square, Edinburgh, EH3 9GL
Noise	Hayes McKenzie Unit 3, Oakridge Office Park, Whaddon, Salisbury, SP5 3HT
Cultural Heritage	Headland Archaeology 13 Jane Street, Edinburgh, EH6 5HE
Fisheries	River Annan Trust Fisheries Office, Annandale Estates, St Ann's, Lockerbie, DG11 1HQ
Hydrology, Hydrogeology & Geology	Natural Power Ochil House, Springkerse Business Park, Stirling, FK7 7XE The Greenhouse, Forrest Estate Dalry, Castle Douglas, DG7 3XS

1.6 Assessment Methodology

1.6.1 To maintain consistency within the EIAR, a standard set of criteria has been defined for use throughout this EIAR, unless stated otherwise. The intention of the system is to enable a common order of 'magnitude', 'sensitivity' and 'significance' to be applied to the effects of a proposal. The term 'significance' is used in the context of impacts as identified in Schedule 3 of *The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017* (Scottish Government, 2017). The following describes the methodology used to determine significance. This should be read in conjunction with the main text of the EIAR as this is a guide and is not exhaustive.

1.6.2 The methodology has been applied in respect of the assessments undertaken.

1.6.3 Assessment criteria are required to evaluate environmental effects. Significance is generally determined through a combination of the sensitivity of a receptor to an effect and the magnitude of the change. This process is outlined as follows:

- Identification of baseline conditions of the site and its environs, including the *sensitivity of receptors* which may be affected by changes in the baseline conditions;
- Consideration of the *magnitude* of potential changes to the environmental baseline;
- Assessment of the *significance* of effect taking into account sensitivity of receptors and magnitude of effect;
- Identification of appropriate *mitigation* measures; and
- Assessment of significance of *residual effects* taking account of any mitigation measures.

1.6.4 The above approach does not, however, apply to all disciplines addressed in the EIAR, and where applicable, alternative approaches were therefore developed by external consultants as appropriate. These are clearly stated, described and justified in the relevant sections of the EIAR.

Baseline Conditions

1.6.5 Every effort has been made to obtain data concerning the existing environment at the site and in the wider area. Existing literature, project specific documentation, communication with local experts and site-specific studies have been drawn upon to accurately establish the baseline conditions.

1.6.6 For each environmental parameter, the effect of the proposed wind farm has been predicted and is assessed in relation to the baseline conditions.

Assessment of Effect

Sensitivity/Importance of Receptors

1.6.7 The sensitivity of the baseline conditions was defined according to the relative importance of existing environmental features on or near the site, or by the sensitivity of receptors which would potentially be affected by the proposed development.

Magnitude of Effect

1.6.8 The magnitude of effects on environmental baseline conditions was identified through detailed consideration of the proposed development, taking due cognisance of any legislative or policy standards or guidelines, and the following factors:

- The degree to which the environment is affected, e.g. whether the quality is enhanced or impaired;
- The scale or degree of change from the existing situation;
- Whether the effect is temporary or permanent, indirect or direct, short term, medium term or long term;
- Any in-combination effects; and
- Potential cumulative effects.

1.6.9 Table 1.3 gives a broad definition for magnitude of effects.

Table 1.3 – Definition of Magnitude

Level of Magnitude	Definition of magnitude
High	Total loss or major alteration to key elements/features/characteristics of the baseline (pre-development) conditions such that post development character of baseline will be fundamentally changed.
Medium	Partial loss or alteration to one or more key elements/ features/characteristics of the baseline (pre-development) conditions such that post development character/composition/attributes or baseline will be partially changed.
Low	Minor loss of or alteration to one or more key elements/features/ characteristics of the baseline (pre-development) conditions. Change arising from the loss/alteration will be discernible but underlying character/composition of the baseline condition will be similar to pre-development circumstances/patterns.
Negligible	Very minor loss or alteration to one or more key elements/ features/characteristics of the baseline (pre-development) conditions. Change barely distinguishable, approximating to the “no change” situation.

Significance of Effects

1.6.10 Determining the significance of environmental impacts involves value judgement and expert interpretation. The evaluation of the significance of an impact is important as it determines the resources that should be applied in avoiding or mitigating an adverse impact, or the actual value of a positive impact. Furthermore, it is the combined significance of the various mitigated impacts that determines the overall environmental acceptability of the proposals.

1.6.11 The significance of effects that have been identified within this EIAR take into account all proposed mitigation, and therefore are termed ‘residual effects’ as explained in paragraph 1.6.15.

1.6.12 Assumptions adopted in the evaluation of impacts are reported in the relevant sections. However, these assumptions are often implicit, relying on expert judgement. Where technical deficiencies are known, or it has been necessary to make assumptions, these are documented.

Mitigation

1.6.13 The approach to mitigation has been adopted with the primary aim of minimising environmental effects through avoidance resulting in a minimum number of required remediation measures. The mitigation strategy followed is detailed in Table 1.4.

1.6.14 Mitigation has been considered as an integral part of the overall design strategy of the wind farm. An iterative approach has been adopted whereby mitigation has been assessed and considered at all stages of the project. The final design of the wind farm has therefore evolved over the project lifecycle, systematically being optimised in response to increasing knowledge of the site and potential environmental effects.

Table 1.4 – Mitigation Strategy

Avoidance	Where viable the project has been designed to avoid impacts. This was achieved through the evolution of the turbine layout to account for potential landscape, visual, environmental and cumulative impacts.
Reduction	Reduction has been considered when all options for the avoidance of impacts have been exhausted or deemed to be impractical. For example, by considering different turbine heights to reduce visual impact.
Compensation	Where the potential for avoiding and reducing impacts has been exhausted, consideration has been given to compensating for residual impacts to make the proposal more environmentally acceptable.
Remediation	Where adverse effects are unavoidable, consideration has been given to limit the level of impact by undertaking remedial work, for example through a commitment to habitat enhancement following completion of construction.
Enhancement	In addition to reducing any adverse impacts, consideration has been given to providing the opportunity for environmental improvement.

Residual Effects

1.6.15 Any remaining effects of the proposed development, following implementation of available mitigation measures are known as ‘residual effects’. This assessment takes into account the mitigation as specified in the EIAR to identify the remaining (residual) effects with this mitigation implemented. The residual effects are discussed for each potential effect and a significance level identified.

Cumulative Effects

1.6.16 In accordance with the EIA regulations, the assessment has considered cumulative effects whereby the incremental effects of this development on one or more existing or assumed baselines is undertaken.

Summary

1.6.17 The effects of significance throughout this EIAR have been assessed on the above criteria unless stated otherwise in each section.

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Appendix 1.1 – List of Scoping Consultees

The EIA process has been conducted with detailed and extensive consultation with statutory consultees, non-statutory consultees and interested parties. A number of organisations have been consulted on the proposed development as agreed with the ECU and they are listed below for information:

- Scottish Government;
- Dumfries & Galloway Council;
- Scottish Environment Protection Agency (SEPA);
- Nature Scot (formerly Scottish Natural Heritage (SNH));
- Atkins Global;
- BAA (Glasgow Airport);
- BAA Aerodrome Safeguarding (Edinburgh);
- British Telecom (BT);
- Civil Aviation Authority (CAA);
- Scottish Forestry (formerly known as Forestry Commission Scotland);
- Historic Environment Scotland;
- John Muir Trust;
- The Joint Radio Company Limited (JRC);
- Marine Scotland;
- Mountaineering Council of Scotland;
- National Air Traffic Services (NATS) ;
- Office of Communications (OFCOM);
- Eskdalemuir Community Council;
- Lockerbie and District Community Council;
- Moffat and District Community Council;
- North Milk Community Council;
- Wamphray Community Council;
- Johnstonebridge Community Council;
- Kirkpatrick Juxta Community Council;
- RSPB Scotland;
- Defence Infrastructure Organisation (MOD);
- Scottish Water;
- Scottish Wildlife Trust;
- ScotWays;
- British Horse Society;
- The Crown Estate;
- The Southern Uplands Partnership;
- Transport Scotland;
- Visit Scotland;
- Association of Salmon Fishery Boards;
- Scottish Wild Land Group (SWLG);
- Coal Authority;
- The River Annan Trust and District Salmon Fishery Board;
- Galloway Fisheries Trust.

Appendix 1.2 – EIA Team – Competent Experts

Organisation	Project Role	Technical Team	Competency
Hayes McKenzie	Noise and Vibration	Mike Craven (Principal)	BSc MIOA, >15 years' experience
		Robin Woodward (Senior)	BSc MIOA, >10 years' experience
		Andy McKenzie (Director)	BSc MIOA, >25 years' experience
Headland Archaeology Ltd	Archaeology and Cultural Heritage	Tom Janes	MA Hons, commercial archaeologist since 1998, 15 years' experience in Consultancy/EIA/Inquiry work, MCIfA-level member of Chartered Institute for Archaeologists
		Linn Glancy	MA(Hons) ACIfA. Worked on Environmental Impact Assessment and Cultural Heritage Consultancy since 2007. An MA(Hons) in Archaeology, an MA in Archaeological Survey and an Associate of the Chartered Institute for Archaeologists.
Natural Power	Geology, Hydrogeology, Hydrology and Soils	Emma Bryder	Senior Environmental Consultant (Hydrology) with 3 years' consultancy experience. Expertise in peatland hydrology and environmental monitoring. Qualifications including BSc (Hons) Environmental Science, MSc Sustainability and Environmental Studies and PhD Geography.
		Kelly Wyness	Associate Technical Director (Environment) with 13 years; consultancy experience. Expertise in hydrology, environmental and peat management. Senior manager, governance and QA. MA (Hons) Environmental Science and Geography.
		Katherine Arthur	Principal Environmental Consultant, 15 years' experience. Senior manager, governance and QA. MA Geography and MSc Energy and Environmental Management.
		Eadie McCallum	Assistant Environmental Consultant (Hydrology) with 4 years' consultancy experience. Technical support in delivery of fieldwork and reporting. BSc (Hons) Earth Sciences.
		Gavin Germaine	Principle Geotechnical Engineer with 12 years' consultancy experience. Expertise in geotechnical design and investigation, geophysics, land and aerial survey. QA of geological aspects of assessment. BSc (Hons) Geological Sciences and MSc Engineering Geology.
		Chris McCulla	Geotechnical Engineer with 6 years' consultancy experience. Expertise in design, management and supervision of intrusive site investigation. Technical support in delivery of fieldwork and reporting. BA (Hons) Geology.

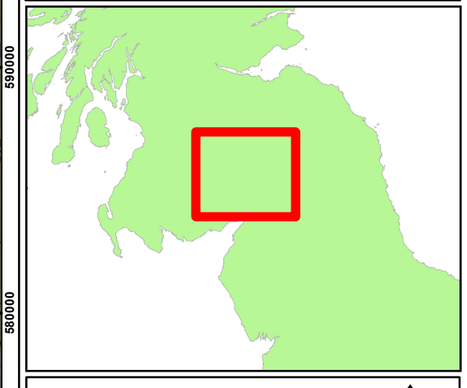
Optimised Environments Ltd	Landscape and Visual	James Welch	Director at OPEN. BA Hons FLI. Over 28 years of experience across many aspects of the landscape profession
Starling Learning	Ecology and Ornithology	Liz Parsons (Director)	Has co-ordinated and assisted with many wind farm surveys since 2004. BSc (Hons) Geography/Geology 2.1, Strathclyde University.
		Alan Wood (Senior Ecologist and Ecological Clerk of Works)	Very experienced ornithologist, fieldwork experience includes many surveys for the Scottish Ornithologists Club and British Trust for Ornithology as well as 16 years of experience with Starling Learning
		Joe Greenlees (Senior Ecologist and Ecological Clerk of Works)	Has assisted with many wind farm surveys since 2004. Main experience includes ecological survey work of birds, and protected species. HND Countryside Management, Barony College
		Jamie Manners (Ecological Surveyor)	Main experience includes ornithology and bat survey work.
		David Galbraith (Ecological Surveyor)	Has assisted with many of the bird survey projects listed above. Carries out all habitat surveys for Starling Learning. GIS technician
		Diane Lyons (Ecological surveyor, lead field teacher)	Has assisted with many of the survey projects listed above. Main experience includes ornithological and mammal survey. BSc Countryside Management, Auchincruive.
		Seumas Harris (Ecological Surveyor)	Ornithology and bat surveys since 2013
		Douglas Irving (Ecological Surveyor)	Ornithology and bat surveys since 2015
		Liam Flynn (Ecological Surveyor)	Ornithology and bat surveys since 2012
		Ian Miller (Ornithological surveyor)	Experienced ornithologist at many wind farms. Member of the Scottish Raptor Study Group
		Angus Murray (Ornithological surveyor)	Experienced ornithologist at many wind farms. Runs Birdline Scotland
		Dr Hilary Redden (Phycologist, ecological surveyor and researcher)	Has assisted with ecological surveys with Starling Learning and other organisations including the James Hutton Institute. PhD. Seaweed as a biofuel. Newcastle University BSc. Biological Sciences Edinburgh University
		Chris Rollie (Ornithological surveyor)	Former RSPB Area Manager Dumfries and Galloway, Secretary of the Scottish Raptor Study Group Dumfries branch
Aviatica	Aviation	Malcom Spaven	Former owner of Spaven Consulting for 18 years and current director of Aviatica Ltd as of 2012.

374 Scoop Hill

Legend

- Site Location

Notes: N/A
Revisions: N/A



0 2,500 5,000 10,000 m

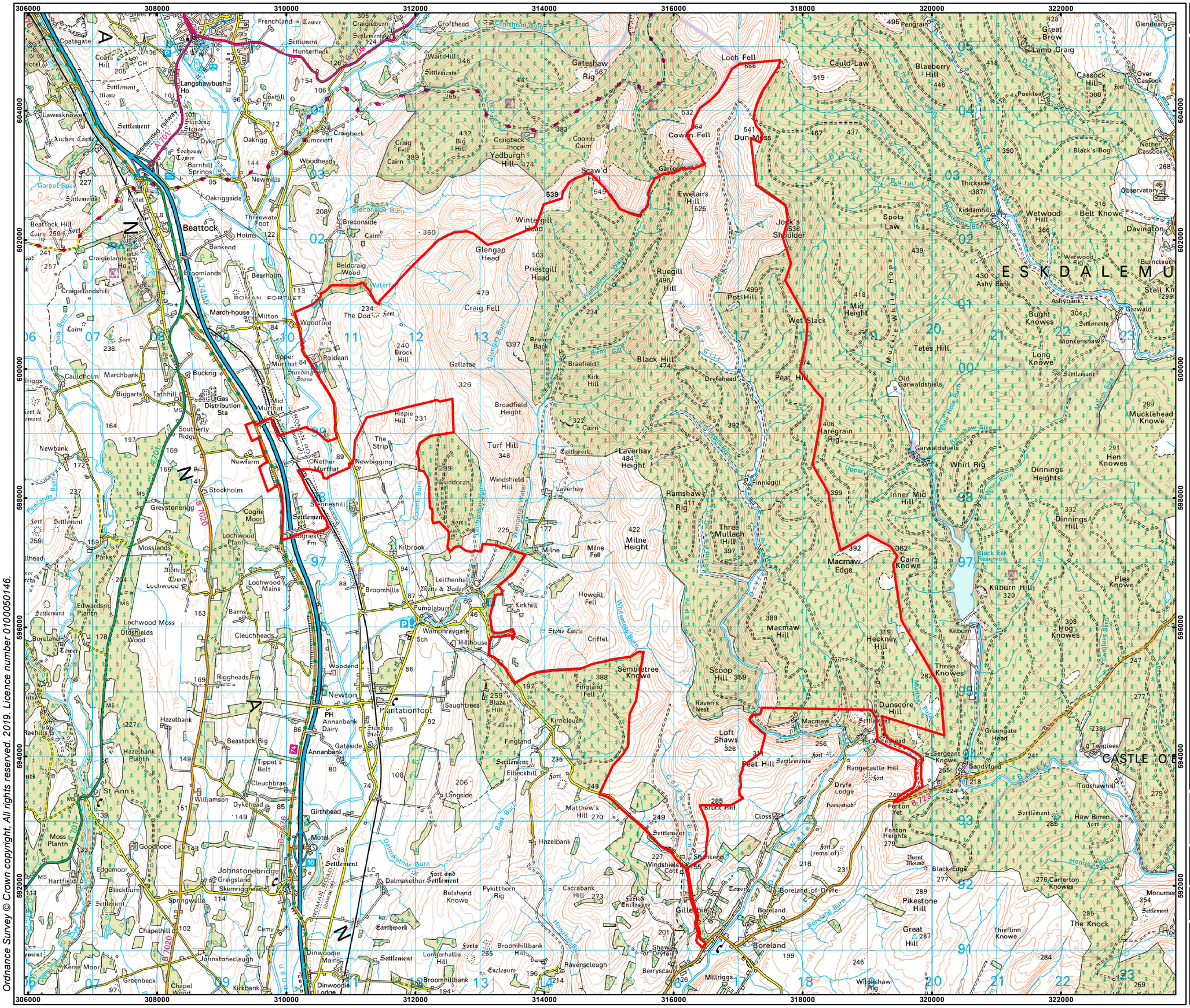
Scale: 1:250,000 @ A3

N

Figure 1.1 - Regional Location

Date: 31/03/2020		Ref: 374-190909-7185-A
Produced: RE	Reviewed: DR	Approved: GC

community windpower
Godscroft Lane
Frodsham - WA6 6XU
t: 01928 734544 f: 01928 734790
e: info@communitywindpower.co.uk w: www.communitywindpower.co.uk



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374 Scoop Hill

Legend

Site Boundary

Notes: N/A
Revisions: N/A

0 600 1,200 2,400 m

Scale: 1:55,000 @ A3

N

Figure 1.2 - Site Boundary

Date: 31/03/2020 Ref: 374-190909-7186-C

Produced: RE Reviewed: DR Approved: GC

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374 Scoop Hill

Legend

- Site Boundary
- Site Boundary 5km Buffer
- Site Boundary 10km Buffer

Wind Farm Status

- Application/Appeal
- Approved
- Operational
- Scoping
- Under Construction

Notes: N/A
Revisions: N/A

0 2.5 5 10 Km
Scale: 1:200,000 @ A3
N

Figure 1.3 - Wind Farm Overview

Date: 31/03/2020	Ref: 374-190909-7187-D	
Produced: RE	Reviewed: DR	Approved: GC

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