



CONTENTS

CONTENTS	0
PREFACE	1
Overview	2
INTRODUCING RES	3
About the Developer	3
Powering Change	3
SITE LOCATION	4
PROJECT DESIGN EVOLUTION	6
Site Selection	6
Turbine Layout Evolution	6
DEVELOPMENT PLAN POLICY	8
CONSTRUCTION & DECOMMISSIONING	11
Typical Construction Sequence	11
Construction Quality Assurance	13
Decommissioning	13
ENVIRONMENTAL IMPACT ASSESSMENT	14
Landscape and Visual	16
Landscape Assessment	16
Visual Assessment	17
Ecology	21
Ornithology	22
Cultural Heritage & Archaeology	24
Geology, Hydrology & Hydrogeology	26
Transport and Traffic	27
Noise	29
Other Issues	30
Electromagnetic Interference	30
Aviation	30
SUMMARY	31

PREFACE

An Environmental Statement (ES) has been prepared in support of a planning application by RES Limited (RES). The application seeks planning permission from Scottish Borders Council to construct a wind farm comprising 13 wind turbines and associated elements at Highlee Hill approximately 3 km south of Chesters Village.

The application has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 (as amended). The ES contains the information from the Environmental Impact Assessment of the proposed development and it comprises three volumes:



Hill of Towie Wind Farm, Moray, height to tip 100m

- Volume 2: Main Report, containing assessment chapters and figures;
- Volume 3: Landscape and Visual Assessment Figures; and
- Volume 4: Technical Appendices.

This Non-Technical Summary (NTS), Volume 1, sets out the key messages and findings of the ES.

Associated documentation that has also been submitted with the planning application and ES includes:

- Planning Statement;
- Design and Access Statement; and
- Pre-application Consultation Report.

Further information is also available on the project website (<http://www.highleehill-windfarm.co.uk>) and hard copies of the ES and other documentation can be viewed at the following locations:

Scottish Borders Council
Planning & Regulatory
Services
Newton St Boswells
TD6 0SA

Hawick Library
North Bridge St
Hawick
TD9 9QT

Southdean Village Hall
Chesters
Hawick
TD9 8TH

This document is available in hard copy format for a cost of £150 (Volume 2), £675 (Volume 3) and £130 (Volume 4) (including postage and packaging) or on CD-ROM (price £10) from:

RES Ltd
3rd Floor
STV
Pacific Quay
Glasgow
G51 1PQ

Paper copies of this NTS are available free of charge.

Overview

This Non-Technical Summary (NTS) provides an overview of the Environmental Statement (ES). It summarises the key elements and findings of the Environmental Impact Assessment (EIA) carried out by RES to assess the construction, operation and decommissioning of the proposed Highlee Hill Wind Farm.

RES is proposing a 13 turbine project at Highlee Hill Wind Farm. The turbines will have a maximum height of up to 176 m (two turbines at 150 m) to the highest point of the blade tip. The proposal includes a network of site tracks and hardstandings, permanent and temporary wind monitoring masts, electrical connection works, a control building and substation, and associated temporary construction infrastructure.

INTRODUCING RES

About the Developer

RES is one of the world's leading independent renewable energy developers with operations across Europe, North America and Asia-Pacific. RES, a British company, has been at the forefront of wind energy development since the 1970s and has developed and/or built over 100 wind farms (or more than 10 Gigawatts (GW) of wind capacity) worldwide.

In the UK alone RES currently has more than 1,000 Megawatts (MW) of onshore wind energy constructed, under construction or consented. In Scotland, RES has developed and/or built eleven wind farms with a total generation capacity of nearly 215 MW, including Black Hill Wind Farm and Duns Wind Farm in the Scottish Borders. RES is currently constructing Glenchamber and Minnygap wind farms in Dumfries and Galloway, Freasdail Wind Farm in Argyle and Bute and Penmanshiel Wind Farm in Scottish Borders.

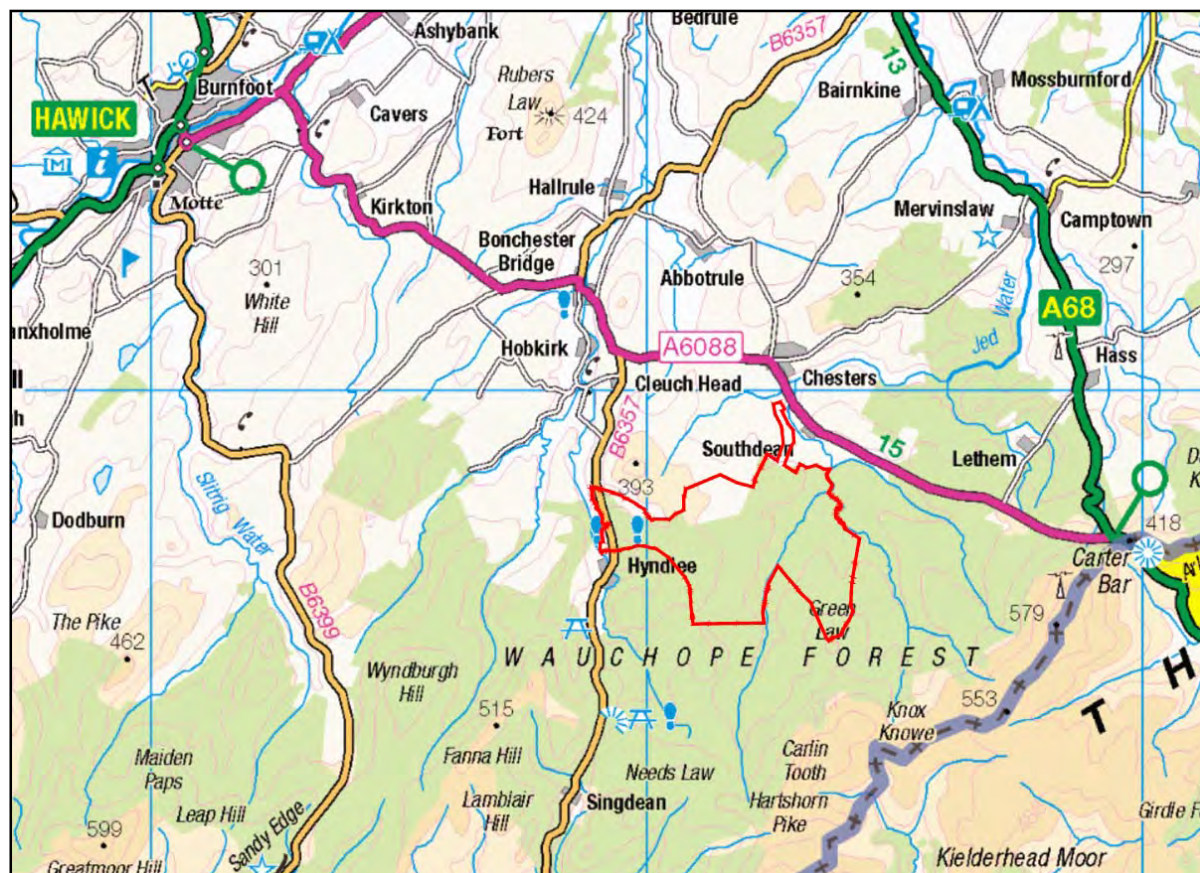
Powering Change

RES is active in a range of renewable energy and low carbon technologies. From its Glasgow office RES has been developing, constructing and operating wind farms in Scotland since 1993. RES has a growing team of over 120 staff in Scotland working across a range of disciplines.



RES' low-carbon headquarters
Hertfordshire

SITE LOCATION



Highlee Hill Wind Farm Location Plan

The proposed Highlee Hill Wind Farm is located 3 km south of the village of Chesters in the Scottish Borders. Hawick is located 12.5 km to the north-west and Jedburgh 12.6 km to the north with the Scotland-England border 2.5 km from the site boundary (5.5 km from Carter Bar).

The development site itself covers an area of approximately 1,097 hectares and is mainly comprised of commercial conifer forestry which accommodates 12 of the turbines. The access route and one turbine are located on an agricultural land which is dominated by a mix of marshy grassland and improved grassland.

The A6088 (A68 Carter Bar to Hawick) runs to the north of the site and the B6357 to the West.

Renewable energy projects closest to Highlee Hill are the proposed Birneyknowe Wind Farm to the north-west at Bonchester Bridge (7.5 km) and proposed Windy Edge Wind farm to the south-west near Hermitage (14 km). A new proposal recently submitted a Scoping Request for Wauchope and Newcastleton Wind Farm which would see turbines immediately south of Highlee Hill and also 4km to the West and 17 km to the south-west.

PROJECT DESIGN EVOLUTION

Site Selection

RES uses a sophisticated software system using an objective scoring system to find sites that are favourable for wind farm development. Once a site is located, detailed feasibility assessments are undertaken to identify what scale of development is appropriate.

Turbine Layout Evolution

The project design is the product of an iterative process ensuring that the proposal not only optimises the potential of the site but also minimises the potential effects on the environment. From the outset the following design principles have been employed:

- Avoidance of prominent ridgelines and summits to minimise views from sensitive vantage points such as Carter Bar and Northumberland National Park as well as to provide terrain shielding from aviation radar installations.
- Use of smaller turbines for the two turbines closest to Chesters to ensure that their prominence is reduced and to ensure consistency with the other turbines.
- Use of larger rotor and height turbines in order to maximise wind capture and therefore energy yield.
- Minimise impacts on existing forestry operations and loss of forestry land through use of taller turbines and existing track infrastructure.
- Use of existing infrastructure, such as the forestry tracks, has been sought to reduce potential effects; and
- Rock shall be won on site where practicable to reduce traffic.

The project was initially scoped as a 37 turbine project of up to 150 m (mix of 125 m and 150 m turbines) which due to its size (up to 111 MW) constituted a Section 36 application under the Electricity Act, determined by the Scottish Government. Following a redesign the project was reduced to 13 turbines (up to 44.85 MW) with an increased maximum tip height of 176 m (2 turbines at 150 m). The reduction in

capacity has resulted in the project now falling within the remit of the Town and Country Planning Regulations which is determined by the relevant local planning authority (Scottish Borders Council).

The final layout of 13 turbines represents the optimal design when balancing the baseline environmental data, technical and engineering considerations. A map showing the full proposed site infrastructure can be found at the back of this document.

An increase in tip height to 176 m results in a fewer number of turbines while still maximising the potential energy yield by capturing as much wind resource as efficiently as possible.



Wind Turbine 130 m to tip - St Seine Wind Farm, France

DEVELOPMENT PLAN POLICY

The importance of renewable energy is underlined by support shown in energy and climate change policy at international, national and local levels.

The proposed Highlee Hill Wind Farm will be considered by Scottish Borders Council and the key land use planning policies that they will consider in determining the application includes:

- SESplan Strategic Development Plan (approved 27th June 2013);
- Scottish Borders Council Local Development Plan (adopted 12th May 2016)

In addition, the Council will consider a number of other documents, policies and guidance that will include the Council's own Supplementary Planning Guidance: Wind Energy, the Scottish Government's Scottish Planning Policy, various Planning Advice Notes, national policy statements and advice on renewable energy.

There are two areas on the western edge of the site boundary which are covered by ecological designations. Both areas are located within Borders Woods Special Area of Conservation (SAC), Cragbank & Wolfehopelee Site of Special Scientific Interest (SSSI) and Cragbank Woods National Nature Reserve (NNR). Sections of the wooded areas are also included in the Ancient Woodland Inventory. Sections of the River Tweed SAC also run along the western and eastern edge of the site boundary.

Within 5 km of the wind farm are the Borders Mires, Kielder-Butterburn SAC, Kielderhead Moors: Carter Fell to Peel Fell SSSI, Kielderhead and Emblehope Moors SSSI as well as two NNRs (Kielderhead and Whitelee Moor).

During site surveys bats, badgers and otter were recorded on site. Of bird species goshawk, long-eared owl, merlin, twite and crossbill were

among the species recorded on the site and peregrine were recorded breeding outside the site boundary.

The majority of the site (including all the infrastructure) lies within the Jed Water catchment with the western section falling within the Catlee Burn catchment. There are a number of watercourses onsite including the Jed Water and its tributaries Pedens Cleugh, Rough Sike, Westshiels Burn, Well Cleuch, Fell Burn, Battling Sike. Cross Sike and Wolfehopelee Burn feed the Catlee Burn. Both catchments feed into the River Tweed SAC.

Peat probing across the site has demonstrated that the much of the site has either no or only shallow peat cover (less than 25 cm). With the exception of a few limited pockets, the peat on site is predominantly less than 1 m thick.

There are no landscape designations within the site. The Eildon and Leaderfoot National Scenic Area (NSA) is located approximately 20 km to the north. A number of locally designated Special Landscape Areas are found within the study area with the closest being the Teviot Valleys SLA and the Cheviot Foothills SLA both approximately 3 km away.

The site and surrounding area contain a number of cultural heritage assets. Designated heritage assets within the site boundary comprise the Dykeraw Tower, a 'Spur Earthwork' and the 'Wheel Causeway'. A further six Scheduled Monuments and three listed buildings are located within 1 km of the proposed wind farm.

There are no Core Paths within the site boundary but there are three recorded Rights of Way, BR143 (Wheel Causeway), BR144 and BR145. A section of the BR145 is already used as a forest access track and will be incorporated into the wind farm access track network.

The nearest properties are approximately 1.6 km from the proposed wind farm. The hamlet of Southdean approx. 1.8 km and the village of Chesters is just over 3 km away.

The technical assessments that have been conducted to determine the effects of the proposal are reported in full in Volume 2 of the Environmental Statement.

CONSTRUCTION & DECOMMISSIONING

Typical Construction Sequence

Construction of the proposed wind farm is expected to last approximately 18-22 months. During this time a range of tasks will be undertaken on site. When construction starts, the site entrance will be prepared to ensure safe access.



Wadlow Wind Farm, Cambridgeshire, height to tip 120m

The on-site access track layout has been designed to utilise as much as is practical of the existing forestry access track to reduce the extent of any new track required and minimise potential environmental impacts. During this period there will be a temporary construction compound containing the site office. The turbines' concrete foundations will be prepared and the electrical infrastructure such as cables and sub-station buildings installed.

The wind turbines will be delivered in parts on special heavy goods vehicles and assembled on site using a crane. Once the turbines are installed there will be a period of testing and commissioning.

It is proposed that normal construction hours will be restricted to Monday to Saturday from 7.00am to 7.00pm with no working on a Sunday. However, working hours will be agreed with SBC prior to the commencement of works and these will also be refined as necessary to take account of identified environmental and community interests and (with prior agreement) critical operational requirements.



Callagheen Wind Farm, Co. Fermanagh, height to tip 83m

Construction Quality Assurance

The proposed wind farm will be constructed by an experienced construction contractor with a proven track record of working on similar projects in accordance with international and UK standards in respect of quality, health, safety and environmental conservation.

Decommissioning

The expected operational life of the wind farm is 30 years from the date of commissioning. At the end of this period turbines could be refurbished, removed, or replaced. Refurbishment or replacement would require relevant new permissions.

Decommissioning a wind farm entails the removal of the turbine components, transformers, the sub-station and associated buildings. Some access tracks could however be left on site to maintain improved site access for the landowner and wider community.

Concrete foundations are not normally removed in decommissioning. The exposed portion of the concrete plinth would be removed and the entire foundation would be covered over with soil and reseeded appropriately. Impacts from construction and decommissioning are temporary and appropriate mitigation can be employed to avoid permanent impacts.

ENVIRONMENTAL IMPACT ASSESSMENT

Assessing the project's environmental impacts enables stakeholders to understand the potential environmental effects of a project.

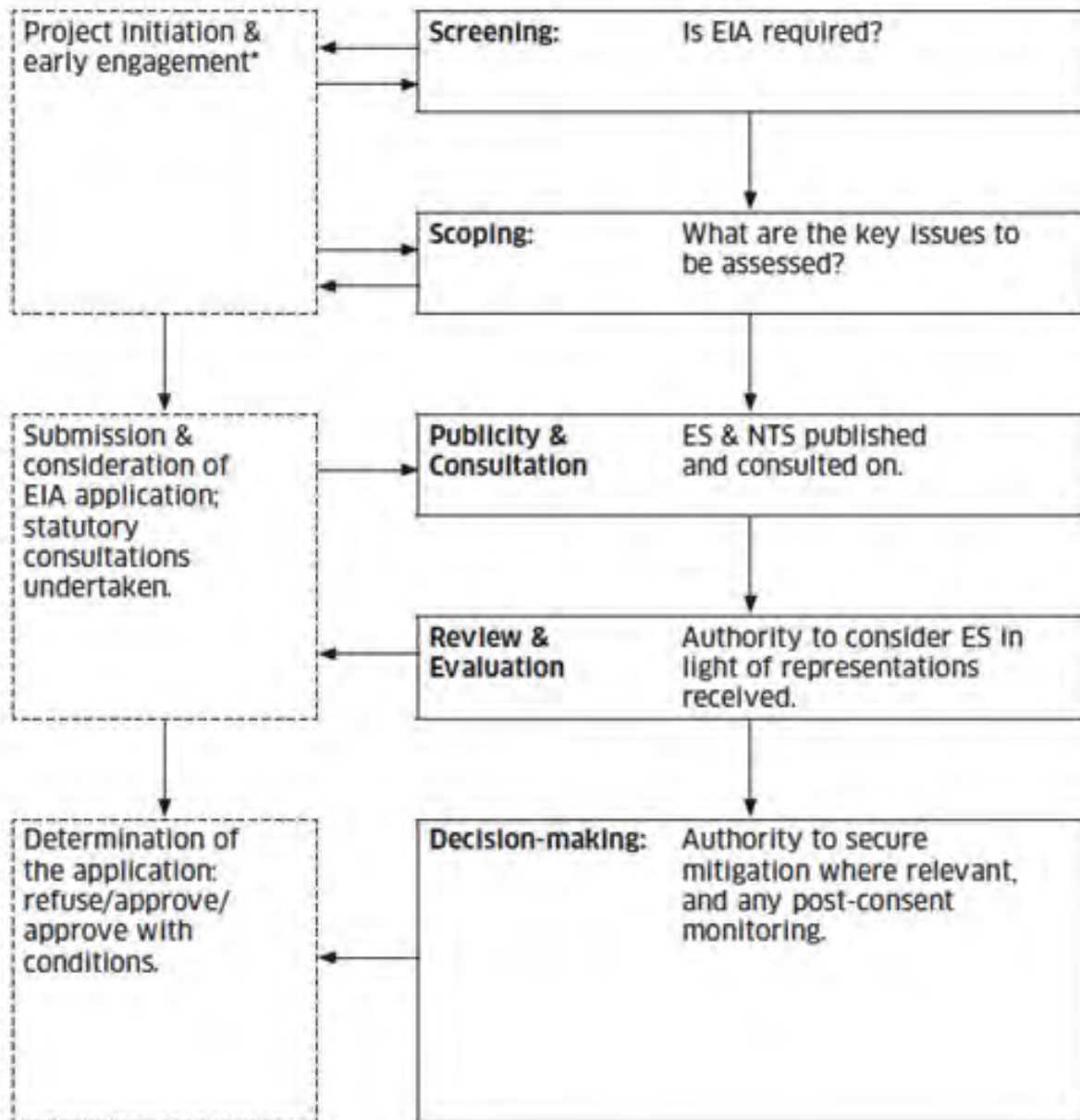
The EIA identifies and assesses the potential effects associated with the construction, operation and decommissioning of the proposed wind farm. By understanding the site's sensitivity and combining this with the magnitude of change from the project, taking account of any potential mitigation, the likely residual effect can be assessed.

For each potential development effect, the 'worst case' scenario is considered. This ensures that the environmental scenarios likely to cause the greatest environmental effect are taken into account in the design of the project. The assessment covers:

- Landscape and Visual;
- Ecology;
- Ornithology;
- Cultural Heritage;
- Hydrology (Geology and Hydrogeology);
- Noise; and
- Transport and Traffic;

The EIA Process

<http://www.scotland.gov.uk/resource/0043/00432582.gif>



Landscape and Visual

The landscape and visual impact assessment (LVIA) considered a 40 km radius study area (extending from the outermost turbines of the proposed wind farm) and involved a desk study, field survey and computer modelling.

Following an analysis of the existing landscape and visual context of the site and elements of the proposed wind farm that could generate significant landscape and/or visual effects, mitigation measures were devised to minimise potential significant effects.

Based on the existing landscape and visual context and the final design for the proposed wind farm a final assessment of the residual landscape and visual effects was undertaken with particular regard to the potential for significant effects on:

- the landscape character of the site and the adjoining landscape within the study area;
- Eildon and Leaderfoot National Scenic Area (NSA);
- Northumberland National Park;
- Langholm Hills Regional Scenic Area;
- Teviot Valleys SLA, Cheviot Foothills SLA, Tweed Lowlands SLA; Tweed, Ettrick and Yarrow Confluence SLA, Tweed Uplands SLA and Tweed Valley SLA;
- sensitive receptors, including tourist and residential receptors within the study area;
- Core paths and rights of way;
- summits and long distance recreational trails including the Pennine Way, Borders Abbeys, Cross Borders Drove Road and St Cuthberts Way ;and
- users of transportation routes within the study area.

Landscape Assessment

During the construction phase, construction activities would give rise to temporary landscape impacts through the construction activities.

These would be relatively short term, minimised by careful construction management, and would reduce/be removed at the end of construction activities. The construction phase would result in a Moderate change in the landscape fabric however this is considered to be a non-significant effect.

Localised significant effects are predicted within parks of the Teviot Valleys SLA. Of the 82 landscape character types (LCTs) found in the study area significant effects on landscape character would be confined to:

- Southern Upland Type with Forest Covered - Wauchope / Newcastleton (LCR BDR5) - in which the wind farm is located;
- Cheviot Foothills - Falla Group (LCT BDR7)
- Grassland with Hills - Bonchester / Dunion (LCT BDR11) - which contains the site access.
- Grassland with Hills - Rubers Law (LCT BRD11)

It was noted that the proposed development would introduce new vertical engineered elements into the environment and introduce a new focal point however, that such effects would not undermine or adversely affect the key characteristics of these LCTs.

Visual Assessment

The LVIA identified a number of significant effects on visual receptors within the study area, including potential effects on the visual amenity of:

- Chesters;
- Southdean;
- Ruletownhead;
- Bonchester Hill
- A6088;
- B6357 at the formal vantage point and picnic site;
- The Pennine way adjoining the A68 at Windy Crag;
- The Borders Abbey Way at Black Law

- Black Law Scenic Viewpoint;
- Rubers Law Scenic Viewpoint;
- Core Paths 1,116, 192,203;
- The Wheels Causeway and Dykeraw Public rights of way.

No other significant effects were identified in respect of residential properties or settlements in the area.

When assessing the wind farm in context with other wind farms in the area (existing, consented and in planning) there are no additional significant cumulative landscape or visual effects predicted beyond those resulting from the proposed development in isolation.

Viewpoint 5: Bonchester Hill - photomontage for illustrative purposes only (see Figure 4.12f of the ES)



Viewpoint 11: Chesters Brae - photomontage for illustrative purposes only (see Figure 4.18d of the ES)



Ecology

A desk based study and a series of field surveys were undertaken to establish the baseline ecological conditions of the site. The development site is a mix of agricultural land and a large area of commercial conifer forestry. Outwith the forested areas the habitats recorded on site are primarily marshy grassland and improved grassland. Potential Ground Water Dependent Terrestrial Ecosystems (GWDTEs) were also identified.

Bat activity on the site is considered to be relatively high although no bat roosts were identified. Surveys have confirmed the presence of badger and otter on the site and the possible presence of pine martin and red squirrel albeit infrequently. There was no evidence of great crested newt or water vole. Some of the water courses on site are substantial enough to support fish species. Atlantic salmon, brown trout and brook lamprey were all recorded (Atlantic salmon and brook lamprey are both qualifying species in the River Tweed SAC citation).



Badger for illustrative purposes only (Shutterstock)

The ecological receptors present were considered during the design of the proposed wind farm. Design mitigation measures included stand-off distance of 70 m from watercourses. Key habitats (including GWDTEs) have been avoided where possible.

Pollution prevention measures and a Species Protection Plan (SPP) would be in place during the construction and decommissioning phases of the proposed development, and would be detailed in the Construction Method Statement (CMS). An Ecological Clerk of Works would be present during key phases of the construction phase to

monitor construction works to ensure the requirements of the CMS are met.

With the implementation of the mitigation it is considered that all effects would be reduced to either Minor adverse or Negligible and would be therefore be Not Significant under the terms of the EIA Regulations.

Ornithology

A range of baseline ornithological surveys were carried out within the development site and wider survey-specific study areas of up to 6km from 2011 to 2015, and were generally consistent with the recommended methods in current Scottish Natural Heritage guidance (SNH, 2014), although when baseline surveys commenced prior to this date the previous (SNH, 2010) guidance was followed. The survey programme comprised: flight activity (vantage point) surveys; breeding bird surveys; scarce breeding bird surveys; black grouse surveys; woodland point counts and winter walkovers. A desk study was undertaken to inform the scope of field surveys, and an assessment of the designated sites within and surrounding the development site (up to 20 km).

There are no ornithological statutory designations within the site boundary. There are two SSSIs within 3 km, (Kielderhead Moors: Carter Fell to Peel Fell SSSI and Kielderhead & Emblehope Moors SSSI). The nearest Special Protection Areas (SPAs) is Langholm and Newcastleton Hills SPA (also designated as an SSSI). Whitelee Moor NNR and Kielderhead NNR are located within 4 km.

Based on the distance to the SPA and the lack of activity within the site of the associated qualifying interest (hen harrier) it is concluded that the wind farm will have no Likely Significant Effects. No other designated sites' qualifying interests are predicted to have any connectivity with the development site.



Golden Plover for illustrative purposes only (Shutterstock)

The valued ornithological receptors (VOR) of relevance to the development site have been identified as: goshawk, merlin, peregrine and golden plover. Although there were no baseline records of golden eagle the area is known to have a historic territory within ranging distance of the site and as such, as a precaution, this species has been included as a VOR.

Three goshawk territories were recorded during the surveys (two within the development site) of which there was one successful breeding pair in each survey year. Only one territory was still active in 2015. It is possible that existing felling operations created disturbance. As part of the design process turbines were kept at least 500 m from known territories. Any loss in available foraging habitat is considered to be Minor adverse to Negligible during construction and Minor adverse during operational phase and therefore Not Significant.

Peregrine and Merlin are known to breed in the wider area however the development site appears to be of low importance both for potential breeding and foraging. Negligible to Minor adverse effects were predicted during the construction and operational phase.

Golden Plover was recorded occasionally in the non-breeding season to the north of the development site. It is unlikely that construction activity in the forestry plantation will affect any potentially breeding individual birds to the north. Although it is possible that construction activity could disturb non breeding birds this would only be of a temporary nature and would not be significant. At worst there would

be Minor adverse impact during construction and a Negligible effect during operations and therefore not significant.

Historical records show golden eagle to be present within the 6 km study area around the development site although the most recent breeding record was 2004. No observations of golden eagle were made during the surveys.

The risk of collision with turbines is also assessed using a method which takes i) the observed level of site activity, ii) the likelihood of a particular bird species passing through the turbine rotor swept area and iii) an 'avoidance rate' is applied for each species to account for known species behaviours. The results of the collision risk modelling concluded that there was a negligible impact on all of the VORs assessed which is Not Significant in EIA terms.

Cultural Heritage & Archaeology

The cultural heritage assessment has considered potential impacts of the proposed development upon the physical fabric of heritage assets within the site, and potential impacts on the settings of assets within the wider landscape.

A desk-based study, walkover survey and site visits have been carried out in order to identify assets that may be affected by the proposed development and establish their current condition. The desk-based study has also informed an assessment of the potential for currently unknown archaeological remains within the construction footprint. Visualisations have been prepared to inform the assessment of impacts on the settings of heritage assets.

A total of 43 heritage assets have been identified within the site boundary. These include three Schedule Monuments.

- Wheel Causeway section 640m long on south slope of Wardmoor Hill
- Spur earthwork 1550m southwest of Westshiels; and
- Dykeraw Tower.

The remaining 40 assets, which are not designated, include references to historic finds (eg. bronze age artefacts; Neolithic axe, hammer head, whorls;), former rig and furrow, quarries and sheepfolds etc. The assets also include features on historic maps, sites that are no longer visible and some duplications of other designations.



Dykeraw Tower

In the wider study area (1 km buffer from the development site) there are a total of nine Scheduled Monuments (including Tamshiel Rig immediately on the western site boundary) and three (category B or C) listed buildings (including Southdean Church and Kirkyard close to the site entrance).

The design of the wind farm has taken into account the known location of heritage assets both designated and undesignated in order to minimise the risk of any direct effect. There is however some potential that undiscovered buried remains will be affected during construction however the risk is low due to the existing forestry and farm operations on the site. A programme of archaeological work during the construction phase will be put in place to record any archaeological finds. The upgraded access track will pass close to Dykeraw Tower and as such additional protection will be put in place in the form of temporary fencing to prevent access, and restrictions on

the track widening works to maintain a stand off distance where possible and if not preconstruction investigation will take place to identify and record any remains.

The potential to affect the 'setting' of designated assets within 5 km was assessed, these are indirect effects. Whilst the turbines are visible from a number of these locations it has been assessed that the visibility of the turbines will not affect the ability to appreciate any of the assets for their function and position in the wider landscape. The assessment concluded that the effect would be negligible for most Scheduled Monuments and Listed Buildings with the exception of Tamshiel Rig fort, settlement and field system; and Southdean Law fort and settlement both of which are classified as Minor Significance. The temporary construction compound is to be located approximately 100 m from Dykeraw Tower and will produce a Major effect on the setting for the duration of the construction phase however the impact is of a temporary nature and will only last while the compound is in place (during construction phase only). The impact on the setting during the operational phase is assessed as Minor.

Geology, Hydrology & Hydrogeology

The hydrology assessment involved a combination of desk study, site visit and consultation. The potential effects on the surface waters, groundwater, peat, designated sites and private water supplies that have been considered are:

- Pollution incidents;
- Erosion and sedimentation;
- Changes to water resources i.e. private water supplies;
- Modification of surface water and groundwater flows;
- Modification of natural drainage patterns;
- Impediments to flow and flood risk;
- Peat instability;
- Minimisation and re-use of disturbed peat; and

- Compaction of soils.

Following the identification and assessment of the key features, a range of mitigation and best practice measures have been incorporated into the design, including the addition of extensive buffer areas of up to 70 metres around hydrological features (100 buffer on the River Tweed SAC).

During construction and operation, site specific environmental management measures will be put in place through the CMS, as well as through detailed design of infrastructure and associated mitigation. This will protect the groundwater and surface water resources from pollution and minimize changes to the hydrological environment to avoid adverse effects arising. No significant residual effects are predicted.

Peat probing was undertaken across the site to determine peat locations and the depths. This information was fed into the design evolution with infrastructure being located away from the deeper areas of peat where possible.

Identification of wetland areas across the site was carried out as part of the habitat survey. From those wetland habitat areas those which are potential Groundwater Dependant Terrestrial Ecosystems (GWDTEs) have been identified. From further assessment of the surrounding topography and underlying geology it has been determined that none of the areas containing wind farm infrastructure should be classed as GWDTEs.

Following a desk assessment of the underlying geology and a site walkover five potential borrow pit search areas have been identified

Transport and Traffic

The majority of traffic generated by the wind farm proposal would be limited to vehicle movements during the construction and decommissioning phases. During the operation of the wind farm, traffic

would be minimal as much of the operation of the wind farm would be automatic and monitored remotely. Construction traffic falls into three broad categories namely Abnormal Indivisible Loads, Heavy Goods Vehicles and Light Goods Vehicles.

It is expected that the turbine components will be imported by sea before being delivered to site by road. The most likely port of entry for components would be the Port of Blyth. From there the turbine deliveries would proceed around the north periphery of Newcastle before joining the A696 and travelling north-west until joining the A68. Shortly after crossing the border into Scotland the deliveries would turn off onto the A6088 which then leads to the site entrance.



Image included for illustrative purposes only

The construction traffic flows (predominantly light and heavy goods vehicles although also including cars) would be expected to approach the site from a number of different directions.

A traffic survey was carried out to determine the current usage of the three main roads likely to be used by construction vehicles, A6088 North, A6088 South and the B6357. All these roads were found to be currently operating considerably below capacity.

The traffic volumes associated with the construction will result in a significant increase in the number of vehicles using the identified roads. Despite this increase the predicted number of vehicles is still significantly below the theoretical capacity of these three roads. The predicted impact of traffic on the road network is considered to be Minor and short term.

In order to manage vehicle movements it is proposed that a Traffic Management Plan will be agreed in advance of the construction phase with both the Scottish Borders Council and Northumberland County Council.

Improvements such as minor widening are proposed to allow large vehicles to safely pass along the delivery route and in other locations temporary removal/relocation of street furniture is likely to be required.

Noise

An assessment of the acoustic impact from both the construction and operation of the proposed Highlee Hill Wind Farm was undertaken taking into account the nearest identified residential properties.

The nearest properties are 1.6 km from the proposed turbines. Modelling predicts that the predicted noise levels falls within allowable guidelines for an operational wind farm either as a stand-alone project or in combination with other wind farms in the area.

A construction noise assessment, which has considered the impact from increased traffic noise, indicates that noise levels likely to be experienced at the nearest residential properties are predicted to be below relevant construction noise criteria.

Other Issues

Electromagnetic Interference

Following consultation it was confirmed there will be no effect on microwave or radio links as none pass through the site.

Aviation

The turbine layout has been designed to mitigate any potential impacts on civil and military radar installations.

The Civil Aviation Authority (CAA) is expected to require visible lighting to be installed on the turbines however it is not yet confirmed what this lighting scheme will be. The industry body Renewable UK are currently consulting with the CAA. RES has proposed a lighting scheme which would see four peripheral turbine lit at the nacelle and for the purposes of the ES that is what has been assessed.

SUMMARY

It is predicted that Highlee Hill Wind Farm could generate electricity to supply the equivalent of approximately 30,000 households with cleaner, greener, renewable energy for the 30 year operational lifetime of the project which will make a significant contribution to national renewable energy targets and reductions in CO₂ production.

The project will create new and support existing jobs in the local economy through direct employment in the construction and (albeit to a lesser extent) during operation of the wind farm as well as further indirect employment through suppliers and service providers to benefit the local economy.

There are some significant adverse effects highlighted within the Environmental Statement, however the majority of these have been reduced to non-significant effects through specific mitigation measures.

The accompanying Planning Statement and Design & Access Statement provide a more comprehensive analysis of the proposals and findings of the Environmental Statement against all relevant policies within the Scottish Borders Council Local Development Plan as well as other relevant local and national policy considerations. The accompanying Pre Application Consultation Report also details the measures taken to engage with the local community in the formulation of this application and their comments provided to the project team.



HIGHLEE HILL WIND FARM

INFRASTRUCTURE LAYOUT

© CROWN COPYRIGHT, ALL RIGHTS RESERVED.
2016 LICENCE NUMBER 0100031673.

- KEY**
- ⊕ WIND TURBINE LOCATION
 - SITE BOUNDARY
 - NEW SITE TRACKS
 - UPGRADED SITE TRACKS
 - TEMPORARY SITE TRACKS & TURNING HEADS
 - WATERCOURSE CROSSING
 - CRANE HARDSTANDING AREA
 - PERMANENT
 - TEMPORARY
 - TEMPORARY CONSTRUCTION COMPOUND
 - CONTROL BUILDING & SUBSTATION COMPOUND WITH PERMANENT HARDSTANDING AREA
 - ✕ POWER PERFORMANCE MASTS
 - BORROW PIT SEARCH AREA
 - ➔ SITE ENTRANCE LOCATION



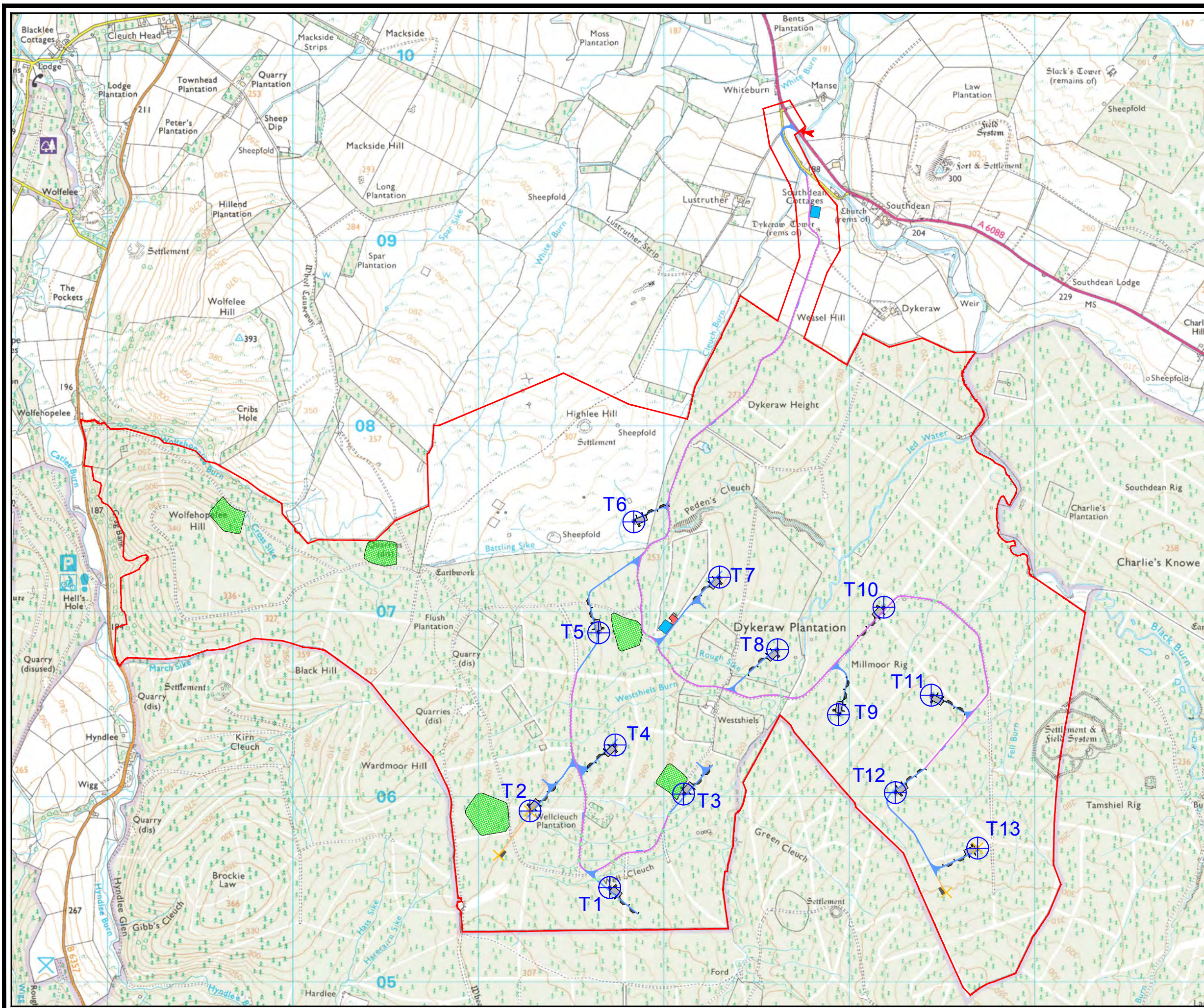
LAYOUT DWG: 02836D0002-11 T-LAYOUT NO: PSCOhhi041

DRAWING NUMBER
02836D1001-03

SCALE - 1:20,000

ENVIRONMENTAL STATEMENT
2016

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION



Contact:

RES Ltd
3rd Floor
STV Building
Pacific Quay
Glasgow
G51 1PQ

www.highleehill-windfarm.co.uk