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Document History

CONFIDENTIALITY (Confidential or Not Confidential): Not Confidential			
Project Number:	374	Project Name	Scoop Hill Community Wind Farm
Report Title:	Non-Technical Summary		
Reference Number:	374-190820-3047-A		
Issued by:	Community Windpower Limited		

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This Non-Technical Summary (NTS) provides a summary of the Environmental Impact Assessment Report (EIAR) which has been prepared to accompany the application to the Scottish Government Energy Consents Unit for consent to construct a wind farm (Scoop Hill Community Wind Farm) under Section 36 of the Electricity Act 1989.

The EIAR has been prepared in accordance with the requirements of the European Directives 85/337/EEC and 97/11/EC as applied through the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 as amended.

The EIAR also complies with The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 that were laid in Scottish Parliament on the 14th April 2020 and came into force on the 24th April 2020. Therefore, please note that no physical copies of the documents are available to review at Council Offices or Libraries due to the current COVID-19 restrictions.

Once COVID-19 restrictions are lifted, all volumes of the EIAR and accompanying documents will be made available to be viewed at the following addresses during their stated opening hours.

Location	Opening Hours
Moffat Library 12A High Street Moffat DG10 9HF Tel: 01683 220536 Johnstonebridge Community Centre	Tuesday – 10:00am to 7:00pm Friday – 9:00am to 5:00pm Saturday – 9:00am to 12:00pm
Kirkbank Road, Johnstonebridge, Lockerbie DG11 1ES Tel: 01576 470325	Monday – 10:00am to 3:00pm Tuesday – 10:00am to 3:00pm Wednesday – 10:00am to 15:00pm Thursday – 10:00 to 15:00pm
Eskdalemuir Community Hub Community Hub, The School, Langholm DG13 0QJ Tel: 013873 73760	Thursday: 11:00am to 15:00pm Friday: 11:00am to 15:00pm Saturday: 10:00am to 16:00pm Sunday: 10:00am to 16:00pm
Dumfries and Galloway Council 109-115 English Street Dumfries DG1 2DD Tel: 030 33 33 3000	Monday – 9:00 to 5:00pm Tuesday – 9:00am to 5:00pm Wednesday – 9:00am to 5:00pm Thursday – 9:00am to 5:00pm Friday – 9:00am to 5:00pm

The EIAR contains full details of all environmental impact assessments which have been undertaken and includes figures (maps, diagrams and visualisations) and plates (photographs).

The EIAR (Volume I) is accompanied by Volume II (LVIA GIS Figures) and Volume III (Visualisations) relating to the Landscape and Visual Impact Assessment (LVIA) in Section 6 of the EIAR. Volume II and Volume III should be read in conjunction with Section 6 of Volume I.

Other documents accompanying the Application include a Planning Statement, Confidential Annex (for SNH and the RSPB only), a Pre-Application Consultation Report and a Commitment to Communities Report, along with an outline Construction Environmental Management Plan and an outline Habitat Management Plan.

To obtain a copy of the full EIAR, please contact Community Windpower Ltd at Godscroft Lane, Frodsham, Cheshire, WA6 6XU, Tel: 01928 734544, or Email: project@communitywindpower.co.uk.

The cost to purchase the full EIAR is as follows:

- EIAR (Text & Figures) Volumes I, II, and III printed copy: £850; and
- EIAR (Text & Figures) Volumes I, II, and III on USB/CD in PDF format: £30.

The full EIAR and all supporting documents can also be accessed via our dedicated Scoop Hill Community Wind Farm website which is: www.scoophillwindfarm.scot

Electricity Measurements

1 kW x 1000 = 1 MW

1 MW x 1000 = 1 GW

1 GW x 1000 = 1 TW

Kilowatt (kW): Kilowatt-hour (kWh)

A kilowatt is a unit of power representing the rate at which energy is used or produced. One kilowatt-hour is a unit of energy and represents one hour of electricity consumption at a constant rate of 1 kW.

Megawatt (MW): Megawatt-hour (MWh)

A megawatt equals 1000 kW. One megawatt-hour represents one hour of electricity consumption at a constant rate of 1 MW.

Gigawatt (GW): Gigawatt-hour (GWh)

A gigawatt equals 1000 MW. One gigawatt-hour represents one hour of electricity consumed at a constant rate of 1 GW.

Terawatt (TW): Terawatt-hour (TWh)

One terawatt equals 1000 GW. One terawatt-hour represents one hour of electricity consumption at a constant rate of 1 TW.

Wind Speed Conversion Table

Throughout the EIAR wind speeds are designated in metres per second (m/s). The following table allows for conversion of wind speed from m/s into miles per hour (mph), knots, the Beaufort Scale and the World Meteorological Organisation Description.

1 m/s = 2.24 mph = 1.94 knots

m/s	mph	knots	Beaufort Scale	World Meteorological Organisation Description (1964)	Wind Turbine Status
1	2.2	1.9	1	Light breeze	Low Wind
2	4.5	3.9	2	Light breeze	Speed Shutdown Mode
3	8.7	5.8	2	Light breeze	Cut-In Wind
4	8.9	7.8	3	Gentle breeze	Speed Range
5	11.2	9.7	3	Gentle breeze	
6	13.4	11.7	4	Moderate breeze	
7	15.7	13.8	4	Moderate breeze	
8	17.9	15.5	4	Moderate breeze	
9	20.1	17.5	5	Fresh breeze	
10	22.4	19.4	5	Fresh breeze	
11	24.5	21.4	6	Strong breeze	Power
12	26.8	23.3	6	Strong breeze	Generation Wind Speed
15	33.8	28.1	7	Near gale	Range
17	38.0	33.0	7	Near gale	
20	44.7	38.8	8	Gale	
22	49.2	42.7	9	Strong gale	
23	51.5	44.6	9	Strong gale	
24	53.8	46.6	9	Strong gale	
25	56.0	48.5	10	Storm	
26	F0.3	F0 F	10	C+c	
26	58.2	50.5	10	Storm	High Wind
27	60.4	52.4	10	Storm	Speed
30	67.1	58.3	11	Violent storm	Shutdown
40	89.5	77.7	12	Hurricane	Protection
50	111.5	97.1	12	Hurricane	Mode
60	134.2	116.5	12	Hurricane	

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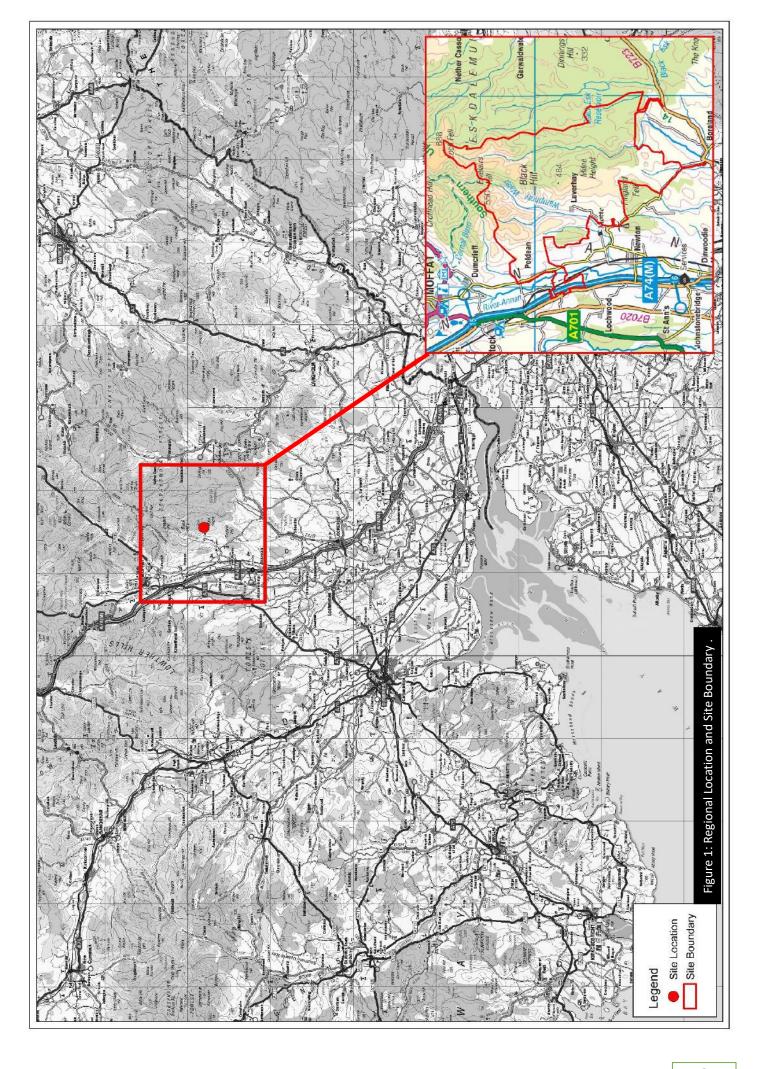
Introduction

This Non-Technical Summary (NTS) summarises the Environmental Impact Assessment Report (EIAR), which was prepared to accompany the application to the Scottish Government, for consent to construct a wind farm comprising of 75 turbines and associated infrastructure, with an installed capacity of 525 Megawatts (MW) under Section 36 of The Electricity Act 1989.

The EIAR details the findings and conclusions of the Environmental Impact Assessment (EIA) which has been undertaken in line with the Electricity Works (Environmental impact Assessment) (Scotland) Regulations 2017 as amended.

The EIA was undertaken for Scoop Hill Community Wind Farm to analyse the development in relation to the existing (baseline) environment, and to ensure that all potential impacts were identified and assessed. The EIA examined in detail the need for the project; the design of the wind farm and associated works; and the potential impacts associated with the construction, operation and decommissioning of the wind farm. Appropriate mitigation measures were then identified to minimise or eliminate any potential impacts.





A combination of field surveys, desktop surveys and modelling techniques have been used to assess the potential impacts of the wind farm; as well as detailed and extensive consultations that have been undertaken with statutory consultees, non-statutory consultees, communities and other interested parties.

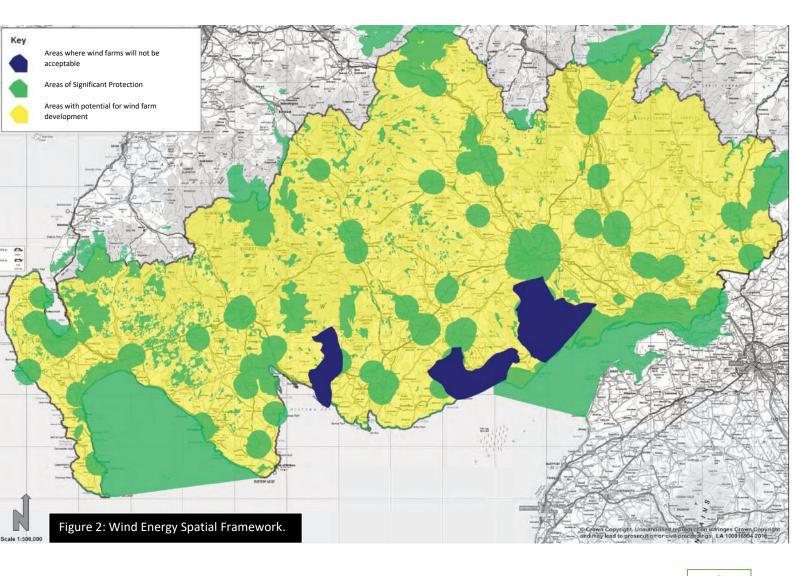
The significant and key factors in choosing the Scoop Hill site is its compliance with national and local planning landscape policy. Crucially, this site was allocated, under the 'Wind Energy Spatial Framework' Map 8 (Figure 2), as being an area 'with potential for wind farm development'. More importantly, the 2017 Dumfries & Galloway Wind Farm Landscape Capacity Study identifies the Eskdalemuir unit of the Southern Uplands with Forest [19a] as the only area in Dumfries & Galloway which can accommodate >150m turbines.

The EIAR sets out the project's vital contribution towards fulfilling the ambitious national targets for

electricity generation from renewables for 2030, and the net-zero carbon targets for 2025 (Dumfries and Galloway) and 2045 (Scotland).

The EIAR also includes a detailed socio-economic assessment which presents the significant benefits that will arise from the consent and operation of the Scoop Hill Community Wind Farm. This assessment coincides with the onset of the COVID-19 pandemic which has triggered a recession and a 19.7% drop in Scotland's GDP.

Approval of this development would be a positive and progressive step in the fight to tackle climate change, aiding Scotland with meeting its renewable energy and carbon emissions targets. The development will also provide essential economic stimulus to Dumfries and Galloway, supporting Scotland's green recovery from the COVID-19 pandemic.



The Applicant/Developer

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.

Formed in 2001, CWL is a Scottish focused independent UK company working closely with host communities to build wind farms that provide tangible economic, educational and environmental benefits for whole communities. Figure 3 presents a map of the UK showing the locations and status of our current proposed and developed wind farm projects.

The Applicant and CWL believe in an open and consultative approach with local communities throughout all stages of the wind farm project and particularly prior to the submission of a planning application. We are experienced in designing and operating wind farm sites that are appropriately sited and can provide local generation to meet local energy needs.



	No. of	Capacity
	Turbines	(mw)
OPERATIONAL		
Dalry	6	18
Aikengall	16	48
Millour Hill	6	18
Calder Water	13	39
Millour Hill		
Extension	2	6.4
Aikengall II	19	60.8
Sanquhar	9	31.05
CONSENTED		
Sneddon Law	15	45
Aikengall IIa	19	79.8
Sanquhar 'Six'	6	19.8
APPLICATION		
Sanquhar II	44	308
Faw Side	45	315
Total	200	988.85



Project Description

Key Project Figures

CURRENT SITE USE:

Agriculture and commercial forestry

SITE AREA:

Approximately 5685 hectares. It is estimated that total land-take of the proposed development following construction would be approximately 347 ha or 6.1% of the total site area

NUMBER OF TURBINES:

75

TURBINE HEIGHTS:

4 turbines 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 22 turbines will have a maximum tip height of 250m

OUTPUT:

7 megawatts (MW) per turbine with a total capacity of 525MW

ELECTRICITY PRODUCED:

2.1 TWh per annum

HOMES POWERED:

572,000

NUMBER OF BORROW PITS:

A total of 14 with 8 new and 6 existing

ACCESS TRACKS:

New Access Tracks: approximately 65km Existing Access Tracks: approximately 40km

Total: 105km

CONSTRUCTION PERIOD:

18 months

LIFE SPAN:

40 years operational

DECOMMISSION PERIOD:

24 months

CARBON PAYBACK PERIOD:

11 months

CARBON DISPLACEMENT:

931,000 tonnes of CO₂ per annum

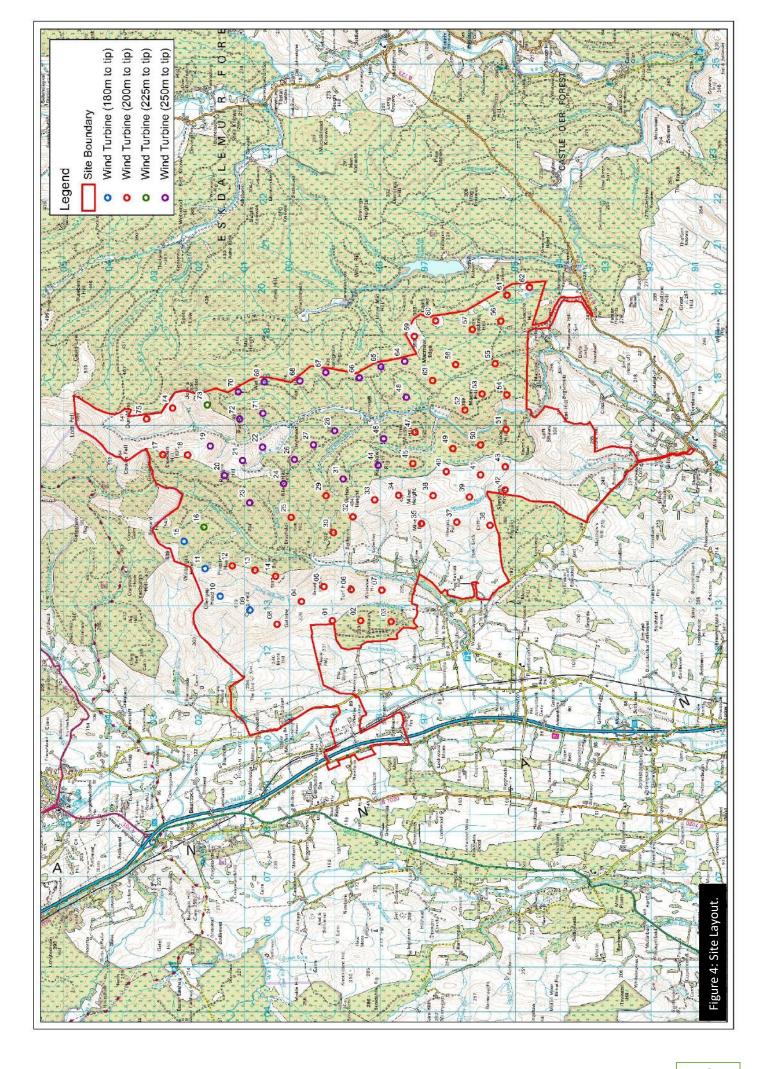
EMPLOYMENT:

It is expected that 250 construction jobs will be created alongside 11 full time, permanent jobs for the lifetime of the project 6 apprentices will also be employed

GRID CONNECTION:

The proposed development would be connected to the grid at Bearholm, Moffat in Dumfries and Galloway





Main Elements

The development is described in detail in the EIAR, however, in summary it will comprise of the following main components: 75 wind turbines and their foundations, crane hardstand areas; on-site access substation/control tracks, room buildings and compound plus three satellite substations, underground electrical and fibre optical cables to turbine, three each 125 meteorological mast, energy Storage facilities; and 33/132 kilovolt (kV) connection to a grid supply point.

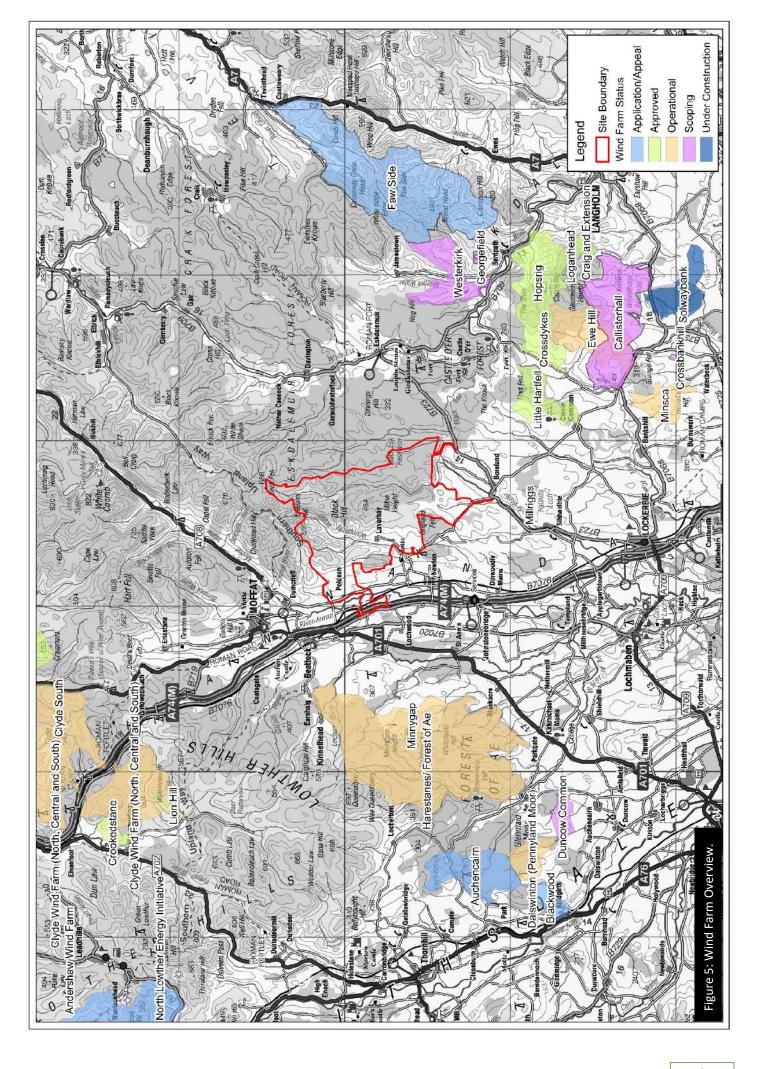
In addition to this, the following will be required during the construction of the wind farm: up to 8 new temporary borrow pits (areas of stone excavation) and use of up to 6 existing borrow pits, which will be reinstated post-construction, concrete batching plants which will be used onsite, four temporary construction compounds (which will then be used for the bases of the energy storage facilities) and nine temporary construction and site storage compounds which will be removed post-construction. The location of the wind turbines are shown in Figure 4.

Site Location

The proposed wind farm development is situated within Dumfries and Galloway, approximately 5 kilometres (km) south east of Moffat, as measured to the nearest turbine. This is presented in Figure 1 and 4. The proposed wind farm will cover an area of approximately 5,685 ha and is centred on the National Grid Reference (NGR) NY155985.

The Scoop Hill proposal is also located in close proximity to a number of operational or consented third party wind farms. The nearest wind farm being Little Hartfell which is a nine-turbine scheme with a tip height of 160m which was consented in September 2019. An overview of the operational and consented wind farms in the area are shown on Figure 5 along with details of wind farm schemes which are in planning, in scoping or have been refused/at appeal.





Wind Turbines

The turbines are to be three-bladed horizontal axis machines comprising of tower sections, a nacelle (where the generator is located), a hub and three blades.

With the increasing technological advancement of wind turbine design, the proposed turbines will have a typical generating capacity of 5 to 7 MW. It is assumed the turbine transformer will be housed externally on a small plinth beside the turbine. The turbines will be operated for 40 years and will be regularly serviced by engineers from the turbine supplier.

The asynchronous turbines are pitch regulated, upwind turbines with active yaw (a device which allows the machine to turn itself towards the prevailing wind). The proposed turbine tower is a conical three-sectioned tower. The rotor blades are typically aerofoil shells bonded to supporting beams and constructed from fibreglass reinforced epoxy and carbon fibres.

The turbines will be coated in a semi matt, light grey finish (International Colour Reference RAL7035, RGB 230, 230, 230). A typical specification of the type of turbine being considered, and the standard colour, is presented below in Figure 6.

Turbine Foundations

Turbine foundations typically consist of either a square, circular or octagonal steel reinforced concrete base usually over 18m in diameter and founded approximately 3.5 m below the ground surface.

The base tower section of the turbine is connected to the foundation by either an embedded end-can that is cast into the foundation, or alternatively bolts that are cast into the upstanding section of the foundation. The weight of the foundation and the backfill material provides the stability required for the turbine.

Crane Hardstand

The construction of each turbine will require a primary large sized crane and a secondary small sized crane. These cranes will require areas of hardstand to provide stable, firm ground conditions during the installation of turbines. These hardstand areas will also be available for the outriggers of the respective cranes.

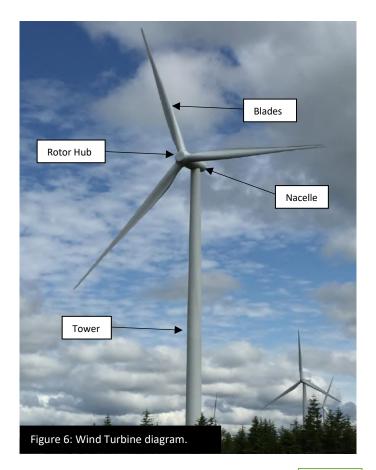
The hardstand areas will remain for the operational life of the wind farm to allow for future potential crane access, if repairs to the turbine are required during the operational phase of the project.

Meteorological Mast

Three permanent meteorological masts, typically 125 m in height, will be installed on site. The masts will be used to monitor the on-site wind conditions (speed and direction) along with meteorological conditions, to provide information for the effective control and operation of the site.

Mast "A" can be found between turbines 20 and 21 with a grid reference of NT160011. Mast "B" is further south and can be found between turbines 52 and 58 with a grid reference of NY178936. Mast "C" is south of turbine 43 with a grid reference of NY160948.

The mast will be a lightweight triangular lattice tower made of galvanized steel pipe and welded together in a lattice arrangement. The mast will have circular hollow section legs and solid round bracings and will either be self-supporting or guyed, depending on the final design selected.



<u>Substation/Control Room Buildings</u> and Compound

The Proposed Development will require an on-site main substation compound accommodating a network owner control building, wind farm control building and outdoor electrical infrastructure as well as three smaller satellite substations across the site.

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.

The substation is proposed to be constructed using metal cladding. The building would be coloured dark green to minimise their visual impact and also to resemble agricultural outbuildings. However, the exact configuration, layout and finish of the building and compound will be agreed prior to construction commencing.

<u>Electrical Infrastructure and Energy</u> <u>Storage Facility</u>

All electrical cabling will be placed in trenches that generally follow the on-site access tracks. A separate communication cable and earth tape will also be laid in the trench. The route of the cables will be clearly marked above the ground with identification posts. The cables will be buried to a depth of approximately 1m.

The planning application also includes Energy Storage Facilities; the primary energy storage facility will be situated adjacent to the primary substation on the site with three further satellite energy storage facilities situated adjacent to the satellite substations. All of the energy storage facilities will be built on the construction compounds therefore no additional land is required to build these energy storage facilities.

The same underground cables used for the transmission of the generated energy from the wind turbines will connect the energy storage facilities 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 facilities during times of low demand. This stored energy can then be fed back into the grid during times of peak demand.

Transportation and Access

Construction of the wind farm will require delivery of large items of plant and equipment to the site. The proposed access routes identified for construction traffic, including abnormal load deliveries, are detailed below and in Figure 7.

Option 1 (For Abnormal loads and Construction related traffic) will exit the A74M at Junction 17:

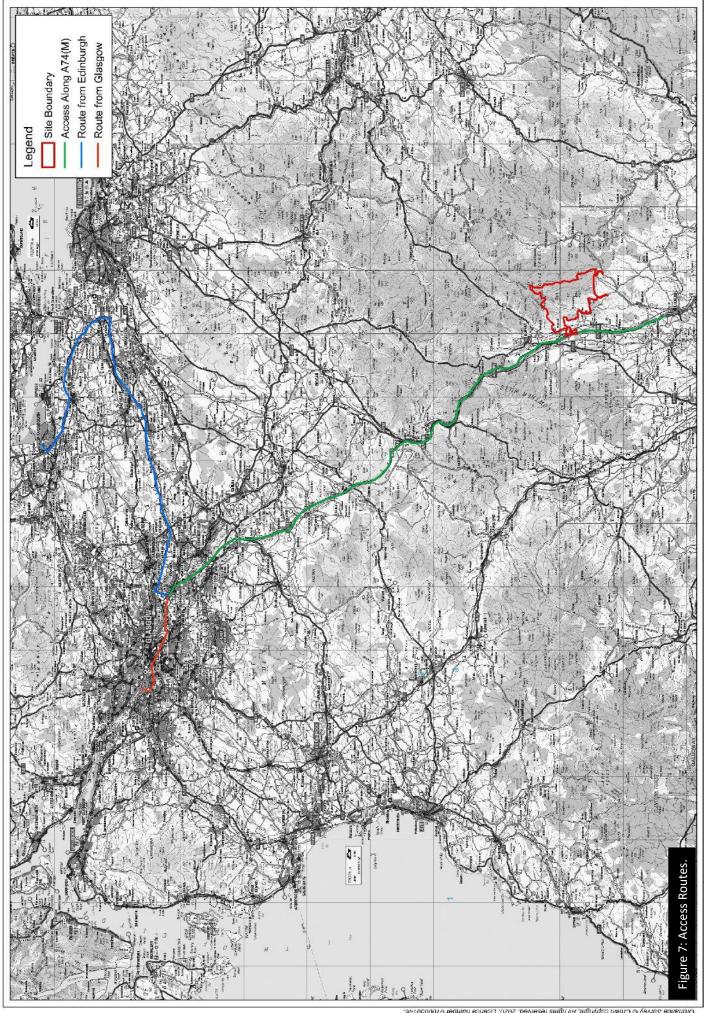
- Mead south towards B7068;
- S Turn left onto B7068;
- At the roundabout, take the 1st exit onto the B7076;
- Strain Turn right towards Breckenry Road;
- Turn right onto Breckenry Road;
- Sharp left onto B723: and
- S Turn left onto C102A before Boreland.

Option 2 (For Abnormal loads and Construction related traffic) will exit the A74M at Junction 17:

- Mead south towards B7068;
- Turn left onto B7068;
- At the roundabout, take the 1st exit onto the
- © Cross the A74M via one of three proposed routes near Nether Murthat;
- © Cross the existing railway bridge to a new purpose made bridge crossing the River Annan; and
- Cross the B707.

Option 3 (For Abnormal loads and Construction related traffic) will exit the A74M at Junction 17:

- Mead south towards B7068;
- S Turn left onto B7068;
- At the roundabout, take the 1st exit onto the B7076;
- Turn right towards Breckenry Road;
- Strain Turn right onto Breckenry Road;
- Sharp left onto B723; and
- Turn left just before Sandyford Water Treatment Plant, at the entrance to Silton Forestry.



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Once the entrance to the Scoop Hill development site has been reached, existing on-site access tracks will be utilised wherever possible and upgraded where necessary. However, sections of new access tracks will need to be constructed to connect existing access tracks to the individual turbine locations proposed. These new access tracks would be constructed using site-won stone from a number of onsite borrow pits to ensure tone and character of the tracks are in keeping with the local area. The tracks will have a running width of around 5m to allow for two-way traffic and also allow passage for larger vehicles such as turbine components and cranes.

Borrow Pits

On-site borrow pits are required in order to source locally won stone for construction work, including the construction of access tracks and crane hardstands. Sourcing the stone on-site will minimise transportation movements to and from the site, and crucially reduce the developments overall carbon footprint.

There are 6 existing borrow pits and quarries that have been identified for potential usage within the development boundary. The locations of the existing quarries/borrow pits were identified through consultation with the forestry managers, landowners and though site walkovers. Where possible these borrow pits and quarries will be re-opened first to reduce the potential extraction of material from fresh sources.

It is estimated that up to a further 8 temporary borrow pits may be required in order to extract the stone needed. Section 2 of the EIAR provides further information on the details and dimensions of the borrow pits proposed.

The borrow pits are temporary and will be reinstated post-construction. The borrow pits will be opened in a sequential manner and will only be opened up if required. No more stone will be extracted than is needed for the wind farm infrastructure.

Temporary Construction Compound and Site Storage Compound

Due to the size of the proposed Scoop Hill scheme, more than one temporary construction and site storage compound will be required to provide site offices, and welfare facilities for the on-site construction teams. This will look to minimise movements of personnel around the site, as well as having suitably sited locations for health and safety and welfare units. The dimensions of the main substation and control room temporary construction compound, located adjacent to the substation on the north west side of site, would be approximately 100 m x 50 m.

9 other smaller temporary construction/site storage compounds will be used around the site to minimise movement of vehicles on site, as well as rest areas for personnel. These are either located adjacent to the proposed access tracks or directly adjacent to the 3 satellite substations. These smaller compounds will also provide storage and a lay-down area for plant and materials and for the secure storage of turbine components and equipment. All fuels and oils would be

securely bunded or stored with double skinned containers of 110% capacity.

The construction compounds that are located immediately adjacent to the main substation and each satellite substation, will be utilised to form the bases of the Energy Storage Facilities once the substations are all complete.

The construction and storage compounds will all be constructed using locally won stone from the onsite borrow pits as a hardstand area will be required which will be constructed at a sensible gradient, utilising geotextile material to reduce excavation depths to below 500mm.

At the end of the construction period, all equipment will be removed from the compounds and the hardstand areas will be covered over with stored topsoil, with the exception of the substation construction compounds, which will be re-used for the energy storage facilities.



Wind Farm Development Stages



Site Selection and Design Evolution

CWL has only evaluated potential sites for wind farm development and has not considered other forms of renewable energy in the site selection process. CWL are engaged in a continual search and assessment of potential wind farm sites throughout the UK to progress and develop into wind farm applications.

One key factor in determining the suitability of the proposed site for the Scoop Hill Community Wind farm is the allocation of the land, within the Dumfries and Galloway Local Development Plan 2 'Wind Energy Spatial Framework' Map 8, as being an area 'with potential for wind farm development'.

Furthermore Map 5 of the Dumfries & Galloway LDP2 Supplementary Guidance document 'Wind Energy Development: Development Management Considerations' (Feb 2020), presents 'Landscape and Visual Sensitivity for 'Very Large' Typology Turbines (150-200m to blade tip). The map specifies areas of 'high' and 'high-medium' sensitivity for 'very Large' turbines and highlights the proposed development site within the lower 'High-Medium' sensitivity classification.

Scoping is a vital early step in the preparation of the Environmental Impact Assessment (EIA) and EIAR. A

Scoping Report was compiled by CWL and submitted to the Scottish Government Energy Consents Unit in May 2019 and a subsequent Scoping Opinion was issued by the Energy Consents Unit in August 2019 which provided all scoping responses from the various consultees.

The scoping assessment informs the EIA by identifying environmental constraints in the vicinity of a potential wind farm development site that are likely to be important during the EIA and eliminating those that are not.

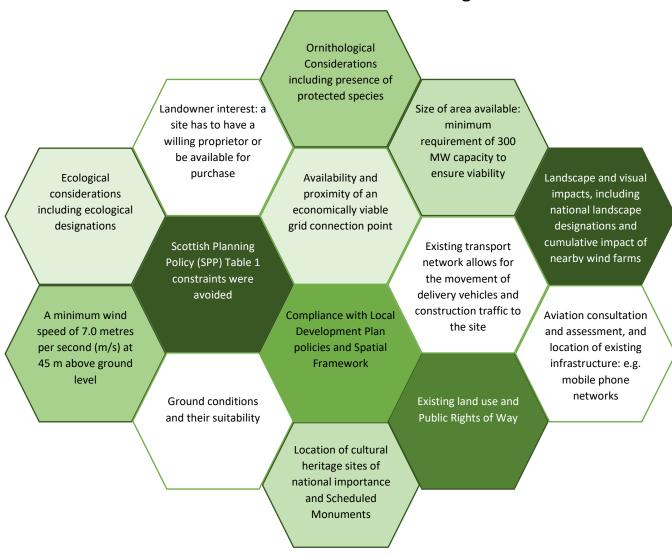
During the iterative site design process, CWL has actively liaised with consultants and consultees to ensure a site design that provides minimum environmental impact, whilst ensuring viability and providing maximum site efficiency. This includes reducing the number of turbines within the development area and utilising the most up to date turbine technology to maximise efficiency and yield.

CWL completed the Scoping process in 2019, which involved consultation and engagement with statutory and non-statutory consultees. This has been further supported by community consultation with the six local Community Councils, local residents and local businesses to determine the final wind farm layout which has been taken forward in the S36 application.

Key constraints and considerations which have been used to develop the final Scoop Hill proposal have included, but not limited to, the following:

- Hydrological and geological assessments including extensive peat surveys;
- © Ecological and Ornithological surveys of the whole development site and appropriate buffer zones;
- Site walkovers and inspections;
- Planning policy appraisal and spatial framework assessments;
- Second to be seen t
- Landscape and visual appearance of the proposal from a variety of key receptors surrounding the proposed site; and
- Sackground noise monitoring.

For a site to be suitable it has to fulfil the following selection criteria:



The final layout of the turbines and associated infrastructure has been developed through an iterative design process based upon the technical, planning and environmental constraints and following desk-based research, consultation, field surveys, community consultation and EIA assessment conclusions.

The site selection process has identified the Scoop Hill Community Wind Farm site as an excellent location for a wind farm. It offers excellent average wind speeds; is close to a good road network with access tracks suitable once upgraded, has a grid connection point within close proximity; and is not located within any nationally designated landscapes. Finally, the site is located within an area classified as having 'potential for wind farm development' (Map 8: 'Wind Energy Spatial Framework' Dumfries & Galloway LDP2, adopted October 2019).

Construction

The construction period for the proposed wind farm is anticipated to last for around 18 months.

Operation

Once the construction is complete and the wind turbines have completed commissioning, the wind farm will be operational for 40 years. Maintenance regimes begin shortly after commissioning with 'post-construction' checks performed, usually at 10 days and 3 months after commissioning. After this, minor and major service regimes continue on a 6-monthly basis.

These service regimes will be programmed so a minimum number of turbines are being serviced at any one time. This will ensure the electrical generated output from the wind farm is kept to a maximum.

In the case of major component maintenance being required, such as generator or blade replacement, large vehicles similar to those used during the turbine installation phase may be required to return to the site. All maintenance of any equipment is performed according to the Original Equipment Manufacturers (OEMs) stated schedules and procedures.

Decommissioning

In contrast to traditional fossil fuel fired power stations, and particularly nuclear power stations, wind turbines can be decommissioned, and sites cleared and restored easily and rapidly. The proposed wind farm should therefore be viewed as a sustainable development.

At the end of the wind farm's useful life, it is proposed that the turbines and associated infrastructure would be removed. The upper sections of the turbine foundations will be removed and backfilled with approximately 1 m of appropriate material, subsoil or topsoil replaced, and the area reseeded where appropriate.

Tracks that are to be utilised for land management/forestry operations or by the landowners would be left in-situ.

Decommissioning of the wind farm is expected to typically last for around 24 months with a 'Decommissioning Method Statement' produced, and agreed with the local authority, landowners and other statutory stakeholders such as SEPA at least 12 months prior to decommissioning commencing.





Need for the Development

Scottish Renewable Energy Policy

The Scottish Government remains committed to and promotes the development of onshore wind as the lowest-cost new-build electricity generation in Scotland and the UK. The Scottish Minister for Energy has stated:

"Renewable and low carbon energy will provide the foundation of our future energy system, offering Scotland a huge opportunity for economic and industrial growth...We are promoting and exploring the potential of Scotland's renewable energy resource and its ability to meet our local and national heat, transport and electricity needs, while also contributing to meeting our ambitious emissions reduction targets".

The Scottish Government has published a number of climate change and energy policy documents and has set its own targets regarding renewable energy and carbon emissions, all of which maintain strong support for onshore wind. The relevant Scottish legislation and policy includes the following:

- The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019;
- The Climate Change (Scotland) Act 2009;
- The Scottish Government's Programme for Scotland 2019-2020 'Protecting Scotland's Future' (the Programme) (May 2019);
- The Scottish Climate Change Plan (February 2018);
- The Scottish Energy Strategy (December 2017); and
- The Onshore Wind Policy Statement (December 2017).

For more information about the individual policies please see Section 4: Planning Policy, and the Planning Statement.

Role of Renewables

The benefits of using wind energy for the generation of electricity are:

- It is a renewable source and is therefore unlimited;
- It is safe and does not produce any harmful byproducts;
- It does not release greenhouse gas emissions into the atmosphere during the operation of the wind farm;
- Construction and decommissioning of wind farms is quick and cost effective;
- Following decommissioning, wind farm sites are either returned to their original status or can be redeveloped. This contrasts starkly with Nuclear Power e.g. A draft report from the government's nuclear decommissioning authority states that the site accommodating Dounreay Nuclear Power Station, which is currently being decommissioned, will only be ready for other uses after the year 2333.

Wind energy also provides a diverse and secure supply of energy which is a major part of the Government's energy policy, as electricity generated from renewable sources within the UK provides a power source protected from disruption by the actions of foreign governments. The rapid deployment of renewable energy is crucial at this time when the current generation of electricity from older plants are being decommissioned.

In 2019, the Committee on Climate Change (CCC) set ambitious targets of reducing greenhouse gas emissions to zero by 2050. The CCC claim that Scotland has the greatest potential to remove pollution from its economy out of all UK countries and can credibly adopt a more ambitious target of reaching net-zero greenhouse gas emissions by 2045. Interim targets should be set for Scottish emissions reductions (relative to 1990) of 70% by 2030 and 90% by 2040.

However, the Scottish Greenhouse Gas Emissions 2018 report (published 16th June 2020) which assessed Scotland's greenhouse gas emissions concludes that the 54% reduction target for 2018 has not been met and that the GHG account reduced by only 50% between the baseline period and 2018.

If the ambitious national targets for electricity generation from renewables for 2030, net-zero carbon targets for 2045 are to be met, a quick, sustained and substantial acceleration is needed in the development of renewable energy projects, with onshore wind energy making a very substantial and indeed critical contribution. The proposed development of Scoop Hill Community Wind Farm can make a key contribution to achieving the targets.

The onset of the COVID-19 pandemic has triggered a monumental social and economic shock. The UK economy has now suffered its biggest slump on record between April and June as coronavirus lockdown measures pushed the country officially into recession. In the 2nd quarter of 2020, the UK economy shrank 20.4% compared with the first three months of the year.

On the 22nd June 2020 the independent Advisory Group on Economic Recovery (established by the Scottish Government to advise on Scotland's economic recovery in the wake of the COVID-19 pandemic) published the Strategy 'Towards a Robust, Resilient Wellbeing Economy for Scotland. This strategy states:

'There is a need now to considerably increase the pace and scale of deployment to meet low carbon generating targets over the next 25 years, and to enable Scotland to grasp the tremendous opportunities for a green recovery which such a transition offers. This imperative presents increased and urgent challenges for the existing policy, planning and licensing framework to identify and consent suitable projects with a sufficient level of impact in the light of the climate change emergency at a scale and to a timetable to deliver on Scotland's net zero targets'.

On the 30th June 2020 the Scottish Council for Development and Industry (SCDI) published its plan for a Green Recovery from the COVID-19 crisis with a call for the Scottish and UK governments to deliver an

ambitious 'green stimulus' to kick-start the economy, create new green jobs and fuel 'clean growth'

Why Scoop Hill Community Wind Farm?

Scoop Hill Community Wind Farm is anticipated to operate at a capacity factor of around 50%. Although this is a realistic assumption, for the purpose of the EIAR and resulting calculations, a more conservative capacity factor of 45% has been used in the energy and emission calculations.

The proposed wind farm is expected to produce around 2.1 Terawatt-Hours (TWh) of electricity per annum, which will be enough electricity to power over 572,000 homes each year. It will therefore make a direct and strategic contribution to achieving renewable energy generation targets, contributing towards the Scottish Government's ambitious targets.

Scoop Hill Community Wind Farm would annually displace approximately **931,000 tonnes of Carbon Dioxide (CO₂)**, which equates to over 37 million tonnes of CO₂ over its 40-year operational life. This can be found in more detail in Appendix 2.1 in Section 2 of the EIAR.

Scoop Hill Community Wind Farm will also bring with it over £1.8 billion financial investment benefiting both the Scottish economy and the local economy of Dumfries and Galloway. This financial investment comes at a time when the Coronavirus Pandemic is causing the deepest recession in modern history with the Bank of England confirming that the British GDP shrank by 20% in the second quarter of 2020.



Enough electricity to power over 572,000 homes each year

Over £1.8 billion invested in Scottish and local economy



The proposed wind farm will also utilise the limitless quantities of renewable energy from wind power which can be used to generate electricity surpluses to export to the rest of the UK and beyond and to generate 'green' hydrogen to be used in both the heat and transport sectors.



Over 250 jobs created during construction and at least 11 long term permanent jobs

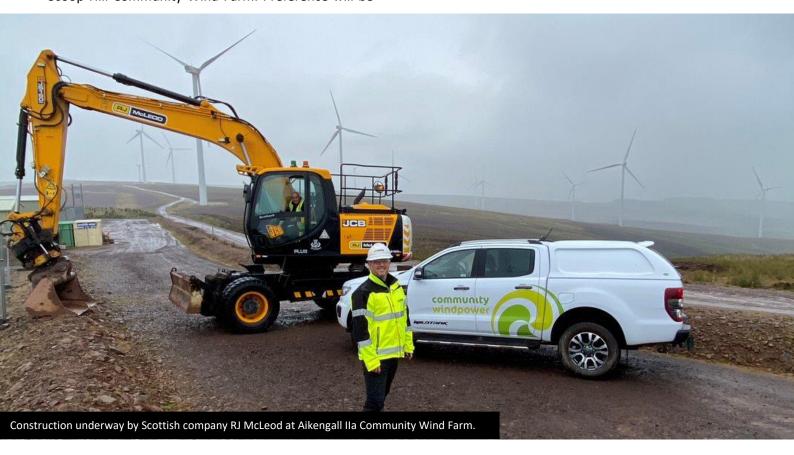
In addition to significant financial investment the proposed Scoop Hill scheme will **generate over 250 temporary jobs** across the construction and supply industry and at least **11 permanent jobs** would be created in the form of Wind Turbine Engineers, maintenance workers and a supervisor.

CWL are committed to creating long-standing relationships with Scottish companies to deliver the Scoop Hill Community Wind Farm. Preference will be

given to companies located in Dumfries and Galloway for these contracts, and associated employment opportunities will be made available for local people through our 'Buy Scottish' policy. Scottish companies will be invited to bid for civil contracting for the construction of access tracks, turbine foundations, crane hardstands and borrow pits.

If consented, the Scoop Hill Community Wind Farm would also create an opportunity to develop a 'Visitor Centre' and 'Multi-Use Wind Farm Walk'. Following the example of the phenomenally successful Whitelee Visitor Centre, the Scoop Hill Community Wind Farm Visitor Centre will generate increased tourism and inward investment, benefitting both the host communities and the wider Dumfries and Galloway area.

Approval of this development would be a positive and progressive step in the fight to tackle climate change, aiding Scotland with meeting its renewable energy and carbon emissions targets. The development will also provide essential economic stimulus to Dumfries and Galloway, supporting Scotland's green recovery from the COVID-19 pandemic.



Consultation and Community Benefits

The Applicant and CWL are committed to working with the host communities in the area surrounding the proposed Scoop Hill Community Wind Farm to create a project which is mutually beneficial. It is believed that the best projects arise from discussions with local communities, who can give an insight into the local area.

Community Consultation

CWL believe in an open and consultative approach with local communities from the outset and engage with Local Authorities, Community Councils, communities, residents, consultees and key stakeholders in the surrounding area of the wind farm proposal. Thereby developing close working relationships with the local communities and ensuring the wind farm becomes a long-term asset to the area.

Community consultation initially began in 2018 and has involved holding meetings with Community Councils,

local residents and holding public exhibitions in the area surrounding the wind farm proposal. CWL have consulted with the following Community Councils (also shown in Figure 8):

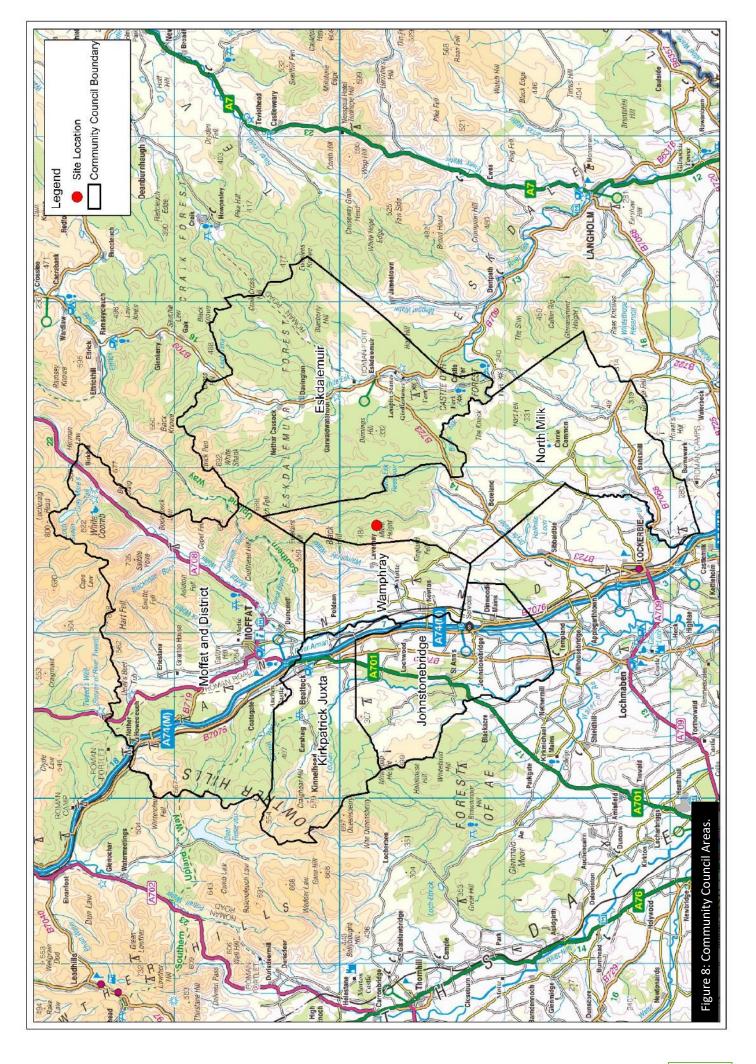
- State Sta
- Moffat and District:
- Sonstonebridge;
- North Milk; and
- Sirkpatrick Juxta;
- Wamphray.

Throughout the planning process, CWL will continue to engage with the Community Councils, local groups and residents in relation to the proposed wind farm and associated community benefits and assets.

Public exhibitions were held at scoping within the local Community Council areas to provide local residents and stakeholders with an opportunity to obtain further information about the proposed wind farm development.

The public exhibitions gave residents the opportunity to view the proposal, obtain details about the community benefits and ask any questions they had about the scheme. A Comment's Book and questionnaire were provided at the public exhibitions, so attendees could leave comments and feedback on the proposal. This feedback was then collated and reviewed and subsequently used to help inform the final design of the wind farm.





In addition to this, CWL has been eager to ensure that communities have been supplied with up to date information in regard to the proposal. In February 2020 a joint community council meeting was held with Eskdalemuir, Johnstonebridge, Kirkpatrick Juxta, Moffat, North Milk and Wamphray Community Councils alongside three CWL staff. This involved a detailed presentation providing a design update with the timescale of the project and allowed the community council members to ask questions.

Individual council meetings were also organised between CWL and each of the Community Councils. However, due to the COVID-19 outbreak and the introduction of government guidelines regarding restrictions on travel and group meetings, only four of these were able to take place.

With the absence of the public exhibitions and the remaining two community council meetings cancelled due to COVID-19 restrictions, CWL released a film which was made available on their website to ensure that the communities could still be given the full project details.

CWL will continue to engage with local communities using a range of measures so that consultation is rigorous even during the COVID -19 restrictions.

Community Benefits

As of August 2020, CWL has **donated over £5 million** of community benefit funding into local host communities across Scotland where their seven operational wind farms are located.

During the operation of the proposed Scoop Hill Community Wind Farm, the Applicant and CWL will focus on the provision of community benefits and funding for community projects. These will be provided to fund economic, environmental and social requirements of local residents, businesses and community groups throughout the lifetime of the project.

Consultation is ongoing with the Local Authorities and Community Councils, along with existing Trust Fund Committees to discuss the level of funding and appropriate distribution amongst the host communities.



£5 million of community benefit funding has been donated across 7 operational wind farms

During the community consultation for Scoop Hill it was proposed to CWL that they look to invest in the development of Community Assets based on or near to the development site. Suggestions for such developments were communicated to CWL during the Public Exhibitions held in July 2019 and community council meetings in February 2020; as well as during discussions with local community groups. CWL received several recommendations for projects which the community are currently working to establish in the future, and therefore should be targeted for community benefit funding.

Some suggestions to come out during the consultation process, that CWL could support once planning has been approved, are as follows:

- Outdoor sports and learning opportunities; including a multi-use wind farm walk, and a potential onsite Visitor Centre and associated facilities (subject to its own outline planning permission);
- © Creating employment and apprenticeship opportunities within local job markets;
- Sommunity sports and youth clubs;
- Selectric vehicle charging points for the community;
- Mome Energy Efficiency improvements;
- Training and business support; and
- Sommunity broadband.

CWL will continue to liaise with local people and communities throughout the development process of the wind farm and will look to move forward with material benefits to the local host communities which would be tied to the consent of the wind farm. Further information is detailed in the Commitment to Communities Report which accompanies the planning application.

CWL also value their working relationships with local schools surrounding their operational wind farms. As part of the Scoop Hill proposal, CWL will look to build on their educational support to schools in such as Moffat Academy, Lockerbie Academy and local primary schools such as Hutton, Beattock, Applegarth, Johnstonebridge and Moffat

CWL already provide site visits for local schools and groups, in conjunction with their existing Wind Farms and this can be offered to the local schools. CWL are keen to establish the Scoop Hill wind farm, and its surrounding environments and habitats, as a teaching resource for students of all ages and abilities, and for adult groups who are interested in learning about the wind farm, renewable energy and environmental matters. The development of the visitor centre would also help further CWL's educational amenities.

CWL are committed to working in partnership with higher education institutions and are currently working with local colleges in the area surrounding our operational wind farms. CWL is proud to have a successful partnership with West College Scotland, delivering a student placement scheme each year, and

is also assisting 'Developing the Young Workforce' (DYW) in Dumfries and Galloway to provide schools and colleges with careers presentations and educational support as required. It is CWL's ambition to continue to grow these working partnerships and to develop further relationships in the future in association with the Scoop Hill scheme, as mentioned above.

In addition to the community and educational benefits noted above, Scoop Hill will contribute approximately £6.56 million through business rates per annum to Dumfries & Galloway Council. This equates to over £262.4 million during the 40-year operational lifespan of the project. This money can support the provision of vital local services and facilities, in turn helping to improve education, employment and socio-economics for the local authority area.

Further information on CWL's commitment to Scotland, their 'Buy Scottish' policy and the local host communities can be found in Section 5 of the EIAR (Volume I) and in the Commitment to Communities Report which accompanies the application.



Environmental Impact Assessment

CWL have undertaken an EIA for the proposed Scoop Hill Community Wind Farm. The EIA ensures that all the potential impacts associated with the site selection, design, construction, operation and decommissioning, during normal and abnormal conditions, identified are assessed with appropriate mitigation measures identified to minimise any potential impacts.

The Environmental Impact Assessment Report (EIAR) incorporates the findings from the EIA and the written reports, and it is the complete final document detailing all aspects of the wind farm development process. The EIAR is submitted with the wind farm planning application to the Energy Consents Unit (ECU) at the Scottish Government.

Each of the key EIA matters are addressed in the relevant sections of the EIAR, which identify the scope of the surveys and assessment undertaken, the methods used to assess the significance of the potential effects and the measures that will be applied to mitigate any likely significant effects that are predicted.

These key EIA matters are:

- S Landscape and Visual Impact Assessment;
- Ornithology;
- Secology;
- © Cultural Heritage;
- Mydrology, Geology and Hydrogeology;
- Solution
 Solution
- ⑤ Transport;
- Second Second
- Other Considerations (Socio-economic, Aviation, Telecommunications, Tourism and Recreation); and
- © Cumulative impacts.

For each consideration, the assessment undertaken considered the existing environmental condition; those receptors that might be affected; the scale and nature of the changes predicted as a result of the development; and the effect of these changes on the identified environmental receptors. Where appropriate, measures to mitigate significant adverse effects have been incorporated into the scheme's design.

A summary of the EIA assessments for Scoop Hill Community Wind Farm which are included in the EIAR are presented below. For further information, please refer to the relevant sections of the EIAR.



Landscape and Visual Impact

Assessment

The Landscape and Visual Impact Assessment (LVIA) has been undertaken by landscape architects at Optimised Environments Limited (OPEN) on behalf of CWL and the Applicant.

The purpose of an LVIA when undertaken in the context of an EIA is to consider the effect on the landscape resource, both direct effects and indirect effects on how the landscape is perceived and the effect on visual amenity (views) within the study area.

Cumulative effects arising from the addition of the Proposed Development to other wind farms are also considered.

The findings of the LVIA, are presented in Section 6 of the EIAR and the figures and visualisations in Volumes II and III respectively and are summarised below.

Wind farms give rise to a wide spectrum of opinions, ranging from strongly adverse to strongly positive, with a wide range of opinions lying somewhere between these two positions. The LVIA makes an objective assessment of the effects of the Proposed Development on the landscape and visual resource, utilising a methodology that accords with best-practice guidance.

LVIA Summary

The study area for the LVIA covers a radius of 45km from the outer turbines in the Proposed Development. The assessment has shown that the effect of the proposed development on the landscape and visual resource of the great majority of this study area will be not significant, which means that in these areas the effect of the Proposed Development is not defining, and the existing characteristics of the landscape and views will continue to prevail. The areas where the effect of the Proposed Development itself will be not significant include World Heritage Sites, National Scenic Areas, Areas of Outstanding Natural Beauty, and all regional and local scenic designations with the exception of the Moffat Hills Regional Scenic Area (RSA).

While the effect on the majority of the study area will be not significant, as described above, the LVIA has indicated that there is potential for the Proposed Development to result intermittent significant effects on the localised 20km study area that has been defined for the detailed assessment.

The LVIA has identified that there is potential for significant effects to arise as follows:

Intermittent or very intermittent significant effects on the landscape character of the site and some parts of its surroundings up to a maximum of approximately 11.5km away from the nearest turbine.



- Moffat Hills RSA very intermittent/ intermittent significant effects on parts of the RSA;
- Intermittent or very intermittent significant effects on views from **settlements**, including:
 - Sankshill;
 - Seattock;
 - Soreland (as represented by Viewpoint 6);
 - Corrie Common (as represented by Viewpoint 16);
 - S Johnstonebridge;
 - Solution (as represented by Viewpoint 19);
 - Sockerbie (as represented by Viewpoint 18);
 - Moffat (as represented by Viewpoints 9 and 10);
- Intermittent or very intermittent significant effects on views from **road routes**, including the A74(M) (represented by Viewpoint 7), A701 (Viewpoints 9, 10, 11 and 12), A708, A709 (Viewpoint 18), B709 (Viewpoint 14), B723 (Viewpoint 3), B7020 (Viewpoint 19), and B7076 (represented by Viewpoint 7);
- Intermittent or very intermittent significant effects on views from core paths and long distance footpaths (Annandale Way, Romans and Reivers Route, Southern Upland Way): where a clear, open view with moderate to high visibility of the Proposed Development is gained from within a maximum of approximately 18km (as represented by Viewpoints 1, 2, 4, 8, 10, and 19);

- Intermittent or very intermittent significant effects on views from approx. 20km of the West Coast mainline railway;
- Views from hilltops at Rangecastle Hill (Viewpoint 5) Ettrick Pen (Viewpoint 13), Burnswark Hill Fort (Viewpoint 17), Queensberry (Viewpoint 20) and Hart Fell (Viewpoint 21); and
- The view from Castle O'er Hill Fort (Viewpoint 15).

The assessment has indicated that significant visual effects of the proposed development are likely to be contained within approximately 18km of the Proposed Development, although they may, in very unusual circumstances, arise beyond this.

As well as assessing the effect of the Proposed Development itself, the LVIA assesses the cumulative effect that may arise when the Proposed Development is added to various scenarios of operational, underconstruction, consented and application-stage wind farms. The cumulative assessment concludes that when the Proposed Development is added to baseline (operational, under-construction, and consented) wind energy developments, significant cumulative effects will arise as follows:

- Intermittent or very intermittent significant cumulative effects on the landscape character of the site and some parts of its surroundings;
- Moffat Hills RSA very intermittent significant cumulative effect on parts of the RSA;



- Intermittent or very intermittent significant cumulative effects on views from the settlements of Bankshill and Corrie Common:
- Intermittent or very intermittent significant cumulative effects on views from road routes, including parts of the A74(M), A701, B709, B7076;
- Intermittent or very intermittent significant cumulative effects on views from some core paths and long distance footpaths;
- Intermittent or very intermittent significant cumulative effects on views from part of the West Coast mainline railway;
- Views from **hilltops** at Rangecastle Hill, Ettrick Pen, Burnswark Hill Fort, Queensberry, and Hart Fell; and
- The view from Castle O'er Hill Fort.

When the application-stage wind farm at Faw Side is also considered, additional intermittent or very intermittent significant cumulative effects may also arise on the landscape character of the site and some parts of its surroundings, and on views from part of the northbound B723.

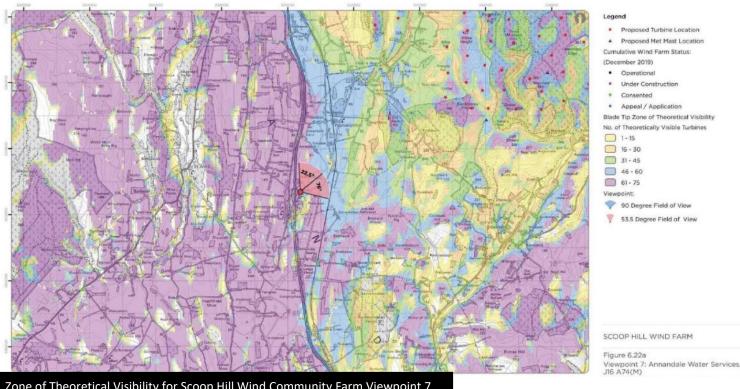
summary indicates that the This Proposed Development will result in some significant effects, including cumulative effects, on aspects of the landscape and visual resource. It is important to note,

however, that assessments of this type tend to focus on those locations and receptors where significant effects may arise, and in this assessment the viewpoints have been selected to represent areas of high visibility of the Proposed Development, where significant effects are most likely to arise. There are large parts of the 45km study area where Zone of Theoretical Visibilities (ZTVs) show that there will be no visibility of the wind farm at all or very limited visibility, and this should be taken into consideration in the review of significant effects of the proposed development.

Overall, it is considered that the intermittent significant effects of the proposed development are relatively localised and well-contained given the extent and scale of the development.

Aviation Lighting Assessment

The night-time assessment has indicated that significant effects are likely to arise at the three locations included in the assessment – Viewpoints 6, 7 and 10 – with either 2,000cd or 200cd aviation lighting. This is, however, a worst-case scenario, as there is potential for mitigation through Civil Aviation Authority (CAA) approved technology to be utilised in due course which will reduce the potential impacts of aviation night-time lighting which CWL will implement.



Ornithology

Starling Learning were commissioned to undertake Ornithological surveys at the proposed Scoop Hill Community Wind Farm to establish the ornithological baseline of the site and its surroundings. Section 7 of the EIAR also details the process used to determine the Nature Conservation Importance of the species and populations present. The ways in which birds might be affected by the Proposed Development are explained and the significance of the potential effects of the Proposed Development are considered.

Surveys were all undertaken in accordance with standard methodologies and included:

- Solution
 Vantage point surveys during the breeding and non-breeding seasons;
- Scarce breeding bird surveys;
- A bird habitat appraisal;
- S Autumn and Winter Walkovers;
- Second Survey Survey Survey Survey
- S Raptor survey.

The significance of potential effects is determined by considering the value of the receptor and the magnitude of the effect and using professional judgement as to whether the integrity of the receptor will be affected.

On the basis of the field survey work undertaken to date, the professional judgement of the ornithology team, experience from other relevant projects and taking account of policy guidance and standards, a number of species have been scoped out of the current assessment. These include all bird species classified as of low Nature Conservation Importance. Baseline field studies in 2017 to 2019 have recorded very infrequent use of the area near the Proposed Development by the following species of high and moderate Nature Conservation Importance: whooper swan, pink-footed goose, hobby, snipe, oystercatcher, woodcock, mallard, red grouse, whinchat, reed bunting and cuckoo. The potential for an adverse effect on regional or national populations as a result of the construction, operation or decommissioning activities is considered negligible.

Species of high or moderate Nature Conservation Importance whose regional populations could be potentially affected by the Proposed Development are:

- Men harrier;
- Merlin
- Goshawk;
- S Peregrine;
- Golden eagle;
- Sed kite;

- S Black grouse;
- Sometimes
 Osprey;
- Sarn owl,
- Golden Plover; and
- © Curlew.

The potential effects of construction on the majority of the species was considered negligible or of short term, low magnitude and minor significance. The adverse effects were considered to be of medium magnitude of moderate significance for golden eagle, black grouse and curlew, and of high magnitude and major significance for goshawk and osprey. The impacts are also considered significant for woodland species and moorland species of conservation concern such as common crossbill, song thrush, skylark and meadow pipit due to the potential to destroy nests.

Operational turbines have the potential to displace both nesting and foraging birds. The potential impacts on most species were considered to be negligible or of low magnitude and minor significance. However, effects could be possibly of medium magnitude and moderate significance for peregrine, high magnitude of major significance for goshawk and very high magnitude of major significance for golden eagle.



A Habitat Management
Plan will address species
protection and habitat
enhancement

An outline Habitat Management Plan (HMP) has been written which includes species protection and habitat enhancement. This HMP contains details of the following:

- Ways to minimise disturbance and potential impact on key species;
- Ensuring all work is carried out in compliance with all the requirements of relevant wildlife legislation;
- Mow the value of the area might be improved by changes in land management; and
- Mow to increase overall biodiversity through management targeted at specific species.

A Species Protection Plan will also be written for common crossbill.

The implementation of appropriate species protection and mitigation measures will greatly reduce any potential for significant negative impacts to occur on the ornithological value of the site and surrounding area.

Further details can be found in Section 7 of the EIAR.

Ecology

Ecological surveys have been undertaken by Starling Learning to establish habitats and species present on the site. The significance of effects has been determined based on the results of these surveys taking into account their ecological importance and the magnitude of an effect.

As well as a desktop study, an Extended Phase 1 Habitat Survey, Groundwater Dependant Terrestrial Ecosystems (GWDTE) survey, a National Vegetation Classification (NVC) Survey and a protected species survey have been carried out.

The majority of the turbines are planned to be keyholed into coniferous woodland. However, some are also sited on adjacent moorland. A number of habitats of conservation concern were recorded on site including blanket bog, dry and wet modified bog, dry and wet dwarf shrub heath, semi-natural broad-leaved woodland, running water and a number of acid/neutral and basic flushes.

A number of these have high groundwater dependency (Groundwater Dependent Terrestrial Ecosystem).

Species of conservation concern recorded were otter, badger, red squirrel, pine marten, common pipistrelle, soprano pipistrelle, myotis bat species, noctule, brown long-eared bat, common lizard, migratory salmonids, roe and red deer, common frog, common toad, and butterflies – scotch argus, small heath and small pearl-bordered fritillary.

The vast majority of impacts relating to the development of wind turbines are associated with the construction phase. Loss of habitat can have long-term impacts on species through potential loss of breeding and/or foraging habitat, or important wintering habitat.

There is also potential to disturb and displace various protected species including bats, otters, badgers and reptiles, either during construction or as a result of the operational turbines.

Wind turbines, access tracks and other infrastructure are planned for the habitats of lowest value, where possible. Floating roads where necessary will be used to cross sensitive wetland habitats. Habitat retention, management, and creation will enhance the site and the effects of habitat loss, construction and operation are considered to be of low magnitude and minor significance.

The effect on ground water dependent terrestrial ecosystems is likely to be not significant, with the use of floating roads, pipes and appropriate micro-siting.

With pre-construction checks, habitat enhancement and species protection, the development is extremely unlikely to cause disturbance or displacement for protected mammals, and the risks are assessed as negligible or of low magnitude.

The impact on reptiles and amphibians is considered to be negligible with some positive effects.

The effects of construction on fish are considered to be not significant, however, mitigation measures will put in place through the implementation of a Construction & Environmental Management Plan (CEMP). This will counteract any potential adverse effects that will arise during the construction period.

The HMP includes protection measures for habitats and species, proposals for the restoration of habitats and the overall improvement of the site's biodiversity.

Further detail can be found in Section 8 of the EIAR.



Starling Learning



Cultural Heritage Assessment

Headland Archaeology (UK) Ltd were commissioned to carry out a cultural heritage impact assessment for Scoop Hill Community Wind Farm.

The main objectives of the assessment were to:

- Describe the location, nature and extent of any known heritage assets or areas of archaeological potential which may be affected by the proposed development;
- Provide an assessment of the importance of these assets;
- Assess the likely scale of any impacts on the historic environment posed by the development;
- Outline suitable mitigation measures to avoid, reduce or offset significant adverse effects; and
- Provide an assessment of any residual effects remaining after mitigation.

The archaeological analysis incorporated a desk-based study to collate baseline data, a site walkover survey, setting visits, consultation with Historic Environment Scotland (HES) and the Dumfries & Galloway Council (DGC) Archaeologist, and the impact assessment.

In total there are 87 undesignated Historic Environment Record (HER) assets recorded by the HER within the Inner Study Area (ISA). Of these, 81 are outside the proposed construction footprint and will not be subject to direct impacts. Six assets are within or adjacent to the construction footprint and will be assessed for construction impacts.

Four of the undesignated HER assets within the ISA have been identified by the DGC Archaeologist as potentially being subject to operational impacts (one of these is included within the assets considered for construction impacts). The other two undesignated assets have been identified as potentially subject to operational impacts and have been included for assessment.

Of the 81 undesignated assets within the ISA, there are 31 burnt mounds, which are largely functional assets located near streams, likely to have been used for cooking in the Bronze Age. The remaining 50 heritage assets comprise features largely relating to upland farming, livestock management and settlement. They include ring enclosures, a scooped settlement, farmsteads and related buildings, stock enclosures and

sheepfolds, a road and quarrying sites as well as the possible site of a chapel. It is considered that wider views and setting make a limited contribution to the cultural significance of these 81 assets. These 81 assets are therefore excluded from further assessment of operational impacts.

There are 134 Scheduled Monuments (SMs) within 10km of the turbines. 28 of these are outside or only slightly in the ZTV and there are no views from or across them in which the turbines will be visible. A further 50 SMs comprise a variety of features relating to cultivation and livestock management, farmsteads, settlements and industry. The wider landscape setting makes a limited contribution to understanding or appreciating the cultural significance of these assets, and no operational impacts are anticipated upon them, therefore, 78 SMs are excluded from further assessment.

56 Scheduled Monuments are included for further assessment, these include the sites requested by the consultees during scoping and subsequent consultation. The 56 SMs comprise numerous prehistoric settlement and ritual sites, including enclosures and forts, cairns and barrows. 8 Roman monuments comprise 3 sections of Roman road and a signal station, camps and a fort. Dating from the medieval to post medieval period are mottes, castles, tower houses and a church.

No operational effects of greater than minor significance on cultural heritage assets

The Border Crawford-Inveresk possible Roman road (MDG5027), Leithenhall Burn burnt mounds (MDG5375, MDG5376 & MDG5379), Newbigging Ring Ditch (MDG7267) and the Craigfield Farmstead (MDG10462) may be subject to direct impacts, during the construction phase only. Appropriate mitigation measures will be applied, following agreement with consultees, in order to minimise the effect of these impacts.

8 assets which will be subject to operational effects of minor significance from the Proposed Development were also assessed for potential cumulative effects. These comprise of six Scheduled Monuments (Carthur Hill Fort (SM649), Wamphray Motte (SM714), Rangecastle Hill, Fort (SM8364), Castle Hill, fort (SM8366), Peat Hill, fort and scooped settlement (SM10476) and Laverhay Cottage enclosure (SM12721)) and two undesignated HER assets (The Dod (MDG407) and Dundoran Fort (MDG8943)).

However, it is considered that none of the cumulative developments will result in an increased operational impact on these assets. It is therefore considered that at most there will be a cumulative effect of minor significance on these assets.

There will be no operational effects of greater than minor significance on cultural heritage assets during the operation of the wind farm. Following the application of mitigation measures prior to and during construction, residual effects on the fabric and /or setting of cultural heritage assets would be no greater than minor adverse and therefore not significant. Direct, operational, cumulative and residual effects are not predicted to be significant in EIA terms.

Further details can be found in Section 9 of the EIAR.

<u>Hydrology, Geology and</u> <u>Hydrogeology</u>

An assessment has been undertaken by Natural Power Consultants to assess the potential impact on the hydrological, geological and hydrogeological environment during the construction and operation of the proposed Scoop Hill Community Wind Farm.

The existing baseline conditions of the Proposed Development have been established. The following potential issues have been identified and will be addressed during all phases of development:

Effects on the Proposed

Development's hydrological,
hydrogeological and geological
conditions are not significant

- S Changes to existing drainage patterns;
- Selfects on baseflow;
- Seffects on run-off rates:
- Selfects on erosion and sedimentation;
- Seffects on groundwater levels;
- Selfects on water resources;
- Seffects on impediments to flow;
- Flood risk;
- Pollution risk;
- Effects on local geology;
- Effects on hydrological integrity of peat bodies; and
- Seffects on groundwater and surface water quality (including GWDTE's).

A peat depth survey was undertaken, indicating that average peat depths on site are relatively shallow at 0.39m. The assessment also includes a Peat Stability Risk Assessment, Private Water Supply Risk Assessment, Watercourse Crossings Assessment and a Peat Management Plan.

The assessment has identified a number of potential impacts on hydrological characteristics, particularly during the construction phase and potentially during operation and decommissioning, although to a lesser extent. Any potential impacts are mainly associated with the construction activities of the wind turbines and access tracks; however, the designed mitigation should prevent any such impacts.

The Proposed Development lies on the watershed of the River Annan catchment and therefore falls within the Solway-Tweed River Basin District which is jointly managed by SEPA and the Environment Agency.

The western side of the Proposed Development lies within the catchment of the Wamphray Water and the eastern side of the Proposed Development lies within the catchment of the Dryfe Water. There is a small area (4.83 km²) to the north west of the Proposed Development which falls into the catchment of the Newbigging Burn which also drains directly into the River Annan.

The development has been designed to include a wind turbine blanket buffer of 50m from all watercourses.

Properties with Private Water Supplies (PWS) within 3km of the Proposed Development have been assessed. In total there are 30 properties using a PWS which were identified to come from 22 source

locations. After hydrological assessments and consultation with local residents, only 8 PWS sources (used by 11 properties) were taken forward to the assessment, this was because the other properties were either uninhabited, not hydrologically connected to the development or fall out with of the catchment area.

The probability, magnitude of change and combined risk has been assessed for the remaining 8 sources. Of these, 4 PWS sources that are used by 5 properties have been identified as having a negligible risk of contamination, with no additional mitigation required.

The remaining 4 PWS sources that are used by 6 properties are of low risk and are financially involved within the development.

The significance of effects on the Proposed Development's hydrological, hydrogeological and geological conditions are **not significant** under the terms of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

A range of best practice construction and mitigation measures will be implemented, in accordance with relevant guidance, to ensure that any potential adverse impacts on the hydrological, geological and hydrogeological aspects that may occur in the vicinity of the site, are of negligible or minor significance.

Further details can be found in Section 10 of the EIAR. The EIAR and associated appendices demonstrate the Proposed Development has been designed to minimise disturbance to the environment. This includes the use of the extensive network of forestry tracks which already exist within the area and keyhole felling rather than felling entire areas. The majority of the Proposed Development is also located on Class 0 soils (Mineral Soils with no peatland vegetation), making this is a favourable area for development.

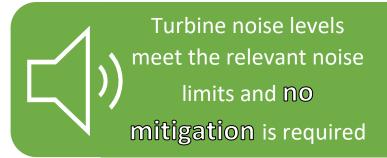
<u>Noise</u>

Hayes McKenzie Partnership Ltd were commissioned to undertake a Noise Assessment for the proposed Scoop Hill Community Wind Farm.

The operational noise assessment has been undertaken by comparing predicted noise levels from the Proposed Development at surrounding residential properties with noise limits derived in accordance with ETSU-R-97, *The Assessment and Rating of Noise from*

Wind Farms, which is referenced within the Scottish 'web based planning guidance', referred to in PAN1/2011. Cumulative operational noise levels have also been compared with relevant noise limits.

The assessment has been performed with reference to the guidance contained within the Institute of Acoustics document, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, which is endorsed by Scottish Government.



Baseline noise measurements were undertaken at 7 locations surrounding the proposed development. The results of the survey have been used to derive appropriate noise limits which have been applied at all the potentially affected dwellings surrounding the site.

The results of the operational noise assessment indicate that turbine noise levels meet the relevant noise limits and no mitigation is required. The noise impact is, therefore, determined to be not significant.

In addition, there are no cumulative operational or construction related impacts expected at this time. As a result, this aspect is considered to be not significant.

Further detail of the noise assessment can be found in Section 11 of the EIAR.

<u>Transport</u>

The Transport Assessment considers the potential impact of transport related effects during the construction, operation and eventual decommissioning of the proposed Scoop Hill Community Wind Farm, in relation to the regional and local transport network.

The assessment concluded that the construction of the wind farm would result in a temporary increase in traffic levels on the A74(M) during the construction and decommissioning stages but this road is frequently used by other heavy vehicles so this change would be

minimal. Breckenry Road and the B7068 are also frequently used by heavy vehicles, such as timber haulage trucks. It is therefore considered that the additional temporary impact of wind farm construction traffic will be low on this route, depending on the stage of the construction phase. For example, during the track building phase the impact will be low as the stone will be sourced from onsite borrow pits therefore negating the need for stone to be imported.

There will be 2 separate Traffic Management Plans which will cover the 2 main stages of the traffic and transportation requirements of the wind farm: Construction traffic and Abnormal Load deliveries. A Construction Traffic Management Plan (CTMP) and an Abnormal Load Traffic Management Plan (ALTMP) will be produced and implemented in conjunction with Transport Scotland and Dumfries and Galloway Council Roads Departments as required, to reduce any potential impacts on the highway network.

During the operational life of the wind farm, no impacts are anticipated as vehicle movements to and from the wind farm will consist mostly of standard cars or light vans, in order to service and maintain the wind turbines and they will use existing site entrances to access the wind farm.

Forestry

The proposed Scoop Hill Community Wind Farm is partially located within the privately owned and managed commercial forestry plantations of Silton Forest, Brownhill, Kirk Hill, Dundoran, Dryfehead, Ewelairs and Laverhay, Cockplay, Priestgillhead, Ruegill Hill, Ramshaw Rig and Dod Knowe.

The Proposed Development area covers around 5,670ha, of which 2,371 ha comprises forestry, located predominantly in the east of the wind farm site. The vast majority of the development forms a part of the greater Eskdalemuir commercial forestry unit.

Construction Traffic

Management Plan

will be implemented to

reduce any impacts

Forestry Baseline

Much of the onsite forestry species is Sitka Spruce, forming more than 83% of the total forestry. Other larger species groups are hybrid larch and Norwegian spruce. Native mixed broadleaved species make up only 5% of the total forestry composition.

The long-term forestry plans for the forestry plantations have been taken into consideration where they provide felling dates. However, many of the plantations do not currently have agreed and planned felling phases as more than 87% (2,371ha) of the development has no planned felling past 2029.

The forestry across the development is predominantly first or second rotation crop, forming a near even spread per decade from the 1980's to 2010's. Some forestry from 1970 still remains and new crop is envisioned from 2020 through to 2024.

Proposed Forest Activity

As part of the Scoop Hill proposal, 47 turbines of the 75 turbines will be located within the 12 commercial forestry plantations. It will be necessary to carry out key-hole felling of commercial forestry prior to the construction of the wind farm in order to accommodate the wind turbines and associated infrastructure.

The required minimum key-hole felling which will be applied at Scoop Hill involves an 85m felling radius, surrounding each crane hardstand and turbine located within the forestry. Based on the proposed layout for Scoop Hill, the proposed key-hole felling radius for the different sized turbines will be as follows:

- § 112m radius for a 180m tip turbine;
- \$\oint 100m radius for a 200m tip turbine; and
- § 85m radius for a 225m or 250m tip turbine.

In addition, a typical felling corridor of 15m will be utilised for access tracks. The corridor allows for some degree of flexibility, where straight sections of access track require no felling and other sections may require additional felling on the outside of access track bends, to account for the over sail of turbine blades.

The total key-hole felling area required for the Scoop Hill Community Wind Farm is 293ha. This is 12% of the total forestry within the development area. Of the 293ha of proposed felling, 35ha is due to be felled within the same timeframe as part of the forestry management and long-term forestry plan (LTFP) is already in place, and this will take place regardless of the wind farm. Therefore, the total amount of key-hole felling required to facilitate the wind farm is reduced to 258ha.

293Ha of compensatory planting will take place both on and off site.



It should also be noted that the 293ha of key-hole felling will not be restocked during the lifetime of the wind farm, therefore compensatory planting will be undertaken by the Applicant, in consultation with and approved by Scottish Forestry. This will include both onsite and offsite planting of commercial and native species.

Other Considerations

Tourism and Recreation

Tourism forms an important part of the local economy. With this in mind, a key consideration of the project was the effect the presence of a wind farm could have on tourism.

The main impacts to tourism and recreation during construction will be with regard to traffic, increased use of local facilities and changes to the view such as through the presence of cranes. However, with careful planning and design, it is expected that the significance of the wind farm to local tourism will be minor and there will be no lasting impact on tourism or recreational visitors to the area whilst the wind farm is under construction.

Overall, the construction phase of the proposed Scoop Hill Community Wind Farm is not anticipated to adversely affect the number of tourists visiting the local area and could benefit tourism providers in the form of increased accommodation use during the construction phase and purchase of fuel and general amenities.

During operation, the proposed wind farm is anticipated to have a moderately positive affect on the number of tourists visiting the local area. Furthermore, if consented the Proposed Development could also bring with it a 'Visitor Centre' and 'Multi-purpose Wind Farm Walk' with 48km of walking and cycling tracks. The Visitor Centre could offer a range of facilities including an information centre, educational support facilities, outdoor recreation activities, as well as a café and gift shop. CWL believes this will create a tourism hub attracting substantial visitor numbers, supporting the local economy and delivering a long term legacy.

Aviation

In relation to aviation interests, the Ministry of Defence (MoD) raised concerns in their Scoping response to the Proposed Development at Scoop Hill Community Wind Farm. However, through ongoing consultation with the MoD and with the implementation of appropriate mitigation, there will be no impacts.

The MoD also raised the point of Aviation lighting during their scoping response. Scoop Hill Community Wind Farm will be fitted with lighting as required.

National Air Traffic Services (NATS) stated in their scoping response that they anticipate a technical impact of the scheme. Following consultation on two other CWL schemes, as well as the Scoop Hill project, there is mitigation available and CWL are liaising with NATS to reach a mitigation agreement. With this mitigation in place there is expected to be no impact from the scheme.

<u>Telecommunication Links</u>

It was established through consultation with British Telecommunications (BT), Atkins Ltd and Joint Radio Company (JRC) Ltd that there are no communication links identified that will be impacted by the proposed Scoop Hill development.

As a result, there are no links at risk of interference from this proposal and therefore no further mitigation measures are required, however, mitigation measures can be adopted if any change to this scenario should arise.

Shadow Flicker

The phenomenon known as 'shadow flicker' refers to the flickering effect caused when rotating wind turbine blades periodically cast a shadow over neighbouring properties as they turn, through constrained openings such as windows.

Shadow flicker occurs only within buildings where:

- The shadow appears through a narrow window opening;
- The building is located within 130 degrees either side of north relative to a turbine; and
- They are within 10 rotor diameters of the wind farm.

The worst-case scenario for shadow flicker effects within the vicinity of the Proposed Development has been calculated using ReSoft WindFarm modelling software. The results have been calibrated to quantify levels of cloudiness and thus present a likely or expected shadow flicker calculation. These results show that the risk of shadow flicker affecting neighbouring properties is low.

With regards to two of the properties deemed to be at risk, they are financially involved with the scheme and through implementation of mitigation, the risk is deemed to be insignificant.

Overall, it is anticipated that shadow flicker will have limited impact on the properties within the vicinity of the proposed Scoop Hill Community Wind Farm, and the effect is therefore deemed insignificant.

Ice Throw

The occurrence of blade icing is relatively rare; however, it can occur when the turbine blades are stationary, under near freezing temperatures and relatively high humidity, with freezing rain or sleet. If all these climatic conditions occur at once, then icing can happen.

The risk of ice being thrown arises when the turbine blades recommence operation, and so the rotational forces as the blades move can cause the ice on the blades to break off and either fall or be thrown to the ground. This causes a potential risk of damage or injury to other turbines or onsite structures, vehicles, site personnel, members of the public and livestock.

Overall, the risk of ice throw on human health and safety and to nearby infrastructure is likely to be minimal and is therefore deemed insignificant.

Public Rights of Way and Core Paths

During the initial scoping process Scottish Rights of Way and Access Society (ScotWays) and Dumfries and Galloway Council, identified 6 National Catalogue routes that pass through the site boundary; DA5, DA6, DA11, DA14, DA15 and DA16 as well as some Core Paths. In addition, the promoted long-distance walking path the Romans and Reivers Route passes through site and the Southern Upland Way passes closely to the north of the development.

Any potential visual effects on (the users of) the rights of way and core paths have been thoroughly assessed in Section 6: Landscape and Visual Impact Assessment. This assessment also considers the cumulative impacts in conjunction with other wind developments in the area.

During the construction of the proposed wind farm there it is considered that the impacts will be negligible. Paths will be temporarily diverted where possible with relevant notification and signage during the construction phase.

During the operational phase of the development it is considered that there will be no significant adverse effects on any public rights of way or core paths, due to the creation of buffers which have been applied to ensure the safety of the walkers. Furthermore, it is considered that a minor, positive effect will come from the addition of the multi-use Wind Farm Walk paths that are to be created onsite, depending on the consent of the proposed wind farm development.

Summary & Conclusion

The final layout of the turbines and site access tracks has been developed through a comprehensive and iterative design process based upon the technical, planning and environmental constraints and following extensive consultation with key consultees and EIA assessment conclusions.

All the likely effects of the proposed Scoop Hill Community Wind Farm have been fully identified and assessed during the Environmental Impact Assessment. Where necessary, suitable mitigation measures have been put in place, or are proposed to further minimise any potential impacts.

Overall, the EIA has determined that there will be no significant hydrological, geological, or archaeological impacts expected as a result of the construction and operation of the proposed wind farm. There will be some minor significant impacts on ecology and ornithology but through habitat retention, management and creation, the site will be enhanced, and the effects of habitat loss, construction and operation are considered to be much reduced.

In terms of landscape and visual impacts, it is noted that locally significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in Scotland. However, for Scoop Hill, it is considered that overall, the landscape has the capacity to accommodate the wind farm and the effects identified.

Most notably, the LVIA highlights the crucial point that the Dumfries and Galloway Local Development Plan 2 'Wind Energy Spatial Framework' Map 8, allocates the development site as being in an area 'with potential for wind farm development'. This Spatial Framework allocation has been a driving force behind the Applicants choice of site and its subsequent development.

Further to this, Dumfries and Galloway's Landscape Capacity Study May 2017 states that "Following a review of visualisations from key viewpoints in the field and additional sensitivity assessment of very large typology (turbines >150m), it is concluded that turbines towards 200m high to blade tip would be too large to accommodate as new developments in landscape and visual terms anywhere in **Dumfries and Galloway apart from the Eskdalemuir unit of the Southern Uplands with Forest [19a].**

There will be no significant impact on telecommunication links, aviation, tourism and recreation, public safety. There will also be no significant noise effects during the construction or operation of the turbines as the relevant noise limits have been met and no mitigation is required.

The proposed 75 turbines will have an installed capacity of up to 525 MW, which will generate **enough electricity to power over 572,000 homes each year**. A scheme of this calibre will play an important role in the fight against climate change and will help Scotland to meet its ambitious renewable energy and carbon emission targets and its commitment to be net-zero carbon by 2045.

The development of the Scoop Hill Community Wind Farm will generate and deliver a large volume of financial investment into the local and regional economies, throughout the lifetime of the wind farm. The financial rewards and benefits of the development will positively impact the local communities both

Over
572,000
homes
powered each
year

Total
Investment of **£1.8bn** over
the 40 year
life time

Helps Scotland towards a green recovery

Contributes to governments ambitions for **net-zero**

directly and indirectly, which will help to establish the wind farm as an asset amongst local residents. The advent of COVID-19 now dictates that a renewed focus on establishing a robust economy matters more than ever and a 'green' recovery is imperative.

A significant **initial investment of £530 million** would be required to facilitate the development and construction of the wind farm through to commissioning and operation. Once the wind farm is complete and operational, investment will continue for the lifetime of the wind farm which will be for a period of 40 years.

Economic investment worth over £32.9 million per annum will also be provided to operate the wind farm, through payment of rents, business rates, maintenance, servicing, electrical connections and community benefit funding. This equates to £1.3 billion over the lifetime of the project.

Over the 40-year lifetime of the wind farm the total economic investment **equates to over £1.8 billion**.

Furthermore, if consented, the proposed wind farm will include the development of a **Visitor Centre and unique outdoor recreational facilities** that will further support the local economy and the local tourism industry.

In conclusion, Scoop Hill Community Wind Farm is an appropriate, well-designed development, sensibly located in an area with a landscape acceptable for wind farms, identified by Dumfries and Galloway Council in their Wind Farm Landscape Capacity Study as the only area suitable for very large turbines, and has been recognised as having potential for wind farms in the LDP2. The proposal is a completely sustainable development, which is in line with policies in the LDP2 and conforms to national policy. The Proposed Development will provide a valuable contribution towards the ambitious national targets for electricity generation from renewables for 2030, net-zero carbon targets for 2045 and contributes towards economic growth in Dumfries and Galloway, and Scotland as a whole.

Total
Community
Benefit Fund of
£20 million

931,000 tonnes of CO₂ saved per annum **250** construction and supply & **11** permanent jobs created

Proposal of a

Visitor Centre

& Multi Use

Paths to support

tourism