

**Loch Liath Wind Farm Ltd**

# **Loch Liath Wind Farm Scoping Report**

**Draft report**

Prepared by LUC

December 2020





## Loch Liath Wind Farm Ltd

### Loch Liath Wind Farm Scoping Report

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# Chapter 1

## Introduction

### Project Background

**1.1** Loch Liath Wind Farm Ltd (a company wholly owned by Statkraft UK Limited, hereinafter referred to as 'the applicant'), is proposing to develop the Loch Liath Wind Farm (hereinafter referred to as 'the Proposed Development'). The Proposed Development is located within the Balmacaan Estate, directly west of the Great Glen and Loch Ness, and approximately 4km south west of Drumnadrochit, within the Highland Council (THC) administrative area. The location of the Proposed Development is shown on **Figure 1.1**.

### Application for Section 36 Consent

**1.2** The Proposed Development currently comprises up to 26 wind turbines, up to 200m to turbine blade tip. The applicant therefore intends to apply to the Scottish Government Energy Consents Unit (ECU) for Section 36 (S36) consent for the Proposed Development under the Electricity Act 1989 ('the Act'). The application will be made to the ECU as the Proposed Development will have a generation capacity in excess of 50MW. In addition, a direction will be sought for deemed planning permission under Section 57 of the Town and Country Planning (Scotland) Act 1997, as amended.

**1.3** It is acknowledged that the Proposed Development 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. Further details on the approach to the EIA are provided in **Chapter 2**.

**1.4** The EIA Regulations provide for obtaining a Scoping Opinion from Scottish Ministers as to the environmental effects to be considered in the EIA (Regulation 12). This document accompanies the applicant's written request to the Scottish Government for a 'Scoping Opinion' as to which environmental effects are to be considered in the EIA. It provides details of the Proposed Development, the Site (shown as the red-line boundary on **Figure 1.1**) and surrounding area, and the environmental desk-based and field survey work undertaken to date. Likely significant effects as a result of the proposed wind farm are identified and the proposed approach to assessing these is outlined.

### The Applicant

**1.5** The application will be made by Loch Liath Wind Farm Ltd (a wholly owned subsidiary of Statkraft UK Ltd). Statkraft is a global company in energy market operations and is Europe's largest generator of renewable energy, active in wind power, solar power and hydropower. Employing over 4,000 people, Statkraft is active in 16 countries. In Scotland, Statkraft is committed to building out at least 600 mega-watts (MW) of onshore wind over the next five years. Statkraft currently operates three onshore wind farms in Scotland with a combined capacity of 155.5 MW and has consent for another two onshore wind farms, currently under construction.

### Document Structure

**1.6** The remainder of this report is structured as follows:

- **Chapter 2** provides information on the EIA process and assessment methodology;
- **Chapter 3** provides a brief description of the Site and the nature and purpose of the Proposed Development;
- **Chapter 4** describes the policy and legislation relevant to the Proposed Development; and
- **Chapters 5-13** outline the topic areas to be considered in the EIA.

**1.7 Appendix 1** details the consultees that will be approached by the ECU to inform the scope of the EIA, as well as those that will be approached for information to inform the EIA.

# Chapter 2

## The EIA Process and Assessment Methodology

### What is EIA?

**2.1** EIA is the process of systematically compiling, evaluating and presenting all the likely significant environmental effects, both positive and negative, of a proposed development, to assist the determining authority in considering the application. It enables the significance of these effects, and the scope for reducing negative, or enhancing positive, effects to be clearly understood. The information compiled during the EIA is presented within an EIA Report to accompany the application for consent. Early detection of potentially adverse environmental effects informs iterations to the design of the Proposed Development to avoid or reduce effects.

**2.2** EIA is an iterative process and runs in tandem with project design. As potential effects are identified, the design of the Proposed Development will be adjusted to reduce or avoid adverse effects where possible, and mitigation measures will be proposed as appropriate.

**2.3** The EIA will be conducted in accordance with current Scottish Government regulations, policy and guidance, including:

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended);
- Scottish Government Web Based Guidance on wind turbines (May 2014);
- Scottish Planning Policy (SPP) (June 2014);
- Planning Advice Note (PAN) 3/2010 Community Engagement (2010);
- Planning Circular 3/2013 Development Management Procedures;
- Scottish Natural Heritage (SNH) (2018) (Version 5), A Handbook on Environmental Impact Assessment;
- Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment; and
- PAN 1/2013 Environmental Impact Assessment (updated June 2017).

### The EIA Process

**2.4** The EIA process usually follows the following stages:

- Screening may be the first stage of the EIA process where the relevant authorities need to decide whether EIA is required.
- Once it has been agreed that EIA is required, scoping is undertaken to define what should be assessed as part of the EIA and reported in the EIA Report.
- With the scope set, relevant information on the environmental baseline conditions is collected. This information is then used initially to understand the likely environmental effects and to inform the design of the development to minimise the potential for significant adverse effects.
- The formal assessment process is undertaken on the final design to identify the likely significant effects of the development.
- Where significant adverse effects cannot be minimised through alterations to the design, mitigation measures are considered.
- Monitoring to measure the actual significance of the effect during and post-construction to allow management of mitigation where appropriate.

**2.5** Once the EIA is completed, the EIA Report is submitted to the determining authority for consideration with the application for consent.

## Screening

**2.6** Development projects that are described within Schedule 1 of the EIA Regulations will always require EIA and are referred to as 'Schedule 1 Developments'. Development projects listed in Schedule 2 that are located in a 'sensitive area', or which exceed one of the relevant criteria or thresholds given in Schedule 2 are referred to as 'Schedule 2 Developments'. Not all Schedule 2 Developments require EIA as only a development project that is likely to have significant environmental effects by virtue of its size, location or nature will require such assessment. A development project that requires EIA is referred to as 'EIA development'.

**2.7** In this case, the Proposed Development (as described further in **Chapter 3**) is of a type described within Schedule 2 as an "installation for the harnessing of wind power for energy production (wind farms)". It is not located within a 'sensitive area' as defined by the EIA Regulations; however, the project would exceed both of the applicable thresholds as it involves more than two wind turbines with hub heights of more than fifteen metres. The requirement for EIA is therefore determined on the basis of whether the project would be likely to give rise to significant effects on the environment by virtue of its size, nature or location.

**2.8** The scale, nature and location of the Proposed Development are such that, to allow the environmental effects of the project to be appropriately considered, the applicant has taken the decision to prepare an EIA. As such, no Screening Opinion has been sought from the ECU.

## Scoping

**2.9** The purpose of scoping is to focus the EIA on the likely and relevant significant environmental effects associated with the Proposed Development. On the basis of the expert judgement of the assessment team, experience from similar projects, as well as additional policy, guidance and standards of relevance, each topic chapter within this report will outline both:

- Potential likely significant effects associated with the construction and/or operation of the Proposed Development, identified for detailed consideration within the EIA Report.
- Effects which are considered unlikely to be significant and requiring no further assessment. Whilst these topics fall outside of the scope of assessment, they will be referred to in turn within the EIA Report.

## Baseline Conditions

**2.10** The EIA Regulations require that aspects of the environment, which are likely to be significantly affected by the Proposed Development, are clearly defined within the EIA Report. To achieve this, it is necessary to gather environmental information on the current and existing status of each topic proposed for consideration as part of the EIA, i.e. 'baseline conditions'.

**2.11** Baseline conditions are not static, and it is often necessary to update them with further baseline surveys to ensure that the data upon which the EIA is based is up to date and accurately reflects the current situation of the receiving environment. For the purposes of the assessment, the baseline is considered to be the existing conditions of the Developable Area (i.e. the area where the turbines are proposed to be sited; see **Figure 3.1**) which is currently undeveloped, and the relevant study areas for each topic. Details on the existing conditions of the Developable Area, the wider study areas and the surveys, which have been undertaken for each topic, are detailed in **Chapters 5 to 13** below.

**2.12** In accordance with the 2017 EIA Regulations, climate change will also be considered in the context of understanding the baseline conditions for each topic area.

## Assessment of Effects

**2.13** For each topic that is identified as requiring further study, a detailed technical assessment will be carried out in line with the scope and methodology agreed upon with relevant consultees. Individual technical assessment will be undertaken by a competent and appropriately qualified consultant in which technical standards and relevant guidance will be adhered to. A range of relevant and appropriate methodologies will be employed to assess the potential effects associated with the Proposed Development. These assessments will take both the construction and operational phases of the Proposed Development into account and will be carried out in relation to the Developable Area, the Site and surrounding area as appropriate to each topic.



**2.14** The EIA Regulations (Regulation 4 (2), (3) and (4)) specify that:

*“(2) The environmental impact assessment must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development (including, where the proposed development will have operational effects, such operational effects) on the factors specified in paragraph (3) and the interaction between those factors.*

*(3) The factors are —*

- (a) population and human health;*
- (b) biodiversity, and in particular species and habitats protected under Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds;*
- (c) land, soil, water, air and climate; and*
- (d) material assets, cultural heritage and the landscape.*

*(4) The effects to be identified, described and assessed under paragraph (2) include the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters.”*

**2.15** The EIA is being coordinated by LUC, and the following topics have been identified for detailed assessment for the Proposed Development. The organisations undertaking the specialist assessments are also noted below:

- Landscape and Visual Amenity (LUC);
- Hydrology, Hydrogeology, Geology and Peat (Fluidec and East Point Geo);
- Ecology (LUC);
- Ornithology (Natural Research Projects);
- Cultural Heritage (LUC);
- Noise (Hayes Mckenzie);
- Traffic, Transport, Civil Engineering and Principle Design lead (Pell Frischmann);
- Socio-economics, Tourism and Recreation (LUC);
- Climate change (LUC);
- Aviation (Wind Power Aviation Consultants); and
- Other issues (including human health, major accidents and disasters and telecommunications) (LUC).

**2.16** The EIA Regulations (Regulation 5 (2)) further specify that:

*“(2) An EIA report is a report prepared in accordance with this regulation by the developer which includes (at least)*

- (a) a description of the development comprising information on the site, design, size and other relevant features of the development;*
- (b) a description of the likely significant effects of the development on the environment;*
- (c) a description of the features of the development and any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*
- (d) a description of the reasonable alternatives studied by the developer, which are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;*
- (e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and*
- (f) any other information specified in schedule 4 relevant to the specific characteristics of the development and to the environmental features likely to be affected.”*

## Assessing Significance

**2.17** The EIA Regulations do not define significance and it is, therefore, necessary to define this for the Proposed Development. The methods for predicting the nature and magnitude of any potential effects vary according to the topic assessed. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. However, it is not always possible to ascribe values to environmental assessments and thus qualitative assessments are also used. Such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area will be described within the individual chapters of the EIA Report.

**2.18** The following criteria will be used to evaluate the significance of potential effects of the Proposed Development.

- sensitivity, importance or value of the resource of receptor;
- extent and magnitude of the effect;
- duration of the effect;
- nature of the effect;
- performance against environmental quality standards; and
- compatibility with environmental policies.

## Cumulative Assessment

**2.19** An assessment will be made of the likely significant cumulative effects of the Proposed Development in combination with other wind farms including:

- schemes which have been submitted to the relevant authorities but not yet determined;
- schemes which are consented; and
- schemes which are under construction.

**2.20** The scope and methodology for the cumulative assessment will be agreed with the relevant statutory consultees, including the Highland Council and NatureScot<sup>1</sup>. Study areas will be defined separately for each topic assessed in the EIA to reflect the likely extent of potential effects.

<sup>1</sup> Previously Scottish Natural Heritage (SNH). Where relevant, references are to NatureScot unless this relates to publications made prior to the change in name.

## Approach to Mitigation

**2.21** Part 7 of Schedule 4 of the EIA Regulations notes that the EIA Report should include:

*“A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases”.*

**2.22** In many cases, mitigation measures are embedded within the Proposed Development (either through design, good practice during construction, or operation), whereby likely significant adverse effects are avoided. However, where necessary, additional mitigation measures are required to reduce the significance of effects.

## Uncertainty

**2.23** The EIA process is designed to enable good decision-making based on the best possible information about the environmental effects of a Proposed Development. There will, however, always be an element of uncertainty as to the exact scale and nature of the effects. These may arise through shortcomings in available information or due to the limitations of the professional judgement process. As required in Schedule 4, Part 6 of the EIA Regulations, it is important that such uncertainty is explicitly recognised, and that the EIA Report includes:

*“A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved”.*

## EIA Report Structure

**2.24** The EIA Report will be structured as follows, subject to any changes to the scope identified through the consultation process:

- description of the Proposed Development;
- an outline of the main alternatives studied and an indication of the main reasons for choosing the preferred option;
- details of the planning and renewable energy policy context that is relevant to the Proposed Development; and
- individual environmental assessment topic chapters, including a description of the mitigation measures required to prevent, reduce and, where possible, offset any significant adverse effects on the environment; enhancement measures where possible will also be included.

**2.25** Each chapter of the EIA Report, where practicable, will adopt a consistent format. This will ensure compliance with the EIA Regulations regarding completeness and accuracy. Each chapter will comprise an opening introduction to the topic followed by:

- Methodology, Consultation and Legislation/Policy/Guidance;
- Environmental Baseline (derived from desk studies and surveys undertaken);
- Impact Assessment (identification of the impacts and their significance);
- Mitigation (and monitoring as appropriate);
- Residual Effects (assessment of impact significance once mitigation has been incorporated); and
- Summary.

**2.26** The EIA Report will also include a Non-Technical Summary (NTS) and supporting technical appendices including tables, figures and reports.



# Chapter 3

## Project and Site Description

### The Site and Surroundings

**3.1** The Site occupies an upland area to the west of the Great Glen and Loch Ness, with Glen Urquhart to the north and Glen Moriston to the south. The area where the turbines are proposed to be sited (hereafter referred to as 'the Developable Area'; see **Figure 3.1**) comprises undulating upland moorland plateaux with rocky outcrops and upland lochans. There are numerous steep-sided rocky hills within the Developable Area and the wider Site, including Meall Fuar-mhonaidh (699m Above Ordnance Datum (AOD)) from which views of the Great Glen are afforded to the north-east, east and south-east.

**3.2** Mixed woodland and coniferous forestry are found adjacent to the northern and south-eastern boundaries of the Site and extend onto the glen sides.

**3.3** Key transportation routes located near the Site include:

- the A831 passing through Glen Urquhart approximately 1km to the north at its closest point;
- the A887 approximately 2km to the south;
- the A82 running alongside the western shore of Loch Ness within the Great Glen approximately 500m to the east of the Site; and
- the B862, which follows the eastern shore of Loch Ness approximately 2.5km to the east of the Site at its closest point.

**3.4** Settlements nearby are generally located within the glens and adjacent to key communications corridors, with the closest settlements to the Site comprising Balnain (1.5km to the north), Invermoriston (2km to the south) and Drumnadrochit (4km north-east). A number of small clusters of residential properties are found scattered along the glens to the north, east, south and north-west.

### The Proposed Development

**3.5** The applicant is investigating the potential for a wind farm development consisting of erection, 35-year operation, and subsequent decommissioning of up to 26 turbines, each up to 200m in height to blade tip. The principal elements of the Proposed Development are described in further detail below. The layout of the Proposed Development is shown on **Figure 3.1**.

**3.6** The applicant met with THC in February 2020 when the wind turbine layout detailed within this EIA Scoping Report was presented. Representatives from SEPA, Transport Scotland, Historic Environment Scotland and NatureScot were also in attendance at the meeting, and feedback from all parties was provided to the applicant in a note of Pre-Application Advice issued in March 2020. It is noted that, whilst comments and suggestions were provided in the Pre-Application Advice in relation to the turbine layout, these will be addressed together with any further feedback and comments received in subsequent consultation and in response to the EIA Scoping Report, thereby ensuring an efficient approach to the next iteration of the design of the scheme.

**3.7** The key elements of the Proposed Development are summarised as follows:

- up to 26 wind turbines, each up to a maximum tip height of 200m (including transformers);
- foundations supporting each wind turbine;
- associated crane hardstandings at each turbine location;
- a network of onsite access tracks and associated watercourse crossings;
- network of underground cables to connect the turbines to the onsite substation;

- a control building and substation;
- a permanent anemometer mast or LiDAR compound including associated foundations and hardstandings;
- temporary construction compound(s), laydown area(s) and car park;
- borrow pits; and
- energy storage systems may be included; such systems are designed to complement renewable energy generation.

### Access

**3.8** Several access options are being considered at this stage with preferred routes for delivery of turbine components and other materials illustrated on **Figure 3.2**. Access to the Site from the public road is still to be determined and further detail will be provided in the EIA Report.

**3.9** There are three possible Ports of Entry (PoE) for the delivery of the turbine components currently under consideration. If abnormal loads originate from the west coast, the port of Kyle of Lochalsh will be used for the delivery of all blades, whilst Corpach would be used for all other loads. Should an east coast port be used, Inverness harbour will be used for all turbine components. Details of the specific routes to be taken will be detailed in the EIA Report.

**3.10** Offsite highways work is likely to be required to facilitate wind turbine component delivery and will be detailed in the EIA Report.

### Grid Connection

**3.11** The applicant is reviewing potential connection locations for a transmission connection to the electricity network. An application will be made to the National Grid to determine the final connection point.

**3.12** The grid connection will be subject to a separate consent by Scottish and Southern Energy Networks under Section 37 of the Electricity Act 1989 and therefore potential environmental effects as a result of offsite grid connection will not be considered in the EIA Report.

### Construction Works

**3.13** It is estimated that it would take approximately up to 24 months to construct the Proposed Development. Construction works would include the following main activities:

- working of borrow pits;
- tree felling (if required);
- construction of the temporary construction compound;
- construction of site 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;
- construction of an onsite substation;
- excavation of trenches and cable laying adjacent to site tracks;
- movement onto site and delivery and erection of wind turbines;
- commissioning of the wind farm; and
- restoration of temporary construction areas.

**3.14** 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 whilst turbines are being erected elsewhere. To minimise disruption to land use, site restoration would be undertaken as early as possible.

**3.15** A detailed programme of works would be produced by the construction contractors prior to the commencement of works onsite. Should consent for the Proposed Development be granted, it is possible that construction hours would be restricted by means of a consent condition.

**3.16** It is proposed that stone will be sourced from onsite borrow pits however it may be necessary to import some stone to the 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 Site by specialised abnormal load vehicles using the designated routes referred to above as illustrated on **Figure 3.2**.

### Forestry

**3.17** Depending on the final choice of access track, some limited tree felling may be required. Should felling be required, details of the location of felling and trees affected will be included in the EIA Report. Any felling required will be taken into account in calculating the carbon balance of the Proposed Development, and consideration will be given to any required replanting under the Scottish Government's Policy on Control of Woodland Removal.

### Wind Farm Life and Decommissioning

**3.18** The expected operational life of the Proposed Development is 35 years from the date of commissioning. 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.

**3.19** The EIA Report will include high level information on the likely process that will be undertaken to decommission the Proposed Development at the end of its lifespan. However, it is not proposed to undertake a detailed assessment of the decommissioning effects associated with the Proposed Development 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.

Q3.1: SEPA is requested to advise on upper limiting depths for borrow pit restoration given the widely variable peat depths present across the Developable Area.



# Chapter 4

## Planning and Energy Policy Framework

### Introduction

**4.1** The approach that will be taken to consideration of planning and energy policy relevant to the Proposed Development is set out below, and includes consideration of the following:

- the renewable energy policy context;
- national planning policy and guidance;
- the statutory Development Plan; and
- supplementary guidance.

**4.2** It should be noted that the Town and Country Planning (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 allows the following in relation to the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013:

- suspend the need for public events in pre-application consultation (physical in person events, with government guidance available on pre-app requirements to be held online);
- suspend the need for Local Review Bodies (LRBs) to meet in public (Amendment of the Town and Country Planning (Schemes of Delegation and Local Review Procedure) (Scotland) Regulations 2013); and
- suspension of the need for hard copies of EIA docs in physical places Amendment of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017).

### Renewable Energy Policy

**4.1** 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, European and domestic levels.

**4.2** The Proposed Development relates to the generation of electricity from renewable energy sources and comes as a direct response to national planning and energy policy objectives. The clear objectives of the UK and Scottish Governments will be summarised in the EIA Report 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.

**4.3** The Proposed Development would clearly make a contribution to the attainment of renewable energy and electricity targets at both the Scottish and UK levels and the quantification of this contribution will be described in the EIA Report. The description of the renewable energy policy framework will also include reference to the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, Scottish Energy Strategy: The future of energy in Scotland (2017) and Onshore Wind Policy Statement (2017), as well as other relevant policy documents.

### National Planning Policy and Guidance

**4.4** Reference will be made to national planning policy and guidance documents including:

- The National Planning Policy Framework 3 (NPF3)<sup>2</sup>;

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<sup>2</sup> The Scottish Government is currently preparing NPF4, which will guide spatial development, set out national policies, designate national developments and reflect regional spatial priorities to 2050. NPF4 is due to go before parliament in September 2020, and is currently anticipated to be adopted in spring/summer 2022.

- Scottish Planning Policy (SPP);
- Relevant Planning Advice Notes (PAN);
- Scottish Government web-based Renewables Guidance; and
- Scottish Government policy and good practice guidance on community benefit funding and community shared ownership.

## The Statutory Development Plan

**4.5** The planning policy context applicable to the Proposed Development will be taken into account in the iterative EIA design process. The relevant planning policy framework will also be described in the EIA Report.

**4.6** The statutory Development Plan for the Proposed Development comprises:

- The Highland-wide Local Development Plan (the HwLDP) (adopted April 2012);
- The Inner Moray Firth Local Development Plan (IMFLDP) (adopted 2015); and
- Statutory Supplementary Guidance (SG).

**4.7** Of particular relevance is the Onshore Wind Energy SG (November 2016) and its associated landscape sensitivity guidance.

**4.8** It is anticipated that the Proposed Development will be guided primarily by the HwLDP policies. Key HwLDP policies include Policies 57 (Natural, Built and Cultural Heritage), 61 (Landscape) and 67 (Renewable Energy Developments).

**4.9** The Spatial Framework for Onshore Wind Energy (August 2016; as contained in the Onshore Wind Energy Supplementary Guidance) identifies the Site as being located within an area of significant protection (Group 2) due to the presence of carbon rich soils, deep peat and priority peatland habitat, but also has some Group 3 coverage (areas with potential for wind farm development).

**4.10** The IMFLDP focuses mainly on regional and settlement strategies and identifying specific Site allocations. As a result, much of the content of the IMFLDP is not particularly relevant to a wind farm proposal. However, certain aspects of the strategy for the local area/settlement may help to inform plans for community engagement or community benefit and will be taken into account as the EIA progresses.

**4.11** It should be noted that a Planning Statement will be provided in support of the application which will contain an assessment of the accordance of the Proposed Development with relevant policy as referred to above.

# Chapter 5

## Landscape and Visual Amenity

### Introduction

**5.1** This chapter sets out the proposed approach to assessing the potential effects of the Proposed Development on landscape character and visual amenity through a Landscape and Visual Impact Assessment (LVIA). The primary guidance for LVIA is the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)<sup>3</sup>. In addition, NatureScot has published several documents that have been adopted as industry standard good practice for landscape and visual assessments of wind farm proposals.

**5.2** The LVIA will consider direct and indirect effects on landscape resources, landscape character, and the implications for designated landscapes and wild land, and cumulative effects, i.e. the incremental effects of the Proposed Development in combination with other existing and proposed wind farm developments. It will examine the nature and extent of effects arising from the introduction of the proposed turbines, as well as the ancillary infrastructure (i.e. access tracks, masts, transformers etc.) which will be assessed during both the construction and operational phases of the Proposed Development.

**5.3** In accordance with GLVIA3, landscape and visual effects will be considered separately. GLVIA3 states that the nature of landscape and visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change and the value attached to the existing landscape or views. The nature of the effect, commonly referred to as the magnitude of change, should be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered, to form a judgement regarding the overall significance of landscape and visual effects.

### Guidance

**5.4** The following guidance will be referred to where appropriate:

- Landscape Institute and the Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment. Third Edition. (GLVIA3);
- Countryside Agency and SNH (2002), Landscape Character Assessment: Guidance for England and Scotland;
- SNH (2012), Assessing the Cumulative Impacts of Onshore Wind Energy Developments;
- SNH (2017), Siting and Designing Wind Farms in the Landscape. Version 3a;
- Countryside Agency and SNH (2004), Topic Paper 6. Techniques and Criteria for Judging Capacity and Sensitivity;
- Landscape Institute (2019) Visual Representation of Development Proposals – Technical Guidance Note 06/19;
- Landscape Institute (2019), Residential Visual Amenity Assessment (RVAA) – Technical Guidance Note 02/19;
- NatureScot (2020), Assessing impacts on Wild Land Areas – Technical Guidance;
- SNH (2017), Assessing impacts on Wild Land Areas - technical guidance (consultation draft);
- SNH (2017), Visual Representation of Wind Farms Guidance. Version 2.2;
- SNH (2015), Spatial Planning for Onshore Wind Farms: Natural Heritage Considerations;
- THC (2016), Onshore Wind Supplementary Guidance with Part 2b Addendum (2017); and
- THC (2016), Visualisation Standards for Wind Energy Developments.

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<sup>3</sup> Landscape Institute and the Institute of Environmental Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment*. 3rd Edition



## Study Area

**5.5** It is proposed that the Study Area for the LVIA will cover a radius of 45km from the outermost turbines of the Proposed Development in all directions, as shown in **Figure 5.1**, in accordance with current NatureScot guidance in relation to turbines of 150m or taller blade tip height<sup>4</sup>.

**5.6** A Zone of Theoretical Visibility (ZTV) plan will be used to identify which landscape and visual receptors require consideration in the assessment, and which can be scoped out because they are unlikely to be significantly affected. While the design of the Proposed Development is subject to change, the following figures are provided to illustrate the theoretical visibility of the indicative layout of up to 26 turbines:

- **Figure 5.2:** Blade Tip Height (200m) ZTV and Visual Receptors;
- **Figure 5.3:** Hub Height (132m<sup>5</sup>) ZTV and Visual Receptors;
- **Figure 5.4:** Blade Tip Height ZTV (200m) and Landscape Character Types (LCTs); and
- **Figure 5.5:** Blade Tip Height ZTV (200m), Designated Landscapes and Wild Land.

**5.7** The LVIA will be undertaken by experienced Chartered Landscape Architects (Chartered Members of the Landscape Institute (CMLI)), and in accordance with relevant best practice documents. LUC's team of Chartered Landscape Architects has extensive experience in the siting, design and assessment of onshore wind energy developments, and brings particular experience in avoiding or reducing landscape and visual effects through landscape-led embedded design mitigation.

## Existing Conditions

**5.8** The Site is located within the Balmacaan Estate occupying an upland area to the west of the Great Glen and Loch Ness, with the settled, wooded glens of Glen Urquhart to the north and Glen Moriston to the south. There are numerous steep-sided, rocky hills within the Developable Area and the wider Site, the largest of which is Meall Fuar-mhonaidh (699m AOD), a popular local hill with walkers, located in the east of the Site from which views of the Great Glen are afforded to the north-east, east and south-east.

**5.9** Loch Ness lies to the east of the Site within the Great Glen. Due to the dramatic profile of the glen, views from the shores of Loch Ness are generally contained and focussed along the loch, with limited longer-distance views of the hills and plateaux to the east and west of the loch.

**5.10** The Site comprises rolling moorland plateaux with occasional small rocky outcrop hills. Site topography is shown on **Figure 3.1**. There are numerous lochans within the Developable Area and the wider Site, which are connected by a series of burns which feed the River Coiltie in the north-eastern of the Site and the Allt Saigh which forms the southern boundary of the Site. The Coiltie drains into Loch Ness at Urquhart Bay, and the Allt Saigh drains into Loch Ness at Alltsigh. The network of lochans and burns within the Site is used for hydroelectric infrastructure<sup>6</sup>, with existing tracks along the Coiltie and Allt Saigh providing access.

**5.11** Access to the Site is afforded from a track leading south from the A831 east of Bearnock and from a track leading west and north from the A83 at Alltsigh.

## Landscape Character

**5.12** In 2019 SNH made available online an updated national Landscape Character Assessment for Scotland<sup>7</sup>.

**5.13** The Site is located within the Rocky Moorland Plateau – Inverness Landscape Character Type (LCT 222). Key characteristics include:

- *“Open, gently rolling moorland plateaux with distinct edges descending to adjoining straths and glens or rising to merge with Rugged Massif.*

<sup>4</sup> SNH (February 2017) Visual Representation of Wind Farms Guidance. Version 2.2.

<sup>5</sup> The hub height ZTV assumes a rotor diameter of 136m and hub visibility up to 132m. The specification of the final candidate turbine may vary from these dimensions but currently it is assumed that the maximum height to blade tip will be up to 200m.

<sup>6</sup> Highland Hydroelectric Power web map - Coiltie Hydro Planning Reference: 15/02595/FUL

<sup>7</sup> SNH (2019) Scottish Landscape Character Types Map and Descriptions. Available online: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

- Plateau with a patchy texture of small rocky outcrop hills, bogs and lochans in no clear hierarchy or discernible pattern.
- Hilltops and upper slopes dominated by rocky heather moorland, except in the north east where extensive, contrasting conifer forests dominate.
- Regenerating trees and scrub in glens with rivers and sheltered lower hillsides.
- Strong contrast in landcover and settlement between the plateau and adjoining straths and glens.
- Sparsely inhabited and little evidence of active landuse.
- A few historic sites indicating past settlement and land use.
- Orientation is difficult due to the lack of hierarchy, pattern and foci in the landform and landcover.
- Within the plateau distance and scale are generally difficult to perceive due to the lack of elements of known size.
- Distinct edges isolate the plateau from adjacent areas and give the sense of a vast, remote, upland moor.
- At the plateau edges, expansive views over inhabited straths and glens create surprise.
- Eastern areas have a semi-exposed character with occasional views of distant hills framed by the distinct edges of conifer forests.
- Perception of remoteness on the open plateau, from the rugged patchy texture and absence of obvious human artefacts.<sup>87</sup>

**5.14** The LVIA will consider the potential for direct effects on LCT 222 as well as indirect effects upon LCTs in the Study Area within a c.15km radius of the Proposed Development, and from which potential visibility is indicated by Zone of Theoretical Visibility (ZTV) mapping. LCTs within the Study Area are shown on **Figure 5.4** and listed in **Table 5.1** below.

**Table 5.1: LCTs within 15km**

LCT	Approximate Distance to nearest turbine (km)	Scoped in/out of assessment
Rocky Moorland Plateau – Inverness (LCT 222)	<1km	<b>Host LCT, considered within the assessment.</b>
Wooded Glen – Inverness (LCT 226)	1.6km	Theoretical visibility indicated across LCT within 5-10km, <b>considered within the assessment.</b>
Broad Steep-Sided Glen (LCT 225)	4.9km	Limited theoretical visibility indicated within 5-15km, not considered within the assessment.
Rugged Massif – Inverness (LCT 220)	5.3km	Theoretical visibility indicated from elevated landform at distances of 9-15km, <b>considered within the assessment.</b>
Farmed and Wooded Foothills (LCT 224)	8.0km	Limited visibility indicated at a distance of 8-15km, with actual visibility likely to be screened by intervening vegetation. Not considered within the assessment.
Farmed Strath – Inverness (LCT 227)	9.6km	Theoretical visibility indicated within 8 -15km, <b>considered within the assessment.</b>
Rolling Uplands – Inverness (LCT 221)	12.0km	Theoretical visibility indicated from elevated landform and summits along the western LCT boundary at a distance of over 10km. <b>Considered within the assessment.</b>

<sup>87</sup> SNH (2019) National Landscape Character Assessment. Landscape Character Type 222 Rocky Moorland Plateau – Inverness

## Designated Landscapes

**5.15** The eastern peripheries of the Site are located within the Loch Ness and Duntelchaig Special Landscape Area (SLA), however no turbines are proposed within the SLA.

**5.16** There are a number of designated landscapes within the Study Area, including National Scenic Areas (NSAs) and SLAs, and Gardens and Designed Landscapes (GDLs), within 15km of the Site. Given the relatively close proximity of some of these designated landscapes, and the extent of theoretical visibility of the Proposed Development from within them, an assessment of potential effects on specific relevant special qualities of the national and locally designated landscapes will be included in the LVIA. Potential effects on GDLs will be considered in the cultural heritage assessment, as set out in **Chapter 9 (Cultural Heritage)**.

**5.17** As for LCTs, theoretical inter-visibility with the Proposed Development will be described in the LVIA and used as a means of identifying which designated landscapes require further consideration and assessment in respect of their defined special qualities and characteristics. However, as distance from the Site increases significant effects on these designated areas are considered less likely to occur.

**5.18** Nationally and locally designated landscapes within the Study Area are listed in **Table 5.2** below and shown on **Figure 5.5**.

**Table 5.2: Designated Landscapes within Study Area**

Designated Landscape	Approximate Distance to nearest turbine (km)	Scoped in/out of assessment
National Park		
Cairngorms National Park	27.0km	Very limited theoretical visibility indicated along western boundary at a distance of over 25km. Not considered within the assessment.
National Scenic Area (NSA)		
Glen Affric NSA	10.2km	Theoretical visibility indicated throughout NSA, including from elevated south-facing slopes and within floor of glen, at a distance of 11-33km. <b>Considered within the assessment.</b>
Glen Strathfarrar NSA	10.9km	Very limited theoretical visibility indicated along NSA boundary, at a distance of 11-17km. Not considered within the assessment.
Kintail NSA	33.6km	Very limited theoretical visibility indicated at a distance of over 35km, not considered within the assessment.
Wester Ross NSA	43.3km	No theoretical visibility indicated within 45km study area, not considered within the assessment.
Knoydart NSA	44.7km	No theoretical visibility indicated within 45km study area, not considered within the assessment.
Special Landscape Area (SLA)		
Loch Ness and Duntelchaig SLA	2.8km	Theoretical visibility indicated throughout SLA, including elevated glen sides and eastern loch shore, at a distance of 3-27km. <b>Considered within the assessment.</b>
Strathconon, Monar and Mullardoch SLA	9.2km	Theoretical visibility indicated from elevated landform and summits, at a distance of 10-40km. <b>Considered within the assessment</b>

Designated Landscape	Approximate Distance to nearest turbine (km)	Scoped in/out of assessment
Loch Lochy and Loch Oich SLA	19.5km	Limited theoretical visibility indicated at a distance of over 20km, not considered within the assessment.
Moidart, Morar and Glen Shiel SLA	21.9km	Very limited theoretical visibility indicated at a distance of over 20km, not considered within the assessment.
Ben Alder, Laggan and Glen Banchor SLA	32.3km	No theoretical visibility indicated within 45km study area, not considered within the assessment.
Ben Wyvis SLA	35.5km	Limited theoretical visibility indicated at a distance of over 35km, not considered within the assessment.
Drynachan, Lochindorb and Dava Moors SLA	40.3km	Limited theoretical visibility indicated at a distance of over 40km, not considered within the assessment.
Fannichs, Beinn Dearg and Glen Calvie SLA	41.1km	Very limited theoretical visibility indicated at a distance of over 40km, not considered within the assessment.
Sutors of Cromarty, Rosemarkie and Fort George SLA	44.5km	No theoretical visibility indicated within 45km study area, not considered within the assessment.

### Wild Land Areas

**5.19** Wild Land Areas (WLA) are not statutory designations, but NPF3 recognises wild land as a “*nationally important asset*” (NPF3, p.42), whilst SPP notes that development plans “*should identify and safeguard the character of areas of wild land as identified on the 2014 SNH map of wild land areas*” (SPP, p.47) and lists areas of wild land as Group 2: Areas of Significant Protection (SPP, Table 1, p.39).

**5.20** There are no WLAs within the Site. The closest is WLA 24: Central Highlands which is located approximately 8.6km to the west of the nearest turbine of the Proposed Development at its closest point. Key attributes and qualities include:

- “An extensive and awe-inspiring range of large scale, high and rugged mountains;
- An extensive, remote mountain interior with strong qualities of sanctuary and solitude;
- Deep glens that have steep, arresting side slopes as well as rivers and waterfalls, with some containing lochs and some revealing human land use;
- Small and extensive areas of native woodland that contribute to the sense of naturalness and highlight some arresting landscape features.<sup>9</sup>”

**5.21** The ZTV on **Figure 5.5** indicates theoretical visibility of the Proposed Development from summits and plateau within the eastern extents of WLA 24: Central Highlands.

**5.22** WLAs within the Study Area are listed in **Table 5.3** below and shown on **Figure 5.5**.

<sup>9</sup> SNH (2019) National Landscape Character Assessment. Landscape Character Type 222 Rocky Moorland Plateau – Inverness

Table 5.3: Wild Land Areas within the Study Area

Wild Land Area (WLA)	Approximate Distance to nearest turbine (km)	Scoped in/out of assessment
Central Highlands WLA 24	8.6km	Theoretical visibility indicated across eastern extents of WLA and elevated summits within the interior, at a distance of 9-35km. <b>Considered within the assessment.</b>
Monadhliath WLA 20	19.3km	Limited theoretical visibility indicated at a distance of over 20km, not considered within the assessment.
Braeroy – Glenshirra – Creag Meagaidh WLA 19	19.4km	Limited theoretical visibility indicated at a distance of over 20km, not considered within the assessment.
Kinlochhourn – Knoydart – Morar WLA 18	31.6km	Limited theoretical visibility indicated at a distance of over 30km, not considered within the assessment.
Rhiddoroch – Beinn Dearg – Ben Wyvis WLA 29	35.0km	Limited theoretical visibility indicated at a distance of over 35km, not considered within the assessment.
Rannoch – Nevis – Mamores – Alder WLA 14	37.5km	Very limited theoretical visibility indicated at a distance of over 40km, not considered within the assessment.
Fisherfield – Letterewe – Fannichs WLA 28	38.3km	Very limited theoretical visibility indicated at a distance of over 40km, not considered within the assessment.
Coulin & Lodgowan Forest WLA 26	39.5km	No theoretical visibility indicated within 45km study area, not considered within the assessment.
Cairngorms WLA 15	43.4km	No theoretical visibility indicated within 45km study area, not considered within the assessment.

## Visual Receptors

5.23 Visual receptors to be considered will include:

- local residents, in respect of settlements, scattered communities and individual residential properties (where relevant);
- people travelling on major roads and railways;
- people using promoted walking routes and cycle routes;
- people engaged in water-based activities; and
- people visiting areas of interest such as visitor attractions, scenic viewpoints and hill summits.

5.24 The Site is located less than 1km west of Loch Ness, with attractions including Urquhart Castle, Loch Ness Centre and Exhibition and the natural setting of the loch drawing visitors to the area.

5.25 Key transportation routes include the A831, which passes through Glen Urquhart approximately 4.0km to the north of the nearest turbine, and the A887, which runs along the foot of Glen Moriston approximately 4.4km to the south. The A833 connects Drumnadrochit and Beauly, connecting to the A831 approximately 10.0km north-east of the Proposed Development. The A82 runs alongside the western shore of Loch Ness with the Great Glen approximately 6.1km to the east of the nearest turbine, and the B862 follows the eastern shore of Loch Ness, approximately 10.9km to the east.

5.26 The closest settlements are Balnain, approximately 6.6km to the north and Invermoriston, approximately 5.0km to the south of the nearest turbine. Drumnadrochit is located approximately 11.7km to the north-east of the nearest turbine on the western



shore of Loch Ness. Individual and small clusters of residential properties are found scattered along the glens to the north, east, south and north-west, and particularly along Glen Urquhart to the north.

**5.27** The Great Glen Way is a long-distance path, promoted as one of Scotland's Great Trails, and connects the west and east coast of Scotland passing through the Highlands. The walking path follows the western shore of Loch Ness approximately 4.5km east of the nearest turbine. The South Loch Ness Trail passes from Fort Augustus to Inverness, broadly following the eastern shore of Loch Ness approximately 9.7km east of the nearest turbine. The Great Glen Way and South Loch Ness trail form the Loch Ness 360° Trail, a promoted circular route that circumnavigates Loch Ness. Recreational routes within the Study Area are shown on **Figure 5.2** and **Figure 5.3**.

**5.28** The Affric Kintail Way passes approximately 44 miles between Drumnadrochit and Morvich, passing west from the Great Glen Way through Glen Urquhart before passing on a north-east to south-west alignments through Glen Affric. The route formerly followed the A831 through Glen Urquhart, however in 2019 changes to the route were granted planning permission, with plans to implement realignment of the route in phases. The route will be realigned to follow the lower slopes of the glen, where it will pass through forestry to the north-east of Buntait before crossing the A831 near Millness towards forestry at Kerrow Wood. The route passes through Glen Urquhart 3.6km north of the nearest turbine.

**5.29** National Cycle Network (NCN) Route 78: the Caledonia Way runs from Campbeltown to Inverness, and passes to the east of Loch Ness approximately 9.8km east of the nearest turbine.

**5.30** A number of THC Core Paths are located within the Study Area, primarily clustered around the communities and settlements within the Great Glen and smaller glens to the north and south of the Site.

**5.31** There are many hills, including Munro Hill summits, which are popular with hill walkers and other recreational users (e.g. mountain bikers) within the Study Area. This includes the Munro hill summits of Tom a Choinnich and Carn Ghluasaid in the west of the Study Area, and the local hill summit of Meall Fuar-mhonaidh, located along the eastern Site boundary.

**5.32** The Great Glen Canoe Trail is a water-based route connecting Fort William to Inverness via the Caledonian Canal, Loch Lochy, Loch Oich and Loch Ness. The route is considered one of Scotland's Great Trails<sup>10</sup> and passes approximately 7.0km to the east of the nearest turbine on a south-west to north-east alignment through Loch Ness. A number of boat cruises and tours also bring recreational receptors and visitors to the waters of Loch Ness.

**5.33** The assessment of the visual effects of the Proposed Development will be based on analysis of ZTVs, field studies and assessment of representative viewpoints. **Figure 5.2** illustrates a turbine blade tip height (200m) ZTV of the proposed turbine layout with proposed assessment viewpoint locations. **Figure 5.3** illustrates a hub height (132m) ZTV of the proposed turbine layout with proposed assessment viewpoint locations. A list of proposed representative viewpoints for the assessment is set out in **Table 5.4**, selected to provide a representative range of viewing distances and viewing experiences, including views from settlements, points of interest and sequential views from routes. Please note that viewpoints will be subject to further refinement in the field, subsequent to the scoping process.

**Table 5.4: Proposed Assessment Viewpoints**

VP	Viewpoint Name	Grid Reference (NGR)	Distance <sup>11</sup>	Reason for selection
1	A831/Affric-Kintail Way near Milness	238097 831602	5.4km	Represents views experienced by recreational receptors and road users.
2	Meall Fuar-mhonaidh	245768 822200	5.5km	Represents views experienced by recreational receptors at popular local hill summit within the Loch Ness and Duntelchaig SLA.
3	Balbeg	244919 831305	7.3km	Represents views experienced by residential receptors within Glen Urquhart.

<sup>10</sup> <https://www.scotlandsgreattrails.com/trail/great-glen-canoe-trail/>

<sup>11</sup> Approximate distance to nearest turbine of the Proposed Development

VP	Viewpoint Name	Grid Reference (NGR)	Distance <sup>11</sup>	Reason for selection
4	Affric Kintail Way West of Cannich	232604 831699	8.2km	Represents views experienced by recreational receptors.
5	Glen Affric, Approach to Badger Fall	229808 828790	9.1km	Represents views experienced by recreational receptors and road users within the Glen Affric NSA and Strathconan, Monar and Mullardoch SLA.
6	B862 near Whitebridge	249276 816136	10.9km	Represents views experienced by road users, recreational receptors (NCN Route 1) and nearby residential receptors.
7	A833 near Balnagrantach	249843 831772	11.6km	Represents views experienced by road users and nearby residential receptors.
8	B862 Suidhe Viewpoint	244960 810540	12.5km	Represents views experienced by road users and recreational receptors at popular promoted viewpoint within the Loch Ness and Duntelchaig SLA.
9	A82/Great Glen Way, Urquhart Bay	252972 830032	12.7km	Represents views experienced by road users and recreational receptors within the Loch Ness and Duntelchaig SLA.
10	Meall Mor, above Glen Affric	224908 828066	13.2km	Represents views experienced by recreational receptors within the Glen Affric NSA, Strathconan, Monar and Mullardoch SLA and Central Highlands WLA.
11	Creag Dhubh	222756 821621	14.8km	Represents views experienced by recreational receptors within the Central Highlands WLA, with views afforded across the Glen Affric NSA.
12	Carn na Leitire	254695 834464	17.1km	Represents views experienced by recreational receptors from popular local hill summit.
13	B852 Erchite Wood, east of Loch Ness (picnic area)	257731 831554	18.2km	Represents views experienced by road users and recreational receptors within the Loch Ness and Duntelchaig SLA.
14	Meall Dubh	224539 807889	20.1km	Represents views experienced by recreational receptors from Corbett summit.
15	Carn na Saobhaidhe	259839 814431	21.1km	Represents views experienced by recreational receptors from Corbett summit.
16	Tom a Choinnich	216403 827337	21.3km	Represents views experienced by recreational receptors from Munro summit within Glen Affric NSA, Strathconan, Monar and Mullardoch SLA and Central Highlands WLA.
17	Carn Ghluasaid	214586 812511	25.4km	Represents views experienced by recreational receptors from Munro summit within Moidart Morar and Glen Shiel SLA and Central Highlands WLA.

VP	Viewpoint Name	Grid Reference (NGR)	Distance <sup>11</sup>	Reason for selection
18	Carn Dearg	263564 802393	30.5	Represents views experienced by recreational receptors from Munro summit within Monadhliath WLA and Cairngorms NP.

### Other Wind Farm Developments

**5.34** The pattern of existing wind farm development in the Study Area comprises discrete clusters of development in the remote and elevated plateau landscapes, generally found to the south and east of the Site and located away from the settled glens, including the Great Glen.

**5.35** The Proposed Development is located immediately to the north-east of the operational Bhlaraidh Wind Farm (135m tip height), and 3.4km east of operational Corrimony Wind Farm (100m tip height).

**5.36** The operational cluster of Millennium, Beinneun and Beinneun Extension Wind Farms is located on elevated ground between Glen Moriston and Glen Garry, approximately 17-21km to the south-west of the Proposed Development.

**5.37** Development to the east of the Great Glen is similarly located in remote plateau and comprises clusters of wind farms with perceptible gaps between. Stronelairg (operational), Dell (consented), Glenshero (in planning) and Cloiche (in planning) Wind Farms are located approximately 18km to the south-east of the Proposed Development. Corriegarth Wind Farm (operational) and Corriegarth 2 Wind Farm (in planning) are located 17.6km east, south-east of the Proposed Development. Dunmaglass Wind Farm (operational) and Aberarder Wind Farm (consented) are located 22.3km east of the Proposed Development, whilst Farr Wind Farm (operational) and Kyllachy Wind Farm (under construction) are located 31.3km to the north-east.

**5.38** Wind farm developments within the 45km Study Area are shown on **Figure 5.6** and listed in **Table 5.5.** below.

**Table 5.5: Other Wind Farm Developments**

Wind farm	No. of turbines	Grid Reference (NGR)	Tip height (m)	Status	Approximate distance to nearest turbine
Bhlaraidh Extension	20	239374 821231	180m	Scoping	<1km
Bhlaraidh	32	236172 820613	135m	Operational	<1km
Corrimony	5	234548 824739	100m	Operational	2.8km
Fiodhag	46	231932 823728	149.9m	Scoping	3.8km
Tomchrasky	29	223901 815896	220m	Scoping	14.2km
Millennium	26	227569 807662	125m	Operational	17.0km
Millennium South	8	226719 807195	132m	Consented	17.5km
Corriegarth 2	16	257506 813504	149.9m	Application Submitted	17.6km
Corriegarth	23	257467 813262	120m	Operational	18.2km
Dell	14	249924 806189	130.5m	Consented	18.2km
Cloiche	36	249728 802441	149.9m	Application Submitted	19.0km
Stronelairg	67	252211 803516	135m	Operational	19.3km

Wind farm	No. of turbines	Grid Reference (NGR)		Tip height (m)	Status	Approximate distance to nearest turbine
Beinneun	25	222415	806052	133.5m	Operational	21.0km
Dunmaglass	33	263792	819287	125m	Operational	22.3km
Glenshero	39	252258	799920	135m	Public Inquiry	23.3km
Beinneun Extension	7	222722	805741	136m	Operational	23.6km
Aberarder	12	265070	820745	130m	Consented	24.9km
Fairburn	20	241605	852204	100m	Operational	25.6km
Kyllachy	20	273510	827652	110m	Under Construction	31.3km
Farr	40	273163	829141	101m	Operational	31.5km
Moy	20	279230	837010	125m	Operational	39.4km
Lochluichart	17	232550	866212	125m	Operational	39.6km
Kirkan	17	236447	867619	175m	Application Submitted	40.4km
Corriemoillie	17	234274	867314	125m	Operational	40.8km
Lochluichart Extension	6	232505	867895	125m	Operational	41.7km
Lochluichart Extension II	5	232952	868817	149.9m	Scoping	42.8km

## Design Considerations

**5.39** The design of the Proposed Development will aim to achieve a coherent and balanced turbine layout, in line with guidance provided by SNH<sup>12</sup>. The EIA Report will present the rationale behind the final design strategy and document the iterative design process in response to the technical and environmental constraints identified through the EIA process. The objective in designing the wind farm will be to develop a layout that responds to its setting in terms of landform and pattern, and which presents a simple visual image, avoiding the clustering of turbines and the isolation of outlying turbines in views from key locations and views from sequential routes seen by a range of different receptors (people) of varying sensitivity. It is also recognised that the final layout will need to balance a wide range of technical and environmental considerations.

**5.40** The design of the Proposed Development will also consider its interaction in both landscape and visual terms with other existing and proposed wind farms, including the adjacent operational wind farms located within the Rocky Moorland Plateau LCT and other operational and consented wind farms within the vicinity of the Great Glen. The design of the turbine layout will seek to achieve compatibility in scale and composition with adjacent wind energy developments as far as practical, including those currently at scoping but anticipated to proceed to application stage in due course (Bhlaraidh Extension and Fiodhag Wind Farms),

**5.41** All elements of the infrastructure will be considered in terms of locational and design choice, and the LVIA will set out how the design of ancillary elements has evolved to minimise visual effects, especially from nearby and sensitive visual receptors.

<sup>12</sup> SNH (August 2017) Siting and Designing Wind Farms in the Landscape. Version 3a.

**5.42** THC Onshore Wind Energy Supplementary Guidance (November 2016) includes ten landscape and visual criteria against which development proposals will be assessed by the Council. These criteria will be considered as part of the iterative EIA process and refinement of the layout of the Proposed Development.

## Assessment of Effects

### Landscape Effects

**5.43** Predicted changes to both the physical landscape of the Site and landscape character within the 45km Study Area will be identified. However, it is anticipated that potential significant direct and indirect effects will be limited to a more focussed area extending to c.15km from the turbines.

**5.44** The assessment of landscape effects will take account of the sensitivity of the landscape, acknowledging any value placed on the landscape through formal designation at either a national or local level. The consideration of landscape sensitivity will also draw reference to the ten landscape and visual criteria listed in THC Onshore Wind Energy Supplementary Guidance (2016) which are used by the THC as a framework for assessing wind energy proposals.

**5.45** Landscape effects will be determined in relation to the magnitude and type of change to the landscape, and in accordance with HwLDP Policy 61 Landscape, with consideration of the landscape characteristics and special qualities identified in the relevant, recently refreshed and published (2019) SNH Landscape Character Type (LCT) descriptions.

### Visual Effects

**5.46** Visual effects are experienced by people (visual receptors) at different locations across the Study Area, including at static locations (for example from settlements or promoted viewpoints) and transitional locations (such as sequential views experienced from routes, including roads, footpaths, cycle routes or ferry routes). Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at those locations (for example residents, motorists, recreational users etc.).

**5.47** Visual effects resulting from the Proposed Development will be considered within the context of the existing baseline conditions, including operational and under construction wind farms. The assessment of visual effects arising from the introduction of the Proposed Development will be based on analysis of turbine hub and blade tip height ZTVs, field studies and consideration of changes in views from representative viewpoints.

### Cumulative Effects

**5.48** The cumulative landscape and visual assessment (CLVIA) will be carried out in accordance with the principles outlined in GLVIA3 and SNH Assessing the Cumulative Impact of Onshore Wind Energy Developments (March 2012) guidance.

**5.49** The LVIA will consider the potential effects of the addition of the Proposed Development to the existing landscape against a baseline that includes existing wind farms and those under construction. The CLVIA will consider the potential additional effects of the Proposed Development, against a baseline that includes wind farms that may or may not be present in the landscape in the future (i.e. including wind farms that are consented but unbuilt, undetermined planning applications (including those which may have been refused and are currently at appeal stage), and in some instances scoping stage schemes where it is deemed appropriate and sufficient information is available in the public domain).

**5.50** A review of the existing pattern(s) of wind energy development will be undertaken, considering operational, consented and proposed wind farms which are the subject of a valid planning application, up to a 60km radius from the turbines of the Proposed Development, in accordance with current NatureScot guidance.

**5.51** The CLVIA will focus on those wind energy developments considered to have potential to give rise to significant cumulative effects in conjunction with the Proposed Development. This is likely to primarily be those wind farms located in the more immediate landscape context of the Site, and in this instance, those located within an approximate 20km radius. Turbines of less than 50m to blade tip and single turbines beyond 5km from the Proposed Development will not be included in the detailed assessment. **Figure 5.6** illustrates the locations of operational, consented and proposed wind farms (including those at scoping) within 45km of indicative 26 turbine layout.



### Residential Visual Amenity

**5.52** Effects upon residential visual amenity become a matter of public rather than private interest when properties or groups of properties become widely regarded as unattractive places to live. Given the nearest residential properties are located c. 3.5km from the nearest turbine, a Residential Visual Amenity Assessment (RVAA) to accompany the LVIA, is not deemed to be necessary and has been scoped out.

### Field Survey

**5.53** Field survey work will be carried out during several visits, and records will be made in the form of field notes and photographs. Field survey work will include visits to the Site, viewpoints, designated landscapes and wild land areas, and extensive travel around the Study Area to consider potential effects on landscape character and on experiences of views seen from designated landscapes, settlements and routes.

### Visualisations

**5.54** Wirelines and photomontage visualisations will be used to consider and illustrate changes to views. Photomontages will involve overlaying computer-generated perspectives of the Proposed Development over the photographs of the existing situation to illustrate how the views will change against the current baseline. Other (cumulative) wind farm developments visible from each of the viewpoints will be shown on the wirelines. Visualisations will be prepared in accordance with SNH (2017) and THC (2016) visualisation guidance.

**5.55** Ancillary elements such as permanent anemometer masts, access tracks and the onsite substation, and any proposal for energy storage systems should these be considered, will be shown in photomontages for viewpoints within 5km when they would be visible. Beyond 5km it is considered unlikely that these ancillary elements would form more than a minor element of the entire development when compared to the turbines.

### Assessment of Visible Aviation Lighting

**5.56** In the interests of aviation safety, structures including wind turbines, of  $\geq 150\text{m}$  require visible aviation lighting<sup>13</sup>. Potential visual effects arising from the necessity for this visible lighting (typically consisting of 2000 candela red lights mounted on the wind turbine nacelle and intermediate 32 candela lights mounted on the wind turbine tower) will be a key consideration. Informed by current SNH (2017) visualisation guidance and scoping advice<sup>14</sup> the assessment of visual effects will consider the effects of aviation lighting.

**5.57** The assessment will be carried out as part of the LVIA and included within the assessment or as a Technical Appendix to the EIA Report, and will be informed by a hub height ZTV as a starting point to illustrate the areas from which nacelle lighting may be visible. Visibility of turbine lighting from each LVIA assessment viewpoint will be considered, however the night-time assessment will focus on viewpoints from which significant effects may be anticipated.

**5.58** Dusk or nighttime photomontage visualisations will be prepared in accordance with emerging NatureScot guidance from the following final LVIA assessment viewpoints, informed by the hub height ZTV shown on **Figure 5.3**:

- Viewpoint 1: A831/Affric-Kintail Way near Milness;
- Viewpoint 3: Balbeg; and
- Viewpoint 7: A833 near Balnagrantach.

**5.59** The baseline night-time context and presence of existing artificial lighting at these locations will be described, with the related sensitivity identified and the magnitude of change arising from the proposed aviation lighting assessed. The predicted effects of aviation lighting on the visual amenity at these viewpoints will be drawn on to provide general comment on the likely effects across the wider Study Area.

<sup>13</sup> Civil Aviation Authority (2016) CAA Policy and Guidelines on Wind Turbines CAP 764

<sup>14</sup> SNH (2017), Siting and Designing Wind Farms in the Landscape. Version 3a.

## Potential Effects

**5.60** The selection of receptors to include in the assessment is based on the requirement for EIA to consider the likely significant effects. Effects that are not likely to be significant do not require assessment under the EIA Regulations.

**5.61** The assessment will identify landscape and visual effects separately, as detailed in the approach to the assessment set out above and will set out any implications of these effects on designated landscapes. The assessment will focus on the identification and, wherever appropriate, the mitigation of potential significant landscape and visual effects.

**5.62** The primary form of mitigation for landscape and visual effects arising from large scale wind farm development is through iterative design of the layout of the turbines and associated infrastructure, with reference to key views, viewpoints and receptors. Design evolution will be set out in detail in the design strategy that will form part of the EIA Report, and will demonstrate how the design of the Proposed Development has sought to avoid, reduce or minimise landscape and visual effects wherever feasible.

**5.63** Further mitigation will be considered where relevant and appropriate, and the residual effects taking account of the implementation of this mitigation will be presented in the assessment.

### Potential Effects Scoped into the Assessment

**5.64** Based on the baseline conditions, it is proposed the following receptors are scoped into the assessment:

- Rocky Moorland Plateau – Inverness LCT and other LCTs within a 15km radius where there may be potential for significant effects;
- Glen Affric NSA, located within 10.2km to the west of the Proposed Development;
- Loch Ness and Duntelchaig SLA located within 2.8km to the east and Strathconon, Monar and Mullardoch SLA located within 9.2km north-west of the Proposed Development;
- Central Highlands WLA 24 located 8.6km to the west of the Proposed Development;
- transient views experienced by road users travelling through the Study Area;
- views experienced by residential receptors living nearby and travelling in the nearby locality of the Site;
- views experienced by recreational receptors, including those at hill tops and on recognised walking and cycling routes including the Great Glen Way, Affric Kintail Way, South Loch Ness Trail and NCN Route 78: the Caledonia Way; and
- Potential cumulative landscape and visual effects arising through combined, successive, and/or sequential interactions with other existing and proposed wind farms, including most notably Bhlaraidh Wind Farm, situated within or in close proximity to the Proposed Development, as well as other existing and proposed wind farms situated within the vicinity of the Great Glen and Loch Ness.

### Potential Effects Scoped out of Detailed Assessment

**5.65** Based on the baseline conditions recorded and distance from the Proposed Development, it is proposed that the following are scoped out:

- effects on Landscape Character Types (LCTs) beyond a 15km radius of the Developable Area with no intervisibility;
- effects on all NSAs within the Study Area with the exception of the Glen Affric NSA;
- effects on all SLAs within the Study Area with the exception of the Loch Ness and Duntelchaig SLA and Strathconon, Monar and Mullardoch SLA;
- effects on all WLAs within the Study Area with the exception of the Central Highlands WLA; and
- effects upon residential visual amenity, in the form of a detailed RVAA.

## Approach to Mitigation

**5.66** The primary form of mitigation for landscape and visual effects, including cumulative effects, is through iterative design of the layout of the turbines and associated infrastructure, as seen from key viewpoints. Design development will be set out in detail in the design strategy that will form part of the EIA Report.

## Consultation Proposals

**5.67** It is proposed that the following stakeholders will be consulted in relation to the assessment:

- The Highland Council;
- NatureScot; and
- Cairngorms National Park Authority.

### Questions for Consultees

Q5.1: Can consultees confirm that GLVIA3 is an appropriate methodological starting point for the LVIA assessment? Are there any comments on the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?

Q5.2: Are there other sources of information which should inform the baseline and assessment of potential effects on landscape character and designated landscapes?

Q5.3: Are there any comments on the proposed list of assessment viewpoint locations listed in **Table 5.4**?

Q5.4: Are there any further wind farms, in addition to those shown on **Figure 5.6**, to consider as part of the cumulative assessment?

Q5.5: Are there any further landscape or visual receptors to be considered within the assessment (i.e. where it is expected that significant effects may occur)?

Q5.6: Can consultees confirm that an RVAA will not be required?

Q5.7: Are there any comments on the landscape character types scoped in and scoped out of the assessment, as listed in **Table 5.1**?

Q5.8: Are there any comments on the designated landscapes scoped in and scoped out of the assessment, as listed in **Table 5.2**?

Q5.9: Are there any comments on the Wild Land Areas scoped in and scoped out of the assessment, as listed in **Table 5.3**?

# Chapter 6

## Hydrology, Hydrogeology and Peat

### Introduction

**6.1** This chapter sets out the proposed approach to the assessment of potential effects on hydrology, hydrogeology, geology and peat during construction and operation of the Proposed Development.

### Existing Conditions

**6.2** The hydrological, hydrogeological, geological and conditions of the Developable Area are detailed below. References to the 'Study Area' include the hydrological catchment areas associated with the Developable Area which extend outside of the Site boundary and where potential impacts could occur.

### Hydrology

**6.3** The hydrological features of the Developable Area are illustrated on **Figure 6.1**, including the water courses, water bodies and catchments which drain this part of the Site and the wider Study Area. The northern and the western parts of the Developable Area drain northwards via several watercourses including Allt Seanabhaile and Loch Meiklie to the River Enrick which discharges to Loch Ness at Drumnadrochit. The east and central part of the Developable Area drains via numerous watercourses to the River Coiltie which also discharges to Loch Ness at Drumnadrochit. Some minor areas in the south-east of the Developable Area drain south to Allt Saigh which discharges to Loch Ness at Alltsigh. Loch Ness receives all Site waters and drains north to the River Ness and enters the North Sea at Inverness.

**6.4** The River Enrick, prior to Loch Meiklie, is classified as Moderate overall condition by Scottish Environment Protection Agency (SEPA) mainly due to pressures on water flows and levels from water abstraction for hydroelectricity generation. The stretch of the River Enrick from Loch Meiklie to Loch Ness is classified as Poor overall condition due to a barrier for fish migration by a crossing of the watercourse. Water quality and physical condition are otherwise good or high.

**6.5** The River Coiltie is classified as poor overall condition by SEPA due to due to a barrier for fish migration by a crossing of the watercourse and water abstraction for hydroelectricity generation. Water quality and physical condition are otherwise classified as high.

**6.6** The Allt Saigh watercourse is classified as good overall condition by SEPA with all individual categories either good or high.

**6.7** Loch Ness is classified as high overall condition by SEPA with all individual categories classified as high. There are other lochs within the Site however these are not classified by SEPA, except as part of the watercourses they are connected to.

**6.8** Areas of flooding are associated with many of the larger watercourses both within the Developable Area and around the Site according to the SEPA flood risk map.

### Hydrogeology

**6.9** The Developable Area is underlain by impermeable rocks without groundwater except potentially at shallow depth where they have been weathered or in superficial deposits. The groundwater may be sufficient to small private water supplies (PWS) or groundwater dependent terrestrial ecosystems (GWDTE).

### Geology

**6.10** The west of the Developable Area is underlain by the Tarvie Psammite Formation, a metamorphic bedrock formed in the Pre-Cambrian era comprising of both psammite and semi-pelite. These were originally sedimentary rocks formed in shallow seas that were subsequently altered by low-grade metamorphism. The east of the Developable Area is underlain by the Achnaconeran

Striped Formation and is also a metamorphic bedrock formed in the Pre-Cambrian period comprised of both psammite and semi-pelite formed in the same manner. There are also a number of igneous intrusions from the Silurian Period.

**6.11** The superficial geology shows the presence of significant areas of peat, some minor areas of glacial till and very minor areas of alluvium and alluvial fan deposits. Bedrock outcrops in many areas between the peat.

### Peat Geomorphology

**6.12** Phase 1 peat probing has been undertaken across the Developable Area and this indicates that peat is present as illustrated on **Figure 6.2** at depths measuring between 0.5m up to over 5m. However, the peat is less continuous than indicated on the Carbon and Peatland 2016 Map (SNH, 2016) as illustrated on **Figure 6.3**. The strong north-east to south-west geological structure appears to result in areas of deeper peat between crags and ridges and thinner peat or thin organic soils on the steeper slopes around rock outcrops. Numerous lochans are visible in the topographic lows where the deeper peat is found. Satellite imagery indicates no pre-existing instability features, though some areas of natural erosion (e.g. gullying) are visible. The undulating nature of the topography means limited hydrological and slope connectivity from south-east to north-west, and this will be beneficial in limiting construction induced drainage effects along this axis. Artificial drainage, cutting and areas of bare peat appear to be limited.

### Designated Sites

**6.13** The relevant designated sites that could be hydrologically connected to the Developable Area, include the River Moriston Special Area of Conservation (SAC) approximately 3km south. The Levishie Wood is also located approximately 2km to the south. Neither the River Moriston or the Levishie Wood are connected to the Developable Area as the Allt Saigh watercourse is located between them and the Developable Area and drains east into Loch Ness about 4km to the north of Invermoriston.

### Design Considerations

**6.14** Where possible, infrastructure will be sited a minimum of 50m from 1:50,000 scale Ordnance Survey mapped watercourses and outside predicted areas of flood risk. The number of watercourse crossing will be minimised and where required will be over minor watercourses and not inhibit flows with open arch, clear span structures used.

**6.15** Based on available mapping there are unlikely to be any PWS reliant on the surface or ground waters within the Site boundary, however it is possible that the access route may pass near to PWS and these will be identified where relevant and protected accordingly.

**6.16** Infrastructure will be located in shallower areas of peat where possible (i.e. adjacent to ridges and crags) and away from deep peat basins. Where possible, and as limited by slope gradients, floating track will be considered as the primary track construction method, with consideration given to use on peat depths <1.0m (the lower practical limit is normally considered to be 0.6m). Temporary hardstandings and laydowns, e.g. for turbine blades, will be considered where possible to minimise excavations

### Survey and Assessment Methodology

**6.17** The potential effects on the water, geological and peat environment will be informed by a desk study and site inspection. The baseline conditions will be compiled through consultation with regulatory bodies and stakeholders, through review of available data relating to the water and geological environment including:

- the Water Environment Hub;
- British Geological Survey Geoviewer;
- the Hydrogeological Map of Scotland and online viewer;
- the SEPA flood risk map;
- the soil map of Scotland; and
- NatureScot Carbon Rich Soils, Priority Peatland and Deep Peat map.

**6.18** Examination and interpretation of the above mapping information will be undertaken, including a review of aerial imagery and topography for the identification of peatland geomorphological features, and the collection of Site data such as identification



of relevant water features and including the ecological mapping information to identify potential GWDTEs and peat depth and characteristics, substrate and examination of outcropping formations.

**6.19** A Peat Landslide Hazard and Risk Assessment (PLHRA) will be undertaken in accordance with Best Practice Guidance (Scottish Government, 2017). The approach will combine qualitative and quantitative methods to assess ground stability and assess the potential consequences of peat instability for all receptors (including offsite watercourses where these are hydrologically connected to the Developable Area). The assessment will identify appropriate mitigation measures to minimise risks at individual infrastructure locations, while general site-wide good practice and control measures will also be detailed. The PLHRA will be informed by Phase 1 and Phase 2 peat depth probing, detailed geomorphological mapping and site walkover, and will take into consideration temporary peat storage locations identified in the Peat Management Plan (PMP) to be prepared as part of the EIA, and load effects from construction traffic on floating roads.

**6.20** The information collated will enable the constraints to be determined and incorporated into the design of the infrastructure.

**6.21** Where there are potential impacts on the water, geological or peat environment these will be assessed using standard impact assessment methodology to determine the significance of those impacts. Impacts that are identified at moderate or higher levels and are unable to be avoided by design will require specific additional mitigation to reduce the residual impact to an acceptable level. Further detail on the approach to mitigation is set out below.

## Potential Effects

**6.22** The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

### Potential Effects Scoped into the Assessment

**6.23** The Proposed Development has the potential to affect local hydrology and hydrogeology during the construction and operation phases. These effects may include:

- changes in surface or groundwater quality due to oil and fuel spills or leaks, other chemicals stored on site and sediment release;
- alteration of the network and form of drainage;
- alteration of watercourse flow rates, sediment loading and geomorphology;
- impacts on the recharge and flow within shallow and deep groundwater systems; and
- change to the geology or soils of an area through removal, erosion or dewatering, particularly peat.

**6.24** These impacts could potentially affect water users (PWS for domestic use, livestock or irrigation), fisheries or aquatic habitats, the status of waterbodies, and GWDTEs.

**6.25** The Proposed Development also has the potential to impact on the geological resource and peat during the construction and operation phases. These impacts may include:

- change to the geology or soils of an area through direct removal or from erosion due to the infrastructure changing the hydrological environment;
- dewatering of peat due to excavations or pumping;
- removal of peat; and
- an increase in the peat slide risk.

**6.26** These impacts could potentially affect the geological resource, result in the release of carbon due to peat deterioration or removal and incorrect restoration or reuse, and a peat slide could impact on water users (PWS for domestic use, livestock or irrigation), fisheries or aquatic habitats, the status of water bodies, ecological habitats or human life.

### Potential Effects Scoped out of Detailed Assessment

**6.27** No potential effects have been scoped out of assessment at this stage.

## Approach to Mitigation

**6.28** There are numerous mitigation measures that will be employed in the design of the Proposed Development and the methodologies used for the construction and operation. These measures are assumed to be in place as ‘embedded mitigation’ and include:

- The infrastructure will be located outside of 50m buffers for all watercourses and water bodies identified on 1:50,000 Ordnance Survey mapping except where watercourse crossings are required, the number of watercourse crossings will be minimised, areas of potential flooding will be avoided and the areas of influence of GWDTEs will be avoided.
- Any potential GWDTE habitats will be assessed and the infrastructure design adjusted or mitigation determined to avoid any significant impact from the Proposed Development.
- Any water abstractions will be identified and the associated catchment areas determined so that they can be protected.

**6.29** Other standard best practice measures will also be adopted and assumed to be in place for the purposes of the assessment as ‘embedded mitigation’, such as:

- good practice management of potential sediment release with appropriately designed drainage, control structures and infrastructure and stockpile design;
- monitoring of water quality during baseline, construction and post construction periods;
- fuel handling and storage, including the locations of both periodic and regular fuelling points and emergency spill response. These should be agreed with the Environmental Clerk of Works (ECoW);
- management of concrete wash out areas, including pollution prevention measures and drainage controls;
- responsibilities and details for monitoring and training in relation to pollution prevention and mitigation measures;
- design, management and mitigation measures for surface water drainage; and
- design, management and mitigation measures for watercourse crossings.

**6.30** Where any significant effects are identified in the assessment notwithstanding the assumption that the measures above will be in place and will be effective, additional specific mitigation measures will be identified in the EIA Report.

**6.31** The infrastructure will be designed to avoid peat where possible, particularly deep peat as defined by the detailed probing and coring across the infrastructure footprint. Where deep peat is unable to be avoided floating tracks will be used and if necessary piled foundations.

**6.32** A PMP will be developed to present the total peat volumes that will be excavated, the methodologies for extraction and management to minimise impact on peat, and the strategy for storage and restoration or reuse. Peat restoration strategies will be in accordance with relevant guidance<sup>15</sup>. Peat restoration will focus on areas where peat has been removed, eroded or degraded or where forestry will be felled resulting in opportunities for restoration.

**6.33** Any peat slide risk may require additional mitigation measures to be employed such as installation of catch-fences as a precaution against runout into sensitive watercourses and the preparation of a geotechnical risk register providing explicit mitigation measures tailored to location with elevated risk.

**6.34** With respect to peat, mitigation of impacts through sensitive layout design will provide the best opportunity to limit the potential for significant effects. This is applicable both to minimising peat excavation and ensuring that undue risks associated with peat instability are avoided. Findings from the geomorphological assessment of peat will be compared with those from ecological surveys to enable a holistic assessment of peatland condition across the Developable Area and avoidance of the highest quality habitats.

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<sup>15</sup> Good practice during windfarm construction (Scottish Renewables, SNH, SEPA & Forestry Commission Scotland, 4th Edition 2019); and Regulatory Position Statement – Developments on peat (SEPA, 2010).

## Consultation Proposals

**6.35** Given the presence of Class 1 / Class 2 carbon-rich soils, deep peat and priority peatland habitats across the Developable Area and the potential for significant effects on this resource, early liaison with both NatureScot and SEPA will be undertaken to identify any concerns with respect to the design approach adopted with respect to 'deep peat'.

### Questions for Consultees

Q6.1: NatureScot is requested to confirm if a Peatland Condition Assessment is required to detail the character of peat within the Developable Area.

Q6.2: Confirmation is sought that the proposed approach to embedded and additional mitigation is appropriate.

# Chapter 7

## Ecology

### Introduction

**7.1** This chapter sets out the proposed approach to the assessment of potential effects on ecology during construction and operation of the Proposed Development.

**7.2** 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 (1991);
  - National/local planning policy; and
  - National/local nature conservation policy (including the Ancient Woodland Inventory).
- Species and habitats offered legislative or policy protection via:
  - the Conservation (Natural Habitats, &c) Regulations (1994);
  - the Wildlife and Countryside Act (1991); and
  - National/local planning policy.

### Existing Conditions

**7.3** Ecological baseline surveys have been ongoing since 2019 and have been discussed with NatureScot. An account of the survey methods underway/proposed is provided in later sections of this chapter.

**7.4** **Figure 7.1** shows the 'Ecological Study Area' (ESA) applied to the Proposed Development. The ESA includes all locations potentially affected by the construction and operation of the Proposed Development. The Figure also shows the 'Developable Area' and the wider Site boundary.

### Designated Sites

**7.5** There are no statutory or non-statutory designated sites within the ESA, Developable Area or wider Site boundary. However, **Figure 7.2** provides a spatial representation of statutory and non-statutory designated sites within 10km of the wider Site boundary and these are detailed in **Table 7.1**. The figure excludes sites designated for their ornithological features, which are discussed in **Chapter 8**.

**Table 7.1: Statutory and Non-Statutory Designated Sites within 10km of Site Boundary**

Designation	Name	Qualifying Features	Distance and orientation from Site Boundary
SAC	Ness Woods	Mixed woodland on base-rich soils associated with rocky slopes Western acidic oak woodland Otter	c. 1.7km south (at closest point)

Designation	Name	Qualifying Features	Distance and orientation from Site Boundary
SAC	River Moriston	Atlantic salmon Freshwater pearl mussel	c. 1.7km south west
Special Area of Conservation (SAC)	Urquhart Bay Wood	Alder woodlands on floodplains	c. 2.6km north east
SAC	Strathglass Complex	Acidic scree Alpine and subalpine heaths Blanket bog Bog woodland	c. 7.1km west
SSSI	Urquhart Bay Wood	Wet woodland (boundary matches Urquhart Bay Wood SAC)	c. 2.6km north east
SSSI	Balnagrantach	Club sedge	c. 3.6 km north east
SSSI	Glen Affric	Dragonfly assemblage Lichen assemblage Native pinewood	c. 7.1km west
National Nature Reserve	Glen Affric	Network of upland habitat assemblages	c. 8km west (at closest point)
Ancient Woodland Inventory Sites	Various	N/A	Extensive network in South Highland region. The Glen Coiltie woods are located within the Site boundary at the Site's eastern edge. AWI features meet the northern boundary of the Site (Shewglie Wood) and the southern boundary of the Site (Creg nan eun forest).

## Habitats and Vegetation

**7.6** Habitat and vegetation surveys commenced within the ESA in summer 2020 and are ongoing. The ESA supports a mosaic of typical upland habitats. Blanket bog communities are well represented, however their condition, structure and function ranges extensively.

**7.7** The undulating topography and steep sides of the many hills account for the varying vegetative communities owing to the presence of widespread peat deposits, with localised pockets of deep peat scattered throughout. Typically, the higher elevations where peat deposits are at their shallowest, blanket bog communities give way to heathier habitat structures, occasionally in mosaic with acid grassland stands. Very occasionally, plateau mires were present, particularly within the north of the ESA. The steep hill sides were dominated by ericoids and sub shrubs with varying levels of bryophyte cover and diversity. Moving lower in elevation, where the topography levels out, large expanses of sphagnum rich blanket bog was present with typical bog pool communities, Rocky bluffs and exposed bedrock were present through the ESA.

**7.8** The ESA supports a complex network of lochs, lochans and flowing watercourse, many of which flow through deeply eroded peat channels.

**7.9** The majority of the habitats within the ESA have been influenced to some extent by grazing pressure and/or previous management; this is particularly evident to the east of the ESA, however, across the ESA there are extensive areas of near-natural condition peatlands supporting a variety of priority habitats and species.



## Protected Species

**7.10** Protected species surveys commenced within the ESA in 2019 and are scheduled to continue until spring 2021.

**7.11** The ESA is primarily unsuitable for most terrestrial protected species. The ESA's habitat structure, surrounded as it is by extensive open moorland/bog habitat with a limited area of dense forestry to the north, provides, in general, sub-optimal habitat for most terrestrial protected species, the exception being water vole. Nevertheless, the ESA provides limited potential for a range of protected species, including:

- wild cat;
- badger;
- red squirrel;
- pine marten;
- otter; and
- water vole.

**7.12** No evidence of wildcat was recorded during camera trapping (further information provided in Section 7.17) however an unconfirmed cat print was recorded in the north of the ESA. As a result of this and based on consultation with NatureScot, further targeted surveys for the species are have commenced. Evidence of extensive water vole activity has been recorded through the ESA's *Molinia-Caerulea* mires and marshes. Further surveys, detailed below, will seek evidence of those other species potentially present.

**7.13** The ESA is hydrologically connected to the River Moriston SAC, designated for Freshwater pearl mussel and Atlantic Salmon. However, it is noted that the peaty nature of the substrates within the ESAs watercourses means these species are unlikely to be present.

## Design Considerations

**7.14** Design considerations relevant to ecological features include:

- where possible, maintaining a minimum 50m buffer between turbine locations and 1:50,000 scale Ordnance Survey mapped watercourses/bodies;
- minimisation of water-crossings;
- mammal-passable water-crossings;
- avoidance of most ecologically-important habitats;
- avoidance of deepest peat deposits and use of floating track construction methods where deep peat deposits cannot be avoided; and
- avoidance of protected species resting sites (including buffers where appropriate).

## Survey and Assessment Methodology

**7.15** Ecological surveys have been underway within the ESA since 2019, following consultation with NatureScot.

**7.16** Prior to the commencement of field work, a desk study was undertaken to identify:

- statutory and non-statutory designated sites within 10km of the Site ; and
- records of extant protected species populations within 5km of the Site (records from 2000+).

**7.17** All field surveys will be completed by competent, professionally qualified ecologists, within accepted ecological survey windows, and will include:

- National Vegetation Classification (NVC)<sup>16</sup> of the ESA.
- Protected Species walkover<sup>17</sup> of the ESA to identify suitable habitat for, and direct evidence of:
  - wild cat;
  - badger;
  - red squirrel;
  - pine marten;
  - otter; and
  - water vole.
- Targeted camera trapping surveys for wild cat in areas of suitable habitat will be completed in accordance with best practice<sup>18</sup>. Camera traps were deployed in the following periods: March – May 2020 (six traps deployed focussing on woodland and lower-lying habitats); and, May – July 2020 (five camera traps deployed on higher ground), in consultation with NatureScot. Following the identification of an unconfirmed print, an additional seven camera traps were deployed in the vicinity of the unconfirmed print between September and November 2020 as noted above.
- Bat activity surveys in compliance with current good practice methods<sup>19</sup>, to include the deployment of 16 full-spectrum bat detectors for a minimum of 10 nights in each spring, summer and autumn<sup>20</sup>. The locations of static detection points are shown in **Figure 7.3**.

**7.18** All data collected through field surveys will be analysed and interpreted in compliance with good practice methods<sup>17</sup>.

**7.19** Following consultation with NatureScot (then SNH), on the basis of design considerations, the following taxa will not be subject to field survey:

- Freshwater pearl mussel; and
- Fisheries.

**7.20** The Ecology Chapter of the EIA Report will include a detailed assessment of potential effects, described below, following current best practice, as defined by the Chartered Institute of Ecology and Environmental Management (CIEEM)<sup>21</sup>.

## Potential Effects

**7.21** The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

### Potential Effects Scoped into the Assessment

**7.22** The assessment will consider the following potential effects:

- potential effects on designated sites structurally or functionally connected to the ESA, during construction;
- potential effects on habitats of conservation concern<sup>22</sup>, during construction;
- potential effects on protected species recorded within the ESA, during construction; and
- potential effects on bats, during operation.

<sup>16</sup> Rodwell *et al.* National Vegetation Classification (vols 1 – 5). 1991 – 2002.

<sup>17</sup> Species-specific survey methods to comply with best practice, as defined by CIEEM and described [www.cieem.net](http://www.cieem.net), including appropriate buffers ranging from 50m – 200m.

<sup>18</sup> Kitchener A. C. (2012). Wildcat. In UK BAP mammals. Interim guidance for survey methodologies, impact assessment and mitigation. Cresswell W. J., Birks J. D. S., Dean M., Pacheco M., Trehella W. J., Wells D. & Wray S. (Eds). The Mammal Society, Southampton. pp. 56-66.

<sup>19</sup> SNH (2019). Bats and onshore wind turbines – survey, assessment and mitigation.

<sup>20</sup> Surveys to be split between 2020 and 2021, as agreed with NatureScot, in response to Covid-19 travel restrictions.

<sup>21</sup> CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland.

<sup>22</sup> Habitats included on Annex 1 of the Nature Conservation (Habitats, &c.) Regulations (1994), the Scottish Biodiversity List and/or the Local Biodiversity Action Plan.

### Potential Effects Scoped out of Detailed Assessment

7.23 The assessment will not consider the following:

- effects on ecological features during operation (excluding bats);
- effects on freshwater pearl mussel; and
- effects on fisheries.

### Cumulative Assessment

7.24 The effects of the Proposed Development will be assessed in isolation and in combination with predicted effects of other consented wind farm developments within 10km of the Proposed Development .

### Approach to Mitigation

7.25 Ecological baseline data will be used to inform the emerging design process, as noted above.

7.26 Where effects are assessed as being significant, within the context of the EIA regulations, mitigation measures will be identified and agreed. All mitigation measures will be developed on the basis of robust science, drawing on current and emerging good practice, and its likely efficacy and success will be considered.

7.27 Mitigation measures may include:

- design iteration to avoid or reduce impacts (embedded mitigation);
- on-site construction support to advise on, and monitor, impact reduction; and
- post construction monitoring to ensure mitigation remains successful and proportionate.

### Consultation Proposals

7.28 Consultation remains ongoing with NatureScot in relation to the scope of survey methods. Once baseline data collection is complete, further consultation will be undertaken with NatureScot to agree appropriate mitigation strategies.

#### Questions for Consultees

Q7.1: Do consultees agree with the survey scope set out above?

Q7.2: Do consultees agree with the assessment method (including scoped in/scoped out features)?

Q7.3: Do consultees hold any existing ecological data relating to the ESA that may further inform the ecological baseline?

Q7.4: Are consultees aware of any local nature conservation organisation with whom further consultation should be undertaken?

# Chapter 8

## Ornithology

### Introduction

**8.1** This chapter sets out the proposed approach to the evaluation of the ornithological interest of the Developable Area, and to the assessment of potential effects on birds during construction and operation of the Proposed Development.

**8.2** The ornithological assessment will be carried out in line with relevant legislation and standards, as well as having due regard to the following guidance:

- European Commission (2011) Wind energy developments and Natura 2000;
- Scottish Natural Heritage (SNH) (2016) Assessing connectivity with Special Protection Areas (SPAs);
- SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms;
- SNH (2018a) Assessing significance of impacts from onshore wind farms outwith designated areas; and
- SNH (2018b) Assessing the cumulative impacts of onshore wind farms on birds.

### Existing Conditions

**8.3** **Table 8.1** lists the sites designated for their ornithological features within 20km of the Developable Area and these are also shown in **Figure 8.1**.

**Table 8.1: Designated sites within 20km of the Proposed Development**

Designation	Name	Designated For	Distance from Site Boundary (km)
SPA	North Inverness Lochs	Slavonian grebe; breeding	3.4
SSSI	Dubh Lochs	Slavonian grebe	3.4
SPA	Glen Affric to Strathconon	Golden eagle; breeding	6.0
SSSI	Glen Affric	Breeding bird assemblage	6.0
SPA	Loch Knockie and Nearby Lochs	Slavonian grebe; breeding	7.0
SSSI	Knockie Lochs	Slavonian grebe	7.0
SSSI	Balnagrantach	Slavonian grebe	7.9
SSSI	Glendoe Lochans	Slavonian grebe; common scoter	16.3
SPA	Loch Ruthven	Slavonian grebe; breeding	17.1
SSSI	Loch Ruthven	Slavonian grebe; Breeding bird assemblage	17.1

## Design Considerations

**8.4** The following considerations relating to ornithological interests will be incorporated into the Proposed Development design where possible:

- all waterbodies used by breeding diver species during baseline surveys will be buffered by at least 400m;
- all waterbodies used by breeding Slavonian grebes during baseline surveys will be buffered by at least 500m;
- all black grouse lek sites recorded during baseline surveys holding two or more males will be buffered by at least 500m; and
- all golden eagle breeding sites recorded during baseline surveys will be buffered between 1000-1500m.

## Survey and Assessment Methodology

**8.5** SNH guidance (SNH, 2017) was used for initial survey design and a range of baseline ornithological surveys commenced within the Developable Area and surrounding area in September 2019. These are due to continue until end of August 2021, providing two years of baseline survey.

**8.6** The Study Area has been defined with reference to the Proposed Development and encompasses a series of buffers of up to 6km radius from the Developable Area, with buffer size dependent on the sensitivity of key species to potential effects associated with the Proposed Development (see **Figure 8.2**).

**8.7** The assessment will be informed by the following surveys, several of which have been completed and the remainder are currently underway:

- Flight Activity (vantage point) Surveys (September 2019 – ongoing monthly within the Developable Area and 500m buffer until end of August 2021);
- Upland Breeding Bird Surveys (three visits, April to June 2021; within the Developable Area and 500m buffer);
- Breeding Raptor Surveys (February to August 2020 and 2021; within the Developable Area and buffer extending up to 6km depending on species);
- Breeding Divers and Slavonian Grebe Surveys (April to August 2020 and 2021; within the Developable Area and buffer extending up to 2km);
- Focal Watches for Breeding Divers (April to August 2020 and 2021; within the Developable Area);
- Black Grouse Survey (April to May 2020 and 2021; within the Developable Area and buffer extending up to 1.5km).

**8.8** Survey methods follow contemporary best practice guidance; further details of the survey methods are provided below

### Flight Activity Surveys

**8.9** Information on bird flight activity is being collected during timed watches from strategic Vantage Points (VPs) using the methods described by Band *et al.* (2007)<sup>23</sup>. The flight activity survey area is defined by the 500m buffer of the Developable Area (see **Figure 8.2**).

**8.10** A total of 13 VPs<sup>24</sup> were selected through a mix of GIS analysis and field trials, with the aim of maximising ground visibility within the Developable Area using the minimum number of points. Viewsheds are derived using a 20m vertical cut-off and are truncated horizontally to 2km (see **Figure 8.3**).

**8.11** Watches from these VPs will not exceed three hours in length and will be timed to ensure each VP has observations spread throughout daylight hours each month. Flight activity surveys will gather, in total, a minimum of 36 hours per VP during the period

<sup>23</sup> 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.

<sup>24</sup> Note that these are numbered 1, 2, 3, 4, 5, 12, 13, 14, 15, 16, 17, 18 and 19 on Figure 8.3. Numbers 6-11 were not used as these were used to cover the larger site boundary and the area outwith the Developable Area.

September to March (non-breeding season) and a minimum of 36 hours per VP during the period April to August (breeding season) in each year.

**8.12** The height above ground level of flights by target and secondary species will be judged to be within one of several bands so that an estimate can be made of flight activity within the zone where turbine blades would be operating. The height bands used in the flight activity surveys are <20m, 20-50m, 50-100m, 100-150m, 150-200m and >200m.

### Upland Breeding Bird Surveys

**8.13** Surveys will be carried out in April, May and June 2021 to gain a preliminary insight into the bird assemblage and possible sensitivities. The survey area for these included the Developable Area and a 500m buffer zone (See **Figure 8.2**).

**8.14** The Brown and Shepherd (1993)<sup>25</sup> method for surveying upland waders will be modified to provide reliable estimates for some breeding moorland passerines by undertaking some surveys during the first few hours of daylight.

**8.15** Surveys will be conducted three times to allow for differences in detection rates between early and late breeding species. The survey aims to cover the ground systematically with a constant search effort. All suitable ground within the 500m survey boundary will be approached closely, typically to within 100m.

### Breeding Raptor Surveys

**8.16** Priority is given to detecting the species considered most likely to occur as informed by desk based research: golden eagle, hen harrier, merlin, osprey, red kite and hobby. Surveys focus on areas or sites suitable for nesting and foraging within a buffer of between 2km and 6km of the Developable Area (See **Figure 8.2**). The survey methods to be used for each species are described below.

#### Golden eagle

**8.17** The methods to be employed are based on those described in Hardey *et al.* (2013)<sup>26</sup>. Surveys were undertaken between February and August 2020 and will be repeated between February and August 2021. The survey area for golden eagles consists of suitable habitat within the Developable Area plus a buffer of 6km.

#### Other raptor species

**8.18** The methods to be employed are based on those described in Hardey *et al.* (2013). Surveys were undertaken between February and August 2020 and will be repeated between February and August 2021. The survey area for other raptors consists of suitable habitat within the Developable Area plus a buffer of 2km.

### Breeding Diver and Slavonian Grebe Surveys

**8.19** For diver species, the methods described in Gilbert *et al.* (1998)<sup>27</sup> for surveying breeding diver species are being used. In April and May 2020, all potential breeding sites within 2km of the Developable Area (See **Figure 8.2**) were checked for suitability and further checks for occupancy were made at least twice per calendar month in May to August. Wherever possible, lochs were scanned from a distance to search for incubating birds or other evidence of breeding. These surveys will be repeated in 2021.

**8.20** For Slavonian grebe, the methods described in Gilbert *et al.* (1998) are being used. Known breeding sites within the Developable Area plus 2km buffer (See **Figure 8.2**) were visited in late May to confirm breeding. The methods require that if breeding is confirmed, then no further visits are required. If breeding has not been confirmed, then a second visit before 10<sup>th</sup> June is undertaken to confirm occupancy. If occupancy cannot be confirmed, then two further visits are required before July. Other potential Slavonian grebe sites are visited twice; once in late May and once in early July. These surveys have been undertaken in 2020 and will be undertaken in 2021 also.

<sup>25</sup> Brown, A.F. & Shepherd, K.B. 1993. A method for censusing upland breeding waders. *Bird Study* 40: 3 pp189 -195.

<sup>26</sup> Hardey, J., Crick, H.Q.P., Wernham, C., Riley, H. & Thompson, D. 2013. *Raptors: a Field Guide to Survey and Monitoring*, 2nd edn. Edinburgh: The Stationary Office.

<sup>27</sup> Gilbert, G., Gibbons, D.W. & Evans, J. 1998. *Bird monitoring methods*. RSPB Sandy, Bedfordshire.



### Focal Watches for Breeding Divers

**8.21** During April to August 2020, in addition to the flight activity (VP) surveys, focal Vantage Points (FVPs) have been selected to gather species-specific data on red-throated diver and black-throated diver movements and to help locate breeding sites. In total, 36 hours of observation were undertaken from each FVP in 2020 and these surveys will be repeated in 2021.

### Black Grouse Surveys

**8.22** Black grouse surveys were undertaken within two hours of dawn between the months of April and May 2020, in dry, calm weather. The methods employed are based on those described in Gilbert *et al.* (1998). The survey area for black grouse consists of all suitable habitats within the Developable Area plus 1.5km buffer (See **Figure 8.2**). The surveys will be repeated in 2021.

### Potential Effects

**8.23** The following types of potential effects resulting from the Proposed Development on birds will be considered in detail in the EIA:

- construction: habitat modification, land-take, disturbance and displacement;
- operation: disturbance and displacement, collision mortality; and
- cumulative: combined effects across projects within the region, largely or entirely relating to overlap on operation effects.

**8.24** Effects will be assessed against the existing baseline conditions, i.e. without the Proposed Development present. This assessment will be carried out assuming that there are no existing significant adverse effects on the population, range or distribution of a species (i.e. no significant effect on the species' conservation status); and no significant interference with the flight paths of migratory birds.

**8.25** The assessment will therefore first identify the possible effects of the Proposed Development and will then consider the likelihood of their occurrence. A judgement will then be made as to whether or not these effects are significant with respect to the EIA Regulations. In judging whether a possible effect is significant or not, two principal factors will be taken into account; the nature conservation importance of the bird populations present and the magnitude of the likely effect.

**8.26** In assessing the effects, emphasis will be given to the national and regional populations of the species.

**8.27** Impacts will be assessed in relation to species' population, range and distribution. Key considerations will include territory occupancy, breeding success, foraging success and ranging behaviour. The assessment will:

- evaluate the nature conservation importance of the bird interest in a systematic manner; and
- estimate the magnitude of likely effects on each species as a result of the proposal.

**8.28** The significance of each potential effect will be judged by integrating scales relating to ecological value, behavioural sensitivity and effects magnitude in a reasoned way, in the context of the status of, and trends within, species' regional populations (as defined by NatureScot Natural Heritage Zones [NHZ])<sup>28</sup>. If required, measures will be presented to mitigate any effects deemed to be significant in terms of the EIA Regulations.

### Potential Effects Scoped into the Assessment

**8.29** Particular consideration will be given in the assessment to potential effects on bird species whose populations are of moderate to high conservation concern and that belong to taxonomic groups that are considered to be particularly susceptible to impacts from the Proposed Development, and which are known to be present or assumed to be present at the Developable Area. These include:

- species listed on Annex 1 of European Council Directive 2009/147/EC on the conservation of wild birds (i.e. 'Annex 1' species);
- species listed in Schedule 1 to the Wildlife and Countryside Act 1981, as amended (i.e. 'Schedule 1' species); and

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<sup>28</sup> NHZ 7: Northern Highlands

- species of national conservation concern, not included within the above categories, but that are present within the study area in nationally or regionally important numbers (e.g. species on the UK Red List of Birds of Conservation Concern<sup>29</sup>).

**8.30** Taking account of the findings of the work undertaken to date, whilst still adopting a precautionary approach, potential ornithological effects associated with construction and/or operation of the Proposed Development include:

- disturbance and/or displacement from supporting habitats during construction works;
- loss/degradation of habitats through construction works, permanent structures and access tracks;
- displacement from and disturbance to foraging, nesting, roosting habitat from the operational Development;
- mortality from collision with wind turbine blades; and
- the potential for cumulative effects arising from the combined effects of other proposed developments within the wider area affecting the same bird populations.

### Potential Effects Scoped out of Detailed Assessment

**8.31** On the basis of the work undertaken to date, the professional judgement of the assessment team and experience from other similar projects, the following topic areas have been scoped out of the assessment;

- Species of low conservation concern (e.g. green-listed Birds of Conservation Concern), or those not considered sensitive to wind farm developments, as per SNH guidance (SNH, 2018a).
- Likely significant effects upon Loch Knockie and Nearby Lochs SPA, Loch Ruthven SPA and North Inverness Lochs SPA. The distances between the Proposed Development and the aforementioned SPAs are greater than the reported range/connectivity distance for the respective qualifying species (SNH, 2016). It is therefore unlikely that significant effects will occur. It follows, therefore, that there will be no detrimental effects on the respective SSSI designations which spatially overlap those of the SPAs.
- Likely significant effects upon Glen Affric to Strathconon SPA. The distances between the Proposed Development and SPA breeding sites are greater than the reported range/connectivity distance for the qualifying species (SNH, 2016). Furthermore, as the Site forms part of non-qualifying golden eagle territory it is unlikely that golden eagle from the SPA utilise habitats within the Site boundary. It follows, therefore, that there will be no detrimental effects on the Glen Affric SSSI designation.

### Cumulative Assessment

**8.32** The effects of the Proposed Development will be assessed in isolation and in combination with predicted effects of other wind farm developments in the same NHZ. The assessment of cumulative effects will be undertaken following published guidance (SNH, 2018b).

### Approach to Mitigation

**8.33** Baseline results will be taken into consideration in the process of finalising the Proposed Development layout.

**8.34** A number of mitigation measures will be considered to minimise the effect of the Proposed Development on bird species. Where possible, the findings of the survey work will be used to inform the detailed scheme design.

**8.35** The review of construction timing and land management regimes will also be considered as appropriate, in consultation with the appropriate statutory consultees.

**8.36** The need for, and scope of, further monitoring of bird activity in relation to the Proposed Development will also be defined as part of the assessment process.

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<sup>29</sup> Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. & Gregory, R.D. 2015. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746.

## Consultation Proposals

**8.37** It is proposed to consult the following stakeholders in relation to the assessment:

- NatureScot;
- The Royal Society for the Protection of Birds (RSPB); and
- The Highland Raptor Study Group.

### Questions for Consultees

Q8.1: Do the consultees agree that SPAs can be scoped out of the EIA given the lack of connectivity?

Q8.2: Are the consultees content with and / or have any comments on the baseline survey methods and level of survey effort, taking into consideration current guidance, the proposed scale and location of the Proposed Development?

Q8.3: Are the consultees content with and / or have any comments on the list of potential effects and impact assessment methods?

Q8.4: Are there any consultees in addition to those listed in paragraph 8.37 who should be contacted?

# Chapter 9

## Cultural Heritage

### Introduction

**9.1** This chapter sets out the proposed approach to the assessment of potential effects on cultural heritage assets (hereafter 'heritage assets') during the construction and operation of the Proposed Development including physical effects, effects related to setting change and cumulative effects.

### Existing Conditions

**9.2** This section outlines the preliminary cultural heritage baseline of the Site, informed by the following sources:

- Historic Environment Scotland (HES) designated asset GIS data for a search area comprising a 10km buffer from the Developable Area. In addition, assets beyond this search area likely to be sensitive to setting change were also identified and scoped in.
- The Highland Council (THC) Historic Environment Record (HER) data (received 21/05/2020) for a search area comprising a 10km buffer from the Developable Area.
- Historic and current Ordnance Survey mapping available via online sources.
- Aerial photography, available from online sources including Google Earth™.
- Historic Land-use Assessment (HLA) data.
- ZTV, based on a preliminary turbine layout.

**9.3** The Site lies within a wider area that is relatively remote from modern centres of settlement and activity, contrasting sharply with rich evidence for varied historic land use and settlements in previous periods. This is demonstrated by the presence of a range of heritage assets, including a Bronze Age chambered cairn, Pictish burial mounds, Urquhart Castle, prehistoric forts, burnt mounds and moats.

### The Site

**9.4** HES designated asset data indicates the presence of Loch Ashlaich shooting box and bothy (LB19486; MHG31795; MHG38653) within the Developable Area (**Figure 9.1**). This Category C-listed building is a 19<sup>th</sup> century complex of structures reputedly built in 1855 for the 7<sup>th</sup> Earl of Seafield.

**9.5** THC HER data has four entries within the Developable Area (two of which relate to the listed shooting box and bothy, LB19486, mentioned above) and records a further 11 undesignated features within the wider Site boundary (**Figure 9.1**). The earliest HER entry within the Site is the find spot of a Bronze Age flanged axehead (MHG59121), discovered in a bog on the slopes of Meall a Choire in the 19<sup>th</sup> century. This find indicates activity of this period within the Site and the potential for contemporary, but previously unrecorded, assets.

**9.6** Within the north-east of the Developable Area lies the location of a late 17<sup>th</sup> century battle site fought between men of Lochaber and Glen Urquhart (MHG2703 and MHG42882). The former were returning from a raid using old paths before they were intercepted and eventually victorious. The Glen Urquhart dead were buried with six small cairns over their graves until a single cairn was erected by the landowner in 1996 to commemorate the event. Another battle site lies within the Site boundary at Lon Na Fola (the Meadow of Blood) on the western banks of Loch Ness (MHG2700), fought in 1603 between the Macdonalds of Glengary and the Mackenzies of Ross-shire. The former were returning from a raid of the Mackenzie's land where they burnt the Church of Kilchrist before they were intercepted and defeated. These two sites highlight the feuding clan culture that persisted in the Highlands during the 16<sup>th</sup> and 17<sup>th</sup> centuries.

**9.7** The majority of the non-designated heritage assets within the Site boundary represent evidence of pre-improvement agricultural activity within the landscape. Recorded heritage assets include sheiling huts (MHG28588 and MHG28592), farmsteads (MHG28589 and MHG23391), dykes and platforms (MHG28590 and MHG28590). They likely date to the post-medieval to modern periods and largely represent pastoral farming with some evidence of cultivation.

**9.8** Within the Site, there are extensive areas of peat soils with depths in the areas that have been probed within the Developable Area measuring between 0.5m to over 5m. It can take over 1,000 years for a metre of peat to form, with the varying depths having the potential to preserve any archaeological heritage assets which predate peat formation. The anaerobic conditions within peat allow for high levels of preservation of organic material so the archaeological deposits which constitute the assets are likely to be well preserved. Peats, owing to their depth, can also mask archaeological assets so those areas of the Site with peat may contain archaeological heritage assets not previously recognised.

### Wider Study Area

**9.9** The following designated heritage assets lie within 10km of the Developable Area, and/or have been identified as being sensitive to setting change (see **Figure 9.2**):

- 19 scheduled monuments (3 with theoretical visibility);
- 112 listed buildings (10 with theoretical visibility);
- one conservation area (Tomich Village Conservation Area, with theoretical visibility).

**9.10** Beyond this 10km study area, within the ZTV, a further eight scheduled monuments, primarily forming a prehistoric landscape, have been identified as potentially being sensitive to setting change. These assets include: Clachmhor cup marked stone (SM11435), prehistoric settlement at Garberg (SM11437, SM11438, SM4635) and Loch nam Faoileag (SM11455), accompanied by two burnt mounds (SM11441 and SM11453). There is also a separate area of burial monuments at Dell Farm (SM4536).

**9.11** These heritage assets span later prehistory (scheduled monuments associated with ritual and funerary activity or domestic and defensive settlements) right up to the later 20<sup>th</sup> century. Overall, the listed buildings tend to be concentrated on the valley floors with the scheduled monuments located on the steeper valley sides.

**9.12** The majority of scheduled monuments relate to prehistoric domestic and defensive settlement sites or funerary monuments, including rare examples of particular local or period monument types. This includes oval hut foundations dating between 4,000 and 1,000 years ago that deviate from contemporary round traditions elsewhere in Scotland (e.g. SM11437 and SM11438) and a Clava-type late Neolithic/early Bronze Age cairn with its typical south-west-oriented entrance (SM90081).

**9.13** A well-preserved example of a Pictish cemetery dating to the first millennium AD lies to the north of the Site (SM4635) on the south-facing slopes of Glen Urquhart. It includes upstanding remains of at least 14 square/trapezoidal mounds with surrounding ditches and 10 round mounds that are juxtaposed with upstanding nearby settlement remains. Individually, these are nationally scarce assets, but combined this complex's extent, association between settlement and funerary remains and level of preservation is unmatched anywhere else in Scotland.

**9.14** Urquhart Castle (SM90309) is strategically situated on a promontory on the shore of Loch Ness, this asset comprises the remains of a complex medieval, multi-phase castle including the 16<sup>th</sup> century tower, great hall, chapel and gatehouse. Excavations have shown the earliest identifiable defensive structure dates to the first millennium AD alongside evidence of a small settlement beyond the castle's walls and ditch. Occupation lasted at least 500 years and the castle is highly significant due to its historical importance and its well-preserved ruins within a striking setting. The long-distance views from and towards the castle over Loch Ness are both important to the setting of the monument.

**9.15** THC HER holds a large number of records within a 5km radius from the Developable Area, with 262 monument point records, as demonstrated in **Figure 9.3**. From prehistoric ritual and funerary monuments such as cairns and cup marked stones, to 18<sup>th</sup>/19<sup>th</sup> century shieling huts, farmsteads and townships, the monuments represent the occupation and activity in the area over thousands of years.

## Design Considerations

**9.16** It is evident that there are a number of heritage assets which could be affected by the Proposed Development either from direct physical effects or effects related to setting change, as well as cumulative impacts from nearby planned or operational wind farms. Where possible, direct effects on heritage assets will be avoided through design, and consideration will be given to the effects on setting from the Proposed Development as the turbine layout evolves.

## Survey and Assessment Methodology

### Legislation and Policy

**9.17** There is a range of relevant national and local historic environment related legislation and policies applicable to examining the potential effects of the Proposed Development on cultural heritage assets:

- Town and Country Planning (Listed Buildings and Conservation Areas) (Scotland) Act (1997), as amended;
- Ancient Monuments and Archaeological Areas Act (1979), as amended;
- HES (2014), Our Place in Time; and
- HES (2019), Historic Environment Policy for Scotland.

### Guidance

**9.18** The assessment of effects of the Proposed Development will be carried out in accordance with the principles contained within the following documents:

- HES (2016) 'Managing Change in the Historic Environment Guidance Notes – Setting';
- HES (2019), Designation Policy and Selection Guidance;
- Historic England (2017, 2014) 'The Setting of Heritage assets: Good Practice Advice' in Planning Note 3;
- Planning Advice Note 2/2011: Planning and Archaeology;
- SNH & HES (2018), EIA Handbook;
- The Chartered Institute for Archaeologists (2014), 'Code of Conduct'; and
- The Chartered Institute for Archaeologists (2017), 'Standard and guidance for historic environment desk-based assessment'.

### Proposed Study Area

**9.19** There is no industry-wide accepted methodology for the assessments of effects to cultural heritage within EIA. As such, the study areas proposed are based upon recent practice within EIA for wind energy projects alongside the potential for significant effects to heritage assets arising from setting change to be generally less likely at greater distance.

**9.20** The following cultural heritage study areas are proposed for the Proposed Development:

- A Primary Study Area consisting of the land within the Developable Area. All heritage assets lying within this area will be considered for direct effects and setting effects where relevant.
- An Inner Setting Study Area consisting of the land lying within the Site boundary and a 5km buffer from the Developable Area. Heritage assets lying within this area will be considered for the potential for effects due to setting change.
- An Outer Setting Study Area consisting of land lying between the 5 and 10km buffers from the Developable Area, and assets identified as being sensitive to setting change and having theoretical visibility of the Proposed Development at



greater distances, or where specific in-combination views may be affected.<sup>30</sup> Designated heritage assets lying within this area will be considered for the potential for effects due to setting change.

### Desk Study

**9.21** A desk-based assessment (DBA) will be undertaken to gather baseline data to inform the scope of the assessment of potential effects to cultural heritage assets. Various sources will be reviewed to inform understanding of baseline conditions and potential effects, including but not limited to:

- HES designated asset GIS data;
- Highland Council Historic Environment Record data (received 21/05/2020);
- Conservation Area Appraisals;
- Canmore (National Record of the Historic Environment database);
- Historic Land-use Assessment (HLA) data;
- Ordnance Survey maps (principally 1st and 2nd Editions) and other published historic mapping held in the Map Library of the National Library of Scotland;
- Aerial Photographs – HES National Collection of Aerial Photography (NCAP) holdings (oblique, vertical) and Google Earth™;
- available reports from other recent archaeological work undertaken in the area ('grey literature');
- relevant archive material held by Highland Council, HES, NLS, Registers of Scotland etc.;
- where available, publicly accessible LiDAR data;
- ZTV / cumulative ZTV; and
- findings of other topics (including the LVIA, peat depth and ground conditions).

### Visualisations

**9.22** A ZTV plan has been produced to turbine tip height (200m) to illustrate the theoretical visibility of the indicative 26 turbine layout (**Figure 9.3**). This will be used to identify which heritage assets require detailed assessment and which can be scoped out because they are unlikely to be affected. Consideration has also been given to including assets where, even though a ZTV indicates that no direct intervisibility would be possible, there is the potential for turbines to appear in in-combination views with these assets.

**9.23** Wireframe visualisations will be used in tandem with the ZTV to understand the likely nature of change in the setting of heritage assets. Initial review of asset distributions against the scoping ZTV has identified the following heritage assets where wireframe visualisations will be beneficial in understanding change in their setting. These assets are listed in **Table 9.1** with the locations from which the wireframe is proposed.

**Table 9.1: Heritage Assets and Proposed Wireframe Locations**

Designation	Heritage Asset	Wireframe Location Easting/Northing
LB19486	Loch Ashlaich, shooting box and bothy	240930, 823569
SM11437	Garbeg, settlement	249951, 832400
SM11438	Garbeg Cottage, settlement	250922, 832724
SM4635	Garbeg Cottage, burial mounds	251093, 832248

<sup>30</sup> E.g. while there is no theoretical visibility of the scheme from Urquhart Castle, there is potential for in-combination views of the scheme with the asset from the east side of Loch Ness, and from the Loch itself, that may affect the contribution of setting to the cultural significance of the asset.

Designation	Heritage Asset	Wireframe Location Easting/Northing
SM11455	Loch nam Faolieag, hut circles	249105, 832267
SM11441	Culnakirk Burn, burnt mounds	250290, 831876
SM11453	Upper Drumbie, burnt mound	251656, 831405
SM11456	Achratagan, hut circle	244793, 832256
SM90309	Urquhart Castle*	257363, 831112
SM5808	Craig Mony, fort*	252663, 830827
SM90081	Corrimony, chambered cairn*	238044, 830848
MHG2703 & MHG42882	Carn Mharbh Dhaoine, battle site and burial cairn	24200,826000

\* The wireframe location for these assets have been selected for potential in-combination views rather than from the asset itself where there is no direct visibility expected

**9.24** The need for photomontage visualisations, and appropriate locations, will be agreed with relevant consultees as the EIA progresses.

### Field Surveys

**9.25** A walkover field survey, targeting the construction footprint of the Proposed Development, will be conducted within the Developable Area. This will allow for the verification of all known heritage assets, confirming their interpretation, location and likely sensitivity to change, and the potential effects on those assets to inform consideration of the mitigation measures. Informed by baseline data and judgements on archaeological potential, the walkover will also seek to identify any previously unrecognised assets on site, using a transect-based approach. Any such assets will be recorded to Historic England/RCAHMS Level 1.<sup>31</sup>

**9.26** Selected assets in the vicinity of the Site will also be visited to gather baseline information regarding their setting. Selection will be informed by the ZTVs and judgements on the likely sensitivity to setting change of assets with theoretical visibility or the potential for in-combination views that contribute to their significance.

### Assessment of Potential Effects

**9.27** The process for the assessment of potential effects to cultural heritage assets will begin by appropriately identifying the heritage assets that may be affected, based on the baseline data indicated above. These will be examined to provide a description of the cultural significance for each asset before identifying the likely effects the development could have on that significance. Cultural significance will be ascribed under the following criteria:

- **High:** assets of national importance, comprising designated heritage assets and non-designated assets of demonstrable value.
- **Medium:** assets of regional importance, for example those identified by regional research priorities, via engagement with relevant consultees or through the assessment of their significance.
- **Low:** assets of local importance.

**9.28** A full assessment of the significance of effects will be undertaken alongside identifying opportunities to mitigate the effects. All effects will be assessed to reflect the way in which the Proposed Development has the potential, either through physical effects or setting change, to affect the cultural significance of the asset. In articulating effects, a judgement will be made on the level of harm or benefit a historic asset will experience as a result of the Proposed Development, supported by an appropriate narrative explaining how the cultural significance of the asset will be changed. The criteria for the assessment of effects will be informed by guidance published in Appendix 1 of Scottish Natural Heritage (SNH) and Historic Environment Scotland (HES) 'EIA Handbook'.

<sup>31</sup> Position (OS NGR and relevant GPS data), photographic record, key measurements and, where appropriate, sketch plans

**9.29** In addition, assessment of effects related to change in setting and cumulative impacts with other wind farm developments will be informed by review of ZTVs for the Proposed Development and visualisations, such as wirelines and photomontages. The use of photomontages to support reporting of effects to particular assets will be agreed in the course of the assessment with the relevant consultee, along with the necessary visualisation standards. Assessment of effects related to setting change will be undertaken using the staged approach laid out in the HES 'Managing Change in the Historic Environment: Setting' guidance.

## Potential Effects

**9.30** The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

### Types of Effect

**9.31** In terms of cultural heritage impact assessment, impacts are considered in terms of the change to an asset's cultural significance. Impacts can be positive or negative, temporary or permanent, avoidable or unavoidable, individual or cumulative, amongst many factors. There are three principal impact pathways that can affect cultural heritage assets:

- **Physical impact:** Direct physical effects to assets occur when, as a result of Proposed Development, the fabric of the asset is removed or damaged; this will be permanent and generally occurs during the construction phase. There is greater risk to the disturbance of undiscovered assets, including buried remains of archaeological interest, which could be partially or totally removed. Indirect physical effects can also occur at any stage of development to assets which lie outside the proposed site. For instance, negative impacts can include such as increased erosion or damage to walls from vibration arising from construction traffic, which is likely to be permanent. Assets to be taken forward for assessment will be identified through analysis of the development footprint and, where relevant, access routes to site, and informed by a walkover survey.
- **Setting change:** 'Setting' is the way the surroundings of an asset or place contribute to how it is understood, appreciated and experienced in the landscape. All heritage assets have a setting, but the contribution that this makes to their cultural significance varies in line with the location, form, function and preservation of the asset and its surroundings. Effects related to setting change are direct and result from how a development proposal alters an asset's setting in a way which affects its significance or how it is perceived. Such changes are often visual, but can also relate to disruptions of historical, functional or symbolic relationships (including intervisibility between assets or historic patterns of land use) or sensory factors such as noise, odour or emissions. Indirect impacts on setting can also occur away from the proposal, such as changes in traffic around an asset. This type of impact can occur at any stage of development and may be permanent, reversible or temporary. Assessment of setting impacts of the Proposed Development will be based on analysis of ZTVs, field visits and assessment of agreed visualisations.
- **Cumulative impacts:** Impacts of a cumulative nature can relate to the physical fabric or setting of assets. This can be a result of impact interactions between different impacts of the proposal or in combination with impacts of other projects. Alternatively, they may be additive impacts from incremental changes caused by the proposal together with other extant projects or those already in the planning system. The cultural heritage assessment will consider the potential effects to heritage assets against a baseline that includes existing or consented wind farms (see **Figure 5.6**), in line with the schemes agreed for inclusion in the cumulative assessment. Visualisations, as discussed above, will be used to inform the assessment.

### Potential Effects Scoped into the Assessment

**9.32** Based on the existing understanding of baseline conditions, it is proposed that the following are scoped into the assessment:

- direct effects and effects due to setting change for all assets lying within the Primary Study Area;
- effects due to setting change for all assets within the Inner Setting study area identified as being of sensitive to setting change;
- effects due to setting change for designated assets identified as being sensitive to setting change within the Outer Setting study area;

- effects due to setting change for specific designated assets at longer distances identified as being sensitive to setting change; and
- cumulative effects.

### Potential Effects Scoped out of Detailed Assessment

**9.33** Based on baseline conditions, theoretical visibility and distance from the Proposed Development, it is proposed that the following are scoped out:

- physical effects to assets outside the Primary Study Area;
- effects upon non-designated heritage assets lying beyond the Inner Setting study area; and
- effects upon designated heritage assets lying beyond the Outer Setting study, except where specifically identified/agreed with consultees.

### Approach to Mitigation

**9.34** Owing to the nature of the Proposed Development, it is envisaged that mitigation is likely to focus on addressing direct effects to heritage assets, including prevention of accidental damage or potential destruction to heritage assets, which will be avoided where possible through the design process. The approach to mitigation will be guided by industry common practice and appropriate procedures as laid out in the relevant standards and guidance documents from the Chartered Institute for Archaeologists.

**9.35** Avoiding change to the setting of heritage assets is particularly challenging for tall structures like wind turbines. Screening by vegetation, whether existing or proposed, is rarely considered to be effective mitigation. Planting is, in any case, temporary and can be removed through subsequent land use decisions. It is often as harmful to the setting of the asset in question as the Proposed Development. Due to the heritage assets being primarily affected by operational and/or cumulative effects as a consequence of setting change, the main opportunities for mitigation will relate to layout refinement (alternative turbine specification (hub height, rotor diameter and overall height) and position).

### Consultation Proposals

**9.36** The consultees below will be approached for information to inform the EIA:

- Historic Environment Scotland; and
- The Highland Council Historic Environment team.

#### Questions for Consultees

Q9.1: Are there any additional sources of baseline information which should be referred to, to inform the appraisal of effects on cultural heritage?

Q9.2: Is the proposed methodology appropriate, including approach to study areas and field surveys?

Q9.3: Are the proposals to scope out certain elements of cultural heritage from detailed assessment appropriate?

Q9.4: Are there further specific heritage assets that should be considered in the impact assessment?

Q9.5: Are there further assets or locations which you wish to see visualisations for?

# Chapter 10

## Noise

### Introduction

**10.1** This chapter sets out the proposed approach to the assessment of potential effects of noise during construction and operation of the Proposed Development.

### Existing Conditions

**10.2** The assessment of noise is concerned with how it affects people, and the focus of this is how it impacts on residential properties. The noise environment at residential locations in rural areas usually consists of a combination of natural sources and those of human origin which, in most cases, vary in line with a standard diurnal cycle, with higher levels of noise occurring during the day and lower levels occurring at night. Overlaid on this is the variation of noise from wind-blown trees and foliage, which depends on wind speed and, sometimes, direction. The noise from other sources can also vary with wind direction. The extent to which these effects occur depends on the precise assessment location, its distance from the various existing noise sources and the noise they generate. The Developable Area is quite remote from the nearest residential properties which are located to the north on the A831, to the south-east on the shore of Loch Ness and to the south on the A887 with the nearest residential property to the scoping layout being 3.4km distant. The properties to the south and south-west may also currently experience some noise from the existing Bhlaraidh turbines, depending on wind speed and direction. There are three bothies on the Site, two of which are locked and used only by the Estate, the other is unlocked and accessible on foot.

### Design Considerations

**10.3** The level of noise at residential properties from any wind farm site is set by the number and location of the turbines and individual turbine noise output, which varies with wind speed, combined with noise propagation factors including wind direction, temperature and relative humidity, screening and land-form. A worst-case approach is normally taken to wind direction and the combination of temperature and relative humidity which causes the least atmospheric attenuation (within reasonable bounds). Although distance from the individual turbines is the most important propagation effect, it is not possible to specify precise constraints in this respect as the resultant noise level at any specific location depends on all the above factors.

**10.4** In addition, the assessment, and acceptable levels of turbine noise according to relevant national planning guidance, depends on the level of background/baseline noise, as it varies with wind speed.

**10.5** Noise from onsite construction activity can be minimised through the use of quiet construction techniques and equipment. Noise from access tracks is normally designed to avoid proximity to residential properties, to minimise noise from the track construction and subsequent use.

### Survey and Assessment Methodology

**10.6** The assessment methodology prescribed by national planning guidance for wind farms requires limits on (cumulative) noise to be derived based on existing (background) noise level, as it varies with wind speed. This is only required, however, where turbine noise is predicted to exceed a certain criterion level. Noise predictions will be carried out and baseline noise survey locations determined accordingly. It is highly likely that, because of the distance to the properties potentially affected, no baseline measurements are required in practice to produce a robust assessment. As such, it is not proposed to carry out any baseline

noise monitoring. Should it be determined that surveys are required, these would be carried out in accordance with the requirements of ETSU-R-97<sup>32</sup>, as updated and refined by the UK Institute of Acoustics Good Practice Guide on its use<sup>33</sup>.

## Potential Effects

**10.7** The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

### Potential Effects Scoped into the Assessment

**10.8** The assessment will consider operational noise, cumulatively with other sites whether operational or in planning, by way of noise predictions over a range of wind speeds, for the worst case wind direction, compared with noise limits derived from baseline noise measurements or the relevant 'simplified' ETSU-R-97 noise as appropriate, for the most affected residential properties.

**10.9** The assessment will also consider noise from onsite construction activities, and for construction traffic on site access routes where such routes may affect noise at residential properties, in compliance with BS5228<sup>34</sup>. Noise construction traffic on public roads will be considered in terms of the predicted increase in noise levels caused.

### Potential Effects Scoped out of Detailed Assessment

**10.10** On the basis that two of the bothies are locked and the other is not a "building used for long-term residential purposes" as detailed in ETSU-R-97, it is proposed that noise effects are not assessed for these locations.

**10.11** Cumulative operational noise will not be considered where the Proposed Development is predicted to make a negligible contribution to cumulative noise level.

**10.12** Any road traffic resulting from ongoing maintenance requirement during operation will not be considered as this will be minimal.

**10.13** Vibration impacts will not be considered in the Noise chapter or elsewhere. Ground vibration during operation is not perceptible on a wind farm site so does not require assessment at residential properties. Ground vibration from construction activities may be perceptible where access tracks pass close to residential properties both in construction and use but will not be of a level which could cause property damage of any description.

## Approach to Mitigation

**10.14** For the type of wind turbines to be considered for the Proposed Development, noise curtailment can be achieved by running some or all turbines at reduced rotational speed, and hence reduced power, for certain combinations of wind speed and wind direction, if required. The need for such curtailment is not likely here because of the turbine locations relative to residential properties.

## Consultation Proposals

**10.15** The Environmental Health Officer will be consulted on the assessment methodology, including to agree that no noise monitoring is required, and in relation to the approach to cumulative assessment.

### Questions for Consultees

Q10.1: Please confirm the approach to (cumulative) operational noise assessment using ETSU-R-97 is acceptable.

Q10.2: Please confirm any specific additional operational or construction noise issues which should be considered.

Q10.3: Please confirm that no baseline noise surveys at properties are required.

<sup>32</sup> ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, DTI 1996

<sup>33</sup> A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, Institute of Acoustics, 2013

<sup>34</sup> BS5228, Code of Practice for Noise and Vibration Control on Construction and Open Sites, BSI, 2014





# Chapter 11

## Traffic and Transport

### Introduction

**11.1** This Chapter sets out the proposed approach to the assessment of potential effects of the Proposed Development on access, traffic and transport during construction and operation of the Proposed Development.

### Existing Conditions

**11.2** The Proposed Development will be accessed from either the A887 or the A831 as illustrated on **Figure 3.2**. A detailed access review is being undertaken to identify the most suitable access option for the Proposed Development and further consultation with The Highland Council's transport planning team will be held once the final access solution has been determined.

**11.3** The access junction will provide the sole access to the Site for abnormal loads associated with the turbine equipment as well as access for construction materials and the ongoing site operation traffic.

**11.4** Should the access be located on the A887, turbine loads will access the Site from the ports of Kyle of Lochalsh (blades only) and Corpach (all other loads). This split is due to infrastructure constraints at Corpach and structural issues relating to the route from Kyle of Lochalsh. Loads from Corpach would approach the Site via the A830, A82, A87 and A887 from the west.

**11.5** Should the Site access junction be located on the A831, all turbine components would be delivered from the Port of Inverness, with all turbine loads accessing the Site via the A9, A8082, A82 and A831.

**11.6** Whilst it is not anticipated that a formal Transport Assessment (TA) will be required as these are not generally considered necessary for temporary construction works, a detailed site access review will be provided to support the application and will be appended to the EIA Report. This will detail the finalised access option in detail and will outline the reasoning for the selected access option.

**11.7** The finalised access option would then be used to determine the traffic impact associated with the Proposed Development. This will be assessed in detail and based upon the guidelines outlined by The Highland Council for wind farm developments. The impact assessment will be summarised in the EIA Report which will also examine the impact upon affected receptors.

### Survey and Assessment Methodology

**11.8** A detailed assessment will be undertaken to review the impact of transport related matters associated with the Proposed Development. This will be appended to the EIA Report and will be summarised into the Traffic and Transport Chapter within the EIA Report.

**11.9** The following policy and guidance documents will be used to inform the assessment:

- 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
- The Highland Council Transport Assessment Guidelines and general guidelines for the assessment of wind farm developments.

**11.10** 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.

**11.11** The main transport impacts will be associated with the movement of general HGV traffic travelling to and from the Site during the construction phase of the development.

**11.12** Each turbine is likely to require between 12 and 14 abnormal loads to deliver the components to 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.

**11.13** Detailed swept path analysis will be undertaken for the main constraint points on the route from the port of entry through to the 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.

**11.14** Once operational, it is envisaged that the level of traffic associated with the Proposed Development would 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 Proposed Development is proposed and this will be scoped out of the assessment as noted below.

**11.15** 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 would be left in place on the 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 not be undertaken (in line with the general approach to the rest of the assessments as set out above), although a commitment to reviewing the impact of this phase would be made immediately prior to decommissioning works proceeding.

**11.16** The following rules taken from the guidance would 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.

**11.17** 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 Proposed Development 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.

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

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

**11.20** Traffic survey data for use in the assessment would be obtained from new Automatic Traffic Count (ATC) surveys where traffic flows have not been adversely impacted by ongoing COVID 19 restrictions. These will be undertaken for a seven day period on the relevant links to provide classified, directional traffic volume and speed data. This would be undertaken outwith the school holiday periods to ensure that neutral traffic flow data was obtained for the assessment.

**11.21** The proposed locations for the ATC surveys will be determined once the finalised access route has been selected. In addition to new traffic flows data, United Kingdom Department for Transport (DfT) traffic count data and Traffic Scotland historic traffic data sets will also be utilised.

**11.22** Further traffic data would be obtained from Crashmap UK for the study area links to inform the accident review for the immediate road study area.

## Potential Effects

**11.23** The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

### Potential Effects Scoped into the Assessment

**11.24** 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 offset any temporary effects.

### Potential Effects Scoped out of Detailed Assessment

**11.25** As noted above, it is considered that the effects of operational traffic would be negligible and therefore no detailed assessment of the operational phase of the Proposed Development is proposed.

### Approach to Mitigation

**11.26** 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.

### Consultation Proposals

**11.27** It is proposed that the following stakeholders will be consulted in relation to the assessment:

- The Highland Council;
- Transport Scotland and their network agents; and
- Network Rail, Scottish Canals and other structures consultees whose infrastructure could be affected by abnormal load traffic on the proposed access routes.

#### Questions for Consultees

Q11.1: Is the proposed methodology acceptable?

Q11.2: Is the use of Low National Road Traffic Forecasts (NRTF) acceptable?

Q11.3: What developments 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?

Q11.4: Details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

# Chapter 12

## Socio-Economics

### Introduction

**12.1** This chapter sets out the proposed approach to the assessment of potential effects on socio-economic effects during construction and operation of the Proposed Development. The assessment will consider the likely impacts of the proposal on the socio-economic profile of the area, including short term job opportunities that may arise during construction. This will involve the identification of the existing socio-economic, tourism and recreation baseline conditions for the Site and surrounding area, and consideration of potential direct and indirect effects on employment and economic benefits (including community benefit), recreation and tourism activity through both quantitative and qualitative assessment.

### Existing Conditions

**12.2** The study area used for the identification and evaluation of baseline conditions and potential impacts with regard to socio-economic factors is defined as the Highland Council local authority area.

**12.3** The Site is currently used recreationally for shooting at various points throughout the year. There are 3 bothies within the Developable Area. Two of these are locked and used solely by the Estate, the other, which is located on the shore of Loch Aslaich is left open.

**12.4** As noted in Section 5 which details the proposed scope of the assessment of effects on landscape and visual amenity, there are many hills, including Munro Hill summits, which are popular with hill walkers and other recreational users (e.g. mountain bikers) within the area around the Site. This includes the Munro hill summits of Tom a Choinnich and Carn Ghluasaid in the west, and the local hill summit of Meall Fuar-mhonaidh, located along the eastern Site boundary.

**12.5** There are also a number of walking and recreational routes nearby including the Great Glen Way, Affric Kintail Way, South Loch Ness Trail and National Cycling Network (NCN) Route 78: the Caledonia Way, as well as a number of Core Paths which are primarily clustered around the communities and settlements within the Great Glen and smaller glens to the north and south of the Site.

### Design Considerations

**12.6** Consideration will be given to the potential effects on viewpoints and designated recreational routes that are considered important for recreation through the LVIA.

### Survey and Assessment Methodology

**12.7** There is no established guidance for conducting a socio-economic assessment as part of the EIA process. It is therefore proposed that the assessment uses desk-based information sources to assess the likely scale of effects, supplemented by consultation with local stakeholders.

**12.8** Cross-reference would be made to other technical assessments to consider potential effects on recreational assets and other leisure and tourism attractions in the surrounding area, for example due to visual impact, traffic, and noise.

**12.9** Any areas affected by construction traffic will be accompanied by an access plan to be agreed with THC as part of any forthcoming condition following consent.

## Potential Effects

**12.10** Socio-economic impacts associated with wind farm developments primarily relate to job creation, use of local services and income spent in the locality of a project. These impacts can have short and long term, direct beneficial effects for surrounding local communities.

### Potential Effects Scoped into the Assessment

**12.11** The EIA will consider the effects of the Proposed Development on employment and the economy. This will include the employment opportunities for local suppliers with relevant construction and maintenance experience during the construction and operational phases of the Proposed Development. The EIA Report will focus on short and long term employment opportunities and input from the Proposed Development into the local economy (expenditure in shops / local services etc.).

**12.12** Potential effects upon tourism and recreation would be considered as would potential effects on land management practices, including shooting which currently takes place on the Site.

### Potential Effects Scoped Out of Detailed Assessment

**12.13** It is not currently proposed to scope out any potential effects from detailed assessment at this stage.

## Approach to Mitigation

**12.14** The applicant is committed to implementing accepted good practice measures during construction and operation of the Proposed Development, thereby ensuring that many potential adverse social and economic effects can be avoided or reduced.

**12.15** Possible mitigation and enhancement measures may include the following:

- the programming of the transportation of abnormal loads wherever practicable to avoid peak visitor, or other busy periods to mitigate the effect of the Proposed Development on particularly sensitive locations, tourist/visitor viewpoints, and road corridors; and
- local sourcing of construction materials where possible to reduce the importation or exportation of materials, limiting traffic movements on the surrounding road network and hence minimising related adverse effects upon visitors.

**12.16** It is considered that there are opportunities to enhance positive effects resulting from the Proposed Development, including:

- local promotion of contract and supply chain opportunities in the construction and operation phases to maximise the use of local business and labour resources.
- skills development and training programmes to increase local take up of training, apprenticeship and employment opportunities associated with the Proposed Development.
- establishing effective linkages with local job centres, employability programmes and partners.
- promotion of the wider area and its opportunities as part of the marketing of the Proposed Development.

## Consultation Proposals

**12.17** It is proposed that the following stakeholders will be consulted in relation to the assessment:

- The Highland Council (Access Team and Economic Forum);
- Visit Scotland (as national tourism lead body);
- The Scottish Rights of Way and Access Society (ScotWays);
- The Mountaineering Council of Scotland;
- The John Muir Trust; and
- Any local recreation and tourism groups.



**Questions for Consultees**

Q12.1: Are there any other relevant consultees who should be consulted with respect to the assessment of effects on socio-economics?

# Chapter 13

## Other Issues

### Introduction

**13.1** It is proposed that a single EIA Report chapter will be prepared to draw together the assessments of the Proposed Development on other topics that are not dealt with within the other technical chapters of the EIA Report. It is anticipated that this chapter would include discussion of the following issues:

- Aviation;
- Communications;
- Shadow Flicker;
- Climate Change including Carbon Balance;
- Population and Human Health (including dust); and
- Major Accidents and Disasters.

**13.2** Predicted effects for these topics will be determined through a standard method of assessment based on professional judgement. Where a 'significant effect' is identified, this will be considered as significant in the context of the EIA regulations.

### Aviation

**13.3** Wind turbines have the potential to affect civil and military aviation however the Proposed Development is located in an area relatively remote from significant aviation features. It is 92km to the south-west of RAF Lossiemouth and over 50km to the south-west of Inverness Airport. The Site is located within Class G unregulated airspace and is adjacent to existing operational wind turbines at Bhlairaidh Wind Farm. The Highlands Restricted Airspace (HRA) (R610A) is located to the west of the Site and is used by the MOD for tactical low flying.

**13.4** The assessment of effects of the proposed turbines will be based upon the guidance in the CAA Publication CAP 764 and Guidelines on Wind Turbines Version 6 dated February 2016.

**13.5** Consultation with aviation stakeholders is a routine part of wind farm and in accordance with CAP 764, it is proposed that the following stakeholders will be consulted in relation to the assessment:

- MOD Defence Infrastructure;
- NERL;
- Highlands and Islands Airports Ltd; and
- Civil Aviation Organisation for lighting.

**13.6** On the basis of the work undertaken to date, the professional judgement of the assessment team and experience from other similar projects, consultation with the Met Office will not be required on the basis that the closest Met Office Radar is at Hill of Dudwick, over 150km to the east.

### Communications and Telecommunications

**13.7** Wind turbines can cause electromagnetic interference through physical and electrical interference. Physical interference can cut across electromagnetic signals resulting in a 'ghosting' effect which largely affects television signals and radar. Electrical interference arises as a result of the operation of the generator within the nacelle of the turbine and can also affect communication equipment in proximity to the turbines. Where possible, any potential effects on radio-communication links and television will be mitigated at the turbine layout design stage by the use of exclusion zones around any link paths.

**13.8** The Office of Communications (Ofcom) is responsible for the licensing of two-way radio transmitters. It holds a register of most microwave links and will therefore be consulted in order to establish baseline conditions. However, because not all microwave links are published, system operators will also be individually consulted on the Proposed Development's potential to cause electromagnetic interference. The outcome of this consultation process, including any mitigation actions taken, will be detailed in the EIA Report.

### Shadow Flicker

**13.9** Shadow flicker is a phenomenon where, under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. It only occurs inside buildings where the flicker appears through a narrow window opening.

**13.10** A shadow flicker assessment is generally required if any properties lie within 10x rotor diameter of the wind farm. This is in line with Scottish Government online renewables planning advice on 'onshore wind turbines' which states that "*where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), 'shadow flicker' should not be a problem.*" However, in 'Spatial Planning for Onshore Wind Energy in Highland' (2015) and the associated Onshore Wind Energy Supplementary Guidance, this distance has been increased to 11x rotor diameter. This is to account for the northern latitudes of the Highlands and is in line with the conclusions of the DECC Update of the UK Shadow Flicker Evidence Base, 2011.

**13.11** On the basis that the nearest property is over 3km away, it is proposed to scope out shadow flicker from consideration within the EIA Report.

### Climate Change, including Carbon Balance

**13.12** By its very nature, the Proposed Development will reduce demand for fossil fuel electricity generation and therefore contribute to the Scottish Government's carbon reduction targets.

**13.13** A carbon balance assessment for the Proposed Development will be undertaken using Scottish Government guidance produced by Aberdeen University and the Macaulay Land Use Research Institute and the latest version of the carbon calculator spreadsheet produced by the Scottish Government (currently version 1.4.0).

**13.14** The main aims of the calculation are: to quantify sources of carbon emissions associated with the Proposed Development (i.e. from construction, operation and transportation of materials, as well as loss of peat); to quantify the carbon emissions which will be saved by operating the Proposed Development; and to calculate the length of time for the project to become a 'net avoider', rather than a 'net emitter' of carbon dioxide emissions.

**13.15** With respect to climate adaptation, consideration will be given to the resilience of the wind farm to projected climate change and to the likely consequences of climate change for baseline conditions/assessment findings, and the resilience of proposed mitigation measures to any projected changes. The latest climate change projections (UKCP18) will be used, which allow climate changes to be projected at the regional level; in this case, the north of Scotland.

### Population and Human Health, including Dust

**13.16** The assessment of potential health effects will be undertaken in the context of noise, socio-economics and recreation and shadow flicker where scoped into the EIA. The assessment will also consider the health effects of dust emissions of construction activities on nearby receptors. The Design Manual for Roads and Bridges (DMRB), Volume 11 Environmental Assessment Techniques, Part 1, Air Quality states that dust generated during construction should be mitigated and that the locations of 'sensitive receptors' within 200m of construction activities should be identified and mitigation measures to reduce dust effects be applied. As such, all receptors within 200m of potential dust sources will be considered as potential receptors. Particular attention will be paid to any vulnerable populations or individuals who could be susceptible to potential health effects. Where no significant effects are likely in relation to the aforementioned topics, these will be scoped out of the health assessment.

### Major Accidents and Disasters

**13.17** The Proposed Development is not located in an area with a history of natural disasters such as extreme weather events, and the construction and operation of the Proposed Development would be managed within the requirements of a number of

health and safety related Regulations, including the Construction (Design and Management) Regulations 2015 and the Health and Safety at Work etc. Act 1974.

**13.18** As the development is not considered vulnerable to any major accidents or disasters that could result in likely significant environmental effects, it is proposed that this topic is scoped out from further assessment within the EIA Report.

**Questions for Consultees**

Q13.1: Is the approach of the assessment of the topics above considered to be appropriate, including the proposal to scope out shadow flicker?

Q13.2: Are there any other relevant consultees who should be consulted the assessments?

Q13.3: Is the spatial extent of the aviation study area considered to be appropriate?

# Appendix A

## Consultee List

**A.1** The Consultees listed below are proposed to be consulted as part of the EIA process:

- The Highland Council (and relevant internal teams);
- NatureScot;
- SEPA;
- HES;
- Cairngorms National Park Authority;
- Scottish Forestry;
- Marine Scotland;
- Transport Scotland and their network agents;
- Network Rail;
- Scottish Canals;
- Scottish Water;
- Glen Urquhart Community Council;
- Fort Augustus and Glenmoriston Community Council;
- Stratherrick and Foyers Community Council;
- Dores and Essich Community Council;
- Strathglass Community Council;
- Kiltarlity Community Council;
- Fisheries Management Scotland;
- Ness District Salmon Fisheries Board;
- Ness & Beaully Fisheries Trust;
- RSPB Scotland;
- The Highland Raptor Study Group;
- National Trust for Scotland;
- Visit Scotland (as national tourism lead body);
- Scottish Wildlife Trust;
- The Scottish Rights of Way and Access Society (ScotWays);
- Mountaineering Scotland;
- Scottish Wild Land Group;
- Association for the Protection of Rural Scotland (APRS);

- The John Muir Trust;
- Crown Estate Scotland;
- NATS Safeguarding;
- BT;
- Civil Aviation Authority (CAA);
- Defence Infrastructure Organisation (DIO);
- Sustrans Scotland;
- British Horse Society;
- JRC;
- Ofcom;
- BAA Aerodrome Safeguarding; and
- Highlands and Islands Airports.

# Appendix B

## Questions for Consultees

**B.1** Comments from consultees are invited in relation to the following questions as detailed within the EIA Scoping Report.

Scoping Report Chapter	Questions
3: Project and Site Description	Q6.2: SEPA is requested to advise on upper limiting depths for borrow pit restoration given the widely variable peat depths present across the Developable Area
5: Landscape and Visual Amenity	Q5.1: Can consultees confirm that GLVIA3 is an appropriate methodological starting point for the LVIA assessment? Are there any comments on the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?
	Q5.2: Are there other sources of information which should inform the baseline and assessment of potential effects on landscape character and designated landscapes?
	Q5.3: Are there any comments on the proposed list of assessment viewpoint locations listed in <b>Table 5.4</b> ?
	Q5.4: Are there any further wind farms, in addition to those shown on <b>Figure 5.6</b> , to consider as part of the cumulative assessment?
	Q5.5: Are there any further landscape or visual receptors to be considered within the assessment (i.e. where it is expected that significant effects may occur)?
	Q5.6: Can consultees confirm that an RVAA will not be required?
	Q5.7: Are there any comments on the landscape character types scoped in and scoped out of the assessment, as listed in <b>Table 5.1</b> ?
	Q5.8: Are there any comments on the designated landscapes scoped in and scoped out of the assessment, as listed in <b>Table 5.2</b> ?
	Q5.9: Are there any comments on the Wild Land Areas scoped in and scoped out of the assessment, as listed in <b>Table 5.3</b> ?
6: Hydrology, Hydrogeology and Peat	Q6.1: NatureScot is requested to confirm if a Peatland Condition Assessment is required to detail the character of peat within the Developable Area.
	Q6.3: Confirmation is sought that the proposed approach to embedded and additional mitigation is appropriate.
7: Ecology	Q7.1: Do consultees agree with the survey scope set out above?
	Q7.2: Do consultees agree with the assessment method (including scoped in/scoped out features)?
	Q7.3: Do consultees hold any existing ecological data relating to the ESA that may further inform the ecological baseline?
	Q7.4: Are consultees aware of any local nature conservation organisation with whom further consultation should be undertaken?
8: Ornithology	Q8.1: Do the consultees agree that SPAs can be scoped out of the EIA given the lack of connectivity?
	Q8.2: Are the consultees content with and / or have any comments on the baseline survey methods and level of survey effort, taking into consideration current guidance, the proposed scale and location of the Proposed Development?



Appendix B  
 Questions for Consultees

Loch Liath Wind Farm  
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Scoping Report Chapter	Questions
	Q8.3: Are the consultees content with and / or have any comments on the list of potential effects and impact assessment methods?
	Q8.4: Are there any consultees in addition to those listed in paragraph 8.37 who should be contacted?
9: Cultural Heritage	Q9.1: Are there any additional sources of baseline information which should be referred to, to inform the appraisal of effects on cultural heritage?
	Q9.2: Is the proposed methodology appropriate, including approach to study areas and field surveys?
	Q9.3: Are the proposals to scope out certain elements of cultural heritage from detailed assessment appropriate?
	Q9.4: Are there further specific heritage assets that should be considered in the impact assessment?
	Q9.5: Are there further assets or locations which you wish to see visualisations for?
10: Noise	Q10.1: Please confirm the approach to (cumulative) operational noise assessment using ETSU-R-97 is acceptable.
	Q10.2: Please confirm any specific additional operational or construction noise issues which should be considered.
	Q10.3: Please confirm that no baseline noise surveys at properties are required.
11: Traffic and Transport	Q11.1: Is the proposed methodology acceptable?
	Q11.2: Is the use of Low National Road Traffic Forecasts (NRTF) acceptable?
	Q11.3: What developments 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?
	Q11.4: Details of any upgrades or network changes that may be undertaken to the study area network within the next five years?
12: Socio-economics	Q12.1: Are there any other relevant consultees who should be consulted with respect to the assessment of effects on socio-economics?
13: Other Issues	Q13.1: Is the approach of the assessment of the topics above considered to be appropriate?
	Q13.1: Are there any other relevant consultees who should be consulted the assessments?
	Q13.2: Is the spatial extent of the aviation study considered to be appropriate?