BELLTOWNPOWER

Belltown Power UK Wind Ltd

NEWLANDS HILL WIND ENERGY HUB
EIA Scoping Report

Final report
Prepared by Stephenson Halliday
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Belltown Power UK Wind Ltd

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EIA Scoping Report

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1.	Final	Pernille Thomson	Mary Fisher	Matt Olley	30.11.2021

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Introduction

Background

1.1 Newlands Hill Wind Energy Hub Limited ("the Applicant") is proposing to develop the Newlands Hill Wind Energy Hub (hereafter referred to as "the Proposal"). The Application Site is located 11km southeast of Haddington on the northern edge of the Lammermuir Hills within East Lothian. The Application Site is located fully within the administrative boundary of the East Lothian Council. The location of the Application Site is shown in Figure 1.1.

1.2 The generating capacity of the Proposal would exceed 50MW and therefore requires Scottish Ministers' consent under Section 36 of the Electricity Act 1989. East Lothian Council will be a statutory consultee in the consenting process. In addition, a request will also be made by the Applicant that planning permission is deemed to be granted under Section 57 of the Town and Country Planning (Scotland) Act 1997, as amended.

1.3 It is acknowledged that the Proposal should be subject to an Environmental Impact Assessment (EIA) under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the EIA Regulations'), and the application for S36 consent will be accompanied by an EIA Report.

1.4 The works undertaken as part of the EIA will be used to inform the final design of the Proposal and assess predicted effects on the environment. The EIA process is iterative in nature and as such the final Proposal will continue to evolve in line with ongoing assessments which are to be agreed as part of the Scoping Opinion.

The Need for and Benefits of the Project

1.5 The Scottish Government has set ambitious targets for renewable energy generation. To meet those targets, new renewable energy projects must be developed where resources are present, environmental impacts can be minimised and social and economic contributions to local

communities and/or regional programmes can be secured.

1.6 The Proposal will contribute to the Scottish Government targets by providing renewable electricity generation in Scotland and providing an opportunity to reduce CO_2 emissions from our electricity use. The EIA Report will include information on the Proposals contribution to renewable energy targets and climate change, through the carbon balance calculation (see Section 16: Other Issues).

1.7 In addition, the Proposal will provide social and economic benefits to local communities and to the wider region for example through financial investment. Details of the socio-economic benefits of the Proposal will be set out in a standalone economic assessment report which would support the S36 application.

The Applicant

1.8 Newlands Hill Wind Energy Hub is an SPV wholly owned by Belltown Power UK Wind Ltd. Belltown Power is a global developer, funder, constructor, and operator of renewable energy projects.

1.9 Belltown Power was founded in 2013 as a fully integrated UK renewable energy power company. With a small team of dedicated development, investment and engineering professionals, Belltown has delivered over 200MW of onshore wind, solar PV and hydro projects in the UK including construction of the 39MW Tom Nan Clach Wind Farm in Nairnshire.

1.10 Belltown Power's UK team is made up of more than 20 experienced and skilled renewable energy professionals. The team combines extensive investment expertise and deep engineering knowledge in order to source, develop, fund, construct and operate projects to the highest standard.

1.11 Belltown Power already manages several community benefit funds across their operational portfolio and has therefore gathered experience of how best to administer these funds effectively. For their new developments Belltown Power intend to provide a mechanism for community ownership of part of the renewable schemes. Belltown Power manages several educational programmes across the renewable asset portfolio. Education of the next generation on the importance of renewable technology is an integral part of the Belltown culture.

1.12 Belltown Power's team are passionate about delivering quality renewable energy projects, assisting in enabling the energy transition and combating the climate emergency. Belltown Power has over 1GW of unsubsidised UK wind and solar projects under development.

Expert Competence

1.13 This EIA Scoping Report has been compiled by Stephenson Halliday Limited (Stephenson Halliday). Stephenson Halliday has been awarded the Institute of Environmental Management and Assessment (IEMA) Environmental Impact Assessment Quality Mark. This award recognises their commitment to excellence in EIA activities and sharing good practice, and is independently reviewed each year.

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1.14 The EIA Quality Mark is an independent assessment that Stephenson Halliday has sufficient expertise to ensure the completeness and quality of any EIA related activities in accordance with Regulation 5(5)(a) of the EIA Regulations.

1.15 Technical specialists have also been involved in the preparation of the Scoping Report and their expert competence is set out in Table 1.1 below.

Table 1.1: Expert Competence

Specialism	Consultant
Ecology	Avian Ecology
Ornithology	Avian Ecology
Transport and Access	Pell Frischmann
Noise	Hayes McKenzie
Landscape and Visual Impact	Stephenson Halliday

Specialism	Consultant
Geotechnical, Hydrology & Hydrogeology	Ramand Environmental
Peat /Carbon Rich Soils	Eastpoint Geo
Cultural Heritage	Headland Archaeology
Aviation	Aviatica
Planning	DB Associates
Socio-Economics and Tourism	BiGGAR Economics
Climate Change and Carbon	RSK Group

Requirements of the Legislation

1.16 Any proposal to construct or operate a power generation scheme with a capacity in excess of 50MW requires Scottish Ministers' consent under Section 36 of the 1989 Act.

1.17 Schedule 9 of the 1989 Act places on the applicant a duty to:

> *"have regard to the desirability of preserving the natural beauty of the countryside, of conserving flora, fauna and geological and physiological features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest".*

1.18 Under the EIA Regulations, the Scottish Ministers are required to consider whether any proposal for a wind farm is likely to have a significant effect on the environment.

1.19 Whilst not a statutory requirement, as part of the EIA process, the applicant wishes to seek a formal scoping opinion from the ECU under the EIA Regulations. This document is the Scoping Report, which contains the necessary information as required under Part 4 Regulation 12 of the EIA Regulations.

1.20 Under Regulation 12 Scottish Ministers are required to provide a scoping opinion outlining the information which they consider should be included in the Environmental Impact Assessment (EIA) report.

The Scoping Process

1.21 This Scoping Report has been compiled by Stephenson Halliday Ltd on behalf of the Applicant. It is accompanied by a formal scoping request to the ECU for an EIA Scoping Opinion under Regulation 12 of the EIA Regulations, on the information to be contained within the EIA Report.

1.22 The Scoping Opinion will provide guidance to the Applicant on the views of the Scottish Ministers and consultees on what the principal effects of the Proposal are likely to be and the topics and issues on which the EIA should focus. The scoping process also allows for the identification of issues which are considered to be insignificant, and therefore scoped out, enabling the production of a relevant, concise and accessible EIA Report.

1.23 In accordance with Part 4, Section 12 (2) of the EIA Regulations, when making a scoping request the applicant is required to include:

> *"(a) a description of the location of the development, including a plan sufficient to identify the land;*
>
> *"(b) a brief description of the nature and purpose of the development and of its likely significant effects on the environment; and*
>
> *"(c) such other information or representations as the developer may wish to provide or make."*

1.24 This Scoping Report identifies issues that are likely to be significant during the EIA process and eliminates those that are not. This Scoping Report is intended to facilitate discussion between the Applicant and Scottish Minister and consultees, in order to ensure the major areas of concern are identified prior to the S36 application being submitted. The key objective of this Scoping Report is summarised as follows:

- Provide the initial key details of the Proposal;
- Outline the scope of further studies envisaged;
- Obtain agreement on the scope of work that will be undertaken to ensure that the level of environmental studies and mitigation is appropriate;
- Agree topics which can be excluded (or 'scoped out') in the interests of focus, accessibility and avoiding unnecessary cost.

1.25 This will be achieved by inviting Scottish Ministers and consultees to:

- Specify aspects of the environment and issues relating to these that should be considered and addressed in the EIA (with particular emphasis on any issues local to the Application Site);
- Comment on the proposed approach to the EIA;
- Comment on and/or recommend where appropriate, assessment methodologies including study areas, receptors to be assessed etc.; and
- Identify other relevant bodies or organisations that may have an interest in the Proposal or be able to provide relevant information.

1.26 Once the Scoping Opinion has been received from the Energy Consents Unit (see Section 4 for content details), the response will be analysed, and the relevant points raised therein taken forward and used to inform the assessment process.

Section 2
Site and Surrounding Context

The Application Site and surrounding Context

2.1 The Application Site (as shown by **Figure 1.1**) is located 11km southeast of Haddington on the northern edge of the Lammermuir Hills in East Lothian. The Application Site lies circa 1.5km from the Scottish Borders Council boundary at its closest point.

2.2 Present landcover consists of an unenclosed mosaic grass and heather moorland on a medium sized plateau landform which is intersected by small streams in the southern portion of the site. The site is in use as an active grouse moor and open grazing. The site is open and treeless with a steep northwest facing slope at the northwestern site boundary. Landform on the site serves as a backdrop to the agricultural upland fringe to the north as viewed from lower areas of East Lothian toward the coast. The area to the south of the site is comprised of open, sparsely settled moorland with some scattered farmsteads in valleys and occasional evidence of past historical human use including cairns, hillforts and stone circles.

2.3 There are a few residential receptors to the northwest of the site, clusters of properties at Hopes, Longyester, Quarryford, Newlands, Snawdon and other dispersed settlement within 5km. Gifford is the closest settlement beyond this at 6km northwest of the Application Site.

2.4 The B6355 is adjacent to the eastern edge of the turbine envelope and The Proposal would be accessed from this road as shown by **Figure 1.2**.

Cumulative Context

2.5 As outlined within Schedule 3, paragraph 3 of EIA Regulations:

> *"The likely significant effects of the development on the environment must be considered in relation to: …*

(b) cumulation with other existing development and/or approved development."

2.6 There are several existing and consented wind farms in the surrounding area. The nearest operational and consented sites are Fallago Rig approximately 2.2km to the south and Crystal Rig (I-IV) approximately 5km to the northeast.

Within the vicinity of the proposed Newlands Hill Wind Energy Hub, the most relevant cumulative developments are commercial scale wind farms (more than 3 turbines and more than 70m in height) within 15km. Those currently known of are listed in Table 2.1, and are grouped for wind farm clusters with the same planning status.

2.7 Please note that a full review of cumulative wind farm developments will be undertaken as part of the assessment and this list is not intended to indicate either a proposed list of sites for inclusion or proposed cumulative study areas – these are identified for relevant topics in the later sections of this report.

Table 2.1 Cumulative Context

Wind Farm	No. of wind turbines	Approximate distance from site	Max turbine height (m)	Planning Status
Fallago Rig	48	2.2km, South	125	Operational
Crystal Rig I-III	91	5km, Northeast	125	Operational
Crystal Rig IV	11	5.9km, East	200	Consented
Aikengall & Aikengall 2	35	9.5km, Northeast	145	Operational
Aikengall 2a	24	10km, East	145	Consented
Ditcher Law	15	9.2km, Southwest	220	Scoping
Dun Law phases 1 and 2	61	9.8km, Southwest	75	Operational
Keith Hill, Pogbie and Pogbie Extension	17	10km, Southwest	76	Operational
Black Hill	22	13.8km, Southeast	78	Operational

Section 3
Description of the Proposal

Introduction

3.1 This section provides a brief description of the Proposal, including the level of development and various components. It should be noted however, that subsequent to receipt of the Scoping Opinion, the design of the development, including the number and location of turbines proposed, will evolve to take account of constraints and issues raised through baseline studies both completed and currently in progress and any feedback received as part of the scoping process, and through the subsequent iterative assessment of impacts.

The Proposal

3.2 The Application Site within which the wind farm will be located currently comprises of gently sloping plateau which is actively managed as a grouse moor with the associated muirburn and drainage, bound to the east and south by minor roads and bordered by improved agricultural grassland to the northwest.

3.3 At this early stage in the design process, it is anticipated that the Application Site has the capacity to accommodate up to 23 turbines. The Applicant has identified candidate turbines with a range of turbine blade tip heights between 180m and 230m as the preferred choice. The Proposal will also provide an energy storage system designed to complement renewable energy generation. The operational life of the Proposal would be 40 years.

3.4 Each turbine is likely to generate between 5 and 7 Megawatts (MW) of electricity. The total installed capacity of the Proposal is therefore expected to be over 100MW.

3.5 The associated infrastructure would include the following but not restricted to:

- site access and a network of onsite access tracks;
- foundations supporting each wind turbine;
- crane hardstandings and setdown areas adjacent to each turbine location;

- a network of underground cables connecting the turbines to the onsite substation;
- an onsite control building and substation compound;
- a permanent anemometer mast or LiDAR compound for wind monitoring;
- temporary construction compound(s), laydown area(s) including car parking;
- temporary borrow pits.

Turbines

3.6 Candidate turbines are still being identified and selected however the technical assessments will undertake 'worst case' modelling for the purposes of the EIA.

3.7 The specification of the turbines will be a typical horizontal axis design comprising three rotor blades, hub and nacelle. The tower would be tubular and tapered, and finished in light grey semi-matt colour.

3.8 An indicative layout of the proposed 23 turbine scheme with tip heights varying from 180m to 230m is shown on **Figure 1.3**.

Associated Infrastructure

3.9 The following associated infrastructure is anticipated to be provided as part of the Proposal. Dimensions will be dependant on the turbine procured and the manufacturers requirements, therefore indicative measurements are herewith provided; full details will be provided in the EIA Report:

- Wind turbine foundations: The turbine foundations would measure approximately 18m by 18m at a depth of circa 3-6m depending on turbine specification and ground conditions. The foundation materials would consist of concrete, a reinforced steel cage and a steel anchor ring to support the tower to the foundation.
- Crane hardstanding: An area of crane hardstanding, is proposed. The crane pad dimensions are anticipated to be 50m x 20m for the main crane and then two temporary hardstandings of 12x12m for the assist crane. The hardstanding would be constructed from crushed hardcore, with a more granular compressed surface. They would be formed to allow assembly and construction of the turbines, with a temporary laydown area for components.
- Access tracks: The new access track would be constructed from the same materials as the crane hardstanding and will have a width of approximately 5m. These would be floated if and where it is considered appropriate to do so for areas of deep peat.

Access

3.10 The main access track to Application Site is from the local B6355.

3.11 It is anticipated that turbine components will be delivered to Grangemouth located on the Forth Estuary. Abnormal loads will be transported to the Application Site via the M9, M8, A720 and A1.

3.12 The Applicant is considering a variety of options for access route from the A1 to the Application Site entrance and the turbine development area. It is possible that construction / labour access will use alternative access points. Further details of the abnormal and construction / labour access routes will be available as part of the planning submission in due course.

Energy Storage

3.13 The Proposal intends to include an energy storage facility in addition to the turbines, however the scale of this element is yet to be finalised. Full details will be included in the EIA Report. Indicative rough measurements of the likely size of the battery storage compound are 40m X 40m but this is liable to change.

Grid Connection

3.14 The grid connection works will be subject to a separate planning application for consent by SP Energy Networks, under Section 37 of the Electricity Act 1989. As a result, potential environmental effects as a result of offsite grid connection will not be considered as part of this EIA.

Construction Phase

3.15 The construction period is estimated to last around 24 months and would be a phased process involving an initial site survey and investigation, followed by construction of the new access track. Thereafter the temporary assembly area would be set up before the main construction phase would commence. A temporary construction compound would be located within close proximity to the site access point which would allow for a laydown and vehicle parking area.

3.16 Construction works would include the following main activities:

- working of borrow pits;
- construction of the temporary construction compound;
- construction of site access, access tracks, passing places and any watercourse crossings;
- construction of culverts under tracks to facilitate drainage and maintain existing hydrology;
- construction of turbine foundations and transformer plinths where required;
- construction of an onsite substation (and energy storage system);
- excavation of trenches and cable laying adjacent to site tracks;
- movement onto site and delivery and erection of wind turbines; and
- delivery of peatland restoration, habitat management and native planting subject to agreement.

3.17 Once construction of the Proposal is completed, a period of testing would be undertaken before commissioning. This would be followed by site restoration including re/planting.

3.18 Where possible, construction activities will be carried out concurrently to reduce the overall length of the construction programme. Phasing of the construction process may result in civil engineering works progressing in some areas of the site whilst turbines are being erected elsewhere. To minimise disruption to land use, site restoration would be undertaken as early as possible.

3.19 It is anticipated that stone will be sourced from onsite borrow pits; however, it may be necessary to import some stone to the Application Site. Stone and other construction material would typically be transported by road from source or seaport. Large loads such as wind turbine components (rotor blades, tower sections and nacelles) would be transported to the Application Site by specialised abnormal load vehicles using the designated route referred to above.

Operational Phase and Decommissioning

3.20 It is proposed that the wind turbines would be operational for a period of 40 years from the date of commissioning.

3.21 Towards the end of this period, a decision would be made as to whether to refurbish, remove, or replace the turbines. If refurbishment or replacement were to be chosen, relevant applications for consent would be made.

3.22 The EIA Report will include high level information on the likely process that will be undertaken to decommission the Proposal at the end of its lifespan. However, it is not proposed to undertake a detailed assessment of the decommissioning effects associated with the Proposal as the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage and the proposals for refurbishment/ decommissioning are not currently known.

Questions for Consultees

Q3.1 Confirmation is requested on the proposed approach to the assessment of decommissioning.

Section 4
Scoping the EIA

Introduction

4.1 EIA is the process of assessing the likely environmental impacts of a proposal and identifying options to minimise environmental harm. The main purpose of EIA is to inform decision makers of the likely impacts of a proposal before a decision is made. EIA provides an opportunity to identify key issues and stakeholders early in the life of a proposal so that potentially adverse impacts can be addressed before final approval decisions are made.

Scope and Methodology of the EIA

4.2 The EIA will be undertaken in accordance with the relevant EIA Regulations.

4.3 The Proposal is not classified as a Schedule 1 project with regard to the EIA Regulations, however it is defined within Schedule 2.3(j) (Energy Industry - Installations for the harnessing of wind power for energy production (wind farms)). The Proposal exceeds both applicable thresholds and criterion as set out within the EIA Regulations.

4.4 The EIA will satisfy the requirement of Schedule 4 of the EIA Regulations, which details the information to be contained within the EIA Report.

4.5 Schedule 4, Part 4 specifies that the EIA Report should include the following:

> *"A description of the factors specified in regulation 4(3) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets,*

cultural heritage, including architectural and archaeological aspects, and landscape."

4.6 Schedule 4, Part 5 details further requirements of the EIA Report, including:

"A description of the likely significant effects of the development on the environment resulting from, inter alia:

a) the construction and existence of the development, including, where relevant, demolition works;

b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;

c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;

d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);

e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;

f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;

g) the technologies and the substances used."

4.7 In addition, in accordance with Parts 6 – 8 of Schedule 4, the EIA Report will include the following:

"A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of any difficulties encountered."

Approach

4.8 The EIA will be conducted in accordance with the requirements of the EIA regulations. In line with established best practice, the design of the Proposal will evolve in an iterative manner, informed directly through consideration of constraints and opportunities that exist within and around the Application Site.

4.9 The 'design freeze' stage will form the basis of the impact assessment. The four key stages of assessment are summarised as follows.

Consultation

4.10 Consultations with relevant authorities, organisations and stakeholders will be undertaken throughout the EIA and design process, commencing with scoping.

4.11 A public exhibition is to be undertaken as part of the planning application process and will provide an opportunity for the local community and interested parties to understand the Proposal.

Baseline

4.12 The Scoping Report is based primarily on a desk based appraisal utilising available data from a range of sources including OS mapping, Development Plans and information supplied by the Applicant.

4.13 The baseline information gathered to date as part of this process will form the basis of assessment and further consultations with the relevant authorities and stakeholders. The environmental baseline of the Application Site and its surroundings will be established.

4.14 Any relevant information and data gathered during the feasibility stage will also be used in the EIA process.

Assessment of Environmental Impacts and their Significance

4.15 In accordance with the EIA Regulations potential environmental impacts of the Proposal will be identified and their significance determined. Evaluation of significance will use specific criteria for each assessment topic. The methodology for such is set out within this Scoping Report for each topic and is to be agreed.

4.16 Unless specified otherwise in the EIA Report, the following terms will be used to assess impact significance where they are predicted to occur.

- Major beneficial or adverse – where the development would cause a significant improvement or deterioration to the existing environment;
- Moderate beneficial or adverse – where the development would cause a noticeable

improvement or deterioration to the existing environment;

- Minor beneficial or adverse – where the development would cause a barely perceptible improvement or deterioration to the existing environment; and,
- Negligible – no discernible improvement or deterioration to the existing environment.

4.17 The significance of residual impacts i.e., those predicted once mitigation is taken account of, will form the basis of the assessment.

Development of Mitigation Measures

4.18 By virtue of the iterative design approach to the design of the Proposal, mitigation measures will generally be embedded within the design rather than as supplementary measures. The evolution of the design, including a description of alternatives considered and rationale behind the 'preferred' development option will be set out within the EIA Report.

Content of the EIA Report

4.19 The following sections of this Scoping Report set out the proposed scope of the EIA which will be contained within the submitted EIA Report. Chapters within the EIA Report will follow a common structure insofar as is feasible allowing for specific topic requirements. It is considered that the EIA should focus on topics which have potential to lead to most significant environmental effects. Other aspects may need to be addressed with lesser detail and some may be discounted (or 'scoped out'). Having regard to the characteristics of the Site and the Proposal, it is considered at this stage that the:

- Key effects to be addressed within the EIA Report include:
  - Cultural Heritage;
  - Landscape and Visual Impact;
  - Ecology; and
  - Ornithology.
- Other aspects to be addressed within the EIA Report include:
  - Noise;
  - Soils, Geology and Water Environment;
  - Transport and Access;
  - Aviation;
  - Socio Economics, Tourism and Recreation; and,
  - Carbon and Climate.

4.20 Each of these aspects is considered in greater detail within the following sections of this Scoping Report.

Section 5
Planning Policy Context

Project Need: Renewable Energy & Emissions Reduction

5.1 The EIA Report will describe, in summary, the renewable energy policy framework and associated need case for renewables, identified as a matter of both law and policy, at international and domestic levels.

5.2 The Proposal relates to the generation of electricity from renewable energy sources and comes as a direct response to national planning and energy policy objectives and emissions reduction law. The clear objectives of the UK and Scottish Governments will be summarised, in relation to encouraging increased deployment and application of renewable energy technologies, consistent with sustainable development policy principles and national and international obligations on climate change.

5.3 The Scottish Government's Energy Strategy (2017) set a target for the equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources by 2030. As heat and transport become decarbonised, demand for electricity from renewable sources can be expected to increase.

5.4 Further deployment of renewable energy generating technology will be required throughout the 2020s in order to meet targets. As a mature technology onshore wind development has a continuing and important role to play, as confirmed by national planning and energy policy and most recently in the draft Onshore Wind Policy Statement Refresh and the draft Fourth National Planning Framework.

5.5 The Scottish Government's Energy Strategy and Onshore Wind Policy Statement (2017) set out inter alia that onshore wind is to play a vital role in Scotland's future – helping to substantively decarbonise electricity supplies and the technology is expected to play material role in growing the economy.

5.6 Scotland's overarching statutory target is to achieve a 100% reduction in greenhouse gas emissions to net-zero by 2045, with interim targets of 75% by 2030 and 90% by

2040, now provided for in the Climate Change (Scotland) Act 2009 as amended by the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019 ("2009 Act") which came into force in March 2020.

5.7 The Scottish Government declared a climate emergency on 14 May 2019. The declaration of an "emergency" is a reflection of both the seriousness of climate change and its potential effects and the need for urgent action to cut carbon dioxide emissions. The declaration is an important material consideration which will be referenced.

5.8 The Proposal would clearly make a contribution to the attainment of renewable energy and electricity targets and emissions reduction at both the Scottish and UK levels and the quantification of this contribution would be described.

National Policy and Guidance

5.9 Reference will be made to various national planning policy and guidance documents including:

- The National Planning Policy Framework 3 (NPF3).
- Scottish Planning Policy (SPP).
- Draft Fourth National Planning Framework (NPF4).
- Scottish Government policy and good practice guidance on community benefit funding and community shared ownership.

Local Development Plan

5.10 The planning policy context applicable to the Application Site will be taken into account in the iterative EIA design process. The relevant planning policy framework will also be described in the EIA Report.

5.11 The statutory Development Plan for the Application Site comprises the East Lothian Local Development Plan (LDP) (adopted 27th September 2018). The key LDP policies are WD1 'Wind Farms' and WD3 'All Wind Turbines'.

5.12 It should be noted that a Planning Statement will be provided with the Section 36 application (but separate from the EIA Report) which will contain an assessment of the accordance of the Proposal with the relevant policies within the LDP and relevant material considerations referred to above.

Section 6
Cultural Heritage

Introduction

6.1 The cultural heritage chapter of the EIA Report will characterise the historic environment within the Application Site and in the wider study area. It will use the results of consultation, desk-based research, walkover surveys and setting visits to define a study area and to assemble a baseline of designated and non-designated heritage assets within it, and to assess the potential direct, indirect, and setting effects of the Proposal on that baseline. Where likely significant effects are identified, mitigation measures will be identified.

6.2 The cultural heritage of an area comprises archaeological sites, historic buildings, gardens and designed landscapes, historic battlefields and other sites, features or places in the landscape that have the capacity to provide information about past human activity, or which have cultural relevance due to associations with folklore or historic events. Sites of cultural heritage interest may also derive some, or all, of that interest from their setting within the wider landscape. The cultural heritage section of the Scoping Process is thus intended to identify likely significant effects of the Proposal upon the physical fabric and settings of heritage assets within the Application Site, and likely significant effects on the settings of assets within the wider landscape, which would need detailed consideration through EIA.

6.3 Direct physical effects involve physical alteration or destruction of heritage assets and could result from the construction of turbine and crane bases, new or upgraded access tracks, substations, transformers, cables etc.

6.4 Effects on the setting of heritage assets can arise due to the relative scale of turbines, their potential to detract from understanding of key views from/towards an asset, or a change resulting in an adverse experience of a heritage asset.

6.5 Cultural significance is a quality that applies to all heritage assets and, as defined by Historic Environment Scotland (SNH & HES 2018, Appendix 1 page 175), relates to the ways in which a heritage asset is valued both by specialists and the general public; it may derive from factors including the asset's fabric, setting, context and

associations. Following 'Scottish Planning Policy' paragraph 137, the analysis of a heritage asset's cultural significance aims to identify its 'special characteristics' which should be protected, conserved or enhanced. Such characteristics may include elements of the asset's setting, which is defined in Historic Environment Scotland's guidance as "*the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated*" (HES 2016 Section 1).

6.6 This use of the word cultural 'significance', referring to the range of cultural values or interest attached to an asset, should not be confused with the unrelated usage in EIA where the 'significance of an effect' reflects the weight that should be attached to it in a planning decision.

6.7 Historic landscape is not treated as a heritage asset for the purposes of this assessment except where a defined area of landscape has been designated for its cultural heritage interest (including Conservation Areas and areas included in the Inventory of Gardens and Designed Landscapes). It is recognised that all landscapes have an historic dimension, and this will be considered as part of the assessment of Landscape Character (covered in the LVIA chapter of the EIA Report). Further, although any effects on the cultural significance and importance of heritage assets due to change in their setting are likely to be visual in nature, the assessment of these visual effects is distinct from the assessment of visual change in the LVIA. The assessment of effects on setting may be informed by visualisations (including those prepared as part of the LVIA) but the conclusions reached regarding visual change in the setting of a heritage asset are distinct.

Environmental Baseline and Potential Sources of Impact

6.8 The Application Site is located on land at Newlands Hill, 6km southeast of Gifford in East Lothian, NGR 39511, 664984 (centred).

6.9 The baseline information used for this Scoping Process has been compiled using existing data on the historic environment; Historic Environment Scotland (HES) designations data available as Geographical Information Systems (GIS) datasets, and a digital download of the National Record of the Historic Environment (NRHE) for the Application Site comprising the Canmore database downloaded from the Pastmap website in August 2021.

6.10 Two study areas are proposed for the identification of heritage assets that may be affected by the Proposal:

- The Inner Study Area (ISA) corresponds to the extent of the Application Site (**Figure 6.1**). The Application Site is used throughout this Scoping Process to refer to the ISA.
- Heritage assets within the Outer Study Area (OSA) will be identified in the EIA Report based on a bare earth Zone of Theoretical Vision (ZTV) to identify assets that may be affected by the Proposal.

6.11 Without pre-empting the results of the bare earth ZTV for the final design assessed at EIA stage, the OSA will extend to at least 20km from the proposed turbines, which is taken as the maximum extent of potentially significant effects on the settings of heritage assets. Within the OSA, assets will be included in the assessment based on the level of importance assigned to the asset (defined in the EIA Methodology), so as to ensure that all likely significant effects are recognised (see **Figure 6.1**):

- Up to 2km from proposed turbines: Category C Listed Buildings and non-designated heritage assets.
- Up to 5km from proposed turbines: Category B Listed Buildings, Conservation Areas, and non-designated assets which have a wider landscape setting that contributes substantially to its cultural significance.
- Up to 10km from proposed turbines: all assets of national importance, including Scheduled Monuments, Category A Listed Buildings, Inventory Gardens and Designed Landscapes, and Inventory Historic Battlefields.
- At least 20km from proposed turbines: World Heritage Sites and any asset that is considered exceptionally important, and where long-distance views from or towards the asset are thought to be particularly sensitive, in the opinion of the assessor or relevant consultees. Beyond 10km, the baseline will be screened (and agreed with relevant consultees) to identify any assets of particular sensitivity or importance.

6.12 Criteria for the identification of assets of particular sensitivity or importance will be based on the approach set out in Managing Change in the Historic Environment: Setting (Historic Environment Scotland, 2016) that sets out a range of factors which might form part of the setting of a heritage asset as follows:

"- Current landscape or townscape context;

- Views to, from and across or beyond the historic asset or place;

- Key vistas: for instance, a 'frame' of trees, buildings or natural features that give the historic asset or place a context, whether intentional or not);

- The prominence of the historic asset or place in views throughout the surrounding area, bearing in mind that sites need not be visually prominent to have a setting;

- Aesthetic qualities;

- Character of the surrounding landscape;

- General and specific views including foregrounds and backdrops;

- Views from within an asset outwards over key elements in the surrounding landscape, such as the view from the principal room of a house, or from a roof terrace;

- Relationships with other features, both built and natural;

- Non-visual factors such as historical, artistic, literary, place name, or scenic associations, intellectual relationships (e.g. to a theory, plan, or design), or sensory factors; and

- A 'sense of place': the overall experience of an asset which may combine some of the above factors."

The Application Site

6.13 Known heritage assets within the Application Site are presented on (**Figure 6.1**).

6.14 There are no designated heritage assets within the Application Site.

6.15 There are 31 known non-designated heritage assets within the Application Site. Of these, there are two of potential prehistoric date, one of potential medieval date and 21 of post-medieval date. There are six records of unknown date; of these, two are natural features and the remaining four are linear earthworks.

6.16 The prehistoric assets include a possible burial cairn and a mound.

6.17 The medieval asset relates to a farmstead.

6.18 Of the post-medieval sites which dominate the NRHE dataset, 14 pertain to agricultural practice and settlement evidenced by stock enclosures, sheepfolds, shieling huts, enclosures and dwellings all present within the Application Site. Two gravel pits and one quarry demonstrate industrial use, likely to date to the late post-medieval period, with a shooting stand showing the land's use for hunting in this period.

6.19 The Application Site has potentially been in use from the prehistoric period through the medieval and certainly into the post-medieval period. There is therefore a high potential for hitherto unknown archaeological remains to be preserved either as below ground archaeological remains or as upstanding earthworks.

The Outer Study Area

6.20 Designated heritage assets within the OSA are presented on **Figure 6.1** to 10km.

6.21 Designated assets within 2km of the Proposal comprise 14 Scheduled Monuments and one Category A Listed Building, three Category B Listed Buildings, one Category C Listed Building and one Inventory Garden and Designed Landscape.

6.22 The Scheduled Monuments are:

- SM3338: White Castle Fort
- SM4423: Johnscleugh, stone settings
- SM5792 Quarryford House, enclosures, souterrain and pit alignment
- SM5793 Newlands, enclosure
- SM5794 Park, fort
- SM5795 Park, fort
- SM5921 Whitestone Cairn
- SM6106 Snawdon, fort
- SM6457 Green Castle, enclosure
- SM740 Kingside Hill, stone circle
- SM745 Black Castle, fort, Newlands
- SM747 Green Castle, fort, Newlands
- SM751 Hopes, fort, Long Yester
- SM756 White Castle, fort.

6.23 The Listed Buildings are:

- LB7342: Hopes House with Gates and Gatepiers (Category A)
- LB7343: East Hopes Steading (Category B)
- LB7319: Newlands Farmhouse (Category B)
- LB7323: Snawdon Cartshed and Granary (Category B)
- LB17513: Mayshiel Farmhouse, Mayshiel, near Duns (Category C)

6.24 The Inventory Garden and Designed Landscape is GDL00388: Yester House.

6.25 Non-designated assets of local importance which have a wider landscape setting that contributes substantially to their cultural significance within this area will be identified, if present, during the course of the EIA.

6.26 There are 33 Scheduled Monuments, six Category A Listed Buildings, 22 Category B Listed Buildings, two Conservation Areas and one Inventory Garden and Designed Landscape between 2km – 5km from the Proposal. The Scheduled Monuments comprise: enclosures, a stone circle, pit alignments, forts and cairns of prehistoric date, two castles and a monastic settlement of medieval date and a farmstead of post-medieval date. The Listed Buildings include chapels, churches and abbeys, decorative features such as sundials and dovecotes, some of which are associated with the Yester Estate, stables, cottages, houses and buildings along the Main Street of the village of Garvald. The Conservation Areas comprise the villages of Garvald and Gifford and the Inventory Garden and Designed Landscape of Whittingehame.

6.27 There are 77 Scheduled Monuments (two of which are Properties in Care), 26 Category A Listed Buildings (one of which is a Property in Care), four Inventory Garden and Designed Landscapes and two Inventory Battlefields located between 5km – 10km from the Proposal. The Scheduled Monuments comprise prehistoric forts, settlements, enclosures, cairns, and standing stones, two medieval churches and a nunnery, a post-medieval burial ground and post-medieval farmsteads and enclosures. The Listed buildings include churches, bridges, houses, walled gardens and other decorative features such as gate piers, sundials and dovecotes. The Inventory Gardens and Designed Landscapes are: Biel, Stevenson House, Lennoxlove and Pilmuir. The Inventory Battlefields are the Battle of Dunbar I and the Battle of Dunbar II.

6.28 There are 103 Category A Listed Buildings and 19 Inventory Garden and Designed located between 10km – 20km from the Proposal. The Listed Buildings include churches, houses, halls, some of which lie within the towns of Haddington and Dunbar, castles, bridges, coach houses, a granary and walled gardens and other decorative features such as gate piers, gazebos, sundials and dovecotes. The Inventory Garden and Designed Landscapes include designed landscapes associated with country houses and castles as well as parks.

6.29 There are no World Heritage Sites within the OSA.

Consultation

6.30 Consultation with national and regional curators (Historic Environment Scotland (HES), and the Archaeology Officer at East Lothian Council) will be undertaken to agree the assessment methodology and heritage assets of sufficient importance to be considered in the EIA.

6.31 A list of the non-designated heritage assets within the Application Site will be submitted to East Lothian Council for consultation regarding mitigating any likely significant direct or indirect effects upon them resulting from the Proposal. The heritage assets detailed above and any additional heritage assets that may be subject to change in their setting identified in the Stage 1 Setting Assessment (see below) will be sent to HES for consultation regarding detailed assessment of the likely indirect effects the Proposal may have on their cultural significance caused through changes to their setting.

Proposed Scope of Assessment & Reporting

Scope of Assessment

6.32 The proposed scope of the assessment will consider:

- Direct physical effects;
- Indirect effects; and,
- Effects on setting.

6.33 The magnitude of likely significant effects is determined by integrating the importance of heritage assets and assessed magnitude of impact upon cultural significance using a reasoned matrix-style approach.

Desk-based Assessment

6.34 A baseline Desk-based Assessment and Stage 1 Setting Screening Assessment to identify potential constraints and to assess the potential cultural heritage sensitivity of the Application Site will be conducted to establish the baseline condition. The principal sources of information will be the Historic Environment Records (HER), supplemented by relevant published documentary and cartographic material as appropriate, including the National Collection of Aerial Photography (NCAP) or other sources of aerial photography (as appropriate) and LIDAR data where available.

6.35 The assessment will consider heritage assets outside the Application Site that may be potentially affected by construction, through swept path analysis required for the transportation of the components to the site, as necessary.

6.36 A site visit will be undertaken to record site characteristics, any visible archaeology and geographical/geological features which may have a bearing on previous land use and archaeological survival, as well as those which may constrain subsequent archaeological investigation. The baseline assessment will include up-to-date records of known extant earthworks or structural remains or below-ground archaeological remains, local topography and aspect, exposed geology, soils, watercourses, health and safety considerations, surface finds, and any other relevant information.

Stage 1 Setting Assessment

6.37 Likely significant effects on the settings of heritage assets will be identified from an initial desk-based appraisal of data from HES, HER and consideration of current maps and aerial images available via online sources. The methodology adopted for the identification and assessment of potential adverse effects on setting follows the approach set out in Managing Change in the Historic Environment: Setting (Historic Environment Scotland, 2020) and the Environmental Impact Assessment Handbook (Ver 5, SNH & HES, 2018, Appendix 1). The guidance sets out three stages in assessing the impact of development on the setting of a heritage asset or place as follows:

> *"Stage 1: Identify the historic assets that might be affected by a development;*
>
> *Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced; and*
>
> *Stage 3: evaluate the likely significant effect of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated."*

6.38 The Stage 1 screening assessment methodology comprises considering each heritage asset in the OSA in turn to identify heritage assets, those in the ZTV which have a wider landscape setting that contribute to their cultural significance and whether it is likely that cultural significance would be harmed by the Proposal. Where heritage assets are located outwith the ZTV, third-party viewpoints within the ZTV which may provide a key view towards the heritage asset and the Proposal are considered.

6.39 Where this initial appraisal identifies the potential for a significant effect, the asset will be visited to define baseline conditions and identify key viewpoints. Visualisations will be prepared to illustrate changes to key views where potentially significant effects are identified.

6.40 Consultation with national and regional curators (HES and the Archaeology Officer at East Lothian Council) will be undertaken to agree the viewpoints for setting assessment.

Environmental Impact Assessment

6.41 To assess the impact of the Proposal upon cultural heritage, the significance of any effect is calculated through comparison of the importance of each heritage asset against the potential magnitude of change upon it. Effects from cumulative developments will also be considered.

Potential Mitigation Measures

Within the Application Site

6.42 Based on the 'Scoping' design iteration provided by the Client (dating to November 2021) it is not anticipated that there will be any direct impacts on the non-designated heritage assets within the Application Site. There are two heritage assets within 50m of proposed turbine locations. One, Canmore ID 56175, is a natural feature and, pending confirmation of this interpretation via a site visit, will not require any mitigation work. Canmore ID 56178 is a shieling hut located at the south of the Application Site. Its proximity to the current proposed turbine location means it is likely that its presence will need to be demarcated prior to construction works commencing to prevent accidental damage. This is likely to be achieved through fencing and signage.

6.43 It is not anticipated there will be any significant setting or cumulative effects on the majority of the non-designated heritage assets within the Application Site. However, possible burial cairns Canmore ID 366990 and Canmore ID 56063 located respectively at the north and north-west of the Application Site will be considered. The Stage 1 assessment will determine whether these features could potentially be impacted by the Proposal through changes to their setting.

6.44 Any Proposal infrastructure such as access tracks will take into account the presence of known heritage assets within the Application Site and seek to avoid them through design.

6.45 Where direct impacts are identified, evaluation methodologies may be employed (such as geophysical survey or intrusive works) to better understand the extent and cultural significance of archaeological remains.

6.46 Where potentially significant impacts are identified, mitigation measures will be proposed. The preferred mitigation option is always to avoid or reduce impacts through design, or through precautionary measures such as fencing off heritage assets during construction works. Effects which cannot be eliminated in these ways will lead to residual effects.

6.47 Adverse effects may be mitigated by an appropriate level of survey, excavation, recording, analysis and publication of the results, in accordance with a written scheme of investigation (SPP paragraph 150 and PAN2/2011, sections 25-27). Archaeological investigation can have a beneficial effect of increasing knowledge and understanding of an asset, thereby enhancing its archaeological and historical interest and offsetting adverse effects.

Within the OSA

6.48 An initial cultural heritage appraisal has identified a number of Scheduled Monuments and Listed Buildings within the OSA which may experience change in their settings as a result of the Proposal.

6.49 Two distinct groups of Scheduled Monuments were identified that may experience changes in their setting arising from the Proposal. The first was a group of six small, enclosed Iron Age settlements located on the lower slopes of the Lammermuir Hills immediately to the north-west of the Application Site (within 1km):

- SM745: Black Castle, fort, Newlands
- SM747: Green Castle, fort, Newlands
- SM751: Hopes, fort, Long Yester
- SM5794: Park, fort
- SM5795: Park, fort
- SM6457: Green Castle, enclosure

6.50 Five out of the six sites are classified as forts; these are conventionally understood as local power centres, controlling a small territory, and tend to raise issues of visual competition and visual dominance with proposed wind farms that appear to encroach on that territory. These forts would be overlooked by turbines on the higher ground immediately to the south-east and potentially have their dominance in the landscape challenged as a result.

6.51 The second group of Scheduled Monuments comprises four stone settings and is located between 1km and 2km east of the Application Site. It is protected by two designations covering the four sites:

- SM740 Kingside Hill, stone circle
- SM4423 Johnscleugh, stone settings

6.52 This is an uncommon group of prehistoric monuments in the context of East Lothian and, as a result, it is not well-understood. They presumably had a ritual purpose but their date, cultural associations and function have not yet been established. The fact that they form a group of four separate stone settings suggests they are interrelated and views between sites may be important. This, combined with their proximity to the Application Site, suggests they could be sensitive to visual change in their settings.

6.53 The Listed Buildings and Designed Landscapes identified are:

- Lennoxlove Estate: Designed Landscape, Category A Listed house, 8.5-10km to the north-west of the site with open views to the Lammermuir Hills including a south-facing channelled vista from the house.
- Bolton Muir: Category A Listed Arts & Crafts cottage, 7km to the north-west of the site on south-east facing slope potentially with open views towards the Lammermuir Hills.
- Baro House: Category A Listed house, 4km to north-west of the site on south-east facing slope, potentially with open views towards the Lammermuir Hills.
- Yester Estate: Designed Landscape, planned estate village (Gifford Conservation Area), Category A Listed house, Category A Listed chapel, numerous

Category B Listed buildings and a Scheduled castle. 2-6km to the north-west of the site with open views towards the site from the house up the valley of the Yester Water at a range of 4km.

- Hopes House: Category A Listed house, only 1.5km west of the site, house not in ZTV but site could appear in views of the house from the west.

6.54 Two main risks were identified in relation to two initial Proposal layouts: visual change in important views towards the Lammermuir Hills from the Yester House Estate; and visual dominance of up to six enclosed Iron Age settlements at the foot of the Lammermuir Hills. Both of these risks relate to the visibility of the Proposal on the Lammermuir skyline at Newlands Hill overlooking the lower ground of East Lothian.

6.55 Design will therefore take into account any identified likely significant effects of the Proposal on the settings and cultural significance of any additional heritage assets identified during Stage 1 Setting Assessment in the OSA, for instance, to avoid dominance of the Proposal over heritage assets that were intentionally constructed historically to be prominent landscape features, or for instance to maintain key sightlines between associated and contemporary monuments.

Matters Scoped Out

6.56 It is considered that all matters relating to cultural heritage are addressed in the Scoping Process.

Questions for Consultees

Q6.1 Are there any other relevant consultees other than HES, and East Lothian Council who should be contacted with respect to the Cultural Heritage and Archaeology assessment?

Q6.2 Are consultees content with the proposed Outer Study Area buffers?

Q6.3 Do consultees wish to request any receptor-specific viewpoints or visualisations in the assessment?

References and Standard Guidance

6.57 It is proposed that the EIA will be carried out with reference to the following legislation, policy and guidance:

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997;
- The Historic Environment Scotland Act 2014;
- Planning Advice Note (PAN) 2/2011: Planning and Archaeology;
- Scottish Planning Policy (SPP) 2014, and amendment 2020;
- Policies in the East Lothian Council Local Development Plan 2018: Policy CH1: Listed Buildings, Policy CH2: Development Affecting Conservation Areas, Policy CH4: Scheduled Monuments and Archaeological Sites, Policy CH5 Battlefields, and Policy CH6: Gardens and Designed Landscapes;
- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA 2020);
- Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (CIfA 2020);
- Managing Change in the Historic Environment: Setting (Historic Environment Scotland (HES) 2016);
- Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment Process in Scotland (Scottish Natural Heritage (SNH) and HES, 2018);
- Historic Environment Policy Scotland (HEPS) (HES, 2019);
- Historic Environment Scotland Circular (HES, 2019); and
- Designation Policy and Selection Guidance (HES 2019).

Section 7
Landscape and Visual Impact

Introduction

7.1 The Landscape and Visual Impact Assessment (LVIA) will consider direct and indirect effects on landscape resources, landscape character, designated landscapes and wild land. It will examine the nature and extent of effects on existing views and visual amenity. The effects of the Proposal, as well as the ancillary infrastructure (access track, masts, transformers etc.) will be assessed during the construction and operational phases of the Proposal. The LVIA will also consider cumulative effects i.e. the incremental effects of the Proposal in combination with other renewable energy developments.

7.2 The LVIA will inform modifications and refinements to the layout design and will be undertaken following the approach set out in Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA3). The assessment will also draw upon current good practice guidance issued by NatureScot and the Landscape Institute.

Environmental Baseline and Potential Sources of Impact

7.3 The Application Site location and context are as set out within section 2 of this report.

7.4 Potential sources of impacts on landscape and visual receptors that may arise form the Proposal include:

- changes to the landscape fabric as a result of the construction of the turbines and associated infrastructure;
- changes to the character of the landscape – resulting from close proximity of the turbines and associated infrastructure in the areas nearby to the Application Site, and as a result of visibility of the turbines at greater distance;
- changes to views seen by people who are resident within or travelling through the area in which the Application Site is located; and,

- changes to the special qualities for which valued landscapes are designated.

Landscape Character Context

7.5 The Application Site lies within LCT266 Plateau Moorland – Lothians. It is an open, undulating upland landscape with extensive, unenclosed and largely uninhabited heather moorland. The steep northern slopes of the Lammermuir Hills Plateau form the skyline in views from the settled lowland areas to the north.

7.6 The Application Site lies within the Central Lammermuir Plateau as defined by the East Lothian Landscape Capacity Study, which identifies that character area as being of High sensitivity to wind development.

Visual Receptors

7.7 The assessment will be a receptor-based assessment. The assessment will include potential effects on settlement areas and routes, including roads, railway lines, walking and cycle routes within the detailed study area where potential visibility is indicated by the Zone of Theoretical Visibility (ZTV). Well-visited specific viewpoints will also be considered. The assessment will focus on those receptors where there may be the potential for significant effects, which is likely to be those within approximately 15km of the Proposal, but may be at a greater distance for more sensitive receptors.

Landscape Designations

7.8 As shown by **Figure 7.1**, much of the area within 15km of the Application Site is covered by landscape designations. These include Gardens and Designed Landscapes and Special Landscape Areas (SLAs) within East Lothian, Scottish Borders and Midlothian.

7.9 There are no National Scenic Areas or National Parks or areas of Wild Land within 25km of the Application Site. The nearest is the Eildon and Leaderfoot National Scenic Area located 25.3km to the south. The Edinburgh World Heritage Site is located 32.5km to the northwest.

7.10 The East Lothian Special Landscape Areas SPG identifies the Application Site as being within three Special Landscape Areas. The northwest part of the Application Site lies within the Lammer Law SLA; the southern part of the Application Site which would host the majority of the turbines lies within the Lammermuir Moorland Special Landscape Area (SLA), and the area to the east of the B6355 which would not host turbines but may include other elements of the Proposal is identified as being within the Danskine to Whitecastle SLA.

Consultation

7.11 No consultation has taken place to date regarding landscape and visual matters. Consultation will be undertaken with East Lothian, Midlothian and Scottish Borders Councils and with NatureScot. Feedback from public consultation will also be taken into account. Key questions for consultees in relation to the scope of assessment are identified below, but any additional observations that consultees wish to make at this stage are also invited.

Proposed Scope of Assessment and Reporting

Study Area

7.12 An initial study area of 45 km (as shown on Figure 7.2) from the outer turbines is proposed to assess the relationship between the Proposal and the wider area in terms of potential significant effects on landscape character and visual amenity. The initial study area would be determined once turbine height is known and would be in line with SNH Guidance 'Visual Representation of Wind Farms Version 2.2, (SNH, 2017). For the purpose of identifying, mapping and assessing the likely significant effects of the Proposal on the landscape of the Application Site and its immediate surroundings, a 'detailed study area' from the outer turbines will be defined. This detailed study area will be informed through on-going assessment work but is likely to be between 15 km and 20 km – encompassing the main areas of visibility as illustrated on **Figure 7.1**.

Landscape Character

7.13 Landscape character and sensitivity to wind farm development in East Lothian is described in:

- Scottish Landscape Character Assessment (NatureScot, 2019);
- Landscape Evolution and Influences - Lothians (NatureScot, 2021);
- Landscape Capacity Study for Wind Turbine Development in East Lothian (2005); and.
- East Lothian Supplementary Planning Guidance: Special Landscape Areas (2018).

7.14 Each of these studies has varying dates and contexts, however they largely use the same character area boundaries. These studies would be used to inform the

baseline based on their dates of publication and purposes, as follows:

- The most recent NatureScot study will be used to identify character areas and as the primary source for key characteristics.
- Considerations of susceptibility to wind development will be informed by the Landscape Capacity Study, taking account of changes since the study was undertaken.
- Information relating to landscape value will be informed by the Special Landscape Areas SPG.

7.15 In each case, although one document will be treated as the primary reference, relevant information in the other documents and additional sources will also be considered.

7.16 Much of the southern part of the study area lies within Scottish Borders and a smaller part of the study area approximately 11.5km to the west of the Application Site lies within Midlothian. For consistency, the same approach will be taken to character within these areas with the assessment informed by:

- Scottish Borders:
  - Landscape Evolution and Influences - Borders (NatureScot, 2021);
  - Update of Wind Energy Landscape Capacity and Cumulative Impact Study (2016); and,
  - Local Landscape Designations SPG, 2012.
- Midlothian:
  - Landscape Capacity Study for Wind Turbine Development in Midlothian, 2007; and
  - Special Landscape Areas Supplementary Guidance, 2018.

Visual Assessment

7.17 The assessment will be a receptor-based assessment. The assessment will include potential effects on settlement areas and routes, including roads, railway lines, walking and cycle routes, within the detailed study area, where potential visibility is indicated by the Zone of Theoretical Visibility (ZTV). The assessment will focus on those receptors where there may be the potential for significant effects, which is likely to be those within 15 – 20 km of the Proposal.

Designated Landscapes

7.18 As described at 7.2.7 above and illustrated by **Figure 7.1**, apart from Gardens and Designated Landscapes, national (NSA, National Park) and international (World Heritage Site) designations are distant and would have limited visibility of the Proposal. It is proposed that these would be scoped out of assessment.

7.19 Gardens and Historic Landscapes will only be considered within the LVIA chapter in relation to the experience of visitors to those which are accessible to the public. Effects on their heritage value will be considered within the Cultural Heritage assessment.

7.20 As shown by **Figure 7.1**, there are a number of Gardens and Designed landscapes within 20km from the Application Site and these will be considered within the EIA. Taking a proportionate approach those with limited visibility (e.g. those beyond 15km to the south and east as illustrated by **Figure 7.1**); and/or limited access to the public; and/or with large wind farms between them and the Application Site, will be filtered out of assessment at the baseline stage and not considered in detail.

7.21 Special Landscape Areas within 20km of the Application Site will also be considered, with assessment being based on their reasons for designation and special qualities as set out in the relevant local policies and SPGs. There are a number of SLAs within 20km of the Application Site. Taking a proportionate approach those with limited visibility; and/or with large wind farms between them and the Application Site (e.g. to the northeast and east beyond the Crystal Rig and Aikengall cluster), will be filtered out of assessment at the baseline stage and not considered in detail.

Viewpoints

7.22 The list of viewpoint locations proposed to be used in the assessment of the Proposal are detailed in **Table 7.1** below and illustrated on **Figures 7.1** and **7.2**. Viewpoints have mostly not yet been 'ground truthed', so grid references are approximate, and locations may be micro sited to obtain the most representative view or greatest extent of views.

Table 7.1: Proposed Viewpoints

VP	Location	Distance / Direction
1	B6355, adjacent to site	0.2km, E
2	Core path near Harestone Hill	1.6km, SW
3	B6355, Hornshill	2.3km, N
4	Quarryford	2.3km, NW
5	Longyester	3.2km, NW
6	Hopes Reservoir	3.5km, SW
7	Clints Dod	4.5km, NE
8	Whiteadder Reservoir	5.0km, E
9	Local Road, Mainslaughter Law	5.5km, SE
10	Gifford	5.9km, NW
11	Twin Law, Southern Upland Way	9.2km, S
12	Traprain Law	9.4km, N
13	Humbie	11.9km, W
14	Haddington	12.0km, NW
15	Southern Upland Way	14.1km, SE
16	North Berwick Law	19.2km, N

Visualisations

7.23 The assessment will be supported by a series of photomontages and wireframes from agreed viewpoint locations. Visualisations from each viewpoint will be prepared in accordance with SNH, Visual Representation of Windfarms: Version 2.2, 2017.

7.24 Photomontages will be prepared for viewpoints within a 20km radius. Ancillary elements will only be shown from close viewpoints where needed, as it is considered that from most viewpoints these ancillary elements would only form a minor element of the entire development.

Wild Land Assessment

7.25 There are no Wild Land Areas which are likely to be affected by the Proposal, and it is proposed that a Wild Land Assessment is not required.

Night-time Assessment

7.26 This is an emerging area of assessment, but at present turbines of 150m or greater tip height would require visible aviation lighting. A Lighting Strategy will be developed for the Proposal in conjunction with an aviation specialist. It is expected that a reduced intensity of lights (from 2000 cd to 200 cd) in good visibility would be included as mitigation. In addition to this, there is emerging acceptance of cardinal or perimeter lighting schemes on suitable sites. If this is acceptable on this Application Site, this would reduce the overall number of turbines which require lighting and will likely form the basis of the Lighting Strategy. Other forms of mitigation will also be investigated.

7.27 The agreed Lighting Strategy will form the basis of the assessment and visual material presented. An assessment of night-time impacts on landscape and visual receptors will be carried out within the LVIA. Further consultation will be undertaken to establish the scope and visual material to support this assessment, when more is known regarding the mitigation which might be included in the Lighting Strategy.

7.28 Assuming that the Lighting Strategy will include some visible aviation lights. It is proposed that no more than 3 night-time photomontages be prepared and that those should represent locations where people will be likely to be outdoors appreciating the view at night; i.e. areas of settlement or places valued for their dark skies or night-time views.

7.29 There are no Dark Sky Parks or Discovery sites within 20km of the Application Site (the nearest being the Newbattle Abbey College Discovery Site). It is not anticipated that there will be visibility of turbine lighting from Gifford. At this stage, it would therefore be likely that suitable night-time viewpoints would include one to represent nearby areas of settlement to the northwest (Longyester or Quarryford).

Cumulative Assessment

7.30 In line with SNH guidance 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (SNH, 2012) the assessment will consider other wind farms within the LVIA study area including those which are operational, consented and those for which an application has been submitted but which are yet to be determined. Schemes in scoping will only be included by exception where there is specific justification for doing so. In this instance it is likely that Ditcher Law will be in planning before the EIA Report for the Proposal is finalised, but if not and it remains in scoping, it will be included in the assessment.

7.31 Given the nature of the visibility pattern and wind farm development as illustrated by Figure 7.1 and 7.2 a cumulative study area of 25km from the Proposal will be considered and all other wind farm developments identified. These will include all operational schemes, those schemes under construction, consented schemes, those schemes in the planning system as valid applications Turbines below 50m and single turbine developments will only be considered within a 5km radius of the Proposal.

7.32 The scope of the cumulative assessment will be confirmed with consultees nearer the time of the submission, usually within 12 weeks of submission. The cumulative assessment will focus on combinations of developments where there may be likely significant effects which may influence the outcome of the consenting process.

Residential Visual Amenity Assessment

7.33 It is proposed that a separate assessment of the effects on residential visual amenity will be undertaken as a standalone appendix/document. This will be undertaken in line with Landscape Institute Technical Guidance Note 2/19: Residential Visual Amenity Assessment (RVAA); for the purposes of the RVAA, we propose a 2km study area from the outermost turbines.

Matters Scoped Out

7.34 As identified above, the following matters are proposed to be scoped out of the assessment:

- Effects on National Parks, National Scenic Areas and World Heritage Sites;
- Effects on Gardens and Designed Landscape and Special Landscape Areas beyond 20km from the turbines;
- Wild Land Assessment;
- Effects on Dark Sky Parks and Discovery Sites;
- Cumulative effects with wind farms beyond 25km from the turbines;
- Cumulative effects with single turbines or turbine under 50m in height beyond 5km from the turbines; and,
- Effects on residential visual amenity beyond 2km from the turbines.

Questions for Consultees

Q7.1 Are the proposed study area and approaches to refining the scope of the assessment within the study area adequate?

Q7.2 Are there specific day-time receptors outside of the proposed scope above that consultees wish to be considered?

Q7.3 Are the proposed viewpoints adequate?

Q7.4 Are there any night-time receptors that consultees would specifically wish to be considered?

Q7.5 Are search area and outline parameters for the cumulative assessment adequate?

Q7.6 Is the study area for the RVAA adequate?

References and Standard Guidance

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3). Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA) (2013).
- Technical Guidance Note 6/19 Visual Representation of Development Proposals. Landscape Institute (2019).
- An Approach to Landscape Character Assessment. Natural England (2014)
- An Approach to Landscape Sensitivity Assessment. Natural England (2019)
- Landscape Sensitivity Assessment – Guidance for Scotland Consultation draft. NatureScot July 2020
- Technical Guidance Note 2/19 Residential Visual Amenity Assessment. Landscape Institute 2019
- Technical Guidance Note 02/21 Assessing landscape value outside national designations. Landscape Institute 2021.
- General pre-application and scoping advice for onshore wind farms, NatureScot 2020
- Visual Representation of Wind Farms (Version 2.2). Scottish Natural Heritage 2017
- Assessing the Cumulative Impact of Onshore Wind turbine developments. Scottish Natural Heritage 2012
- Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations. Scottish Natural Heritage 2015
- Siting and Designing Wind Farms in the Landscape. Version 3. Scottish Natural Heritage 2017
- Landscape character studies and local planning policy and guidance documents as noted above.

Section 8
Ecology

Introduction

8.1 The Ecology Chapter of the EIA Report will assess the potential effects of the Proposal on important ecological features and will detail any proposed mitigation and/or compensation measures required to avoid, minimise, restore or offset adverse effects and/or to demonstrate net gain.

8.2 This section of the EIA Scoping Report therefore details the approach to baseline ecological information gathering and to the assessment of potential effects on non-avian ecology, in accordance with current best practice guidance. Ecological features scoped into the assessment have been informed by key legislative and policy drivers, as they relate to nature conservation in Scotland, and include:

- Sites designated for their nature conservation value via:
  - the Conservation (Natural Habitats, &c) Regulations (1994);
  - the Wildlife and Countryside Act (hereafter 'WCA') (1981);
  - National/local planning policy; and,
  - National/local nature conservation policy (including the Ancient Woodland Inventory (AWI)).
- Species and habitats offered legislative or policy protection via:
  - the Conservation (Natural Habitats, &c) Regulations (1994);
  - the WCA (1981); and,
  - National/local planning policy.

8.3 The assessment will follow the Chartered Institute of Ecology and Environmental Management Guidelines (CIEEM) for Ecological Impact Assessment in the UK (2018).

Ecological Baseline

8.4 Baseline information in relation to ecological features which may be affected by the Proposal will be informed through desk study and ecological field surveys.

Desk Study and Consultation

8.5 As part of the desk study the following key sources will be reviewed and consulted for existing information on designated sites for nature conservation and ecological records within the Application Site and surrounding area:

- NatureScot (formerly Scottish Natural Heritage (SNH)) Sitelink;
- Multi-Agency Geographic Information for the Countryside (MAGIC);
- East Lothian Council for details of Local Biodiversity Sites;
- Environmental Statements for nearby wind developments;
- the Wildlife Information Centre (TWIC);
- Southern Upland Partnership (SUP);
- River Tweed Commission; and,
- The Tweed Foundation.

8.6 Full details of key sources reviewed, consultations undertaken and information obtained will be provided within the EIA Report.

Designated Sites for Nature Conservation

8.7 The Application Site does not form part of any statutory site with designated ecological interest. **Table 8.1** and **Figure 8.1** identify statutory designated sites with ecological interests located within 10km of the Application Site, listed in order of their proximity to the Application Site. The approximate distances provided in **Table 8.1** are between the designation boundary and the Application Site boundary at their nearest points.

8.8 Sites with ornithological qualifying interests are detailed and discussed separately in Section 9 'Ornithology' of this EIA Scoping Report.

Table 8.1: Statutory designated sites for nature conservation with ecological interests located within 10km of the Application Site.

Site Name	Designation	Approximate Distance and Direction from Site	Designated Ecological Features
Papana Water	SSSI	1km north	Upland mixed ash woodland
Lammer Law	SSSI	2.3km west southwest	Blanket bog Juniper scrub Subalpine dry heath Upland habitat assemblage
Danskine Loch	SSSI	2.3km northwest	Fen woodland
Rammer Cleugh	SSSI	3.6km northeast	Upland oak woodland,
River Tweed	SAC	4.9km south and east	Atlantic salmon Brook lamprey Otter River lamprey Sea lamprey Rivers with floating vegetation often dominated by water-crowfoot
River Tweed	SSSI	5.5km east southeast	Atlantic salmon

Site Name	Designation	Approximate Distance and Direction from Site	Designated Ecological Features
			Beetle assemblage Fly assemblage Brook lamprey Otter River lamprey sea lamprey trophic range river habitat vascular plant assemblage
Traprain Law	SSSI	7.2km north	Lichen assemblage, Lowland acid grassland, lowland calcareous grassland,
Woodhall Dean	SSSI	7.4km northeast	Upland oak woodland
Lammermuir Deans	SSSI	8.6km east northeast	Upland mixed ash woodland, Subalpine calcareous grassland, Valley fen,
Crook Burn Dyeshaugh	SSSI	10km southeast	Fen meadow

SAC: Special Area of Conservation; SSSI: Site of Special Scientific Interest

8.9 The Application Site sits within an area designated as a Local Biodiversity Site on the East Lothian Council (herein ELC) Local Development Plan (ELC, 2016), which links to other nearby Local Biodiversity sites to form an ecological network to support and complement existing national and international designations. Details of these sites will be obtained as part of the ecological desk study and included in the EIA Report.

Field Surveys

8.10 The following field surveys have been undertaken within the Application Site and a 250m buffer where access permission has allowed (the 'Study Area') to provide detailed information pertaining to the presence and distribution of ecological features within the Application Site and surrounding area, which may be affected by the Proposal:

- Phase 1 habitat survey;
- National Vegetation Classification (NVC) Survey;
- Terrestrial mammal surveys;
- Bat activity surveys;
- Bat preliminary roost assessment survey; and,
- Fish habitat survey.

8.11 All surveys have been undertaken by suitably competent and qualified ecologists in accordance with industry standard guidance. Full details of survey methodologies will be presented within the EIA Report. Where required field surveys will be updated prior to assessment in responses to changes in the design of the Proposal to ensure compliance with relevant current guidance (NatureScot, 2020).

Habitats and Vegetation

8.12 Preliminary surveys to establish baseline terrestrial habitat conditions at the Application Site and identify vegetation communities of notable importance including potential habitats listed on Annex 1 of the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (i.e. Habitats Directive) and as UKBAP Priority Habitats, were undertaken in August 2021 following industry standard survey guidance for Phase 1 habitat (JNCC, 2010) and National Vegetation Classification (NVC) survey (Rodwell, 2006).

8.13 The Study Area primarily comprises managed dry heath, with some small boggier areas of wet heath. The Study Area is bisected in the north by a deep grass and bracken lined river valley, and the northwest corner is

more varied, consisting of large areas of acid, neutral and marshy grasslands that are used for sheep grazing, and some patches of planted commercial forestry of varying ages.

8.14 The following predominant Phase 1 habitat types have been recorded within the Study Area:

- A1.1.1 - Broad-leaved woodland semi-natural;
- A1.2.2 - Coniferous plantation woodland;
- A2 – Scrub;
- B1.1 - Acid grassland unimproved;
- B1.2 - Acid grassland semi-improved;
- B2.1 - Neutral grassland unimproved;
- B2.2 - Neutral grassland semi-improved;
- B5 - Marshy grassland;
- C1 - Bracken;
- D1 - Dry dwarf shrub heath;
- D2 - Wet dwarf shrub heath;
- D5 - Dry heath/acid grassland mosaic;
- E2.1 - Acid flush/spring;
- G2.4 - Dystrophic running water; and,
- J3.3 - Domestic buildings.

8.15 When identified to NVC community level, several of the habitats present, including areas of marshy and unimproved grassland, wet heath, flush, and wet woodland, are indicative of areas that may be either highly groundwater dependent or moderately groundwater dependent (groundwater dependent terrestrial ecosystems; GWDTE) depending on the hydrogeological setting.

8.16 Full details of baseline habitats and vegetation conditions will be presented within the EIA Report.

8.17 If required, terrestrial habitat and vegetation surveys will be updated prior to assessment in response to evolution of scheme design. This will seek to ensure compliance with current NatureScot guidance (2020) and provision of sufficient information in accordance with Scottish Environmental Protection Agency (SEPA) guidance (2017), with regards the identification of ground water dependent terrestrial ecosystems (GWDTE) within a Zone of Influence (ZoI) of development areas for subsequent hydrological assessment.

Terrestrial Mammals

8.18 Terrestrial mammal walkover surveys were undertaken within the Study Area in September 2021 by suitably competent ecologists, following industry standard guidance and species-specific survey methodologies applicable at the time of survey. There are no notable areas of woodland within the Study Area so the potential for regular use of the Study Area by pine marten and red squirrel can be discounted. The Application Site is also not close to a priority area for Scottish wildcat[1] and therefore the potential for this species to be present on-site can be discounted. As such, surveys sought to identify the presence and distribution of field signs confirming or indicating the potential presence of otter, water vole and badger.

8.19 Full details of survey methodologies will be provided within the EIA Report.

8.20 Surveys recorded evidence of the presence of otter in one location at a small pond at the northwest of the Study Area, and the Papana Water was noted as being suitable for this species though no evidence of their presence was found here. Areas of scrub and woodland within the Application Site may provide suitable resting or holt potential. No sign of water vole was seen during mammal survey, and no habitat suitability was noted during the Extended Phase 1 Habitat Survey. Badgers are known to be present in the wider area, and some suitable habitat was noted in scrub and woodland habitat in the north of the Application Site, but no signs of this species were found within the Study Area during Extended Phase 1 or protected mammal surveys.

8.21 If required, terrestrial mammal surveys will be updated prior to assessment in response to changes in scheme design. This will seek to ensure compliance with current NatureScot species-specific advice for development proposals[2].

Bats

8.22 Surveys to establish the bat species assemblage utilising the Application Site and the spatial and temporal distribution of activity have been undertaken in 2021 in

1 Scottish Wildcat Action https://www.scottishwildcataction.org/ last accessed 15/11/2021

2 https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species last accessed 09/11/2021.

line with current NatureScot guidance (2019). For 23 turbines, 14 ground-level static detectors were deployed (one per turbine up to 10 1/3 of the number >10 turbines, as per guidance) to record bat activity within the Application Site, for a period of at least 10 nights with suitable weather conditions, in spring, summer and autumn. As far as possible, detectors were placed in approximate proposed wind turbine locations, as per 2019 guidance.

8.23 All bat activity data will be analysed through Kaleidoscope (Wildlife Acoustics) software and manually checked by an experienced ecologist. All sonogram data obtained from activity surveys will then be uploaded to the online Ecobat tool in order to quantify bat activity in accordance with NatureScot guidance (2019), with the Ecobat output used to assess the likelihood for significant effects to bat species arising as a result of the Proposal.

8.24 A Preliminary Roost Assessment (PRA) was undertaken in September 2021, comprising a daytime inspection of trees (and any other features, e.g., buildings) within the Application Site, and out to 200m where access allowed, for potential to support bat roosts in accordance with the 2019 guidance. Several features were noted to offer low to moderate roosting potential, and one building was noted as having high potential with signs of bat presence (droppings) noted. The likelihood for impacts to potential roost sites and the requirement for further survey work pre-construction in line with Collins (2016[3]) guidance will be considered in the EIA Report.

Fisheries

8.25 A fish habitat survey is scheduled in November 2021, to identify any areas of critical fish habitat within watercourses of and intersecting the Study Area (i.e., spawning, nursery areas, juvenile and adult holding areas). The survey will be undertaken by suitably competent ecologists, in normal flow conditions, following the Scottish Fisheries Co-ordination Centre (SFCC) industry standard guidance (SFCC, 2007[4]).

8.26 Desk study sources will also be consulted to identify the known status of watercourses within the Study Area, any known barriers to fish migration and the known distribution of fish within the relevant catchment area.

8.27 Full details of fish habitat survey methodology, watercourses surveyed and desk study findings will be provided within the EIA Report.

8.28 It is considered that further detailed fish surveys to inform an assessment of effects upon fisheries will not be required, providing the implementation of good practice scheme design and mitigation measures in consultation with NatureScot and other primary interest groups, to avoid and/or minimise the potential for pollutant impacts upon aquatic habitats and ensure the free passage of fish within the Application Site is maintained. These measures will be included in the embedded mitigation for the Proposal.

Additional Species

8.29 In accordance with current guidance (NatureScot, 2020) there are some species groups which, providing the implementation of suitable mitigation measures, are unlikely to be subject to significant effects as a result of wind farm developments. As such, they do not require surveys to inform an EIA. This includes invertebrates, reptiles and amphibians (but excludes additional European Protected Species). The potential for great crested newt to be present has been considered and a number of small ponds and pools are identified within the Study Area. Formal survey is not currently proposed; in the event any suitable breeding water bodies may be affected by the Proposal, the requirement for survey to establish species presence will be further agreed in consultation with NatureScot.

Potential Sources of Impact

8.30 The assessment will consider the following main impacts on potentially important ecological features as a result of the construction, operation and decommissioning of the Proposal:

- Designated Sites: including direct and indirect impacts to qualifying habitat and species features;
- Terrestrial Habitats and Vegetation: effects include direct (i.e., derived from land-take from all infrastructure) and indirect (i.e., changes caused by effects to supporting systems such as groundwater or overland flow); and,
- Protected Species, Bats and Fisheries: effects considered will include direct (i.e., loss of life as a result of the Proposal; loss of key habitat; barrier effects preventing movement to/from key habitats; and general disturbance) and indirect (i.e. loss/changes of/to food resources; population

3 Collins, J. (ed.) (2016) Bat surveys for professional ecologists: good practice guidelines (3rd edn). The Bat Conservation Trust, London.
4 SFCC (2007). Habitat Surveys Training Course Manual. Scottish Fisheries Co-ordination Centre, Pitlochry

fragmentation; degradation of key habitat, e.g. as a result of pollution).

8.31 These sources of impact will be considered throughout the design process for the Proposal, and where possible will either be avoided completely through scheme design or will be prevented/ minimised via good practice embedded mitigation measures to be included in the Proposal from the outset and detailed within the EIA Report. Potential effects upon forestry, peat, geology, soils and hydrology (including Ground Water Dependent Terrestrial Ecosystems) will be considered separately, within the appropriate EIA Report Chapters.

Consultation

8.32 No previous consultation has been undertaken to date for non-avian ecological features. It is proposed that pre-application consultation will be an ongoing process following submission of this scoping.

Proposed Scope of Assessment and Reporting

8.33 Impact assessment presented within the EIA Report for ecological features will be based on current Chartered Institute of Ecological and Environmental Management (CIEEM) guidance (2018).

8.34 The assessment of potential effects on bats as a result of the Proposal will be undertaken in accordance with NatureScot (2019) guidelines.

8.35 The proposed assessment process will include the following stages:

- determination and evaluation of important ecological features;
- identification and characterisation of impacts;
- outline of mitigating measures to avoid and reduce significant impacts;
- assessment of the significance of any residual effects after such measures;
- identification of appropriate compensation measures to offset significant residual effects; and,
- identification of opportunities for ecological enhancement.

Determining Importance

8.36 The assessment within the EIA Report will only assess in detail impacts upon important ecological features i.e., those that are considered important and potentially significantly affected by the Proposal. A detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts will not be undertaken and justification for 'scoping out' provided.

8.37 Relevant national and local legislation, policy and guidance will be referred to in order to determine the importance (or 'sensitivity') of ecological features. In addition, importance will also be determined using professional judgement, specialist consultation advice and the results of baseline surveys and the importance of features within the context of the geographical area.

8.38 Importance will not necessarily relate solely to the level of legal protection that a feature receives and ecological features may be important for a variety of reasons, such as their connectivity to a designated site and the rarity of species or the geographical location of species relative to their known range.

8.39 The importance of an ecological feature will be defined in a geographical context from 'Local' to 'International'.

Identification and Characterisation of Impacts

8.40 The identification and characterisation of impacts on important ecological features will be undertaken in accordance with CIEEM guidelines (2018) with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility as appropriate.

8.41 Impacts will be considered during the construction, operational and decommissioning phases of the Proposal and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures are implemented.

Significant Effects

8.42 CIEEM guidelines (2018) define a 'significant effect' as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general and notes that:

"a significant effect does not necessarily equate to an effect so severe that consent for the project should be

refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures."

8.43 Potentially significant effects identified will be expressed with reference to an appropriate geographic scale. For example, a significant effect on a nationally designated site is likely to be of national significance. However, the scale of significance does not necessarily always relate to the importance of an ecological feature. For example, an effect on a species which is considered of national importance may not have a significant effect upon its national population. In line with the principles of proportionate EIA, embedded mitigation, including avoidance through the design process and application of industry standard good practice, will be considered at the outset of the assessment. Important ecological feature status will only be assigned where there is still considered to be the potential for significant effects on the identified feature arising from the Proposal after the application of embedded mitigation measures.

8.44 In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect will be assumed as a precautionary approach. Where uncertainty exists, this will be acknowledged.

Residual Effects

8.45 Where the EIA proposes measures to mitigate potentially significant adverse effects on ecological features, a further assessment of residual ecological effects, taking into account any ecological mitigation recommended, will be undertaken.

Cumulative Impacts

8.46 The potential for cumulative impacts with other renewable energy developments proposals will be assessed in accordance with NatureScot guidance (2012) and include consideration of those such developments located within the same hydrological catchment(s) or within the regular range of mobile species (e.g., for bats) out to a maximum of 10km from the Application Site boundary.

8.47 The assessment will encompass the effects of the proposal in-combination with existing developments, either built or under construction; approved developments, awaiting implementation; and, proposals awaiting determination within the planning process with design information in the public domain.

8.48 The inclusion of additional non-windfarm proposals will also be included upon request from NatureScot and other primary interest bodies.

Approach to Mitigation

8.49 The adoption of embedded mitigation measures to avoid or minimise adverse impacts upon ecological features will be part of the iterative design process for the Proposal.

8.50 Measures to avoid or otherwise and minimise potentially adverse impacts upon ecological features during scheme design will include:

Land-take

8.51 Development infrastructure will be designed to minimise the requirement for land-take and the number of watercourse crossings;

8.52 The scheme design will also seek to avoid areas of protected and/or sensitive habitat and to minimise the requirements for tree felling, in so far as is possible having regard to other ecological and non-ecological constraints;

Watercourse crossings

8.53 New watercourse crossings required will be designed in accordance with best practice and enable the free passage of fish and other wildlife;

Watercourse Buffers

8.54 A minimum 50m buffer between scheme infrastructure will be applied around all watercourses in so far as possible having regard to other ecological and non-ecological constraints;

Construction Environmental Management Plan

8.55 A Construction Environmental Management Plan (CEMP) (or similar) will be in place during the construction, operational and decommissioning phases of the development. The CEMP will include all good practice construction measures, pollution prevention controls and monitoring to be implemented over the course of the development in line with current guidance; and

Bat Habitat Features

8.56 A minimum 50m buffer (from blade tip) will be applied to watercourses and woodland edges in so far as possible having regard to other ecological and non-ecological constraints.

8.57 Full details of embedded mitigation measures in relation to ecology will be detailed within the EIA Report.

Approach to Enhancement

8.58 Suitable principles for biodiversity enhancement to be delivered as part of the Proposal will be outlined within the EIA Report. The appropriateness and feasibility of principles will be confirmed with NatureScot and relevant consultees as necessary over the course of the EIA, with view to prescriptive enhancement measures being detailed post-consent within a Habitat Management Plan (HMP) or similar.

Presentation of Sensitive Information

8.59 Ecological data considered sensitive (e.g., that pertaining to breeding locations) will be included in a confidential appendix to the EIA Report if relevant. This will not be made publicly available but will be issued to NatureScot and ELC.

8.60 It will be ensured that sufficient information is presented within the EIA Report to allow an objective and robust assessment of potentially significant adverse impacts upon ecological features to take place.

Matters Scoped Out

8.61 CIEEM guidelines (2018) stipulate that it is not necessary to carry out a detailed assessment of impacts upon ecological features that are sufficiently widespread, unthreatened and/or resilient to impacts of a development proposal. NatureScot guidance (2020) similarly advises that there are some species, which with standard mitigation measures, are unlikely to experience a significant environmental effect as a result of the construction and/or operation of onshore windfarms. This includes species that do not require surveys to inform the EIA but may require appropriate mitigation to ensure legislative compliance.

8.62 As such, the assessment within the EIA Report will be restricted to consideration of the effects upon designated sites for nature conservation and ecological features which are considered 'important' on the basis of relevant guidance and professional judgement.

8.63 Where ecological features are unlikely to be so important in the context of the Proposal as to warrant a detailed assessment or where they would be unlikely to be significantly affected on the basis of baseline information, it is proposed that these are 'scoped out' of the ecological impact assessment process. Embedded mitigation measures for such features may however, still be outlined as appropriate, to reduce and/or avoid any potentially adverse effects, or to ensure legislative compliance.

Designated Sites

8.64 It is proposed that the potential for indirect effects upon the ecological qualifying interests of any statutorily designated site for nature conservation located greater than 2km from the Application Site, or for which embedded mitigation and good practice will be sufficient to prevent any impacts, is scoped out of the assessment, by virtue of the static nature of the sites' qualifying habitats interests, spatial separation and/or absence of hydrological pathways of connectivity.

8.65 It is proposed that the potential for impacts upon the following statutory designated sites are therefore scoped out of assessment:

- Papana Water SSSI;
- Lammer Law SSSI;
- Danskine Loch SSSI;
- Rammer Cleugh SSSI;
- Traprain Law SSSI;
- Woodhall Dean SSSI;
- Lammermuir Deans SSSI; and,
- Crook Burn Dyeshaugh SSSI.

8.66 The potential for impacts on the River Tweed SAC and SSSI will be assessed in the EIA Report given the mobile nature of its qualifying features. However, given the distance and lack of direct hydrological connectivity between the Application Site and the River Tweed, and the lack of evidence of extensive presence of otter within the Study Area, it is considered that likely significant effects on the SAC and the requirement for habitats regulations appraisal (HRA) can be scoped out. The potential for impacts upon any additional statutory and non-statutory designated sites will be reviewed over the course of the EIA and in consultation with NatureScot.

Impacts to Common Widespread Habitats

8.67 It is proposed that the assessment relating to impacts of the Proposal to habitats is restricted to habitats which:

- May correspond with habitats listed on Annex 1 of the Directive;
- are included on the SBL or LBAP; and/or,
- have potential to represent GWDTE.

8.68 With impacts to common and widespread habitats of low sensitivity and/or conservation interest, such as

bracken, plantation forestry, improved grassland and scrub, scoped out of the assessment.

Protected Species

8.69 Some ecological features, including certain legally protected species such as badger, may be of insufficient ecological and/or nature conservation importance in the context of the Proposal to warrant assessment within the EIA. However, due to the level of legal protection offered to these features, they will be considered in the context of legal and policy implications.

8.70 Baseline information collected via surveys has not identified the Application Site as being sufficiently important to lead to the potential for significant effects on the following protected terrestrial mammal species:

- Red squirrel;
- Pine marten;
- Wildcat;
- Water vole;
- Badger;
- Invertebrates; or,
- Non-EPS reptiles and amphibians.

8.71 It is proposed that these species are therefore scoped out of the impact assessment. Consideration will, however, be afforded to the provision of precautionary embedded mitigation to be included in the CEMP to ensure legislation compliance with regards the protection afforded to these species under the Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations) (as amended in Scotland) and the Wildlife and Countryside Act 1981 (as amended in Scotland), as relevant.

Questions for Consultees

Q8.1 Do consultees agree with the range of desk study sources and ecology surveys considered to inform the design and assessment of the Proposal?

Q8.2 Do consultees agree that the full range of likely effects to be assessed within the EIA Report has been adequately identified and is proportionate to the nature of the Proposal?

Q8.3 Are there any other relevant consultees who should be contacted with respect to the ecology assessment and scope of baseline information gathering?

Q8.4 Do consultees agree with those features that have been scoped out of assessment in respect to ecology (and the rationale for the decision).

Q8.5 Do consultees agree with the scope of those developments to be considered in the cumulative assessment?

References and Standard Guidance

8.72 In the preparation of the EIA Report Chapter, reference will be made to the key pieces of legislation, policy and guidance detailed below.

Legislation

- The Electricity Act 1989
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora);
- The Wildlife and Countryside Act 1981 (as amended in Scotland);
- The Wildlife and Natural Environment (Scotland) Act 2011;
- The Nature Conservation (Scotland) Act 2004;
- The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations) (as amended in Scotland);
- The Protection of Badgers Act 1992 (as amended by the Nature Conservation Act 2004); and,
- The Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003.

Planning Policy

- Scottish Planning Policy (SPP) 2014;
- National Planning Framework 3 (NPF3) 2014;

- Draft National Planning Framework 4 (NPF4) 2021;
- Scottish Government Planning Advice Note 60: Planning for Natural Heritage 2008; and,
- the East Lothian Local Development Plan 2018.

Guidance

- Chanin P (2003) Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough;
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester;
- Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London;
- Cresswell, W. J., Birks, J. D. S., Dean, M., Pacheco, M., Trewhella, W. J., Wells, D. and Wray, S. (2012) UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations. The Mammal Society, Southampton;
- Dean, M., Strachan, R., Gow, D. and Andrew, R. (2016) The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London;
- East Lothian Biodiversity Action Plan;
- East Lothian Council (2016). Proposed Local Development Plan Technical Note 10: Planning for Biodiversity;
- Harris S, Cresswell P and Jefferies D (1989) Surveying Badgers, Mammal Society;
- JNCC (2010) Handbook for Phase 1 habitat survey – a technique for environmental audit: Revised Re-print. Joint Nature Conservation Committee, Peterborough;
- McInerny, C. & Minting, P. (2016) The Amphibians & Reptiles of Scotland. The Glasgow Natural History Society, Glasgow;
- NatureScot (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments. Scottish Natural Heritage, Inverness;
- NatureScot (2016) 'Planning for development: What to consider and include in Habitat Management Plans';
- NatureScot (2019) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation. Prepared jointly by Scottish Natural Heritage, Natural England, Natural Resources Wales, RenewableUK, ScottishPower Renewables, Ecotricity Ltd, the University of Exeter and the Bat Conservation Trust (BCT) with input from other key stakeholders;
- NatureScot (2020) 'General Pre-application/scoping advice to developers of onshore wind farms';
- NatureScot (2021) Standard Advice for Planning Consultants: Protected Species. Available at: https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species;
- Rodwell, J.S. (2006) National Vegetation Classification: Users' Handbook. Joint Nature Conservation Committee, Peterborough;
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- Scottish Government (2013) The Scottish Biodiversity List (SBL);
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Section 9
Ornithology

Introduction

9.1 The Ornithology Chapter of the EIA Report will assess the potential effects of the Proposal on important ornithological features and will detail any proposed mitigation and/or compensation measures required to avoid, minimise, restore or offset adverse effects and/or to demonstrate net gain.

9.2 This section of the EIA Scoping Report therefore details the approach to baseline ornithological information gathering and to the assessment of potential effects on avian ecology, in accordance with current best practice guidance. Ornithological features scoped into the assessment have been informed by key legislative and policy drivers, as they relate to nature conservation in Scotland, and include:

- Sites designated for their nature conservation value via:
  - the Conservation (Natural Habitats, &c) Regulations (1994);
  - the Wildlife and Countryside Act (hereafter 'WCA') (1981); and
  - National/local planning policy.
- Species offered legislative or policy protection via:
  - the Conservation (Natural Habitats, &c) Regulations (1994);
  - the WCA (1981); and
  - National/local planning policy.

9.3 The assessment will follow the Chartered Institute of Ecology and Environmental Management Guidelines (CIEEM) for Ecological Impact Assessment in the UK (2018).

Ornithological Baseline

9.4 Baseline information in relation to ornithological features which may be affected by the Proposal has been

informed through desk study and ornithological field surveys.

Desk Study and Consultation

9.5 As part of the desk study the following key sources have been reviewed and consulted for existing information on designated sites for nature conservation and ornithological records within the Application Site and surrounding area:

- NatureScot Sitelink;
- Multi-Agency Geographic Information for the Countryside (MAGIC);
- Lothian & Borders Raptor Study Group (LBRSG)
- Royal Society for the Protection of Birds (RSPB)
- the Wildlife Information Centre (TWIC)
- Southern Upland Partnership (SUP); and,
- Environmental Statements for nearby wind developments

9.6 Desk study records are included in Appendix B. Breeding raptor records obtained from the LBRSG indicated regular breeding by merlin, goshawk, osprey and barn owl (with merlin and barn owl breeding locations found within the raptor study area); and sporadic breeding by peregrine and short-eared owl.

9.7 Records were obtained from TWIC for 12 protected raptor species within 10km of the development area, including records for barn owl, merlin, osprey, short-eared owl, hen harrier, long-eared owl, marsh harrier, Montagu's harrier, red kite and white-tailed eagle.

9.8 Records of twelve wader species were obtained within 5km of the Application Site, with the most common being common sandpiper, curlew, golden plover, lapwing, oystercatcher, redshank and snipe.

9.9 Full details of key sources reviewed, consultations undertaken and information obtained will be provided within the EIA Report, including in confidential appendices where appropriate.

Designated Sites for Nature Conservation

9.10 The Application Site does not form part of any statutory site with designated ornithological interest. No Sites of Special Scientific Interest (SSSIs) with designated ornithological features are located within 5km of the Site, or Special Protection Areas (SPAs) designated for ornithological features within 10km. Two SPAs designated for wintering geese are located within 20km of the development area; Firth of Forth and Fala Flow. Details of these sites are provided in **Table 9.1** and **Figure 9.1**. The approximate distances provided in **Table 9.1** are between the designation boundary and the Application Site boundary at their nearest points.

9.11 Sites with ecological qualifying interests are detailed and discussed separately in Section 8 'Ecology' of this EIA Scoping Report.

Table 9.1: Statutory designated sites for nature conservation with ornithological interests located within 20 km of the Application Site.

Site Name	Designation	Approximate Distance and Direction from Site	Designated Ornithological Features
Firth of Forth	SSSI/ SPA/ Ramsar	12km north	Non-breeding season bird assemblage including red-throated diver, Slavonian grebe, golden plover, and bar-tailed godwit. Also, migratory pink-footed goose, shelduck, knot, redshank and turnstone. It qualifies for Sandwich tern on passage and as a wetland of international importance (regularly supporting at least 20,000 individual waterfowl).
Fala Flow	SSSI/SPA	13km southwest	Non-breeding pink-footed goose

SPA: Special Area of Conservation; SSSI: Site of Special Scientific Interest

Field Surveys

9.12 The following field surveys have been undertaken between September 2020 and August 2021 within the Application Site, and relevant buffers where access permissions allowed (the 'study area'), to provide detailed information pertaining to the presence and distribution of ornithological features which may be affected by the Proposal within the Application Site and surrounding area:

- Vantage Point (VP) survey;
- Breeding bird survey (BBS);
- Breeding raptor survey; and,
- Black grouse survey.

9.13 Study areas for baseline ornithology survey were the development area (proposed turbine locations) plus the relevant buffer recommended by NatureScot guidance (2017), where permitted land access allowed (see **Figure 1** in Appendix B). All surveys have been undertaken by suitably competent and qualified ecologists in accordance with industry standard guidance. Full details of survey methodologies are included in Appendix B of this scoping report, and will be presented within the EIA Report.

Vantage Point Survey

Target species

9.14 Flight activity surveys focussed on protected species and other species of conservation concern, with reference to the following three lists:

- Species listed under Annex I of the EC Birds Directive;
- Species listed under Schedule 1 of the WCA 1981 (as amended); and,
- Red-listed Birds of Conservation Concern.

9.15 Within these lists, guidance recommends that the greatest attention should be paid to those species which, as a result of their flight patterns or response behaviour, may be subject to impact from wind farms (such as raptors) and any species that are not manoeuvrable in flight (e.g. geese and swans).

9.16 Taking the above into account, the following species groups were considered target species:

- All raptors and owls listed in Annex I of the EC Birds Directive and/or Schedule 1 and 1A of the WCA 1981 (as amended);
- All species of wildfowl (with the exception of Canada goose and mallard);
- Black grouse;
- All wader species; and,
- Secondary species

9.17 Flight activity of secondary species (species of lesser conservation concern) were also recorded. They included the following:

- All other waterfowl (e.g. mallard and including grey heron);
- All other raptor species;
- Raven;
- Gull species; and,
- any large aggregations of red-listed passerines.

9.18 The flights of secondary species were summarised into five-minute blocks during each VP watch, in accordance with NatureScot guidance (2017).

VP Flight Activity Surveys

9.19 Levels of 'at collision risk' flight activity of target species, for subsequent use in the calculation of collision mortality risks, have been obtained through VP flight activity surveys undertaken between September 2020 to August 2021.

9.20 In accordance with current guidance (NatureScot, 2017) the study area for VP flight activity surveys has comprised the proposed turbine locations and areas out to at least 500m, adopting a conservative approach on the basis of a maximum developable area applicable at the time of survey commencement (see **Figure 2** within Appendix B).

9.21 A total of two VP locations have been used to provide maximum visual coverage of the required study area as shown in **Figure 2** of Appendix B, which illustrates modelled estimated areas of visibility based on a vertical offset of 20m above ground level.

9.22 Surveys have been undertaken in accordance with current guidance (NatureScot,2017), with flight activity of all target species mapped and assigned into height bands to allow for the classification of flight activity 'at', 'below' or 'above' collision risk height for the purposes of collision mortality risk calculations.

9.23 The activity of secondary species has also been recorded, in 15-minute summary intervals.

9.24 Survey effort completed is provided in Table 2.1 of Appendix B, and is summarised below in Table 9.2 below, with a minimum of 36 observational hours completed per season. Migratory geese from the nearby SPAs are known to use the Lammermuir Hills area on migration and there are a number of waterbodies adjacent to the Proposal that may support SPA species on migration. Therefore, during October and November 2020 (autumn migration), and in March to May (spring migration) extra hours of VP survey effort were carried out in order to determine whether migratory geese overfly the Proposal. These additional surveys started at either one hour before dawn or ended one hour after dusk.

9.25 Survey times were dispersed throughout the day and in a range of weather conditions. Extra survey effort was undertaken in July 2021 at VP 2 to compensate for the suboptimal weather during earlier surveys that month.

Table 9.2: VP flight activity survey effort (hours).

	2020				2021								
VP	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
1	6	12	9	6	6	6	9	9	9	6	6	6	90
2	6	11	9	6	6	6	9	9	9	6	13.25	6	96.25

9.26 Further survey hours were also undertaken in September and October 2021 while awaiting the outcome of Consultation (see Section 9.4). Full details of survey effort will be provided within the EIA Report.

9.27 Results from the 2020-2021 VP flight activity surveys are provided in Appendix B and are summarised below. Full details of VP survey results, including results from the autumn 2021 survey hours, will be included in the EIA Report.

9.28 Flight activity of the following target species was recorded during surveys completed between September 2020 and August 2021:

- Pink-footed goose; - 4 flights 160 individuals (non-breeding season only)
- Greylag goose; - 67 flights 271 individuals (non-breeding and breeding season)
- Goshawk; - 2 flights 4 individuals (non-breeding season only)
- Golden plover; - 19 flights 541 individuals (non-breeding and breeding season)
- Short-eared owl; - 42 flights 46 individuals (non-breeding and breeding season)
- Merlin; - 11 flights 11 individuals (non-breeding and breeding season)
- Peregrine; - 8 flights 9 individuals (non-breeding and breeding season)
- Teal; - 2 flights 2 individuals (breeding season only)
- Hen harrier; - 2 flights 2 individuals (breeding season only)
- Red kite; - 4 flights 4 individuals (breeding season only)
- White-tailed eagle ; - 3 flights 3 individuals (breeding season only)
- Oystercatcher; - 2 flights 2 individuals (breeding season only)
- Lapwing; - 10 flights 18 individuals (breeding season only)
- Curlew; - 100 flights 130 individuals (breeding season only)
- Snipe; - 10 flights 11 individuals (breeding season only).

9.29 The breeding season surveys recorded flight lines from a total of 13 target species, with curlew and greylag goose recorded most frequently and in the greatest numbers. Greylag goose and golden plover were the most frequently recorded species in the non-breeding season, with the latter also being recorded in the greatest numbers overall. For species recorded in both seasons, the season in which records were most numerous is shown above in bold.

9.30 Twelve secondary species were recorded at the Proposal, with herring gull being the most frequently seen gull species, and buzzard being the most frequently seen raptor. Red grouse was seen in the greatest concentrations. Further details of secondary species

records are provided in Table 3.4 of Appendix B, and will be included in the EIA Report.

Breeding Bird Surveys

9.31 Moorland breeding bird surveys were undertaken during the breeding season of 2021 following an adapted Brown & Shepherd (1993) method, and comprising four staggered visits between April and July as per current guidance (NatureScot, 2017). Further details of survey methods are provided in Appendix B and will be included in the EIA Report.

9.32 Four wader species, one gull species and one goose species were considered to have held territory within a 500m buffer of the proposed turbine locations, along with red grouse and eight passerine species. Snipe was the most numerous breeding species, with 10 likely territories recorded in the study area. Full details of the results are included in Appendix B, and will be provided in the EIA Report.

Breeding Raptor Surveys

9.33 Dedicated breeding raptor surveys, comprising a combination of short VPs and walkovers to detect displaying or nesting behaviour, were carried out between March and July 2021 in accordance with methods described in Hardey *et al*. (2013). Further details of survey methods are provided in Appendix B and will be included in the EIA Report.

9.34 The results of the dedicated raptor surveys are provided in Appendix B, and will be included in the EIA Report. Short-eared owl was confirmed nesting at two locations within the Application Site, and merlin were suspected to have bred but no nest was found. Three other target raptor species were recorded within the development area: goshawk, red kite and peregrine. Note that Figure 1 in Appendix B, which shows breeding locations of Schedule 1 species, has been redacted for the purposes of this Scoping Process, in line with good practice pertaining to location data for sensitive breeding species (NatureScot, 2016b). This information will be provided in the EIA Report within a confidential appendix.

Black Grouse Survey

9.35 Dedicated black grouse surveys were carried out within a 1.5km buffer of the proposed turbine locations following methods outlined The National Black Grouse Survey Instructions (Etheridge and Baines, 1995; summarised in Gilbert et al. 1998); full details are included in Appendix B.

9.36 The dedicated survey did not record any black grouse within the study area, and no records for this species were returned by the desk study.

Potential Sources of Impact

9.37 Potential significant effects upon ornithological features may arise from direct habitat loss, displacement (indirect habitat loss), and mortality resulting from collision or interaction with development infrastructure.

9.38 Such effects will be assessed for the construction, operational and decommissioning phase of the Proposal, and in-combination with other developments.

Construction

9.39 During construction of the Proposal, in the absence of mitigation, it is anticipated that impacts upon ornithological features may arise from:

- habitat loss, fragmentation or change as a result of the delivery and installation of development infrastructure; and,
- disturbance to and loss of nest sites, eggs and/or dependent young.

9.40 Construction activities may be predicted to result in a temporary increase in noise, vibration and human presence within construction areas. This has the potential to displace birds from the vicinity of construction areas for the duration of construction works.

9.41 Effects would likely to be greatest during the breeding season (generally between March and August, depending upon the species), but are considerably variable between sites and species.

9.42 Overall construction disturbance would be considered temporary and would occur only when construction activities are taking place. Furthermore, construction would be not expected to take place over the whole project area, but within defined working areas, phased over small areas.

9.43 By virtue of spatial separation, there would be no direct impacts on ornithological interests within any designated site for nature conservation during the construction phase.

Operation

9.44 The operation of turbines and maintenance activities has the potential to cause disturbance and displacement of birds throughout the Proposal's operational lifetime.

The extent of displacement is, however, highly variable between species and species-group and therefore a species-specific assessment will take place on the basis of baseline studies.

9.45 The risk of avian mortality resulting from the collision of birds with the turbine blades (or additional windfarm infrastructure) is also acknowledged to be higher for some species due to their biometrics and flight behaviour. The likelihood of collision is also likely to be influenced by the habitats present within the Application Site and the surrounding environment.

9.46 Where flight activity data justifies it Collision Risk Models following the Band Model in accordance with NatureScot guidance (Band et al., 2007; NatureScot, 2000) will be undertaken to quantify the likelihood of mortality for target species and impacts upon designated sites.

9.47 These sources of impact will be considered throughout the design process for the Proposal, and where possible will either be avoided completely through scheme design or will be prevented/ minimised via good practice embedded mitigation measures to be included in the Proposal from the outset and detailed within the EIA Report.

Consultation

9.48 Consultation with NatureScot regarding survey methods was undertaken by The Natural Power Consultants Ltd. During the baseline survey period (see Appendix B). NatureScot expressed concerns with regard to the lack of survey access outwith the landowner boundary. Natural Power provided details of how this has been addressed to prevent constraints to the validity of the data. Measures included careful siting of VP locations within the Application Site, and use of camouflage clothing and minimal movement during VPs. Buffers of the Application Site were surveyed from the Application Site boundary and from public access tracks and roads within the buffer. Modelling of the viewshed of the raptor survey area was undertaken and it was determined that display flight behaviour would be detectable within 87% of the 2km raptor buffer using this method. Further details are provided in Appendix B, and will be included in the EIA Report. NatureScot agreed that they were content with the proposed methodologies on 8th July 2021.

9.49 Further scoping consultation in respect of ornithology for the Proposal was undertaken with NatureScot in September 2021 (see Appendix B). Survey methods and results up to and including August 2021 date were provided and NatureScot's agreement sought that one year of survey work was sufficient to inform likely impacts associated with the Proposal and to carry out impact assessment. NatureScot agreed with this position, as confirmed by email dated 7th October 2021 (see Appendix B), and so ongoing VP flight activity surveys were halted after October 2021. No further baseline ornithological survey work is proposed.

9.50 It is proposed that pre-application consultation will be an ongoing process following submission of this scoping.

Proposed Scope of Assessment and Reporting

9.51 Impact assessment presented within the EIA Report for ornithological features will be based on current Chartered Institute of Ecological and Environmental Management (CIEEM) guidance (2018) and NatureScot guidance 'Assessing Significance of Impacts from Onshore Wind Farms Outwith Designated Areas' (2018).

9.52 The process assessment process will include the following stages:

- determination and evaluation of important ornithological features;
- identification and characterization of impacts;
- outline of mitigating measures to avoid and reduce significant impacts;
- assessment of the significance of any residual effects after such measures;
- identification of appropriate compensation measures to offset significant residual effects; and,
- identification of opportunities for enhancement.

9.53 The approach to assessment will take account of existing guidance and published scientific literature in relation to birds and windfarm, together with professional judgement and experience of wind farm EIA.

9.54 The EIA Report will provide a detailed description of the existing baseline ornithological features of the study area, along with the assessment of the potential impacts of the Proposal on the identified important ornithological features.

Determining Importance

9.55 The assessment within the EIA Report will only assess in detail impacts upon important ornithological features

i.e., those that are considered important and potentially significantly affected by the Proposal.

9.56 Important ornithological features will broadly include:

- species listed on Annex 1 of the Birds Directive;
- species listed on Schedule 1 of the WCA; and,
- 'Priority bird species for assessment when considering the development of onshore wind farms in Scotland' as listed on Annex 1 of current guidance (NatureScot, 2018).

9.57 Importance will also be determined using professional judgement, specialist consultation advice and the results of baseline surveys and the importance of features within the context of the geographical area. The importance of an ornithological feature will be defined in a geographical context from 'Local' to 'International'.

9.58 A detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts will not be undertaken and justification for 'scoping out' provided.

Identification and Characterisation of Impacts

9.59 The identification and characterisation of impacts on important ornithological features will be undertaken in accordance with CIEEM guidelines (2018) with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility as appropriate.

9.60 Impacts will be considered during the construction, operational and decommissioning phases of the Proposal and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures are implemented.

Significant Effects

9.61 CIEEM guidelines (2018) define a 'significant effect' as an effect that either supports or undermines biodiversity conservation objectives for 'important ornithological features' or for biodiversity in general and notes that:

> *"a significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures."*

9.62 Potentially significant effects identified will be expressed within the EIA Report with reference to an appropriate geographic scale. For example, a significant effect on a nationally designated site is likely to be of national significance. However, the scale of significance does not necessarily always relate to the importance of an ornithological feature. For example, an effect on a species which is considered of national importance, may not have a significant effect upon its national population.

9.63 For the purposes of assessment, the significance of effects will primarily be expressed within the EIA Report with reference to the regional, national or international scale (as relevant) in line with guidance. The significance of effects at a local scale may also be assessed where sufficient information allows a meaningful assessment.

9.64 In line with the principles of proportionate EIA, embedded mitigation, including avoidance through the design process and application of industry standard good practice, will be considered at the outset of the assessment. Important ornithological feature status will only be assigned where there is still considered to be the potential for significant effects on the identified feature arising from the Proposal after the application of embedded mitigation measures.

9.65 In order to assess significance, population information will be provided at regional and national scales, as relevant, where available. For regional estimates, it is proposed that Natural Heritage Zone (NHZ) population estimates are used (Wilson *et al.*, 2015). In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect will be assumed as a precautionary approach. Where uncertainty exists, this will be acknowledged.

Residual Effects

9.66 Where the EIA proposes measures to mitigate potentially significant adverse effects on ornithological features, a further assessment of residual effects, taking into account any ornithological mitigation recommended, will be undertaken.

Cumulative Impacts

9.67 The potential for cumulative impacts with other wind farm developments will be assessed in accordance with NatureScot guidance (2012), for any feature with greater than negligible magnitude residual effects following the

application of mitigation and compensation proposals. With regard to the spatial extent of the cumulative assessment, NatureScot guidance (2012 and 2018) recommends that cumulative effects should typically be assessed at the relevant Regional NHZ scale, unless there is a reasonable alternative. The Proposal sits within NHZ16 'Eastern Lowlands', which extends along the whole eastern side of Scotland from Jedburgh in the Borders up to Stonehaven in Aberdeenshire, a distance of c. 170km. In this case, the undertaking of a cumulative assessment of potential impacts at the NHZ scale would entail the consideration of a vast number of other wind farm developments and the work required to obtain sufficient data for robust cumulative assessment would be disproportionate to any potential increase in effects associated with the Proposal. Additionally, NatureScot guidance (2012) recognises that access to relevant data for other developments may be limited and therefore a meaningful assessment of cumulative effects is not always possible. Given that relevant data for many of the wind farm developments located within NHZ16 is unlikely to be readily available, the results of any cumulative assessment at the NHZ scale based on incomplete data would not allow any meaningful conclusions to be drawn.

9.68 As such, it is proposed that an alternative species-specific approach will be adopted for the purposes of this assessment, with core foraging ranges of important ornithological features, as per NatureScot guidance (2016a) or best available evidence, used to determine the spatial extent over which the cumulative assessment is undertaken. Therefore, it is proposed that the cumulative assessment for this Proposal includes consideration of those such developments located within 20km of the Proposal and within 20km from each of the two SPAs identified within the Zone of Influence (ZoI) of the Proposal, to encompass the core foraging range for pink-footed goose from both the Application Site and from the SPAs of which they are a qualifying feature.

9.69 The cumulative assessment will include consideration of:

- Existing wind farm developments, either built or under construction;
- Approved wind farm developments, awaiting implementation; and,
- Wind farm proposals awaiting determination within the planning process with design information in the public domain.

9.70 The inclusion of additional non-windfarm proposals will also be included upon request from NatureScot and other primary interest bodies.

Habitats Regulations Appraisal

9.71 The Application Site is located within the core foraging range for qualifying interests of the Firth of Forth and Fala Flows SPAs (<20km). The EIA Report will therefore provide sufficient information to allow the competent authority to undertake a Habitats Regulations Appraisal (HRA) of the Proposal in relation to these two SPAs.

9.72 The Application Site is not located within the core foraging range for the qualifying interests of any other SPA (as per NatureScot, 2016a) and as such, the potential for connectivity between the Proposal and any such designation has been discounted.

Approach to Mitigation

9.73 The adoption of embedded mitigation measures to avoid or minimise adverse impacts upon ornithological features will be part of the iterative design process for the Proposal.

9.74 Full details of the scheme design evolution and embedded mitigation measures in relation to ornithology will be detailed within the EIA Report. This will include the specification of any species-specific working buffers as necessary, and requirement for the production of a breeding bird protection plan to ensure legislative in accordance with current good practice guidance.

9.75 Flight activity and breeding data will also be reviewed to identify any potentially problematic turbines which may result in significant collision risk, and measures to limit increased suitability of the Application Site to sensitive species (such as hen harrier, merlin and short-eared owl) will be outlined where required, with reference to NatureScot guidance (2017).

Approach to Enhancement

9.76 Suitable principles for biodiversity enhancement to be delivered as part of the Proposal will be outlined within the EIA Report. The appropriateness and feasibility of principles will be confirmed with NatureScot and relevant consultees as necessary over the course of the EIA, with view to prescriptive enhancement measures being detailed post-consent within a Habitat Management Plan (HMP) or similar.

Presentation of Sensitive Information

9.77 Ornithological data considered sensitive (e.g., that pertaining to breeding locations of Schedule 1 species) will be included in a confidential appendix to the EIA Report in line with guidance (NatureScot, 2016b). This will

not be made publicly available, but will be issued to NatureScot and ELC.

9.78 It will be ensured that sufficient information is presented within the EIA Report to allow an objective and robust assessment of potentially significant adverse impacts upon ornithological features to take place.

Matters Scoped Out

9.79 CIEEM guidelines (2018) stipulate that it is not necessary to carry out a detailed assessment of impacts upon ornithological features that are sufficiently widespread, unthreatened and/or resilient to impacts of a development proposal. NatureScot guidance (2020) similarly advises that there are some species, which with standard mitigation measures, are unlikely to experience a significant environmental effect as a result of the construction and/or operation of onshore windfarms. This includes species that do not require surveys to inform the EIA but may require appropriate mitigation to ensure legislative compliance, such as breeding passerine species.

9.80 As such, the assessment within the EIA Report will be restricted to consideration of the effects upon designated sites for nature conservation and ornithological features which are considered 'important' on the basis of relevant guidance and professional judgement.

9.81 Where ornithological features are unlikely to be so important in the context of the Proposal as to warrant a detailed assessment or where they would be unlikely to be significantly affected on the basis of baseline information, it is proposed that these are 'scoped out' of the impact assessment process. Embedded mitigation measures for such features may, however, still be outlined as appropriate within the EIA Report, to reduce and/or avoid any potentially adverse effects, or to ensure legislative compliance.

9.82 Based on the results of baseline surveys and consultations it is currently considered that the following species will be the core focus of the impact assessment:

- Pink-footed goose;
- Greylag goose;
- Lapwing;
- Golden plover;
- Curlew;
- Snipe;
- Short-eared owl, and,
- Merlin.

9.83 The eight species listed above are likely to meet the criteria for undertaking collision risk modelling (using the criteria of ≥ three flights or ≥ 10 individuals passing with the 'collision risk zone' at potential collision height). Potential disturbance/displacement effects on these species will also be assessed, as with the exception of pink-footed goose and merlin they all bred within the Application Site.

9.84 The number and frequency of records of the other target species was relatively low, and suitable breeding habitat for several target species is either scarce or completely absent within the Application Site. As such, and in line with the rationale provided in the informal scoping consultation undertaken with NatureScot in September 2021 (see Appendix B), it is considered that the Proposal is unlikely to lead to the potential for significant disturbance and/or displacement effects on the following avian species:

- Red kite;
- Hen harrier;
- White-tailed eagle;
- Goshawk; and,
- Peregrine.

9.85 It is subsequently proposed that disturbance and displacement impacts to these species are scoped out of impact assessment within the EIA Report. Collision risk modelling will still be carried out for any of these species that meet the criteria of ≥ three flights or ≥ 10 individuals passing with the 'collision risk zone' at potential collision height.

Impacts to Black Grouse

9.86 No evidence of black grouse was recorded during the course of any of the baseline survey work at the Application Site. The local gamekeeper also confirmed that, to his knowledge, black grouse are not present within the Application Site and that the last birds bred there in the late 1970s (see Appendix B). In light of this it is considered that the potential for significant effects to populations of this species arising as a result of the Proposal is negligible, and that this species is scoped out of impact assessment within the EIA Report.

Questions for Consultees

Q9.1 Do Consultees agree with the range of desk study sources and ornithology surveys considered to inform the design and assessment of the Proposal, including the "Target Species" considered?

Q9.2 Do Consultees agree that the full range of likely effects to be assessed within the EIA Report has been adequately identified and is proportionate to the nature of the Proposal?

Q9.3 Are there any other relevant consultees who should be contacted with respect to the ornithology assessment and scope of baseline information gathering?

Q9.4 Do Consultees agree with those features that have been scoped out of assessment in respect to ornithology (and the rationale for the decision)?

Q9.5 Do Consultees agree with the scope of developments to be considered in the cumulative assessment?

References and Standard Guidance

9.87 In the preparation of the EIA Report Chapter, reference will be made to the key pieces of legislation, policy and guidance detailed below.

Legislation

- The Electricity Act 1989;
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds);
- The Wildlife and Countryside Act 1981 (as amended in Scotland);
- The Wildlife and Natural Environment (Scotland) Act 2011;
- The Nature Conservation (Scotland) Act 2004; and,
- The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations) (as amended in Scotland).

Planning Policy

- Scottish Planning Policy (SPP) 2014;
- National Planning Framework 3 (NPF3) 2014;
- Draft National Planning Framework 4 (NPF4) 2021;
- Scottish Government Planning Advice Note 60: Planning for Natural Heritage 2008; and,
- East Lothian Local Development Plan 2018.

Guidance

- Band, W., Madders, M. & Whitfield, D.P. (2007) Developing field and analytical methods to assess avian collision risk at wind farms. In de Lucas, M, Janss, G.F.E. and Ferrer, M. (Eds.) Birds and Wind Farms: Risk assessment and Mitigation, pp. 259 – 275. Quercus, Madrid;
- Brown, A.F. & Shepherd, K.B. (1993) A method for censusing upland breeding waders. Bird Study, 40, pp. 189-195;
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester;
- East Lothian Biodiversity Action Plan;
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Section 10
Noise

Introduction

10.1 This section describes how the noise effects from the construction, operation, and decommissioning of the Proposal will be assessed. The potential noise sources are discussed and the method by which the impacts are assessed is described.

10.2 The noise assessment will be undertaken by the Hayes McKenzie Partnership Ltd who have been at the forefront of wind turbine noise assessment for over 30 years. The company provided significant input to ETSU-R-97, the nationally recognised assessment methodology, and the UK Institute of Acoustics (IOA) Good Practice Guide (GPG) to its use which followed it some 17 years later following a review which Hayes McKenzie carried out for the, then, UK Department of Energy and Climate Change. Hayes McKenzie were also on the IoA Amplitude Modulation Working Group which produced the internationally recognised Method for Rating Amplitude Modulation in Wind Turbine Noise. The company has worked on over 1000 wind turbine projects, either at planning, pre-construction and in operation, both in the UK and internationally and have provided evidence for over 100 planning inquiries, hearings and in the courts.

10.3 Wind farms are often situated in rural environments where there are few other sources of non-natural noise. Wind turbine sound can be audible at nearby properties, depending on the turbine type and locations, and noise limits are often included in planning consents to protect amenity and prevent sleep disturbance.

10.4 Operational noise from wind turbines includes aerodynamic noise from the movement of the blades and mechanical noise from the turbine components, such as the generator and the gearbox. Turbine manufacturers have, over time, been able to control most of the mechanical sources and, as a result, reduce mechanical noise emissions. Wind turbine aerodynamic noise can be restricted by control systems to regulate the pitch and rotational speed of the blades thus minimising noise as required.

10.5 The sound from modern wind turbines rises from the cut-in wind speeds and then remains at the same level

from close to the rated power to the cut-out speed. The background noise, such as that from wind blowing through trees and vegetation, is often low at low wind speeds and increases steadily with wind speed. Background noise at high wind speeds can therefore mask the sound from wind turbines. Appropriate noise limits can be derived using ETSU-R-97 and the UK Institute of Acoustics: *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*. These limits are based on a set margin above the background noise level for day-time and night-time periods with a lower limiting value applied which depends on circumstances.

10.6 There may be a short-term noise impact at some locations from the construction and decommissioning of the wind turbines and associated infrastructure, and from traffic movements associated with the delivery of construction materials and turbine components. However, construction works will generally be carried out during daytime hours only for a short period.

Environmental Baseline and Potential Sources of Impact

Baseline

10.7 The main sources of noise in the existing environment at dwellings surrounding the Proposal are anticipated to be:

- Wind induced from trees and foliage surrounding each dwelling;
- Water flow within nearby burns;
- Occasional local traffic movements;
- Localised sources from human activities;
- Birdsong and animal activity; and,
- Noise from operational wind turbines (although this is not considered part of the baseline when deriving noise limits according to ETSU-R-97).

10.8 Existing background (or baseline) noise levels will be measured where necessary (i.e. if predicted noise levels are above the lower fixed limits described below), as required by ETSU-R-97 and the IOA GPG referenced above. Where measurements are required, the duration will be two to three weeks. In reality, it may be required that the survey is extended to allow for an appropriate range of meteorological conditions (i.e. wind speeds and directions) to be experienced at the Application Site, such that suitably representative/adequate results are obtained. Site-specific meteorological data, over the noise survey period, will be obtained such that the data analysis will be carried out in line with the requirements of the IOA GPG.

Potential Sources of Impact

10.9 Potential noise impacts may be generated by the construction, operation, and decommissioning of the Proposal. The significance of the noise impact is dependent on the noise being generated and the distance of noise sensitive receptors in the vicinity. In this case, noise sensitive receptors are generally residential receptor locations.

Construction and Decommissioning Noise

10.10 Noise impacts may arise through activities associated with the construction of the wind farm such as extraction of rock for construction purposes, on-site track construction, construction of hard standings, construction of associated buildings, construction of turbine foundations, turbine erection, and from vehicles accessing the Application Site. Noise from construction activities is relatively short term, and impacts are usually not significant and controlled through management plans prepared at the time of construction.

10.11 Noise during decommissioning may arise from the dismantling of the turbines, and breaking up of the concrete foundations, hard standings, and access tracks.

Operational Noise

10.12 Noise during the operation of the wind farm is generated by wind turbines as they rotate to generate power. This only occurs above the 'cut-in' wind speed and below the 'cut-out' wind speed. Below the cut-in wind speed there is insufficient strength in the wind to generate electricity efficiently and above the cut-out wind speed the turbine is automatically shut down to prevent any malfunctions from occurring.

10.13 PAN1/2011[5] identifies two sources of noise from wind turbines; mechanical noise and aerodynamic noise. It states that "*good acoustical design and siting of turbines is essential to minimise the potential to generate noise*". It refers to the 'web based planning advice' on renewables technologies for onshore wind turbines.

5 Planning Advice Note, PAN1/2011 'Planning and Noise'

10.14 Modern wind turbine noise is usually dominated by aerodynamic noise, such that any mechanical (tonal) noise can be considered to be insignificant. Operational noise is controlled by ensuring that the Application Site can operate within allowable noise limits that are applied to development via planning conditions attached to its consent. Although mechanical noise is usually negligible, it is also usually controlled through planning conditions that cover tonal noise.

Consultation

10.15 This scoping section on noise describes the methodology that is proposed to be used to assess the Application Site for agreement with stakeholders and in particular East Lothian Council. Post-scoping consultation will be carried out with East Lothian Council to discuss the proposed methodology set out in this section if any concerns are raised. If baseline noise measurements are required to enable the relevant noise limits to be derived, the specific methodology and siting of the measurement equipment will be discussed with East Lothian Council, who will be invited to attend the installation of the equipment.

Proposed Scope of Assessment and Reporting

10.16 Operational noise associated with the Proposal will be assessed in accordance with the requirements of ETSU-R-97[6], *The Assessment of Rating of Noise from Wind Farms* (DTI, 1996) and incorporating the best practice described within the Institute of Acoustics (IOA), *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* (GPG) (IOA, 2014), as referenced within relevant planning policy[7] and the Scottish Government's web-based planning advice[8]. Additional reference will be made to the noise limits imposed on nearby wind farm developments.

10.17 Predicted operational effects will be assessed against relevant noise limits derived in line with the above guidance. It will be ensured that cumulative operational noise levels from all relevant wind farm developments in the vicinity are able to comply with these relevant limits.

10.18 It may be necessary to obtain background noise levels at a number of properties, and, where measurements are carried out, the results will be correlated with the wind speed experienced on-site and a best fit curve will be applied to derive the 'prevailing background noise level' as required by ETSU-R-97. Where necessary the measured baseline noise levels will be corrected to remove the influence of noise from already-operating wind turbines. The derived prevailing background noise levels will be used to determine daytime and night-time noise limits, over a range of wind speeds, as per the requirements of ETSU-R-97 and the IOA GPG referenced above.

10.19 Construction and decommissioning noise impacts will be discussed with reference to relevant guidance in the form of BS 5228 *Code of Practice for Noise and Vibration Control on Construction and Open Sites* (BSI, 2014 + 2019).

10.20 Where increases in road traffic are predicted during the construction phase of the development, the increase in predicted noise levels will be assessed using the *Calculation of Road Traffic Noise*, and the impact will be considered as not significant if the increase is less than 3 dB, or the relevant noise limits described in BS 5228 are met where existing traffic is negligible.

Existing Wind Farm Noise Limits

10.21 The Proposal is near several operational wind farms, the nearest of which is Fallago Rig Wind Farm. The operational noise levels from Fallago Rig Wind Farm are controlled by noise limits imposed in its planning conditions. Condition 25 states:

> *"Noise levels at any Noise Sensitive Premises from the combined effect of the wind turbines where the proprietor or the occupier of the property has no financial interest in the Development shall not exceed an external free-field LA90, 10 min level of the greater of 40dB(A) or 5dB at any 10 metre height wind speed up to 12m/s above the prevailing background noise level from 07:00-23:00, and the greater of 43dB(A) or 5 dB at any 10 metre wind speed height up to 12 m/s above the prevailing background noise level from 23:00-0:700. The data provided in the noise assessment presented in the Environmental Statement provides the prevailing background noise level at various wind speeds and*

6 ETSU-R-97, The Assessment and Rating of Noise from Wind Farm, ETSU for the DTI, 1996

7 Planning Advice Note, PAN1/2011 'Planning and Noise' and associated Technical Advice Note (TAN) 'Assessment of Noise'

8 Scottish Government web based planning advice, 'Onshore Wind Turbines', https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/ [Accessed : November 2021]

the methodology used within that document should be the basis for assessment of future investigations for consistency's sake. Any assessment of compliance with this condition shall be made in accordance with the guidance notes attached to this consent."

10.22 Other wind farms in the area are the Crystal Rig and Aikengall Wind Farm developments. Although these are unlikely to cause significant cumulative noise issues, they will still be considered in the cumulative noise assessment together with Fallago Rig Wind Farm. They each have noise limits set out in their planning conditions.

Potential Effects

10.23 Operational noise associated with Proposal operating in isolation and cumulatively with other consented or submitted developments will be assessed. Predicted operational noise levels will be compared with the limits set out within ETSU-97 and the Proposal will be designed such that planning requirements in this respect will be met.

10.24 Construction and decommissioning of the turbines will occur at distances that are unlikely to result in a breach of typical construction noise limits as prescribed within relevant guidance such as BS 5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' (BSI, 2014 + 2019). This, combined with the temporary nature of the works, means that a detailed assessment of the construction noise impacts can often be scoped out. However, possible upgrades to local roads and provision of additional tracks relating to construction access requirements could occur in close proximity to certain dwellings depending on the route taken. As such, only these relatively minor aspects of the Proposal may require some consideration in terms of potential noise impacts and a detailed assessment may not be necessary. However, this will be kept under review throughout the EIA process.

Cumulative Operational Noise

10.25 It will be necessary to carry out a cumulative noise impact assessment that includes nearby wind farms that could significantly contribute to operational noise levels at noise sensitive receptors in the vicinity of the development. Wind farms that will be considered in the cumulative noise assessment are set out at **Table 10.1** below. The nearest wind farm is Fallago Rig, which is located approximately 2km to the south of the Application Site, and the Aikengall and Crystal Rig wind farms are located to the north east of the Application Site at a minimum distance of 5km.

Table 10.1 – Wind farms to be included in the cumulative noise assessment

Wind Farm Name	Description	Planning Status
Fallago Rig	48 turbines	Operational
Aikengall	16 turbines	Operational
Aikengall 2	19 turbines	Operational
Aikengall 2a	19 turbines	Consented
Crystal Rig I, Ia, II. III	91 turbines	Operational
Crystal Rig IV	11 turbines	Consented

Impact Assessment

10.26 The noise impact assessment will be divided into operational noise and noise related to construction activities, although noise from construction is likely to be scoped out unless potentially significant effects are identified during the EIA process.

10.27 Predictions of operational noise, in isolation and cumulatively with the existing neighbouring wind farms, will be carried out according to the recommendations of the IOA Good Practice Guide referred to above.

10.28 The relevant noise limits for cumulative noise from all wind turbines in the vicinity are, the greater of plus 5 dB above background, subject to lower limiting values of 40 dB L_{A90} during the daytime and 43 dB L_{A90} at night. These are the noise limits that were applied to the consented Fallago Rig Wind Farm.

10.29 Where the cumulative limits are shown to be met, it is considered that no unacceptable noise impacts will arise. Where predicted noise levels from the Proposal are below 30 dB L_{A90} its contribution is considered to be negligible regardless of the cumulative noise levels. Where limits are found to be exceeded, example mitigation, by way of curtailing turbine operation for certain wind speeds and directions, will be proposed such that the limits can be met.

10.30 If baseline noise measurements are carried out, limits will be derived in line with the recommendations of ETSU-R-97 which requires derivation of curves of 'prevailing background noise level', as it varies with wind speed for 'quiet day-time'(hours of 1800-2300 every day plus 1300-1800 on Saturdays and 0700-1800 on Sundays) and night-time periods. The measurements will be carried

out over a period of 2-3 weeks and combined with on-site wind speed, in line with the Good Practice Guide.

10.31 The on-site wind speed is derived for the hub height of the proposed turbines and 'standardised' to 10 metres height based on a reference ground roughness length of 0.05 metres. The limits are set at 5 dB above this prevailing background noise curve, subject to a lower limiting value of 35-40 dB L_{A90} for day-time, 43 dB L_{A90} for night-time and 45 dB L_{A90} for financially involved properties. In this case a lower limiting value of 40 dB L_{A90} will be applied during the daytime to be consistent with the noise limits applied to the operational Fallago Rig Wind Farm.

10.32 Detailed construction noise predictions will not be carried out except where there is a possibility of short-term impact at residential properties during any track works or similar activities.

10.33 Where construction noise levels can meet suggested limits in BS5228, *Code of Practice for Noise and Vibration Control on Construction and Open Sites*, the impact will be considered to be not significant.

10.34 The noise from construction traffic movements will be assessed in terms of the increase in noise over that from existing traffic movements. Where this increase is shown to be less than 1 dB, this will be considered to be negligible, and where the increase is less than 3 dB, or overall noise from construction activities will be below 65 dB $L_{Aeq\neg}$, the impact will be considered to be not significant. Mitigation will be proposed where significant impacts are found.

Matters Scoped Out

10.35 There are various aspects that will be scoped out of the assessment or only discussed in general terms. This includes detailed construction noise prediction, for the reasons discussed above, and issues frequently raised by third parties opposed to wind farm development in general, such as infrasound, low frequency noise and amplitude modulation. Each of these topics will be discussed in generalised terms within the noise chapter EIA Report for the Proposal and a detailed assessment is either not possible and/or not considered necessary.

10.36 Noise from decommissioning activities will be scoped out as the overall noise impacts are usually lower than during the construction phase, and will be assessed and mitigated as required at the time of decommissioning.

10.37 Operational noise effects will be scoped out where the predicted noise levels from the Proposal are below 30 dB L_{A90} which is 10 dB below the lowest noise limit applicable to cumulative wind farm noise (i.e. 40 dB L_{A90} as set out within the noise limits for the Fallago Rig Wind Farm). Where predicted noise levels from the Proposal are 10 dB or more below the lowest applicable noise limit then it's contribution at noise sensitive properties can be considered to be negligible.

10.38 Vibration has been scoped out of the construction, operation, and decommissioning assessments as levels of vibrations are considered to be negligible. Ground-borne vibration during the operational phase of the development will not be perceptible at receptor locations, nor on the wind farm site itself. Levels of vibration during the construction and decommissioning phases are unlikely to be perceptible, except if there are short term construction activities in the near vicinity of receptor locations, where levels of vibration in any case will be significantly below the criteria set out in BS 5228 Code of Practice for Noise and Vibration Control on Construction and Open Sites.

Questions for Consultees

Q10.1 Is it acceptable to scope out detailed construction predictions and for construction noise to be controlled through a construction and environmental management plan that will be prepared at the time of construction?

Q10.2 Can operational noise be scoped out where predicted operational noise levels from the Proposal in isolation are below 30 dB L_{A90}?

Q10.3 Are there any other wind turbine schemes that have not been identified that will need to be included in the cumulative noise assessment?

Q10.4 Will the operational noise impact be considered to be acceptable where cumulative operational predicted noise levels are below the greater of plus 5 dB above background or 40 dB L_{A90} during the daytime, and 43 dB L_{A90} at night?

References and Standard Guidance

- Scottish Government 2011, Planning Advice Note 1/2011: planning and noise, https://www.gov.scot/publications/planning-advice-note-1-2011-planning-noise/ (accessed September 2021)
- Scottish Government 2014, Web Based Planning Advice, Onshore Wind Turbines, https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/ (accessed September 2021)
- Scottish Government 2011, Assessment of noise: technical advice note, https://www.gov.scot/publications/technical-advice-note-assessment-noise/pages/1/ (accessed 22 September 2021)
- British Standard BS 5228-1:2009-A:2014 (2009). Code of practice for noise and vibration control on construction and open sites Part 1: Noise, Part 2: Vibration.
- Department of Trade and Industry 1996, ETSU-R-97, The Assessment and Rating of Noise from Wind Farms
- Institute of Acoustics 2013, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise
- DECC Wind Turbine AM Review report two phases: Phase 1 in September 2015 and Phase 2 in October 2016
- DECC Research Contract 01.08.09.01/492A (Analysis), Analysis of How Noise Impacts are Considered in the Determination of Wind Farm Planning Applications ,HM: 2293/R1, 6th April 2011
- Institute of Acoustics, A Method for Rating Amplitude Modulation in Wind Turbine Noise (August 2016).

Section 11
Geotechnical, Hydrology & Hydrogeology, including Carbon Rich Soils

Introduction

11.1 This section sets out the proposed approach to the assessment of potential effects on geology, hydrology and hydrogeology, including peat, during the construction and operation of the Proposed Newlands Hill Wind Farm.

Environmental Baseline and Potential Sources of Impact

Geology

11.2 A review of the British Geological Survey (BGS) Geology of Britain map viewer indicates localised areas of peat overlying bedrock in the southern and eastern Application Site area. Alluvium, comprising clay, silt, sand and gravel is indicated as being present immediately to the northwest of Wanside Rig. Alluvium is also indicated to be present on the banks of various small watercourses in the southern site area and alongside Faseny Water on the southern boundary of the site. The northern site area, in the vicinity of Darent House is indicated to be underlain by Glacial Till (Boulder Clay).

11.3 The underlying bedrock is indicated as comprising Gala Group Wacke. This consists of sedimentary rock formed by coarse to fine grained slurries of debris from the continental shelf forming distinctive graded beds.

Soils and Peat

11.4 The Carbon and Peatland 2016 Map indicates that the Application Site is likely to host a combination of peat soils with degraded habitats (Class 5) on the summits and gentler slopes, and peaty gleyed podzols (Class 4) and humic iron rich podzols on the lower and steeper slopes. Comparison with BGS superficial geology layers also indicates pockets of peat on the summits. Degraded habitats are likely to have resulted from the heavy

management of the peat and organic soils for grouse, with extensive patterning associated with muirburn across the majority of the Application Site. As a result there are no nationally important carbon-rich soils identified within the project area.

11.5 A comprehensive pre-scoping Phase 1 peat depth survey confirms deep peat (>0.5m) on the hill summits, locally up to 2.8m in depth and averaging 0.35m (i.e. organic soil) across the 358 sample locations. These peat deposits are relatively discrete, with the bulk in a single unit c. 0.75 km x 0.5 km centred on the gentle slopes between Newlands Hill and Wanside Rig.

Hydrology

11.6 Whittinghame Water rises immediately to the east of the B6355, within the Application Site boundary, and flows in a northerly direction along the base of Moss Law towards the glen between Snawdon Hill and Rangely Kip. It was classified by SEPA in 2019 as having an overall status of Poor.

11.7 The Faseny Water flows from west to east along the southern boundary of the Application Site, before discharging into the Whiteadder Reservoir. SEPA has classified it in 2019 as having an overall status of Poor, mainly relating to overall ecology, fish barriers and biological elements.

11.8 There are various small tributary burns which flow into both the Whittinghame Water and Faseny Water which are unclassified. The Park Burn also rises in the west of the Application Site before discharging into the Newlands Burn, neither of which are classified. For the purposes of the assessment, these will be classified as having an overall status of Poor.

Consultation

11.9 Consultation will be held with the following organisations:

- Scottish Environment Protection Agency (SEPA);
- NatureScot;
- East Lothian Council;
- Local landowners and, where relevant, estate tenants; and,
- Other stakeholders as identified during the assessment.

Proposed Scope of Assessment and Reporting

11.10 Assessment of hydrology, geology and peat will involve a desk study to gather relevant site data and enable peatland constraints to be fully defined. This will include:

- Consultation with relevant statutory and non-statutory bodies as part of the Scoping exercise;
- Detailed desk studies and site visits to establish conditions on the Application Site and in the surrounding area;
- Phase 1 peat depth data (already acquired);
- British Geological Survey bedrock and superficial geology layers;
- High resolution satellite and/or aerial imagery, including multiple epochs (where available);
- Vegetation mapping, both from the Functional Wetland Typology of Scotland and collected by project ecologists;
- Hydrological information (including watercourses, drinking water supplies);
- On site and site-adjacent designations (including SSSIs, SACs and SPAs);
- Identifying and establishing the sensitivity of water resource receptors on the basis of their use, proximity to the Application Site, existing quality or resource value and consideration of potential source-pathway-receptor linkages;
- Evaluation of the potential impacts of the Application Site and the effect that these could have on current baseline conditions;
- Evaluating the magnitude of such impacts in terms of change to peatland and water resources;
- Classifying the significance of likely effects;
- Identification of possible measures to avoid and mitigate against any identified adverse effects resulting from the Proposal; and
- The evaluation of the residual significance of these effects following consideration of mitigation measures.

11.11 An initial constraints map will be prepared based on hydrological receptors, peat depth surveys and peatland geomorphology interpreted from satellite imagery in order to inform initial layout design. Once this initial layout has been defined, proposed infrastructure locations will be compared with hydrological characteristics, preliminary peat stability calculations and peat depths to identify opportunities to avoid areas with low stability and minimise overlap with the deepest peat. A site walkover will be undertaken to field verify geomorphological features and identify on-site opportunities for protection of watercourses and appropriate reuse of any peat that may require excavation during construction.

11.12 Following design freeze, Phase 2 detailed peat probing will be undertaken for any infrastructure on or near peat deposits identified in Phase 1. Probing would be undertaken in accordance with SEPA (2017a) guidance and comprise detailed grids over hardstandings and borrow pits and high resolution centrelines with offsets for access tracks. It is not proposed to undertake Phase 2 probing in areas where peat is likely to be absent (as inferred from the Phase 1 probing results).

11.13 A peat landslide hazard and risk assessment will be prepared in accordance with Scottish Government (2017) Best Practice Guidance. This will assess baseline stability in the absence of a wind farm, construction-induced changes to baseline stability, on-site and site-adjoined receptors and potential consequences and provide risk calculations for all proposed infrastructure. Appropriate risk mitigation measures will be identified and site-wide good practice construction measures will be outlined.

11.14 A peat management plan will be prepared in accordance with Scottish Renewables & SEPA (2012) Good Practice Guidance and following issue of SEPA's scoping response (which typically provides additional advice now that the 2012 guidance is no longer current). The peat management plan will include calculation of excavated peat volumes, differentiated by acrotelm and catotelm, and account for all material reuse within the Application Site boundary. In the event that more peat is excavated than can be appropriately reused, there may be a requirement for a waste license (in accordance with SEPA, 2017b), however, every effort will be made to avoid this outcome through sensitive design. Where there is potential for habitat enhancement, and where management of peat soils will directly support the identified approach, the peat management plan may be delivered as an enhanced peat management plan or a peat and habitat management plan.

11.15 If appropriate, a Peatland Condition Assessment will be prepared in line with NatureScot guidance on evaluating the condition of peat as a precursor to restoration, however, this task will fall within the EIA approach in section 8.

Matters Scoped Out

11.16 Initial proposals for indicative turbine locations avoid peat almost entirely (all locations bar one are on soil depths <0.5m). In the event that infrastructure can be designed to demonstrably avoid peat, including tracks and the full extent of hardstandings, it may be possible to scope the peat management plan and peat landslide risk assessment out of EIA since i) no peat would be excavated, and ii) no peat would be directly impacted and thereby there would be no modification of baseline stability.

11.17 There is no evidence that flood risk is likely to be influenced by the Proposal. Therefore, no further consideration regarding flood risk is proposed.

11.18 There is no evidence that Private Water Supplies are present within the site boundary. Therefore, no further consideration regarding Private Water Supplies is proposed.

Questions for Consultees

Q11.1 SEPA and East Lothian Council: Do you agree with the proposed survey and assessment methodology?

Q11.2 ELC EHO: please provide locations of Private Water Supplies within 1km of the Application Site?

Q11.3 SEPA, NatureScot: if all peat (>0.5m) can demonstrably be avoided in the final design, would scoping out of the PMP and PLHRA be acceptable (as no peat soils would be affected)?

References and Standard Guidance

11.19 The following core guidance documents will be used to support assessment of peat soils:

- Scottish Government (2017) Peat Landslide Hazard and Risk Assessments, Best Practice Guide for Proposed Electricity Generation Developments (Second Edition). Scottish Government, 84p
- Scottish Natural Heritage and Forestry Commission Scotland (2010) Floating Roads on Peat - A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland, 82p
- Scottish Renewables & SEPA (2012) Guidance on the assessment of peat volumes, reuse of excavated peat, and minimisation of waste, 23p
- SEPA (2017a) Guidance on Developments on Peatland: Peatland Survey Guidance, 18p
- SEPA (2017b) Developments on peat and off-site used of waste peat. SEPA Guidance WST-G-52, 5p

Section 12
Transport and Access

Introduction

12.1 This section covers the predicted transport and access issues that may arise from the construction of the Proposal, the significance of these effects and what suitable mitigation can be put in place to avoid, minimise or offset any adverse impacts.

12.2 The Transport & Access EIA Report Chapter will be supported by a Transport Assessment report, Abnormal Load Route Survey and technical figures.

12.3 The key issues for consideration as part of the assessment will be:

- The temporary change in traffic flows and the resultant, temporary effects on the study network during the construction phase;
- The physical mitigation associated with the delivery of abnormal loads;
- The design of new access infrastructure; and
- The consideration of appropriate and practical mitigation measures to avoid, minimise or offset any temporary effects.

12.4 The potential effects of these will be examined in detail.

Baseline and Potential Sources of Impact

Existing Conditions

12.5 The Proposal will be accessed directly from the B6355 using a new, purpose built access junction. The access junction will be designed to accommodate deliveries for the larger turbine components as well as being suitable for general construction traffic. Loads will then proceed to the proposed turbine locations using new private access tracks.

12.6 It is proposed that all vehicular access will use this access, including Abnormal Indivisible Loads (AIL). A detailed Route Survey Report will support the application and will identify the necessary access improvements that will be required to enable loads to access the Application Site from the A1 trunk road. A route to the Application Site via the East Lothian Council (ELC) road network is being considered and will be described in full in the application documents and in more detailed technical discussions.

12.7 Locally sourced material will be used where feasible and traffic will avoid impacting on local communities as far is possible.

Consultation

12.8 Consultation will be undertaken with the following statutory consultees:

- East Lothian Council (for local road access matters); and,
- Transport Scotland (for trunk road matters).

12.9 Consultation with the owners of structures affected by the transport of abnormal loads will also be undertaken. These will be reported in the Route Survey Report.

Proposed Scope of Assessment and Reporting

Design Considerations

12.10 An appropriate access junction will be provided to cater for general construction traffic, abnormal loads deliveries and ongoing operational access to the Proposal. The junction will be described in the transport submissions and an indicative layout plan of the junction will be provided.

12.11 Abnormal Indivisible Loads (AIL) associated with the turbine will be examined in a Route Survey Report that will be appended to the EIA Report. Swept path assessments and traffic management requirements necessary for the safe and efficient delivery of the loads will be detailed in this report.

Proposed Surveys and Assessment Methodologies

12.12 Baseline traffic count data will be obtained from a new Automatic Traffic Count (ATC) survey located on the B6355 at the proposed access route. Additional ATC data will be collected for the local road network from the A1 and proposed for construction traffic use.

12.13 Further traffic data for the A1 will be obtained from UK Government Department for Transport (DfT) traffic count data or the Traffic Scotland database. National Road Traffic Forecast (NRTF) Low Traffic Growth assumptions will be used to provide a common future year baseline to coincide with the expected construction traffic peak.

12.14 Traffic accident data will be obtained from Crashmap UK for the study network to inform the accident review for the immediate road study area. Three years' worth of data for the B6355 will be collated.

12.15 The main transport impacts will be associated with the movement of general heavy goods vehicles (HGV) traffic travelling to and from the Application Site during the construction phase of the development.

12.16 The Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) sets out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

- Potential impacts (of changes in traffic flows) on local roads and the users of those roads; and
- Potential impacts (of changes in traffic flows) on land uses and environmental resources fronting these roads, including the relevant occupiers and users.

12.17 The following rules taken from the guidance will be used as a screening process to define the scale and extent of the assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

12.18 Increases below these thresholds are generally considered to be insignificant given that daily variations in background traffic flow may fluctuate by this amount.

Changes in traffic flow below this level predicted as a consequence of the Proposal will therefore be assumed to result in no discernible environmental impact and as such no further consideration will be given to the associated environment effects.

12.19 The estimated traffic generation of the Proposal will be compared with baseline traffic flows, obtained from existing traffic survey data, in order to determine the percentage increase in traffic.

12.20 Potentially significant environmental effects will then be assessed where the thresholds as defined above are exceeded. Suitable mitigation measures will be proposed, where appropriate.

12.21 Committed development traffic, i.e. those from proposals with planning consent, will be included in baseline traffic flows, where traffic data for these schemes is considered significant and is publicly available. Developments that are proposed or at Scoping would not be included.

12.22 It is not anticipated that a formal Transport Assessment will be required as these are not generally considered necessary for temporary construction works. A reduced scope Transport Assessment is therefore proposed.

12.23 Each turbine is likely to require between 11 and 14 abnormal loads to deliver the components to the Application Site. The components will be delivered on extendable trailers which will then be retracted to the size of a standard HGV for the return journey.

12.24 Detailed swept path analyses will be undertaken for the main constraint points on the route from the port of entry through to the Application Site access junction to demonstrate that the turbine components can be delivered to site and to identify any temporary road works which may be necessary.

Potential Sources of Impact

12.25 Potential impacts that may arise during the assessment may include the following for users of the road and those resident along the delivery routes:

- Severance;
- Driver delay;
- Pedestrian delay;
- Pedestrian amenity;
- Fear and intimidation; and
- Accidents and safety.

12.26 The impacts on receptors within the study area will be reviewed during the construction phase, with a peak construction period assessment undertaken. This will review the maximum impact and presents a robust assessment of the effects of construction traffic on the local and trunk road networks.

12.27 The effects that will be considered will be based upon percentage increases in traffic flow and reviewed against the impacts noted above.

Approach to Mitigation

12.28 Standard mitigation measures that are likely to be included in the assessment are:

- Production of a Construction Traffic Management Plan;
- The design of suitable access arrangements with full consideration given to the road safety of all road users;
- A Staff Sustainable Access Plan; and
- A Framework Abnormal Load Transport Management Plan.

12.29 Additional mitigation will be included should the assessment reveal criteria that are significant following the application of standard mitigation measures.

Matters Scoped Out

12.30 Once operational, it is envisaged that the level of traffic associated with the Proposal will be minimal. Regular monthly or weekly visits would be made to the wind farm for maintenance checks. The vehicles used for these visits are likely to be 4x4 vehicles and there may also be the occasional need for an HGV to access the wind farm for specific maintenance and/or repairs. It is considered that the effects of operational traffic would be negligible and therefore no detailed assessment of the operational phase of the development is proposed.

12.31 The traffic generation levels associated with the decommissioning phase will be less than those associated with the development phase as some elements such as access roads will be left in place on the Application Site. As such, the construction phase is considered the worst case assessment to review the impact on the study area. An assessment of the decommissioning phase will therefore not be undertaken, although a commitment to reviewing the impact of this phase will be made immediately prior to decommissioning works proceeding.

Questions for Consultees

Q12.1 Is the proposed methodology acceptable?

Q12.2 Are the methods proposed for obtaining traffic flow data acceptable?

Q12.3 Is the use of Low National Road Traffic Forecasts (NRTF) acceptable for the whole of the study?

Q12.4 What developments (if any) should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of Scoping?

Q12.5 Please provide details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

References and Standard Guidance

12.32 The following policy and guidance documents will be used to inform the EIA Report Chapter:

- Transport Assessment Guidance (Transport Scotland, 2012);
- The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEA), 1993);
- SPP (Scottish Government, 2014); and
- East Lothian Council Local Transport Strategy.

Section 13
Aviation

Introduction

13.1 This section of the Scoping Report addresses the likely significant effects of the Proposal on aviation and telecommunications.

13.2 Wind turbines can be detected by radars used for air traffic control and air defence. This has the potential to present inaccurate information to controllers.

13.3 Wind turbines can also present a hazard to aircraft flying at low level, whether in the vicinity of airfields or in military low flying areas.

Environmental Baseline and Potential Sources of Impact

13.4 The airspace over the Application Site is Class G (uncontrolled) from ground level up to Flight Level 195 (approximately 19,500ft above sea level). Above FL195 is Class C controlled airspace under the control of the NATS Prestwick Centre.

13.5 Primary surveillance radars with the potential to detect turbines on the Application Site are as follows:

- NATS En Route Lowther Hill (86km south west of Newlands Hill);
- NATS En Route/Scottish Power Kincardine (69km north west of Newlands Hill);
- Edinburgh Airport (45km north west of Newlands Hill);
- RAF Brizlee Wood air defence radar (74km south east of Newlands Hill).

13.6 The Application Site is well beyond the 20km radius consultation zone from the nearest Meteorological Office rainfall radar.

13.7 The Application Site is in an area classified by the Ministry of Defence (MoD) as a *"regular military low flying area where mitigation may be necessary to resolve*

concerns". However these designations are more than ten years old and do not relate to current military low flying patterns.

13.8 There are no licensed, certificated or Government aerodromes within 30km of the Application Site. The nearest unlicensed airfield is East Fortune, a microlight airfield located 13km north of the Application Site. There is also a private airstrip on the east side of the East Fortune site. The CAA (CAP 764) recommended consultation zone for wind farms around airfields of East Fortune's size is 3km.

Consultation

13.9 Radar mapping data published by NATS and the Ministry of Defence have been consulted to determine the likelihood of the proposed wind farm being detectable by radars operated by those bodies.

Proposed Scope of Assessment and Reporting

13.10 The radar line of sight to the proposed turbines from the radars at Lowther Hill, Kincardine, Edinburgh Airport and Brizlee Wood will be modelled using specialist software. The operators of the four radars will be consulted.

13.11 For any radars found to have line of sight to the turbines, an operational impact assessment will be carried out, taking into account the airspace classification and structure; the volume and types of air traffic; and the types of air traffic service provided.

13.12 For any affected radars, potential operational and technical mitigation measures will be assessed.

13.13 Since the turbines will be more than 150 metres tall, they will be subject to the mandatory lighting requirements of the Air Navigation Order. An assessment will be made of the potential for a reduced lighting scheme which seeks to minimise the number, intensity and periods of illumination of any lights on the turbines, while maintaining aviation safety.

Matters Scoped Out

13.14 Effects on Meteorological Office radars, military low flying and flying operations from licensed and unlicensed aerodromes are proposed to be scoped out of EIA since there are no such facilities within the advised consultation zones for those facilities.

References and Standard Guidance

- CAA Policy and Guidelines on Wind Turbines (CAP 764);
- CAA Air Traffic Services Safety Requirements (CAP 670);
- CAA Policy Statement: Lighting of Onshore Wind Turbine Generators in the United Kingdom with a maximum blade tip height at or in excess of 150m Above Ground Level (June 2017);
- UK Aeronautical Information Publication (AIP); and
- UK Military AIP.

Section 14
Socio-Economics and Tourism

Introduction

14.1 This section of the scoping report considers socio-economics and tourism. It was drafted by BiGGAR Economics, who will also undertake the assessment of socio-economic and tourism issues linked to the Proposal.

14.2 Socio-economic and tourism assessments of onshore wind farms over the last decade and more have found no effects assessed as significant in terms of the EIA Regulations and there is no reason to expect significant effects for this Proposal. It is therefore proposed to scope socio-economics and tourism out of the EIA.

14.3 However, it is recognised that socio-economic issues, including any tourism issues, will be of interest to stakeholders and so it is proposed to undertake a socio-economic and tourism assessment in a standalone report, which will be submitted alongside the EIA. This will include consideration of local tourism and recreation activity, employment generation and any indirect or induced effects from the Proposal.

Baseline and Potential Sources of Impact

14.4 The assessment will include a description of the current socio-economic and tourism baseline across the following study areas:

- 15 km radius from the Application Site (consistent with existing research on wind farms and tourism assets);
- East Lothian; and
- Scotland.

14.5 The socio-economic and tourism baseline will cover:

- the demographic and economic profile of the local area within the context of the national demographic trends, including employment and economic activity;

- the industrial structure of the local area within the context of the national economy;
- wage levels within the local economy compared to the national level; and
- the role of the tourism sector in the local and national economy.

14.6 The socio-economic and tourism baseline will provide evidence on the existing context within which the Proposal will be set and against which any changes will be assessed. Based on BiGGAR Economics' experience considering the effects from onshore wind developments, the following potential sources have been identified:

- temporary effects on the local and/or national economy due to expenditure during the construction phase;
- permanent effects on the local and/or national economy due to expenditure associated with the ongoing operation and maintenance of the Proposal;
- permanent effects as a result of any additional public expenditure that could be supported by the additional tax revenue that would be generated by the Proposal during the operational phase; and
- permanent effects on the local economy that could be supported by any community funding and/or shared ownership proposals during the operational phase of the Proposal.

14.7 The assessment shall also consider any effects that the Proposal may have on the tourism economy. This includes consideration of accommodation providers, visitor attractions and recreational routes located in proximity of the Proposal, defined as laying within a radius of 15km from it.

Consultation

14.8 BiGGAR Economics will take account of the responses to the scoping report and will address any issues raised with regards to socio-economics and tourism.

Content of Socio-Economic Assessment Report

14.9 Renewable energy and green jobs have become central to economic policy. As well as addressing the climate emergency, renewable energy is expected to be important for economic recovery from the Covid-19 pandemic. The assessment will take account of the relevant local and national policy objectives. The most relevant are expected to include:

- Scotland's National Performance Framework;
- Economic Recovery Plan;
- 10 Year Strategy for Economic Transformation (due to be published in late 2021); and
- local economic strategies.

14.10 The assessment of economic impacts associated with the construction and operations and maintenance of the Proposal shall focus on East Lothian and Scotland.

14.11 The tourism review will focus in on the vicinity of the Proposal. In line with similar assessments, we suggest to consider a 15km radius of the Application Site.

14.12 The report on socio-economics and tourism will include the following sections:

- introduction, including scope of assessment and methodology;
- socio-economic policy context;
- baseline socio-economic context;
- socio-economic assessment;
- measures to maximise socio-economic benefits;
- tourism assessment; and,
- summary of findings and conclusions.

Questions for Consultees

Q14.1 Please confirm that this socio-economics, recreation and tourism may be scoped out of the EIA and a standalone report provided.

References and Standard Guidance

Assessment of Socio-Economic Effects

14.13 There is no policy or guidance document associated with the estimation of economic impacts from onshore wind developments. The approach followed by BiGGAR Economics is based on sectoral best-practice and has been used to consider the economic benefits from over 100 onshore wind developments across Scotland and the UK.

14.14 This methodology, which is in line with the general guidance in the Scottish Government's (2016) 'Draft Advice on Net Economic Benefit and Planning', will be used to estimate economic impacts in the East Lothian and Scottish economies during the development and construction, and the operations and maintenance phases. This approach is considered standard practice in the industry and was used in the sector-wide UK study that BiGGAR Economics undertook for RenewableUK and DECC in 2012 and 2015. Since then, the evidence from those assessments has been updated based on a series of evaluations of the economic benefits delivered by recent onshore wind developments.

14.15 There are four key stages to estimating the economic impact of the development and construction phase of a wind farm:

- estimate of capital expenditure;
- estimate of breakdown of capital expenditure into component contracts;
- assess the potential of each study area to carry out the contract; and,
- use the resulting figure to estimate economic impact at the local and national level.

14.16 A similar approach is used to estimate the economic impact of the operational stage. The model is based on assumptions about the scale of investment and size of the contracts and the extent to which development and operational work is likely to be conducted by local or Scottish firms. BiGGAR Economics has extensive experience working with developers across Scotland and a solid understanding of the business base within each local authority area. Assumptions will be adjusted on this basis. The assessment will also consider wider economic impacts such as the contribution that the Proposal will make to local government finances through the payment of non-domestic rates, the potential benefits of any community benefit fund and any proposal for shared ownership.

Assessment of Tourism and Recreation Effects

14.17 There is no formal guidance on the methods that should be used to assess the effects that wind farm developments may have on tourism assets. The assessment of impacts on the tourism economy will build on work undertaken for previous assessments of wind farm developments, as well as a review of existing literature and evidence presented to major inquiries.

14.18 First, the main determinants of the relative success of the tourism economy will be considered. These will include the ability and willingness to travel (as highlighted by the Covid-19 pandemic), economic performance (and so whether tourists have disposable income available for leisure trips), exchange rates, the quality of the overall tourism product, the effectiveness of destination marketing and the quality and value for money of the services offered by tourism businesses.

14.19 The assessment will then include a literature review on the relationship between the tourism economy and wind farm developments. This will include new research by BiGGAR Economics that examined tourism employment trends in the vicinity of wind farm developments and concluded that there was no relationship between tourism employment and wind farm developments at the local, regional and national level.

14.20 The analysis will finally consider tourism and recreation assets within a 15 km radius from the Application Site, including accommodation providers, activities, and routes. The assessment will be based on each asset's sensitivity to change and the magnitude of any potential change. With regards to recreational assets, the assessment will draw on guidance by NatureScot on how to assess effects on recreational amenity. This takes into consideration a number of potential effects, including direct effect on facilities, such as limitation or restrictions on access, and effects on the intrinsic quality of the resources enjoyed by people.

Section 15
Climate and Carbon Balance

Introduction

The Impact of the Proposal upon the Climate

15.1 A key benefit of wind energy (in common with other renewable energy technologies) is the generation of low carbon electricity. This contrasts with much of the electricity distributed on the national grid generated by fossil fuels. Fossil fuel-generated electricity gives rise to the emission of carbon dioxide and other greenhouse gases (GHGs) which trap heat within the atmosphere. This leads to the destabilisation of the prevailing climate (climate change).

15.2 Operating wind farms deliver GHG savings by offsetting the consumption of fossil fuel-generated electricity. However, the manufacture, construction and decommissioning of windfarms does result in GHG emissions, particularly where natural carbon stores such as peat are impacted.

Environmental Baseline and Potential Sources of Impact

15.3 The Scottish Government requires the nation-wide reduction of GHG emissions through the Climate Change (Scotland) Act 2009. When introduced, the Act set a target of reducing GHG emissions by at least 80% by 2050, relative to the 1990 baseline year. In October 2019, this was amended by the Climate Change (Emissions Reductions Target) (Scotland) Act 2019. The amendment set out to achieve net zero by 2045 in line with the recommendations of the Climate Change Committee.

15.4 The Application Site is an area of greenfield land. The land comprises peaty podzols, mineral podzols and mineral gleys. A small area of Class 3[9] peaty soil lies to the

9 Vegetation cover does not indicate priority peatland habitat but is associated with wet and acidic soil types; most soils are carbon-rich soils, with some areas of deep peat.

north of the Application Site and areas of Class 5[10] peat soil lie to the south west. There is no forestry on the Application Site.

15.5 Given these baseline characteristics, it is likely that the Application Site presently sequesters carbon. If disturbed, these carbon stores have the potential to release carbon into the atmosphere to form carbon dioxide. It is thus possible that in addition to the GHG emissions associated with the manufacture, construction and decommissioning of the Proposal, on-site activities may also contribute towards limiting the sequestration capacity of the Application Site.

15.6 This negative impact is likely to be offset by the significant positive impact from generation of zero carbon electricity by the Proposal during operation. Depending on the proposed design, its net impact therefore has the potential to be significantly positive.

Consultation

15.7 No consultation has taken place to date. Consultation will take place with statutory and non-statutory consultees who will receive this scoping document and whose subsequent comments will be taken into account in the development of the climate change chapter of the Environmental Impact Assessment Report.

Proposed Scope of Assessment and Reporting

15.8 A desk-based assessment will be undertaken, using the latest version of the Scottish Government's Carbon Calculator Tool (v1.6.1), to quantify GHG emissions and savings over the project lifecycle (manufacture, construction, operation and decommissioning). The assessment will also estimate the Proposal's net GHG impact and 'carbon balance period' (the time following the start of wind farm operation at which the GHG emissions associated with manufacture, construction and decommissioning activities are offset through GHG savings from the wind farm's operation).

15.9 The assessment will draw on site-specific information including:

- site characteristics (e.g. average temperature, wind speed);
- peat type and depth (from peat survey);
- water table depth before and after construction and decommissioning;
- development proposals (turbine number and output, access tracks, borrow pits, hard standing and foundation areas etc.); and,
- post-decommissioning replanting, restoration and draining proposals.

15.10 During the design process, the wind turbines will be sited to avoid the areas of deepest peat as far as practicable, and measures to minimise peat disturbance, especially during excavation, will be considered. To minimise peat disturbance in construction and decommissioning best practice measures will be provided as part of the Construction Environmental Management Plan.

Matters Scoped Out

The Vulnerability of the Proposal to Climate Change

15.11 In Scotland, climate change is projected to result in warmer temperatures, decreased summer rainfall but increased winter rainfall and sea level rise. None of these trends are anticipated to impact upon the Proposal by virtue of its in-built resilience (with respect to temperature) and the elevated position of turbines (with respect to both rainfall and sea level rise).

15.12 A further variable with respect to the changing climate is sea level pressure which contributes towards wind. Projections relating to sea level pressure show considerable uncertainty. As braking mechanisms on turbines allow for operation only under specific wind speeds, should severe windstorms be experienced, then the turbines would shut down. It is therefore unlikely that significant effects will arise as a result of the Proposal, and this topic can be scoped out of further assessment

[10] Vegetation cover does not indicate peatland habitat; all soils are carbon-rich and deep peat.

References and Standard Guidance

- SNIFFER (2021) Evidence for the third UK Climate Change Risk Assessment (CCRA3). Available at: https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Scotland-Summary-Final-1.pdf
- Committee on Climate Change (2020) Reducing emissions in Scotland Progress Report to Parliament. Available at: https://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2020-progress-report-to-parliament/
- Institute of Environmental Management and Assessment (2017) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance.
- NatureScot (2016) Carbon and Peatland map. Available at: https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/soils/carbon-and-peatland-2016-map
- Nayak et al. (2010) Calculating Carbon Savings from Windfarms on Scottish Peatlands – a New Approach
- Nayak et al. (2008) Calculating Carbon Savings from Windfarms on Scottish Peatlands – a New Approach

Section 16
Other Issues

Introduction

16.1 A single EIA Report chapter will be prepared to draw together the implications of the Proposal on other facets that are not dealt with within the other technical chapters of the EIA Report. It is anticipated that this chapter would include a discussion of the following issues:

- Telecommunications;
- Shadow flicker;
- Population and human health (including dust); and,
- Major accidents and disasters.

16.2 Predicted effects for all topics will be judged as being either significant or not significant and will be determined through a considered as significant in the context of the EIA Regulations.

Telecommunications

16.3 Wind turbines, if positioned close to point-to-point radio links carrying telephone signals, internet connections, control systems and TV transmissions, can cause reflection and scattering of the signals.

Baseline

16.4 Review of the Ofcom Spectrum Information Portal and Wireless Telegraphy Register indicates that there are no licensed fixed microwave links passing within 1.5km of the Application Site boundary. The closest fixed link transmitter mast is at Snawdon Wood, 1920 metres from the closest proposed wind turbine location.

Consultation

16.5 JRC, Atkins and Arqiva have been consulted to determine whether there are any scanning telemetry or television rebroadcast links with the potential to be affected by the Proposal.

Proposed Scope of Assessment and Reporting

16.6 For any scanning telemetry or television rebroadcast links with the potential to be affected, mitigation options will be explored in consultation with the link operators.

16.7 Telecommunications assessments will be reported in the Other Issues chapter of the EIA Report.

16.8 Matters Scoped Out Effects on fixed microwave telecommunications links are proposed to be scoped out since Ofcom data show no such facilities passing within 1500 metres of the Application Site.

References and Standard Guidance

- Ofcom Spectrum Information Portal
- Ofcom Wireless Telegraphy Register
- D F Bacon, 'A proposed method for establishing an exclusion zone around a terrestrial fixed radio link outside of which a wind turbine will cause negligible degradation of the radio link performance', Version 1.1, 28 October 2002

Television Reception

16.9 Wind turbines have the potential to adversely affect analogue television reception through either physical blocking of the transmitted signal or, more commonly, by introducing multi-path interference where some of the signal is reflected through different routes.

16.10 The Proposal is located in an area which is served by a digital transmitter and is unlikely to be affected by the Proposal as digital signals are rarely affected. In the unlikely event that television signals are affected by the Proposal, mitigation measures will be considered by the Applicant. Television reception is scoped out of the EIA.

Shadow Flicker

16.11 Shadow flicker occurs when a certain combination of conditions prevail at a certain location, time of day and year. It firstly requires the sun to be at a certain level in the sky. The sun then shines onto a window of a residential dwelling from behind the wind turbine rotor. As the wind turbine blades rotate, this causes the shadow of the turbine to flick on and off. This may have a negative effect on residents in affected properties. If shadow flicker cannot be avoided through design, technical mitigation solutions are available, such as shutting down turbines when certain conditions prevail.

16.12 In the UK, significant shadow flicker is only likely to occur within a distance of eleven times the rotor diameter (of a wind turbine), from an existing residential dwelling and within 130 degrees either side of north.

16.13 Once the final turbine layout and parameters are fixed, the locations of residential properties in proximity to the Application Site will be verified and if any are situated within ten rotor diameters from the proposed turbine locations, a shadow flicker model will be run to predict potential levels of effect.

16.14 On the basis of the scoping layout, there are 1 involved property to the north of the Application Site and 6 uninvolved properties to the west of the Application Site within the criteria for assessing shadow flicker effects (based on a maximum blade length of 85m).

16.15 Once the final turbine layout and parameters are fixed, the locations of residential properties in proximity to the Application Site will be verified and if any are situated within eleven rotor diameters from the proposed turbine positions a model will be run to predict potential levels of effect. These will be reported in a technical appendix to the EIA Report

Accidents and Disasters

16.16 The EIA Regulations require EIA Reports to provide a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the Proposal.

16.17 'Disaster risk' is defined as a hazard which has potential to incur community losses, encompassing assets, life, health and livelihoods, giving significance to disaster events at a personal and local scale. Disaster risk can also be defined as, hazards which could cause a locality to require assistance from an outside state, which could relate to international aid, or a local authority requiring assistance from another local authority. Typically, disaster events refer to natural occurrences, and are not defined to include events caused by humans.

16.18 'Accident' can be defined as an undesirable event resulting in damage or harm. Major accidents may give rise to serious injury to people or serious damage to the environment, both close to and further away from the Application Site of the accident. The effect may be immediate or delayed and may sometimes be relatively long lasting, but not necessarily irreversible. According to

the 'Control of Major Accident Hazards Regulations' (2015), serious danger to the environment includes accidents with the potential to result in the following:

> *"The death or adverse effects on local populations of species or organisms, with lower thresholds for high-value or protected species;*
>
> - *contamination of drinking water supplies, ground or groundwater;*
> - *damage to designated areas, habitats or populations of species within the areas;*
> - *damage to listed buildings;*
> - *damage to widespread habitats; and*
> - *damage to the marine or aquatic environment."*

16.19 The potential impact upon each of these factors would be assessed within the relevant technical chapters of the EIA Report where necessary.

Human Health

16.20 A series of elements will be covered as part of the review of Human Health effects; this will summarise the findings of relevant assessments already assessed as part of the EIA where interactions with Human Health are possible. This will be in the context of noise, socio-economics and tourism.

16.21 The DMRB[11] states that dust generated during construction should be mitigated and measures to reduce dust effects be applied. The assessment will also consider the health effects of dust emissions of construction activities on nearby receptors. Any receptors within 200m of potential dust sources will be considered as potential receptors.

16.22 Where no significant effects are likely in relation to the above referenced topics, these will be scoped out of the health assessment.

11 Design Manual for Roads and Bridges (DMRB), Volume 11 Environmental Assessment Techniques, Part 1, Air Quality

Section 17
Structure of the EIA Report

17.1 It is proposed that the EIA Report will be structured in the following way;

Volume 1: Non-Technical Summary

17.2 A Non-Technical Summary (NTS) will be provided as a preface to the EIA Report which will summarise the key issues and findings of each technical assessment. The NTS will be produced as stand-alone document that will include a description of the proposal with reference to the appropriate drawings and plans.

Volume 2: Main Text

Introduction

17.3 The introductory section will provide a brief outline of the context and history of the scheme, background information on the Applicant and the structure of the EIA Report.

Approach to the Environmental Impact Assessment

17.4 The legislative requirement for an EIA will be outlined in this section. This section will then describe the key stages in the EIA process. The consultant team undertaking the technical assessment will also be identified.

Site Selection and Design

17.5 In relation to the consideration of alternatives and site selection, the EIA Regulations seek inclusion of 'An outline of the main alternatives studied by the Applicant or appellant and an indication of the main reasons for his choice taking into account the environmental effects.'

17.6 The EIA Report will identify the development options considered by the Applicant. It will set out the reasons why the proposed option for each component has been chosen and how the design of the scheme has evolved through the EIA process.

Project Description

17.7 This chapter will provide a description of all of the components of the Proposal. It will include an outline of the construction process and construction programme. It will describe the operation of the facility including processes undertaken at the site.

Environmental Assessments

17.8 The key issues which will be addressed in the EIA Report (detailed under Scope of the EIA) will be as set out in the preceding sections of this scoping report (or as agreed through the scoping process if this differs).

Summary of Predicted Effects and Conclusions

17.9 This section would summarise the results of the EIA and conclude the EIA Report. It would identify all significant residual effects which remain following mitigation.

Volume 3: Figures and Visualisations

17.10 This volume will comprise the graphic material including figures and any visualisations which would be required to support the assessment presented in Volume 2: Main Text.

Volume 4: Technical Appendices

17.11 This volume will comprise the technical appendices which support the assessment presented in Volume 2: Main Text.

Section 18
Next Steps

18.1 This Scoping Report accompanies a request for a Scoping Opinion from the ECU. This will confirm the topics and issues on which the EIA should focus.

18.2 The Applicant will also engage with stakeholders, as appropriate, prior to finalising the proposals and planning application.

18.3 If you require any further information, please contact Pernille Thomson at Stephenson Halliday on 0131 314 2770.

Appendix A
Questions for Consultees

Q3.1 Confirmation is requested on the proposed approach to the assessment of decommissioning.

Q6.1 Are there any other relevant consultees other than HES, and East Lothian Council who should be contacted with respect to the Cultural Heritage and Archaeology assessment?

Q6.2 Are consultees content with the proposed Outer Study Area buffers?

Q6.3 Do consultees wish to request any receptor-specific viewpoints or visualisations in the assessment?

Q7.1 Are the proposed study area and approaches to refining the scope of the assessment within the study area adequate?

Q7.2 Are there specific day-time receptors outside of the proposed scope above that consultees wish to be considered?

Q7.3 Are the proposed viewpoints adequate?

Q7.4 Are there any night-time receptors that consultees would specifically wish to be considered?

Q7.5 Are search area and outline parameters for the cumulative assessment adequate?

Q7.6 Is the study area for the RVAA adequate?

Q8.1 Do consultees agree with the range of desk study sources and ecology surveys considered to inform the design and assessment of the Proposal?

Q8.2 Do consultees agree that the full range of likely effects to be assessed within the EIA Report has been adequately identified and is proportionate to the nature of the Proposal?

Q8.3 Are there any other relevant consultees who should be contacted with respect to the ecology assessment and scope of baseline information gathering?

Q8.4 Do consultees agree with those features that have been scoped out of assessment in respect to ecology (and the rationale for the decision).

Q8.5 Do consultees agree with the scope of those developments to be considered in the cumulative assessment?

Q9.1 Do Consultees agree with the range of desk study sources and ornithology surveys considered to inform the design and assessment of the Proposal, including the "Target Species" considered?

Q9.2 Do Consultees agree that the full range of likely effects to be assessed within the EIA Report has been adequately identified and is proportionate to the nature of the Proposal?

Q9.3 Are there any other relevant consultees who should be contacted with respect to the ornithology assessment and scope of baseline information gathering?

Q9.4 Do Consultees agree with those features that have been scoped out of assessment in respect to ornithology (and the rationale for the decision)?

Q9.5 Do Consultees agree with the scope of developments to be considered in the cumulative assessment?

Q10.1 Is it acceptable to scope out detailed construction predictions and for construction noise to be controlled through a construction and environmental management plan that will be prepared at the time of construction?

Q10.2 Can operational noise be scoped out where predicted operational noise levels from the Proposal in isolation are below 30 dB L_{A90}?

Q10.3 Are there any other wind turbine schemes that have not been identified that will need to be included in the cumulative noise assessment?

Q10.4 Will the operational noise impact be considered to be acceptable where cumulative operational predicted noise levels are below the greater of plus 5 dB above background or 40 dB L_{A90} during the daytime, and 43 dB L_{A90} at night?

Q11.1 SEPA and East Lothian Council: Do you agree with the proposed survey and assessment methodology?

Q11.2 ELC EHO: please provide locations of Private Water Supplies within 1km of the Application Site?

Q11.3 SEPA, NatureScot: if all peat (>0.5m) can demonstrably be avoided in the final design, would scoping out of the PMP and PLHRA be acceptable (as no peat soils would be affected)?

Q12.1 Is the proposed methodology acceptable?

Q12.2 Are the methods proposed for obtaining traffic flow data acceptable?

Q12.3 Is the use of Low National Road Traffic Forecasts (NRTF) acceptable for the whole of the study?

Q12.4 What developments (if any) should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of Scoping?

Q12.5 Please provide details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

Q14.1 Please confirm that this socio-economics, recreation and tourism may be scoped out of the EIA and a standalone report provided.

Appendix B
NatureScot Informal Scoping - Ornithology