Lochluichart Wind Farm Extension II

INFINERGY

harnessing the power of nature

Scoping Report

October 2020

Cover image for illustrative purpose only

Table of Contents

Figures

1. Introduction

The Proposal

1.1. Bluebell Wind Farm Limited (hereafter referred to as the 'Applicant') proposes to submit an application to construct a wind farm to The Highland Council (hereafter referred to as 'THC'). The Applicant received a planning permission for Lochluichart Wind Farm Extension II (hereafter referred to as the 'Consented Development' (THC Ref: REF: 19/01284/FUL), a 5-turbine scheme, together with associated infrastructure, on 1st July 2020 from THC.

1.2. The Applicant submitted the application for the Consented Development in April 2019, supported by an Environmental Impact Assessment Report ('EIA Report' (Infinergy, 2019), for a 9-turbine scheme. Following feedback from statutory consultees, the Applicant subsequently submitted Supplementary Information (hereafter known as 'SI' (Infinergy, 2019) in November 2019 to amend to scheme. The changes included reducing the number of turbines from 9 to 5 (by removing turbines T2, T3, T9 & T10, along with associated access tracks and infrastructure) and micro-siting turbine T4 to avoid deep peat.

1.3. This application will be for the erection of 5 (149.9m to tip) wind turbines and associated infrastructure at the Loch Luichart Estate, north-west of Dingwall. The turbine and infrastructure for the new application for Lochluichart Wind Farm Extension II (hereafter referred to as the 'Proposed Development'), will be in the same locations as for the Consented Development. The general site location is centred on OS Grid reference E232984 N868776, and is illustrated on **Figure 1.0** below.

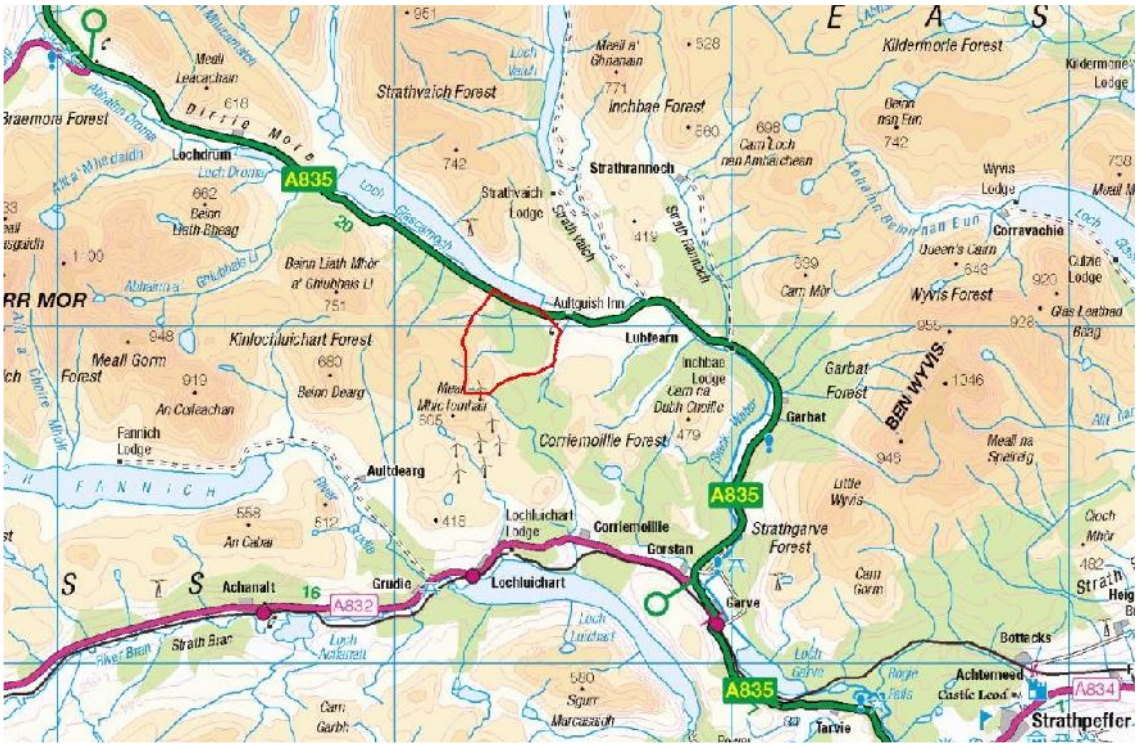

Figure 1.0 – Site Location

1.4. In order to support an application for consent, the Proposed Development will require an Environmental Impact Assessment (EIA) conducted in line with the

requirements of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 as amended (the EIA Regulations). Under the EIA Regulations 'a person who is minded to make an EIA application may ask the planning authority to adopt a scoping opinion.'

1.5. This document enacts a formal request for a Scoping Opinion under the EIA Regulations, and invites statutory consultees and other stakeholders to provide relevant input or environmental information relating to the proposal, the site and the surrounding area. It also seeks comment and confirmation on the adequacy of environmental data required to support the EIA and assessment methods being proposed to inform the final EIA Report.

1.6. This report sets out the scope of the EIA for the Proposed Development. The purpose of this Scoping Report is therefore to:

- Outline the consenting and EIA requirements in relation to the Proposed Development;
- Outline the development being considered;
- Outline the aspects of the project that could potentially have significant environmental effects;
- Outline the suggested scope of work/methodologies that will be used to assess the significance of any potential impacts during the EIA;
- Outline the proposed statutory and non-statutory organisations to be consulted during the EIA process; and
- Prepare a proposed contents list for the EIA Report;
- Except for certain topics, reliance will be placed on the EIA Report and SI for the Consented Development, which will be placed on deposit with the EIA Report for the Proposed Development.

The Applicant

1.7. Bluebell Wind Farm Limited is the joint venture between Infinergy Limited and Loch Luichart Estate (hereafter referred to as 'the Applicant').

Environmental Impact Assessment

1.8. The EIA Regulations require that before consent is granted for particular types of development, an EIA must be undertaken. The EIA Regulations set out the types of development which must be subject to an EIA ('Schedule 1' development) and other developments which may require an EIA if they are above certain thresholds or are likely to give rise to significant environmental impacts ('Schedule 2' development).

1.9. The Proposed Development falls within Schedule 2 (a) of the EIA Regulations as 'the development involves the installation of more than 2 turbines and 'the hub height of any turbine...exceeds 15 metres'. As such, the Proposed Development qualifies as an 'EIA development' and the applicant proposes that it is subject to an EIA.

1.10. An EIA is a systematic process which identifies the potential environmental effects which in turn inform the design of a proposal. The process seeks to avoid, reduce, offset or minimise any adverse effects through mitigation. Effects are evaluated over the whole lifecycle of a development including construction, operation and decommissioning.

1.11. Establishing which aspects of the environment are likely to be significantly affected by a particular development is captured through the EIA scoping process.

Scoping identifies those aspects of the environment that need to be considered when determining the potential effects of a development. This recognises that there may be some environmental elements on which a development is unlikely to have significant effect and hence where there is no need for further investigation to be undertaken as part of an EIA. The scope of the EIA for the Proposed Development is set out in Section 4 of this report.

1.12. The EIA methodologies proposed in this scoping report are based on recognised good practice and guidelines specific to each topic area.

1.13. In addition, the EIA Regulations state that cumulative effects should be considered as part of the EIA process. Therefore, it is important to consider the cumulative effects of the Proposed Development alongside other wind energy developments in the area, including those that are currently operational, consented and in planning.

2. Description of the Proposed Development

The Site

2.1. The proposed site (E232984, N868776) lies 18km to the north-west of Dingwall, in the Highlands. **Figure 1.0** illustrates the Site Location, and **Figure 2.0** illustrates the location of wind turbines and associated infrastructure for the Proposed Development.

2.2. Loch Luichart Estate is managed primarily for farming, forestry, and as a sporting and recreational estate. The proposed site extends over approximately 230 hectares (2.3km^2) of gently sloping open moorland intersected intermittently by burns. The A835 lies immediately north of the site and runs alongside the site boundary.

2.3. The operational Lochluichart and Corriemoillie wind farms are adjacent to the Proposed Development. The nearest residential property is Aultguish Inn, approximately 2km to nearest proposed turbine.

Description of the Development

2.4. Infinergy is proposing to construct and operate a 5-turbine wind farm at the Loch Luichart Estate. For the purposes of this Scoping Report it is assumed that the turbines will have a generation capacity of 4.8 MW (based on the Nordex 133), giving a total installed capacity of at least 24 MW.

2.5. The main components of the Proposed Development are:

- 5 wind turbines (with a maximum blade tip height of 149.9m) with associated turbine foundations and hardstandings;
- An onsite network of underground cables linking the turbines to a grid connection;
- A series of onsite access tracks connecting each of the turbine locations;
- An onsite substation (if required) and control/maintenance building;
- Temporary works including a construction compound;
- A permanent anemometer mast to measure wind speed and wind direction;
- On-site borrow pit/s; and
- A battery storage facility.

2.6. **Figure 2.0** illustrates the proposed wind farm layout; a grid reference for each turbine location is provided below.

Table 2.0 – Proposed Development wind turbine co-ordinates

Turbine No.	X(East)	Y(North)
4	234009	868766
5	233268	868761
6	232668	868596
7	232633	868934
8	232183	869027

2.7. The EIA Report will include a detailed description of all the wind farm components.

2.8. It is recognised that throughout the EIA process, the number and/or layout of the turbines may change due to emerging technical and environmental constraints.

Access

2.9. Site access will be required for the delivery of turbine components, construction materials and plant, and for general construction and maintenance traffic. The existing access track which was constructed for the Lochluichart/Lochluichart Extension and Corriemoillie Wind Farms will be utilised for the Proposed Development. It connects the proposed site directly to the A835.

2.10. The abnormal load route for the delivery of turbine components is anticipated to run from Invergordon approximately 60km to the east, following the delivery route for the original Lochluichart/Lochluichart Extension Wind Farms. Once an optimal route for abnormal loads has been identified, a full swept path analysis will be carried out from port to site to determine whether any upgrades will be required to accommodate the delivery of the turbine components.

Grid Connection

2.11. The Proposed Development will be connected into the local distribution network at 33kV. The applicant has a signed Grid Connection Agreement with the local Distribution Network Operator & National Grid. As the grid connection will likely be developed by the SHETL, the connection to the electricity distribution network falls under a separate application process and will be subject to a separate consent.

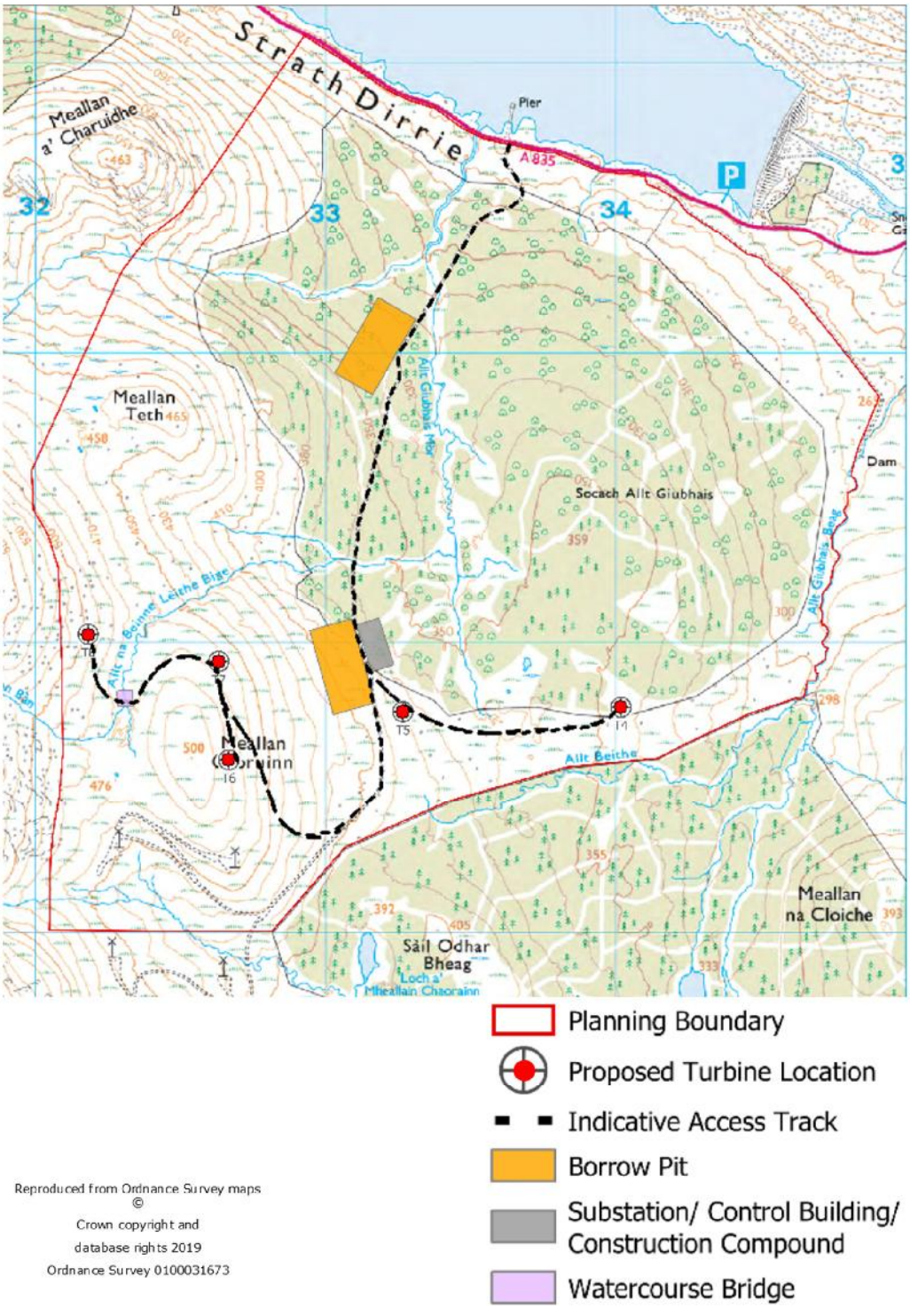

Figure 2.0 - Turbine Layout for the Lochluichart Wind Farm Extension II

Construction

2.12. The construction of the proposed 5 turbine wind farm would take approximately nine months, but this would, to a certain extent, depend on weather conditions and ecological considerations.

2.13. The construction process will consist of the following principal activities:

- Construction of temporary construction compound;
- Import of construction materials;
- Construction/upgrade of on-site access tracks interlinking the turbine locations and the control building, incorporating relevant works to maintain site hydrology and manage surface water run-off;
- Construction of turbine foundations;
- Construction of control building;
- Excavation of trenches and cable laying adjacent to on-site access tracks;
- Connection of electrical distribution and signal cables;
- Movement onto site and erection of wind turbines;
- Commissioning of site equipment; and
- Site Restoration.

2.14. Many of these operations will be carried out concurrently, although predominately in the order identified, which will minimise the overall length of the construction programme.

Site Restoration

2.15. Site restoration will be programmed and carried out to allow the restoration of disturbed areas as early as possible and in a progressive manner. Vegetation and soils will be stored and reinstated in accordance with best practice.

2.16. The main site restoration activity will occur alongside access tracks, hardstandings and turbine foundations. Most excavated material will be stored adjacent to excavations, before being used to dress back working areas to facilitate re-vegetation. Where vegetation exists, this will be scraped off and stored separately prior to re-use as the top layer of any restored areas. This approach will maximise the potential for natural re-vegetation from the existing onsite seed bank.

Maintenance and Servicing

2.17. Routine maintenance and servicing of turbines would be carried out twice a year, with a main service at 12-month intervals and a minor service at 6-month intervals. Teams of two people with a 4x4 vehicle would carry out the servicing, which takes on average one a day for each turbine.

Decommissioning

2.18. The Proposed Development will be designed to have an operational life of 40 years. At the end of this time, it is envisaged that the site will be decommissioned and the turbines dismantled and removed. Any alternative to this action would require a new planning approval.

3. Planning Context

Introduction

3.1 The EIA Report for the Consented Development, submitted in April 2019, included a planning context chapter completed by Savills, this was updated subsequently by the submission of SI in November 2019. This provided details of:

- relevant national planning and energy policy and guidance; and,
- relevant development plan policy.

3.2 It is proposed that the planning context chapter of the EIA Report for the Consented Development, and subsequent SI, is updated to describe relevant changes to policy and guidance since the submission of the applications for the Consented Development. As such, a brief summary of the documents and guidance currently considered relevant is provided below. Through the scoping process the consultees are requested to confirm and identify whether any additional documents or guidance should also be considered.

National Planning and Energy Context

3.3. The National Planning Framework 3 (NPF3) and the Scottish Planning Policy (SPP) set out the national planning context for the proposed development. In terms of relevant Energy Policy Considerations, the most relevant include the *Scottish Energy Strategy: The future of energy in Scotland, Dec 2017;* the *Onshore Wind Policy Statement, December 2017 and the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, which amends the Climate Change (Scotland) Act 2009.* 3.4. In addition, national planning advice is outlined in a number of documents including Planning Advice Notes (PANs). It is also relevant that a replacement NPF4 is currently at the initial stages of preparation.

National Planning Framework 3 (2014)

3.5. Scotland's third National Planning Framework (NPF3) was published by the Scottish Government on 23 June 2013. NPF3 is a long-term strategy for Scotland and is the spatial expression of the Government's Economic Strategy and plans for development and investment in infrastructure. Together, NPF3 and Scottish Planning Policy (referred to below) applied at the strategic and local levels, are intended to help the planning system deliver the Government's vision and outcomes for Scotland and to contribute to the Government's central objective: sustainable development.

3.6. NPF3 sets out the Government's 'Vision' for Scotland which is referred to as inter alia:

- A successful, sustainable place – 'we have a growing low carbon economy which provides opportunities…'
- A low carbon place – 'we have seized the opportunities arising from our ambition to be a world leader in low carbon generation, both onshore and offshore…'
- A natural resilient place – 'natural and cultural assets are respected; they are improving in condition and represent a sustainable economic environmental and social resource for the nation..'

A Low Carbon Place

3.7. Chapter 3 of the NPF3 addresses 'A Low Carbon Place'. As noted below, this is also a 'subject policy' in the Scottish Planning Policy (2014). Paragraph 3.1 explains that planning will play a key role in delivering on the commitments set out in 'Low Carbon Scotland: The Scottish Government's report on Proposals and Policies (RPP2)'. It adds:

'the priorities identified in this spatial strategy set a clear direction of travel which is consistent with our world leading climate legalisation'.

3.8. The introduction to Chapter 3 States that the Governments ambition 'is to achieve at least an 80% reduction of greenhouse gas emissions by 2050'.

3.9. The introductory section acknowledges that at present, the energy sector accounts for a significant share of the country's greenhouse gas emissions and that a planned approach to development has ensured that onshore wind development has widely avoided internationally and nationally protected areas.

3.10. Paragraph 3.7 states that whilst there is strong public support for wind energy as part of the renewable energy mix, opinions about onshore wind in particular locations can vary. It adds that the technology is also '..recognised as an opportunity to improve the long term resilience of rural communities'.

3.11. Overall, NPF3 supports the development of wind farms in locations where the technology can operate efficiently and environmental and cumulative impacts can be addressed satisfactorily.

Scottish Planning Policy 2014

3.12. Scottish Planning Policy (SPP) was published on 23rd June 2014. The purpose of the SPP is to set out national planning policies which reflect Scottish Government Ministers' priorities for the operation of the planning system and for the development and use of land. The SPP is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed.

3.13. Paragraph (iii) states that as a statement of Ministers' priorities, the content of the SPP is a material consideration that carries significant weight, although it is for the decision maker to determine the appropriate weight to be afforded to it in each case.

Relationship of SPP to National Outcomes

3.14. SPP contains two Principal Policies: 'sustainability' and 'place making'. Sustainability is addressed at Page 9. The SPP states:

'the Scottish Government's central purpose is to focus Government and public services on creating a more successful country with opportunities for all of Scotland to flourish through increasing sustainable economic growth'.

3.15. Paragraph 25 adds that the Scottish Government's commitment to the concept of sustainable development is reflected in its Purpose.

3.16. Paragraph 27 cross references the Government's Economic Strategy which it states 'indicates that sustainable economic growth is the key to unlocking Scotland's potential…. and to achieving a low carbon economy…" It also makes reference to the need to maintain a high-quality environment and to pass on a sustainable legacy for future generations'.

3.17. Importantly, 'sustainability' as set out under the Principal Policies of the SPP '…introduces a presumption in favour of development that contributes to sustainable development'.

SPP Subject Policies – A Low Carbon Place

3.18. SPP addresses 'A Low Carbon Place' as a 'subject policy' on page 36 and refers to 'delivering electricity'. Paragraph 152 refers to the NPF3 context and states that NPF3 is clear that planning must facilitate the transition to a low carbon economy and help to deliver the aims of the Scottish Government. It is stated that Scotland has significant renewable energy resources, both onshore and offshore.

3.19. Paragraph 153 states that terrestrial planning 'facilitates' development of renewable energy technologies, and guides new infrastructure to appropriate locations. It adds that 'sufficient supply of low carbon and low-cost generation of electricity from renewable energy sources are vital to reducing greenhouse gas emissions…' It explains that renewable energy also presents a significant opportunity for associated development, investment and growth of the related supply chain.

3.20. In terms of 'Policy Principles', Paragraph 154 states that the planning system should:

- Support the transformational change to a low carbon economy, consistent with national objectives and targets, including deriving:
  - 30% of overall energy demand from renewable sources by 2020; and
  - the equivalent of 100% of electricity demand from renewable resources by 2020.
- Support the development of a diverse range of electricity generation from renewable technologies – including the expansion of renewable energy generation capacity.
- Guide development to appropriate locations and advise on the issues that will be taken into account when specific proposals are being assessed.
- SPP also cross references a range of "key documents". Those of relevance include:

  - The Electricity Generation Policy Statement;

  - The 2020 Routemap for Renewable Energy in Scotland; and

  - Low Carbon Scotland: Meeting Our Emissions Reductions Targets 2013 –2027.

Onshore Wind

3.21. Onshore wind is specifically addressed at Paragraphs 161 et seq. of SPP. Detailed guidance is provided for Planning Authorities with regard to the preparation of spatial frameworks for onshore wind development, and it makes it clear that proposals for onshore wind turbine development should continue to be determined whilst spatial frameworks and local policies are being prepared and updated. It makes it clear at Paragraph 166 that moratoria on onshore wind development are not appropriate.

3.22. In terms of spatial framework guidance, a 'community separation for consideration of visual impact' is set out as an area not exceeding 2 km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge.

3.23. As with the previous SPP, this separation distance seeks to guide the preparation of spatial frameworks and is not a requirement for a 'set back' to settlements for wind farms in terms of development management.

Development Management for Energy Infrastructure Developments

3.24. In terms of development management, Paragraph 169 of SPP set out that 'proposals for energy infrastructure should always take account of spatial frameworks for wind farms and that considerations will vary relative to the scale of proposals and area characteristics but are likely to include a number of matters'. These are set out as follows:

- net economic impacts, including local and community socio economic benefits such as employment, associated business and supply chain opportunities;
- the scale of contribution to renewable energy generation targets;
- effects on greenhouse gas emissions;
- cumulative impacts – planning authorities should be clear about the likely cumulative impacts arising from all of the considerations below;
- impacts on communities and individual dwellings, including visual impact, residential amenity and noise and shadow flicker;
- landscape and visual impacts including effects on wild land;
- effects on the natural heritage, including birds;
- impacts on carbon rich soils using the carbon calculator;
- public access, including impact on long distance cycling and walking routes and scenic routes identified in the NPF;
- impacts on the historic environments, including scheduled monuments, listed buildings and their settings;
- impacts on tourism and recreation;
- impacts on aviation and defence interests and seismological recording;
- impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised.
- impacts on road traffic;
- impacts on adjacent trunk roads;
- effects on hydrology, the water environment and flood risk;
- the need for conditions relating to the decommissioning of developments, including ancillary infrastructure and site restoration; and
- the need for a robust planning obligation to ensure that operators achieve site restoration.

3.25. Paragraph 170 states that areas identified with wind farms should be suitable for use in perpetuity. It further adds that consents maybe time limited, but nevertheless 'wind farms should be sited and designed to ensure impacts are minimised and to protect an acceptable level of amenity for adjacent communities'.

3.26. In terms of the various considerations set out above, SPP also contains detailed policies on a number of the topics referred to: for example, cultural heritage and the historic environment, natural heritage and landscape designations.

National Policy Conclusions

3.27. Support for renewable energy development at an appropriate scale and location is detailed within both the NPF 3 and SPP. The 2020 targets are highlighted and support for onshore wind development is firmly stated. The Proposed Development is entirely consistent with both the NPF3 and SPP and would further the sustainable development and low carbon objectives set out in these policy documents.

Scottish Energy Strategy: The future of energy in Scotland, Dec 2017

3.28 The Scottish Energy Strategy (SES) was published in December 2017 and sets out the Scottish Government's strategy through to 2050, marking a 'major

transition' over the next three decades in terms of energy management, demand reduction and generation.

3.29 The Strategy sets a new 2030 'all energy' target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources. The Strategy also targets an increase by 30% in the productivity of energy use across the Scottish economy.

3.30 Paragraph 107 notes that renewable energy technologies have the potential to become more cost-effective generation sources than conventional gas fire power stations into the 2020s. However, to unlock cost reductions, it is imperative that deployment of projects continues, utilising the rich pipeline of renewable projects in Scotland.

3.31 Paragraph 109 notes that in the immediate future the renewable energy sector faces investment challenges arising from uncertainties over subsidy support but paragraph 110 considers that with the right regulatory framework, new onshore wind projects can be economically viable without subsidy.

3.32 The SES clearly sees the onshore wind sector as playing an important role in helping to deliver Scotland's longer-term climate change targets while also helping to reduce the costs of electricity generation.

The Onshore Wind Policy Statement, December 2017

3.33 The Onshore Wind Policy Statement (OWPS) was published in December 2017 and is divided into seven sections dealing with a number of issues under headings such as Route to Market, Repowering, Barriers to Deployment, Protection for Residents and the Environment, Community Benefits and Shared Ownership. Under these headings the OWPS discusses a range of issues relevant to the onshore wind sector including the challenges of developing in a subsidy free market, the move towards taller turbines, the important role that the sector plays in the Scottish economy, the consenting regime, technical barriers to development of onshore wind and wider matters relating to residential amenity, community benefits and shared ownership.

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

3.34 This amends the Climate Change (Scotland) Act 2009) and now represents the most ambitious, demanding and binding greenhouse gas reduction targets in the world, requiring:

- interim target of a 75% reduction in emissions (compared to 1990 levels) by 2030;
- interim target of a 90% reduction in emissions (compared to 1990 levels) by 2040; and,
- an overall net zero greenhouse gas emissions target for 2045 (at the latest).

Protecting Scotland's Future' Programme for Scotland 2019-2020 (September 2019).

3.35 In this document the First Minister references the 'climate emergency' and notes that the programme '*raises our ambition in light of the emergency we face. We are leading the world in setting challenging targets, but we must also redouble our efforts to meet them'*. Chapter 1 of the Programme 'Ending Scotland's Contribution to Climate Change' notes that '*adopting a net zero emissions target*

by 2045 underlines our ambition that Scotland will no longer contribute to global climate change'.

3.36 Together these all reinforce the important role that the planning system has to play in delivering greenhouse gas targets, and it is particularly noted that page 38 of the Programme confirms that one of the major commitments in the response to the climate emergency will be the introduction of the fourth National Planning Framework (NPF4) which *'will help to radically accelerate reduction of emissions'*. The Programme also notes that the climate emergency necessitates a debate on *'more radical planning policy options'* and that planning *'is a vital tool in leveraging the changes we need to make to achieve our goals'.*

Energy Policy Conclusions

3.37 Overall it is clear that Scottish Energy Policy has confirmed an urgent climate emergency, and has set ever more challenging net-zero targets, representing a significant step change in the Scottish Government's increasing efforts to tackle climate change and has confirmed that planning has a key role to play.

The Development Plan

3.38. The Development Plan comprises the Highland-wide Local Development Plan 2012 (HwLDP) and the Ross and Cromarty East Local Plan (as continuing in force, July 2015), together with Supplementary Guidance including the Onshore Wind Energy Supplementary Guidance (2016).

Highland-wide Local Development Plan 2012

3.39. The HwLDP is currently under review and is at the Main Issues Report Stage, with the next stage of the plan to be confirmed following the publication of secondary legislation associated with the Planning (Scotland) Act 2019. Whilst the adopted HwLDP does not contain any site-specific policies, the thematic policies considered most relevant to the Proposed Development are set out in Table 3.1, below:

Policy	Details
Policy 53 Minerals	Policy 53 concerns mineral extraction and has limited relevance to the development of wind farms, with the exception of the third paragraph which states that borrow pits will be supported where near to or on the site of the associated development if it can be demonstrated that they are the most suitable source of material, are time limited and appropriate environmental safeguards are in place for the workings and the reclamation.
Policy 55 Peat and Soils	Policy 55 seeks that development proposals demonstrate how they avoid unnecessary disturbance, degradation or erosion of peat and soils. Disturbance of Peat soils must be clearly outweighed by social, environmental, or economic benefits.
Policy 57 Natural, Built and Cultural Heritage	Policy 57 is a multi-criteria based policy which seeks to ensure that natural, built and cultural heritage resources are safeguarded. Different policy tests apply to resources of local/regional, national and international importance.
Policy 58 Protected Species	Policy 58 is a multi-criteria based policy which applies to development proposals that may affect protected species, including European protected species.

Policy 59 Other Important Species	Policy 59 identifies that the Council will take into consideration any adverse effects of development proposals on the species identified in the policy.
Policy 60 Other Important Habitats and Article 10 Features	Policy 60 relates to the protection of important habitats from the effects of development.
Policy 61 Landscape	Policy 61 promotes the preservation and enhancement landscape characteristics and qualities by development proposals.
Policy 64 Flood Risk	Policy 64 aims to direct development away from areas subject to flooding and to promote sustainable flood management practices across the Highlands.
Policy 67 Renewable Energy Developments	Policy 67 is a multi-criteria policy which provides general support for wind energy proposals provided they will not be significantly detrimental overall, having regard in particular to any significant effects on the specific criteria contained in the policy.
Policy 72 Pollution	Policy 72 seeks to protect against development proposals that would result in significant noise, air waste and/or light pollution. Such development requires adequate assessment of the levels, character and transmission of the pollution and must demonstrate how pollution can be appropriately avoided or mitigated.

3.40. Policy 67: Renewable Energy developments is the principal policy of the HWLDP relating to the assessment of wind energy developments. The policy states that renewable energy developments should be well related to the source of the primary renewable resource that is needed for their operation. The council will consider the proposals contribution towards meeting renewable energy targets together with positive or negative effects on the local and national economy.

3.41. The policy goes on to state that, subject to balancing these considerations, the council will support *proposals 'where it is satisfied that they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments (see glossary), having regard to any significant effects on the following:*

- *natural, built and cultural heritage features;*
- *species and habitats;*
- *visual impact and impact on the landscape character of the surrounding area (the design and location of the proposal should reflect the scale and character of the landscape and seek to minimise landscape and visual impact, subject to any other considerations);*
- *amenity at sensitive locations, including residential properties, work places and recognised visitor sites (in or out with a settlement boundary);*
- *the safety and amenity of any regularly occupied buildings and the grounds that they occupy- having regard to visual intrusion or the likely effect of noise generation and, in the case of wind energy proposals, ice throw in winter conditions, shadow flicker or shadow throw;*
- *ground water, surface water (including water supply), aquatic ecosystems and fisheries;*

- *the safe use of airport, defence or emergency service operations, including flight activity, navigation and surveillance systems and associated infrastructure, or on aircraft flight paths or MoD low- flying areas;*
- *other communications installations or the quality of radio or TV reception;*
- *the amenity of users of any Core Path or other established public access for walking, cycling or horse riding;*
- *tourism and recreation interests; and*
- *land and water-based traffic and transport interests.*

3.42. In addition to the polices outlined in Table 3.1 the following polices potentially relevant to the proposed development will be taken into consideration as part of the EIA process:

- *Policy 28 – Sustainable Design*
- *Policy 30 – Physical Constraints*
- *Policy 31 – Developer Contributions*
- *Policy 34 – Settlement Development Areas*
- *Policy 36 – Development in the Wider Countryside*
- *Policy 56 – Travel*
- *Policy 62 – Geodiversity*
- *Policy 63 – Water Environment*
- *Policy 66 – Surface Water Drainage*
- *Policy 68 – Community Renewable Energy Development*
- *Policy 69 – Electricity Transmission Infrastructure*
- *Policy 77 – Public Access*
- *Policy 78 – Long Distance Routes*

Supplementary Planning Guidance

The Highland Council's - Onshore Wind Energy: Supplementary Guidance (2016)

3.44. The Supplementary Guidance (SG) provides additional guidance on the principles set out in HwLDP Policy 67 - Renewable Energy Developments and reflects the updated position on these matters as set out in Scottish Planning Policy (SPP). This document forms part of the Development Plan and is a material consideration in the determination of planning applications. In summary it provides:

- *a spatial framework to guide the location of large wind farms (still ongoing);*
- *A set of ten criterion which set out key landscape and visual aspects that will be used as a framework and focus for assessing proposal; and*
- *additional guidance.*

3.45. The document includes a Spatial Framework, which is in line with Table 1 of SPP, grouping areas into three categories:

- *Group 1: Areas where windfarms will not be acceptable*
- *Group 2: Area of significant protection*
- *Group 3: Areas with potential for wind farm development*

3.36. Most of the proposed site is classified as Group 3, and as such is located in an area 'with potential for windfarm development'. However, it should be noted that some areas of the site are classified as Group 2: an area of significant protection. This classification is due to the potential presence of carbon rich soils, deep peat and priority peatland habitat. It is relevant in this regard that the Consented Development EIA Report, and subsequent SI, provided these details and concluded that the impacts would be acceptable.

4. Key Environmental Issues

This chapter describes the baseline conditions, potential impacts of the wind farm and proposed assessment methodologies for completion of the EIA in respect of the following environmental parameters:

- Ecology and Nature Conservation;
- Ornithology;
- Landscape and Visual Impact;
- Hydrology, Hydrogeology, Geology and Peat;
- The Historic Environment;
- Traffic and Transport;
- Noise;
- Climate Change;
- Air Quality;
- Infrastructure (Telecommunications, Aviation & Radar);
- Shadow Flicker & Safety;
- Socio-Economic;
- Forestry

5. Ecology and Nature Conservation

5.1 Introduction

5.1.1 This section of the Scoping Report details the proposed approach to an updated assessment of effects upon important ecological features as a result of a revised maximum tip height for the Lochluichart Extension II Wind Farm (the 'Consented Development'), in accordance with current best practice guidance. The new application is hereafter referred to as the 'Proposed Development'.

5.1.2 The Ecology and Nature Conservation Chapter of the EIA Report will define and consider the potential for effects upon important ecological features as a result in the change in maximum tip height for the Consented Development, detail any proposed additional mitigation and/or compensation measures required to avoid, minimise, restore or offset any significant effects and demonstrate net gain.

5.1.3 This Chapter will outline aspects of the Proposed Development which could lead to additional significant effects upon important ecological features due to the increase in tip height and increased foundation and crane pad footprints. These are considered to solely consist of:

- Additional/change in habitat loss, fragmentation or change as a result of the delivery and installation of development infrastructure; and,

- Additional/change in disturbance to protected or otherwise notable species as a result of operational activities, such as vehicle traffic and maintenance works.

5.1.4 Full details of baseline studies, field surveys and consultations will be provided within the EIA Report.

5.2 Existing Baseline Conditions

5.2.1 Existing baseline ecological conditions within the Proposed Development have been comprehensively established for as part of the Consented Development through desk study and ecological field surveys. Baseline ecological surveys within the Proposed Development have also previously been undertaken to inform the operational Corriemoillie and Lochluichart/Lochluichart Extension Wind Farms.

5.2.2 Full details can be found within Chapter 11 of the Consented Development EIA Report, and associated appendices and Supplementary Information Report ('SI', October 2019).

5.3 Proposed Updated Baseline Survey and Assessment Methodology

5.3.1 Details of existing baseline studies and the approach to assessment will be provided within the EIA Report.

Key Guidance

5.3.2 The following key pieces best practice guidance have or will be referred to and used to inform the scope and approach to updated baseline ecological information gathering, interpretation and assessment:

- Chanin P (2003) Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough;
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester;
- Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London;
- Cresswell, W. J., Birks, J. D. S., Dean, M., Pacheco, M., Trewhella, W. J., Wells, D. and Wray, S. (2012) UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations. The Mammal Society, Southampton;
- Dean, M., Strachan, R., Gow, D. and Andrew, R. (2016) The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London;
- Harris S, Cresswell P and Jefferies D (1989) Surveying Badgers, Mammal Society;
- JNCC (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit: Revised Re-print. Joint Nature Conservation Committee, Peterborough;

- McInerny, C. & Minting, P. (2016) The Amphibians & Reptiles of Scotland. The Glasgow Natural History Society, Glasgow;
- Rodwell, J.S. (2006) National Vegetation Classification: Users' Handbook. Joint Nature Conservation Committee, Peterborough;
- Rodwell, J. S., (1991, 1992, 1998, 2000) British Plant Communities. Vol 1-5. JNCC, Cambridge;
- SEPA (2017) Land Use Planning System Guidance Note 4: Planning Guidance on On-shore Windfarm Developments. Scottish Environment Protection Agency;
- SEPA (2014) Land Use Planning System Guidance Note 31: Guidance on Assessing the Impacts of Windfarm Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosytems. Scottish Environment Protection Agency;
- SFCC (2007). Habitat Surveys Training Course Manual. Scottish Fisheries Co-ordination Centre, Pitlochry;
- SNH (2019a) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation. Prepared jointly by Scottish Natural Heritage, Natural England, Natural Resources Wales, RenewableUK, ScottishPower Renewables, Ecotricity Ltd, the University of Exeter and the Bat Conservation Trust (BCT) with input from other key stakeholders;
- SNH (2019b) Standard Advice for Planning Consultants: Protected Species. Available at: https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species;
- SNH (2018a) SNH General Pre-application/Scoping Advice to Developers of Onshore Wind Farms. Scottish Natural Heritage, Inverness;
- SNH (2018b) Wildcat Survey Methods. SNH, Inverness;
- SNH (2018c) Best Practice Badger Survey Guidance Note. SNH, Inverness;
- SNH (2016) Planning for development: What to consider and include in deer assessments and management at development sites. SNH, Inverness; and
- SNH (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments. Scottish Natural Heritage, Inverness.

Field Studies

5.3.3 Baseline studies for the Consented Development, and the operational Corriemoillie and Lochluichart/Lochluichart Extension Wind Farms, are considered to have recently established current and historical baseline conditions for ecological features within and surrounding the Proposed Development, for the purposes of assessment.

5.3.4 To ensure that established baseline ecological conditions provide a contemporary reflection of the distribution and activity of ecological features within the Consented Development in accordance with NatureScot guidance (SNH, 2020), and which may be impacted by the Proposed Development, an updated Extended Phase 1 habitat survey and terrestrial mammal walkover survey will be undertaken prior to

assessment. The survey will also include a Preliminary Roost Assessment for bats within 200m plus rotor radius of each turbine.

5.3.5 No additional field surveys are subsequently proposed.

5.4 Assessment Methodology

5.4.1 The 'Ecology and Nature Conservation' Chapter of the EIA Report will provide an updated assessment of effects upon important ecological features, based on current Charted Institute of Ecological and Environmental Management (CIEEM) guidance (2018).

5.4.2 The assessment process will include the following stages and full details will be presented within the EIA Report:

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

Determining Importance

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

5.4.4 The importance of ecological features, with the potential to be impacted upon as a result of the Proposed Development, is considered to remain relatively unchanged since previous baseline desk and field studies were undertaken to inform the Consented Development.

5.4.5 Current relevant European, national and local legislation, policy and guidance will however be referred to in order to determine any updated importance (or 'sensitivity') of ecological features, with importance defined in a geographical context from 'Local' to 'International'.

5.4.6 Impacts will be considered for the construction and operational phases of the Proposed Development and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures have or are implemented.

5.4.7 Potentially significant effects upon important ecological features identified will be expressed with reference to an appropriate geographic scale. For example, a significant effect on a nationally designated site is likely to be of national significance.

5.4.8 Where the EIA proposes additional measures to mitigate potentially significant adverse effects on ecological features, a further assessment of residual ecological

effects, taking into account any ecological mitigation recommended, will be undertaken.

5.4.9 The potential for cumulative impacts with other wind farm development proposals will be assessed in accordance with current NatureScot guidance (SNH, 2012) and include consideration of those such developments located within the same hydrological catchment(s) or within the regular range of mobile species (e.g. for bats) out to a maximum of 10 km from the Proposed Development.

5.5 Potential Significant Effects

5.5.1 Additional potential significant effects of the Proposed Development are considered to remain largely unchanged from the Consented Development.

5.5.2 The assessment will consider the following main potential impacts which could give rise to potentially significant effects upon important ecological features that could be subject to change from the increase in tip height and associated minimal ground works, in the absence of additional mitigation:

- Increased / Change in habitat loss, fragmentation or change as a result of the delivery and installation of development infrastructure.

5.5.3 Additional operational effects are considered to be highly unlikely to occur and any effect would be negligible and not significant.

5.5.4 No additional watercourse crossings are required and no changes in the locations of infrastructure are proposed, furthermore, embedded mitigation in scheme design will avoid any potential additional effects of the Proposed Development.

5.5.5 A significant impact is assessed to be an impact that either supports or undermines biodiversity conservation, including impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (such as extent, abundance and distribution). The 2016 CIEEM guidelines on ecological impact assessment note that "*A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures as long as the mitigation hierarchy has been applied effectively as part of the decision-making process*."

5.5.6 Professional judgement is used based on these variables. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant impact, a significant impact has been assumed as a precautionary approach. Where uncertainty exists, this is acknowledged.

5.5.7 For an impact to be significant, the ecological integrity or conservation status of a sensitive feature must be influenced in some way. It may be that the impact is substantial in magnitude or scale, irreversible, has a long-term impact, or coincides with a critical period in a species' life-cycle.

5.5.8 A significant impact in the context of the assessment is considered to be any 'major' or 'moderate' impact on an important ecological feature, whether positive or negative. Professional judgement will be employed throughout and where ecological features of lower value or importance could experience significant

impacts, albeit at a Local or Site geographic scale, this is discussed and a precautionary approach is adopted where appropriate.

5.5.9 Where appropriate, additional mitigation and/or enhancement measures will be included and a final (residual) impacts assessment conclusion will then be drawn.

Designated Sites

5.5.10 There will not be impacts on statutory designated sites for nature conservation beyond those already addressed within the submission for the Consented Development.

Habitats

5.1.11 The Proposed Development predominately consists of blanket bog and wet heath communities which correspond to European wet heath and Active raised bog and blanket bog listed on Annex I of the Habitats Directive and also represent priority habitat types for the Ross and Cromarty (East) LBAP.

5.1.12 Minor changes in the development footprint (foundations and crane pads) may lead to additional direct and indirect effects on these regionally important habitats. Any additional effects are likely to be inconsequential but an updated assessment of effects will be included within the EIA Report.

Bats

5.1.13 Bat surveys were completed in 2015. Low levels of bat activity were established within the Proposed Development, which provides low suitability for foraging, commuting and roosting bats. All recorded activity was attributable to common and soprano pipistrelle, both widespread species and not of high risk to collision mortality with onshore wind farms.

5.1.12 Death or injury levels are therefore considered likely to be very low and the Proposed Development is not considered to represent a site of concern to bat collision risk following the approach set out in NatureScot guidance (SNH, 2019).

5.1.13 As with the Consented Development, the Proposed Development will adopt current minimum recommended mitigation measures for bats at onshore wind farm in accordance with NatureScot guidance (SNH, 2019), comprising a 50m stand-off distance from blade tip to the nearest bat habitat features such as woodland edge.

5.1.14 The required stand-off buffer for the Consented development based on a 133m to tip turbine was 80m from woodland edge. The buffer has been recalculated based on the Proposed Developments increased tip height, and based on a 83m hub height and a blade length of 66.6m, the required buffer of the Proposed Development is 100m. This will be adopted in the embedded mitigation and therefore no increase in risk is considered to occur from an increase in tip height.

5.1.15 Over the long-term, operational effects are unlikely to adversely affect the conservation status of any bat species, and as such are not considered to be significant at any population level.

Protected Species

5.1.16 Additional operational effects on protected or notable species are considered to be highly unlikely to occur and any effect would be negligible and not significant.

5.1.17 No additional watercourse crossings are required and no changes in the locations of infrastructure are proposed, furthermore, embedded mitigation in scheme design (e.g. watercourse buffers and watercourse crossing design) will avoid any potential additional effects of the Proposed Development.

5.6 Approach to Mitigation

5.6.1 Additional mitigation, above that provided under the Consented Development, is not considered likely to be necessary. However, should any significant adverse effects on ecological receptors be identified then suitable mitigation measures will be proposed.

5.6.2 The following measures have been embedded within the Consented Development scheme design and will remain unchanged (with the exception of bats) as part of the Proposed Development.

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

- *Land-take* - Development infrastructure will be designed to minimise the requirement for land-take (particularly of those notable habitats) and the number of watercourse crossings and woodland felling;
- *Watercourse crossings* - New watercourse crossings will comprise bottomless arched culverts in accordance with SEPA guidance (2010). This will maintain the existing bed substrate, hydraulic connectivity and passage for fish and additional wildlife such as water vole and otter;
- *Watercourse Buffers* - A minimum 50m buffer between scheme infrastructure will be applied around all watercourses in so far as possible having regard to other ecological and non-ecological constraints;
- *Construction Environmental Management Plan* - A Construction Environmental Management Plan (CEMP) (or similar) will be in place during the construction, operational and decommissioning phases of the Proposed Development. The CEMP will include all good practice construction measures, pollution prevention controls and monitoring to be implemented over the course of the Proposed Development in line with current guidance.

Bat Habitat Features

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

5.6.5 The buffer from ground level will be increased from 80m to 100m for the Proposed Development in accordance with NatureScot (SNH, 2019) guidance.

5.6.6 Full details of embedded mitigation measures in relation to ecology will be detailed within the EIA Report, together with additional site-specific measures, where required to further mitigate potentially adverse effects upon ecological features. Where such measures are required, the EIA Report will present a further assessment of residual effects.

5.7 Key Questions for Consultees

- Do consultees agree that the scope of updated field surveys proposed, together with existing baseline conditions established within the Proposed Development to inform the Consented Development is sufficient and appropriate to inform an updated assessment of the Proposed Development?
- Do consultees agree with the proposed assessment of the potential effects as a result of the Proposed Development, including the approach to cumulative assessment and/or can advise on the requirement for inclusion of any specific non-wind farm developments?
- Do consultees agree with those issues proposed to be scoped out of detailed assessment?

6. Ornithology

6.1 Introduction

6.1.1 This section of the Scoping Report details the proposed approach to an updated assessment of effects upon important ornithological features as a result of a revised maximum tip height for the Consented Development, in accordance with current best practice guidance, herein referred to as the Proposed Development.

6.1.2 The Ornithology Chapter of the EIA Report will define and consider the potential for effects upon important ecological features as a result in the change in maximum tip height for the Consented Development, detail any proposed additional mitigation and/or compensation measures required to avoid, minimise, restore or offset any significant effects and demonstrate net gain.

6.1.3 This Chapter will outline aspects of the Proposed Development which could lead to additional significant effects upon important ornithological features due to the increase in tip height and increased foundation and crane pad footprints. These are considered to solely consist of:

- Construction: increased / change in habitat modification, land-take, disturbance and displacement.
- Operation: increased disturbance and displacement.
- Decommissioning: similar effects as for construction but of lower intensity temporally and spatially.
- Cumulative: combined effects across Lochluichart Wind Farm, Lochluichart Wind Farm Extension and Corriemoillie Wind Farm.

6.1.4 Full details of baseline studies, field surveys and consultations will be provided within the EIA Report.

6.2 The Consented Development

6.2.1 The Consented Development was submitted to Highland Council in April 2019. The submission was supported by an Environmental Impact Assessment (EIA) and a Supplementary Information ('SI', October 2019) after feedback from

statutory consultees. The assessments concluded that the development would not lead to significant adverse effects on ecological features. Consent was awarded in July 2020 by the Highland Council with no holding objections from consultees.

6.3 Proposed Updated Baseline Information Gathering

6.3.1 Details of existing baseline studies and the approach to assessment will be provided within the EIA Report.

Key Guidance

6.3.2 The following key pieces best practice guidance have or will be referred and used to inform the scope and approach to baseline ornithological information gathering, interpretation and assessment:

- Band, W., Madders, M. & Whitfield, D.P. (2007) Developing field and analytical methods to assess avian collision risk at wind farms. In de Lucas, M, Janss, G.F.E. and Ferrer, M. (Eds.) Birds and Wind Farms: Risk assessment and Mitigation, pp. 259 - 275. Quercus, Madrid;
- Brown, A.F. & Shepherd, K.B. (1993) A method for censusing upland breeding waders. Bird Study, 40, pp. 189-195;
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester;
- Gilbert, G., Gibbons, D. & Evans, J. (1998) Bird Monitoring Methods. RSPB, Sandy;
- Hardey, J., Crick, H., Wernham, C., Riley, H. & Thompson, D. (2009) Raptors: a field guide to survey and monitoring (2nd edn). The Stationery Office, Edinburgh;
- Mitchell, C. 2012. Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge;
- SNH (2018a) SNH General Pre-application/Scoping Advice to Developers of Onshore Wind Farms. Scottish Natural Heritage, Inverness;
- SNH (2018) Assessing the cumulative impacts of onshore wind farms on birds. SNH, Inverness;
- SNH (2018) Assessing the significance of impacts from onshore wind farms outwith designated areas. SNH, Inverness;
- SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH, Inverness;
- SNH (2016a) Assessing Connectivity with Special Protection Areas. SNH, Inverness;
- SNH (2016) Environmental Statements and Annexes of Environmentally Sensitive Bird Information. SNH, Inverness;
- SNH (2000) Calculating a theoretical collision risk assuming no avoiding action. SNH, Inverness; and
- Wilson, M. W., Austin, G. E., Gillings S. and Wernham, C. V. (2015) Natural Heritage Zone Bird Population Estimates. SWBSG Commissioned report number 1504.

Field Studies

6.3.3 Baseline studies for the Consented Development and the operational Corriemoillie and Lochluichart/Extension Wind Farms are considered to have been recently established and historical baseline conditions for ornithological features within and surrounding the Proposed Development, for the purposes of assessment.

6.3.4 An updated Desk Study will be however, be undertaken and include consultation with the Highland Raptor Study Group (HRSG), the Royal Society for the Protection of Birds (RSPB) and the Highland Biological Recording Group (HBRG) to identify any additional ornithological records within proximity to the Proposed Development.

6.3.5 Recent post construction monitoring reports for the Lochluichart/Lochluichart Extension and Corriemoillie Wind Farm developments, will also be requested and reviewed where made available.

6.3.6 No additional field surveys are subsequently proposed.

6.4 Assessment Methodology

6.4.1 The 'Ornithology' Chapter of the EIA Report will provide an updated assessment of effects upon important ecological features, based on current Charted Institute of Ecological and Environmental Management (CIEEM) guidance (2019) and SNH guidance 'Assessing Significance of Impacts from Onshore Wind Farms Outwith Designated Areas' (2018).

6.4.2 Impact assessment is informed through information gathered from the habitat appraisal, consultations; record centre searches and a review of available online resources. Reference to NatureScot, 2005, 2006, 2010, 2012, 2014, 2016 and 2017 guidance will also be referred to.

6.4.3 The assessment process will include the following stages:

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

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

6.4.5 The assessment within the EIA Report will only assess in detail impacts upon potential to be significantly affected by the Proposed Development. A detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts will not be undertaken and justification for 'scoping out' provided.

6.4.6 Impacts will be considered for the construction and operational phases of the Proposed Development and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures have or are implemented.

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

6.4.8 For the purposes of assessment, the significance of effects will primarily be expressed within the EIA Report with reference to the regional, national or international scale (as relevant) in line with NatureScot's interests of bird species status at wider spatial levels. The significance of effects at a local scale may also be assessed where sufficient information allows a meaningful assessment.

6.4.9 The evaluations and effect assessments would be undertaken on the basis of the field survey information collated, augmented with information available from the desk study.

6.4.10 In order to assess significance, population information will be collated on relevant regional and national scales where available and adopting a precautionary approach on the basis of uncertainty.

6.4.11 Cumulative impacts will be assessed with reference to NatureScot guidance (SNH, 2012 and 2018) for all important ornithological features subject to a detailed assessment. The potential for significant cumulative effects due to habitat loss, disturbance/displacement and collision risk mortality will be assessed. The assessment will be based on the consideration of residual effects i.e. assuming that proposed mitigation and compensation measures (where relevant) are implemented.

6.4.12 The cumulative assessment will include consideration of:

- existing windfarm developments, either built or under construction;
- approved windfarm developments, awaiting implementation; and
- windfarm proposals awaiting determination within the planning process with design information in the public domain.

6.4.13 With regard to the spatial extent of the cumulative assessment, the 2015 ES considered cumulative effects of the Proposed Development with Lochluichart Wind Farm, Corriemoillie Wind Farm and Lochluichart Extension. Kirkan Wind Farm was also included in the SI (October 2019). The cumulative assessment will include these developments and also be extended for any further new developments within 10km of the Proposed Development.

6.4.14 The EIA Report will therefore provide an updated cumulative assessment of impacts on ornithological features arising from all known operational, consented and submitted wind farms located within 10km, as applicable at the time of submission and where publicly available information allows for a meaningful assessment.

6.5 Potential Significant Effects

6.5.1 Additional potential significant effects of the Proposed Development are considered to remain largely unchanged from the Consented Development.

6.5.2 The updated assessment will consider only the following potential impacts that could be subject to change from the increase in tip height and associated minimal ground works, in the absence of additional mitigation:

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

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

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

6.5.5 During operation of the Proposed Development, in the absence of additional mitigation, the following main potential impacts from which potentially significant effects may arise from will be considered within the EIA Report:

- Additional / change in disturbance to protected or otherwise notable species as a result of operational activities, such as vehicle traffic and maintenance works.

6.5.6 A significant impact is assessed to be an impact that either supports or undermines biodiversity conservation, including impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (such as extent, abundance and distribution). The 2016 CIEEM guidelines on ecological impact assessment note that "*A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures as long as the mitigation hierarchy has been applied effectively as part of the decision-making process*."

6.5.7 Professional judgement is used based on these variables. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant impact, a significant impact has been assumed as a precautionary approach. Where uncertainty exists, this is acknowledged.

6.5.8 For an impact to be significant, the ecological integrity or conservation status of a sensitive feature must be influenced in some way. It may be that the impact is substantial in magnitude or scale, irreversible, has a long-term impact, or coincides with a critical period in a species' life-cycle.

6.5.9 A significant impact in the context of the assessment is considered to be any 'major' or 'moderate' impact on an important ecological feature, whether positive or negative. Professional judgement will be employed throughout and where ecological features of lower value or importance could experience significant impacts, albeit at a Local or Site geographic scale, this is discussed and a precautionary approach is adopted where appropriate.

6.5.10 Where appropriate, additional mitigation and/or enhancement measures will be included and a final (residual) impacts assessment conclusion will then be drawn.

6.5.11 There will be no impacts on any designated site for nature conservation with qualifying ornithological interests beyond those already addressed within the submission for the Consented Development.

6.5.12 The increase in tip height of 17m from the Consented Development is considered to be inconsequential with regard to collision risk, and any increased / change in effects would be negligible and not result in significant effects.

6.5.13 The Proposed Development will include an updated assessment of effects on Target Species identified to be of 'Regional' importance or above, which include: red-throated diver, golden eagle, red kite, hen harrier, merlin, osprey, greenshank. Any impacts are likely to be consequential. Any additional mitigation required will be proposed.

6.5.14 With the exception of greylag goose, golden plover and black grouse features of 'Local' importance are not considered to be subject to any impacts beyond those already addressed within the submission for the Consented Development.

6.6 Approach to Mitigation

6.6.1 Additional mitigation, above that provided under the Consented Development, is not considered likely to be necessary. However, should any significant adverse effects on ornithological receptors be identified then suitable mitigation measures will be proposed.

6.6.2 The following measures have been embedded within the Consented Development and will remain unchanged as part of the Proposed Development.

6.6.3 Measures to avoid or otherwise minimise potentially adverse impacts upon ornithological features during scheme design will include Other measures included:

Breeding Divers and black grouse

6.6.4 Turbines have been located as far as possible from known black grouse leks on consideration with other site constraints.

6.6.5 Turbines have been located as far as possible from identified red-throated diver breeding locations, as included within Confidential Appendix 12.B of the Consented Development.

- *Land-take* - Turbine locations, access tracks and infrastructure have been sited to minimise the requirement for land-take and loss of semi-natural habitats.

- *Cabling* - Cable connections and between turbines have been grounded, to avoid increased risks of bird collisions, and routed alongside access tracks to minimise any further habitat losses.
- *Construction Methods and Pollution Prevention Control* - A Construction Environmental Management Plan (CEMP) will be in place during the construction, operational and decommissioning phases of the development. The CEMP will include all good practice construction measures, habitat reinstatement methods, pollution prevention controls and monitoring to be implemented over the course of the development in line with current guidance and as detailed within Chapter 13 "Hydrology and Hydrogeology" of the EIA Report.

6.6.6 The CEMP will be submitted to THC for approval prior to the commencement of construction works, in consultation with the Scottish Environmental Protection Agency (SEPA) and other agencies such as NatureScot.

6.6.7 Full details of the scheme design evolution and embedded mitigation measures in relation to ornithology will detailed within the EIA Report. This will include the specification of any species-specific working buffers as necessary to ensure legislative compliance to protect nesting birds.

6.7 Key Questions for Consultees

- Do consultees agree that the scope of updated ornithological desk study and field surveys undertaken is sufficient and appropriate to inform an assessment?
- Are there any other relevant consultees/key sources who should be contacted with respect to updated baseline ornithological information gathering and assessment?
- Do consultees agree with the proposed assessment of the potential effects as a result of the revised Proposed Development, including the approach to cumulative assessment?
- Do consultees agree with those issues proposed to be scoped out of detailed assessment?

7. Landscape and Visual Impact Assessment

Introduction

7.1 The Landscape and Visual Impact Assessment (LVIA) evaluates the effects of the Lochluichart Wind Farm Extension II (the 'Proposed Development') on the landscape and visual resource. The requirement to assess the environmental impacts of the Proposed Development is provided for in 'The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017'. The assessment will accord with the 'Guidelines for Landscape and Visual Assessment Third Edition' (GLVIA3) (2013). The LVIA will be undertaken by Optimised Environments Limited ('OPEN'), a practice registered with The Landscape Institute and experienced in this field of work.

7.2 The Applicant received a planning permission for Lochluichart Wind Farm Extension II (hereafter referred to as the 'Consented Development') from THC on 1st July 2020. This was for five turbines, each with a 133m blade tip height, and associated infrastructure. This application will be for five turbines, each with a

149.9m blade tip height, and associated infrastructure. Between the Consented Development and Proposed Development, there have been no changes to the location of the five turbines or associated infrastructure. The only change is the increase in blade tip height. The Scoping Report and LVIA for the Consented Development are referenced in this Scoping Report for the Proposed Development.

7.3 The study area for the LVIA of the Proposed Development will cover a radius of 40km from the nearest turbine. This is considered to be the maximum radius within which a significant landscape or visual effect could occur given the height of the turbines that are being considered and follows guidance given in 'Visual Representation of Wind Farms Guidance: Version 2.2' (February 2017). The study area and the location of the turbines are shown in **Figure 7.1** of the scoping figures supporting this section of the document.

7.4 The cumulative assessment will cover a study area to be agreed with THC and SNH. The Proposed Development is located to the immediate north of Lochluichart Wind Farm Extension ('Lochluichart Extension'), which lies to the immediate north of Lochluichart Wind Farm, on the Loch Luichart Estate. Corriemoillie Wind Farm ('Corriemoillie') is located in this cluster, to the immediate east of Lochluichart Wind Farm. Lochluichart Wind Farm comprises 17 turbines, Lochluichart Extension comprises six, and Corriemoillie comprises 19. All the turbines in this cluster of operational wind farms are 125m to blade tip height. The relationship between these developments and the Proposed Development will be assessed in the LVIA.

7.5 The approach to the cumulative assessment, agreed through the scoping process for the Consented Development and implemented in the LVIA, was based on assessing the interactions of the Consented Development and other wind farm developments within a 35km radius study area. It is proposed that this study area be extended to a 40km radius, to reflect the larger turbines proposed in the Proposed Development and, therefore, the potentially wider extent over which cumulative effects may occur.

7.6 It is proposed that following a detailed review of the cumulative sites within the area, a plan will be produced showing the locations of wind farms within 40km that are operational, under construction, consented or which are at application stage, and where the turbines are greater than 50m to blade tip. THC and SNH will be consulted over the final list of sites to be considered within the detailed cumulative assessment. Exceptionally, scoping stage sites may also be included where they are considered to be of specific relevance to the Proposed Development.

7.7 Known baseline wind farms within a 40km study area, are shown for scoping purposes in **Figure 7.2**. Based on this information, the cumulative assessment would focus on the cumulative interactions between the Proposed Development, the operational cluster comprising Lochluichart, Lochluichart Extension and Corriemoillie Wind Farms, and the Kirkan application site, to the immediate east of Corriemoillie.

7.8 The contained ZTV pattern for the Proposed Development, shown in **Figure 7.6**, in combination with the separation distance from the Proposed Development, means that consented Braemore Wind Farm at 36km to the north-east, and the application stage wind farms, Meall Bhuidhe at 28km to the north-east and

Strathrory at 30km to the north-north-east, will have a negligible effect on the cumulative assessment.

Site context

7.9. The application site boundary is centred on a small, rounded hill marked on OS mapping as Meallan Caoruinn (499m AOD). It is set below a higher and craggier ridge of hills to the west, which extend from the north to the south through the high points of Meall na Speireig (676m AOD), Beinn Liath Bheag (609m AOD), Meall nan Caorach (604m AOD) and Meall Mhic Iomhair (607m AOD). The landform rises to become more mountainous, with the Fannich mountains to the west, and the Ben Wyvis mountains to the east. The ZTV in **Figure 7.3**, shows how these mountain landscapes contain the extent of theoretical visibility within the local landscape and prevent the spread of visibility across the wider study area.

7.10 To the east of the Proposed Development lies Corriemoillie Forest. This forms an almost continuous and broad band of forestry from Loch Glascarnoch in the north, to Loch Luichart in the south. Loch Glascarnoch lies approximately 1.8km to the north of the nearest proposed turbine and Loch Luichart, 3.8km to the south. Loch Fannich lies approximately 6.1km to the south-west, set in the massif of the Fannich Hills. All these lochs are man-made with large hydro dams at the south-eastern or eastern ends.

7.11 The site and its immediate surroundings are characterised by an upland landscape of predominantly open moorland, with large forestry blocks across the more marginal middle and lower slopes. Land use is broadly limited to wind farm development, hill sheep farming and forestry. There is a distinct lack of settlement or infrastructure across these hills. Vehicular tracks access the wind farms and parts of the forestry and moorland, while a few rough paths extend deeper into the higher hills.

7.12 There are two roads in this area; the A835, which is the main road between Tore and Ullapool; and the A832, which forms a more circuitous loop around from the A835, via Gairloch and Poolewe on the west coast. These roads typically lie within the valleys and along the shorelines of the lochs. Neither of these roads is designated as part of Scotland's 12 National Tourist Routes, although both are important routes in respect of tourism.

7.13 Settlement is sparse with development concentrated in very intermittent and small villages along the main roads. The closest settlements to the Proposed Development are Lochluichart, approximately 3.7km to the south of the nearest proposed turbine, and Gorstan, approximately 6.9km to the south-east.

Landscape Character

7.14 Landscape character information, prepared by or on behalf of SNH, forms the basis of much of the characterisation of the study area. The original LCA, which covers the study area, is 'SNH Review 119: Ross and Cromarty Landscape Character Assessment'.

7.15 SNH has recently reviewed and updated the 30 original Landscape Character Assessments (LCAs), produced to cover the whole of Scotland during the 1990s, by creating a single data set in a digital version. In respect of the study area, the Landscape Character Types (LCTs) have changed between the original Ross and Cromarty Landscape Character Assessment and the updated data set. The

updated data set will be used in the LVIA for the Proposed Development, to ensure the assessment is based on current sources of information.

7.16 The distribution of the landscape character types (LCTs) identified in the current SNH dataset, and located within the 40km study area, is shown in **Figure 7.3**, with the blade tip ZTV overlaid. The LVIA will identify the relevant Landscape Character Types (LCTs) within a 15km radius of the wind farm. This reduced extent reflects the localised extent over which significant effects on landscape character were found to occur in relation to the Consented Development. This limited extent relates to the existing influence on landscape character, arising from the operational wind farms in this area.

7.17 Because the LCTs can be split into different geographical areas across this part of the Highlands, the LVIA will also identify individual parts of each LCT as Landscape Character Units (LCUs), where these have the potential to be significantly affected by the Proposed Development.

7.18 Four of the proposed turbines are located in the 'Rounded Mountain Massif' LCT, with the fifth turbine on the east of the group, located in the 'Rounded Hills and Moorland Slopes' LCT as identified in the current SNH dataset. identified in the SNH study. These are the same LCTs in which operational Lochluichart, Lochluichart Extension and Corriemoillie Wind Farms are located.

Wild Land

7.19 While no part of the application site is located within a Wild Land Area (WLA), there are five WLA's within the study area, two of which are in proximity to the Proposed Development. The closest WLA is the Fisherfield, Letterewe, Fannichs WLA which lies less than 1km to the west. This WLA covers the mountainous landscapes extending to the west coast, although as shown in **Figure 7.4**, visibility of the Proposed Development is very limited both in extent and levels of visibility. This is due to the screening effect of the higher upland ridge to the west of the Proposed Development. This WLA is already influenced by Lochluichart Wind Farm, Lochluichart Extension and Corriemoillie in similar proximity, albeit also to similar limited extents and levels.

7.20 Rhiddoroch, Beinn Dearg and Ben Wyvis WLA wraps round the Proposed Development to the north, north-east and east, with the northern boundary being the closest at approximately 3.6km from the nearest proposed turbine. **Figure 7.4** shows that higher levels of visibility may occur on the hill slopes facing the Proposed Development and along the ridges where the existing wind farm developments already have an influence.

7.21 Central Highlands WLA lies to the south. It is associated with the landscapes of the Strathconan, Monar and Mullardoch WLA at the greater range of approximately 12.6km. Visibility of the Proposed Development is limited in this WLA to the upper north facing slopes and ridges.

7.22 Flowerdale, Shieldaig – Torridon WLA and Coulin and Ledgowan Forest WLA lie to the west of the study area at distances beyond 24km and 30km respectively and with very limited theoretical visibility occurring, as shown in **Figure 7.4**.

7.23 Wild Land effects will be considered in the LVIA in respect of the two closest WLAs, despite the very limited visibility shown across the closest Fisherfield, Letterewe and Fannichs WLA. It is proposed that the effects on the remaining three WLAs be scoped out of the LVIA as significant effects on Wild Land are

unlikely to occur. Although visibility is shown across the Central Highlands WLA, the five turbines of the Proposed Development will occur set behind the closer range 23 turbines of Lochluichart and Lochluichart Extension.

7.24 In 2017, SNH published a consultation draft version of 'Assessing Impacts on Wild Land technical guidance'. This document sets out guidance for those assessing the impact of development on WLAs. Wild Land descriptions or citations have also been published by SNH, which describe the key attributes and qualities of each of the 42 WLAs in Scotland. Following current advice on the SNH website, and in the absence of any updates to the draft version, the 2017 guidance will be followed in the assessment of effects on the WLAs, noting that the guidance may change in the finally issued version. Reference will also be made to the citations for the WLAs.

Landscape Designations

7.25 The site and its immediate surroundings are not subject to any national or local landscape designations intended to protect landscape quality, as shown in **Figure 7.5**. The site lies within an undesignated area.

7.26 Special Landscape Area (SLA) is the regional tier designation used by THC. Three SLAs occur in the study area; Fannichs, Beinn Dearg and Glen Calvie SLA to the north and west at a minimum distance of 5.3km; Ben Wyvis SLA to the east at a minimum distance of 9.1km; and Strathconan, Monar and Mullardoch SLA at a minimum distance of 10.3km.

7.27 National Scenic Area (NSA) is the national designation used by SNH to identify Scotland's most scenic landscapes. Three NSAs occur in the study area, although all lie beyond a 22km radius of the Proposed Development. These comprise Wester Ross NSA to the west at a minimum distance of 22.3km; Glen Strathfarrar NSA to the south at a minimum distance of 25.4km; and Dornoch Firth NSA to the north-east at a minimum distance of 32.9km. The special qualities of these areas are presented in the SNH Commissioned Report No. 374 'The Special Qualities of the National Scenic Areas'.

7.28 There are thirteen nationally important Inventory Gardens and Designed Landscapes (GDL) within the study area. The importance of the GDLs are described in the Inventory held by Historic Environment Scotland. **Figure 7.5** shows that only Fairburn House GDL will be subject to any theoretical visibility. The enclosure of this GDL by mature tree cover combined with its distance from the Proposed Development, will limit actual visibility.

7.29 Table 7.1 below lists the designated areas and provides information about their distance to the Proposed Development turbines and relationship to the ZTV, as shown in **Figure 7.5**. Thereafter, it is assessed in the final column whether, in OPEN's opinion, these designated areas can be scoped out of the assessment. The boxes that are shaded grey will be assessed further within the LVIA. THC's and SNH's agreement to this is sought through this scoping exercise to enable the LVIA to be focussed on key considerations.

Table 7.1: Designations

Designation/WLA		Distance to nearest turbine (km)	Subject to ZTV-theoretical visibility?	Need to assess effects further within LVIA?
NSA	Wester Ross NSA	22.33	Yes	No – very limited ZTV shading.
	Glen Strathfarrar NSA	25.37	No	No – no ZTV shading.
	Dornoch Firth NSA	32.92	No	No – no ZTV shading.
Garden and Designated Landscape	Leckmelm	27.44	No	No – no ZTV shading.
	Dundonnell	26.72	No	No – no ZTV shading.
	Castle Leod	16.91	No	No – no ZTV shading.
	The Spa Gardens, Strathpeffer	17.84	No	No – no ZTV shading.
	Brahan	20.70	No	No – no ZTV shading.
	Novar	27.35	No	No – no ZTV shading.
	Ardross Castle	26.57	No	No – no ZTV shading.
	Fairburn	17.71	Yes	No – limited ZTV shading and enclosure by mature tree cover.
	Beaufort Castle	29.12	No	No – no ZTV shading.
	Rosehaugh	36.85	No	No – no ZTV shading.
	The Fairy Glen	39.59	No	No – no ZTV shading.
	Dochfour	38.62	No	No – no ZTV shading.
	Tomnahurich Cemetery	39.71	No	No – no ZTV shading.
SLA	Fannichs, Beinn Dearg and Glen Calvie	5.27	Yes	Yes – the ZTV shows visibility in localised patches from relative proximity and with the Proposed turbines appearing to the fore of the existing turbines.
	Strathconan, Monar and Mullardoch	10.34	Yes	No – ZTV shows localised patches of visibility on north facing slopes and summits. The location of the Proposed

Designation/WLA		Distance to nearest turbine (km)	Subject to ZTV-theoretical visibility?	Need to assess effects further within LVIA?
				Development behind Lochluichart and its comparatively small number of turbines will limit the potential for a significant effect to arise.
	Ben Wyvis	9.12	Yes	Yes – the ZTV shows visibility across west facing slopes and associated summits / ridgelines.
WLA	Fisherfield, Letterewe, Fannichs	0.73	Yes	Yes – despite very limited ZTV shading, this WLA is in proximity to the Proposed Development.
	Rhiddoroch, Beinn Dearg, Beinn Wyvis	3.58	Yes	Yes – the ZTV shows visibility across west and south facing slopes and associated summits / ridgelines in proximity to the Proposed Development.
	Central Highland	12.62	Yes	No – ZTV shows localised patches of visibility on north facing slopes and summits. The location of the Proposed Development behind Lochluichart and its comparatively small number of turbines will limit the potential for a significant effect to arise.
	Coulin and Ledgowan Forest	24.60	Yes	No – very limited ZTV shading.
	Flowerdale, Shieldaig, Torridon	30.42	Yes	No – very limited ZTV shading.

Visual Receptors and Visual Amenity

7.30 The LVIA will undertake an assessment of the likely visual effects of the Proposed Development through consideration of the specific visual effects at a selection of representative viewpoints and by considering the wider effects on visual amenity with reference to a range of principal visual receptors.

Visualisations

7.31 Visualisations and figures will be produced to SNH's standards as set out in 'Visual Representation of Wind Farms Guidance: Version 2.2' (February 2017). A further set of figures will be prepared in accordance with THC's current visualisation guidance 'Visualisation Standards for Wind Energy Developments' (July 2016).

General Visibility

7.32 The pattern of theoretical visibility on the ZTV shows that close range and more distant landform has a strong influence, markedly restricting theoretical visibility of the Proposed Development across the wider study area. The Proposed Development would be sited on a moderate sized hill, next to a higher ridge that lies to the west. This generally contains visibility in this direction apart from where more elevated landform rises up to the west. To the north and east, while visibility extends across the facing slopes of Beinn Dearg and Ben Wyvis, this mountain group largely contains visibility from extending further in these directions. To the south, the tiers of successive hill ridges reduce the extent of visibility, while to the south-east typically lower levels of visibility are shown to extend through the lower lying landscapes of Loch Shin and River Shin. Where visibility is shown to occur along the shores of Loch Glascarnoch and Loch Luichart, this is also shown to be of typically lower levels.

7.33 Visibility is shown to be largely contained within a radius of 15km. Outwith this area, visibility is generally from high ground locations where there are few visual receptors, or from low ground locations where levels of visibility are low and more likely to be reduced by intervening tree cover and forestry.

7.34 The comparative ZTV in **Figure 7.8** shows the extent of visibility of the Proposed Development in comparison with the extent of visibility of the operational Lochluichart, Lochluichart Extension and Corriemoillie Wind Farms. This shows that the extents are broadly comparable which means that visibility would mostly occur in areas where an influence from the operational turbines already occurs, with the exception of some additional patches, the most notable being a patch over Loch Glascarnoch, adjacent to the A835 and approximately 4.5 to 9km north of the Proposed Development.

Viewpoint Selection

7.35 The viewpoint list is shown in Table 7.2 below and the locations of the viewpoints are shown in **Figure 7.6**. This list was approved through the scoping process for the Consented Development and implemented in the production of the previous LVIA. The viewpoints were selected to represent sensitive visual receptors with the potential to undergo significant effects. They were also selected to represent relevant landscape receptors and with consideration of the potential for cumulative effects to arise.

Table 7.2: Preliminary Viewpoint List

ID	Viewpoint name	Grid ref. (Preliminary)		Dist. nearest turbine (km)	Description
1	A835 Aultguish Inn	235172	870390	2.50	Representative of road-users on the A835 to north-east of the Proposed Development.
2	A835 Black Bridge Road	237347	870830	4.61	Representative of road-users on the A835 to north-east of the Proposed Development.
3	Old Drover's Road, Corriemoillie	237561	866891	4.57	Representative of walkers on rural track through forestry and moorland.
4	Garve Bridge	242372	858937	12.53	Representative of road-users on the A835 to south-east of the Proposed Development.
5	Summit of Ben Wyvis	246294	868370	13.07	Representative of hill walkers in the Ben Wyvis range.
6	Summit of Coileachan	224175	868011	8.06	Representative of hill walkers in the Sgurr Mor range.
7	Summit of Sgurr Mor	220328	871797	12.25	Representative of hill walkers in the Sgurr Mor range.
8	Beinn a Chaistall (Summit of Meall a Ghrianain)	236555	877583	9.27	Representative of hill walkers in the Rounded Hills to the north.
9	Avenue of Fairburn Estate	247602	853050	20.37	Representative of residents, workers and road-users in this rural farmed area.
10	Summit of Creag Byaadh near Milton	227711	853921	14.10	Representative of hill walkers in the Strathconan range.
11	Sgurr a Choire Ghlais	225881	843024	25.05	Representative of hill walkers in the Strathfarrar range.
12	Summit of Beinn Dearg	225962	881147	13.77	Representative of hill walkers in the Beinn Dearg range.

Principal Visual Receptors

7.36 Several potential principal visual receptors occur within the 40km study area, as shown in **Figure 7.7**. The landscape and visual assessment will include consideration of the settlements and roads listed below. These principal visual receptors were approved through the scoping process for the Consented Development and implemented in the production of the previous LVIA.

Settlements and Residents

7.37 Due to the relatively isolated location of the Proposed Development, the settlements in the study area are limited in terms of occurrence and extent. There are few rural properties with potential to be affected by the Proposed Development, the nearest being Aultguish Inn, set to the south-east of the Loch Glascarnoch dam and 2.5km to the north of the nearest proposed turbine.

7.38 Villages and rural clusters occur most frequently within the valleys and along shorelines where there is road access. The four small settlements that occur within a 10km radius of the Proposed Development, include Lochluichart, Grudie, Gorstan and Garve. The ZTV in **Figure 7.7** shows that none of these settlements will be affected by the Proposed Development, apart from Garve, which shows very low levels and a marginal extent of visibility.

7.39 More settlements occur at a greater distance to the south-east and although some are located fully or partly within the ZTV, the effect of the Proposed Development on these settlements will be limited by the separation distance, the low levels of visibility that typically occur, the extent of intervening tree cover or forestry and the location of the Proposed Development, set behind the operational wind farms when seen from this south-easterly direction.

7.40 While Aultguish Inn will be represented by Viewpoint 1, it is unlikely that any of the settlements will be significantly affected by the Proposed Development and, therefore, it is proposed that these be scoped out of the assessment.

Routes

7.41 There are relatively few routes in the Study Area due to the upland nature of much of the terrain. The routes tend to follow the river valleys or loch shorelines, and their low-lying locations often limits the potential for visibility of the Proposed Development due to intervening, higher landform or roadside forestry.

7.42 Routes in the study area include roads, railway lines, cycle routes and walking routes, and some of these require to be considered in the LVIA as views from them may be affected by the Proposed Development. The key routes to be considered are shown in **Figure 7.7** and described below.

7.43 The Proposed Development lies within an upland landscape with mountains to the west and lower lying valley landscapes wrapping round the north, through the east, to the south. There is little hierarchy to the road system, with only two main roads occurring in the 10km radius around the site and contained within the valley landscapes. The A835 is located approximately 1.8km to the north, and the A832 is located approximately 3.7km to the south of the Proposed Development, at the closest points.

7.44 The A835 is the main road linking the A9 on the Black Isle with Ullapool on the west coast. It follows the shorelines of Loch Garve, Loch Glascarnoch and Loch Broom. Its relatively low-lying location means visibility of the Proposed Development will be limited, as indicated on the ZTV in **Figure 7.7**, although with a notable extent to the north-east of the Proposed Development.

7.45 The A832 forms a loop from the A835, between north of Garve and the Falls of Measach, via Kinlochewe, Gairloch and Poolewe on the west coast. It follows the northern shore of Lochluichart and Strath Bran to the west. The ZTV in **Figure 7.7** shows that there will be only small patches of low-level visibility of the Proposed Development from this road. The only other roads which are subject to

visibility lie to the south-east, albeit at such a distance that it would be unlikely for significant effects to arise.

7.46 There are two rail routes through the study area: one connecting Inverness with Wick and Thurso, via Muir of Ord and Dingwall, and the other connecting Inverness with Kyle of Lochalsh, via Garve and Lochluichart. The ZTV in Figure 7.7 shows that there is very limited visibility from the rail routes and, from where visibility does occur, it is distant, low in level or screened by intervening forest cover.

7.47 There is one cycle route in the study area; National Cycle Route 1, which is concentrated in the south-east of the study area. While **Figure 7.7** shows some medium and low levels of visibility to occur from this route, visibility of the Proposed Development will be from such a distance and seen set behind the operational wind farms, such that any potential effect will be very limited.

7.48 Core Paths within the study area are concentrated around settlements. The closest core paths to the Proposed Development are concentrated around Garve. Visibility of the Proposed Development from these routes will be very limited by the low occurrence and low levels of visibility as shown on the ZTV in **Figure 7.7**, as well as the extent of enclosure around these routes of mostly forestry.

7.49 Other walking routes, which are not defined as core paths, occur in the more mountainous parts of the study area. The high tops are an attraction to hill walkers, in particular Ben Wyvis, Beinn Dearg and Sgurr Mor. These tops are covered by representative viewpoints and the effect of the Proposed Development across the wider mountainous area will be fully considered in the LVIA.

Methodology

7.50 The landscape and visual assessment will assess the potential effects of the Proposed Development on landscape character and visual receptors around the study area. This includes the effects of the access tracks, substation, operations and maintenance building, and other associated infrastructure, as well as the turbines.

7.51 The assessment will be carried out using a methodology that has been specifically devised by OPEN for the landscape and visual assessment of wind farms. This methodology broadly accords with 'GLVIA3'. The following summary provides information on the methodology.

7.52 The potential effects of the Proposed Development on the landscape and visual resource are grouped into four categories: physical effects, effects on landscape character, effects on views, and cumulative effects.

7.53 Physical effects are restricted to the area within the site boundary and are the direct effects on the fabric of the site and its access, such as the removal or addition of trees and alteration to ground cover. This category of effects is made up of landscape elements.

7.54. Effects on landscape character arise either through the introduction of new elements that physically alter the pattern of elements that makes up landscape character, or through visibility of the Proposed Development, which may alter the way in which the pattern of elements is perceived. This category of effects is made up of landscape character receptors, which are landscape character types, designated areas and WLAs.

7.55. The assessment of effects on views is an assessment of how the introduction of the wind farm will affect views throughout the study area. The assessment of effects on views is carried out in two parts:

- an assessment of the effects that the wind farm will have on a series of viewpoints that have been selected to represent the views of people, for example, residents, walkers and road-users, throughout the study area; and
- an assessment of the effects that the wind farm will have on views from principal visual receptors, which are people living in the notable settlements, travelling on routes, as well as visiting features and attractions found throughout the study area.

7.56 The visual assessment will describe the impacts that are likely to occur at each of the representative viewpoints and it will also address the effects that people will experience more widely as they travel through and around the study area.

7.57 Cumulative effects arise where the study areas for two or more wind farms overlap so that both wind farms are experienced at proximity where they may have an incremental effect, or where wind farms may combine to have a sequential effect, irrespective of any overlap in visibility. The cumulative assessment will include existing wind farms, those that are under construction and consented, and those for which planning applications have been submitted, where the turbines are greater than 50m to blade tip. Sites that are at scoping stage will only be included exceptionally, if they are of specific relevance to the assessment. The cumulative assessment will focus on the most relevant cumulative sites as recommended in SNH's guidance.

Significance of Effects

7.58 The broad objective in assessing the effects of the Proposed Development is to determine, as required by the EIA Regulations, what the predicted significant effects of the Proposed Development on the landscape and visual resource will be. In this LVIA, effects will be assessed to be either significant or not significant.

7.59 The significance of effects is assessed through a combination of two considerations; (i) the sensitivity of the landscape element, landscape character receptor, view or visual receptor, and (ii) the magnitude of change that will result from the introduction of the Proposed Development.

7.60 Sensitivity is an expression of the ability of a landscape element, landscape character receptor, view or visual receptor to accommodate the Proposed Development, and is dependent on baseline characteristics including its susceptibility to change, value, quality, importance, the nature of the viewer, and existing character.

7.61 Magnitude of change is an expression of the scale of the change on landscape elements, landscape character receptors and visual receptors that will result from the Proposed Development.

7.62 The factors that are considered in sensitivity and magnitude of change are assimilated to assess whether the Proposed Development will have an effect that is significant or not significant. OPEN's methodology for assessing wind farm development is not reliant on the use of a matrix to determine the significance of landscape and visual effects, nor does it define levels of significance. It is, however, considered useful to include a matrix in the methodology to illustrate how combinations of sensitivity and magnitude of change can give rise to a

significant effect and to provide an understanding as to the threshold at which significant effects may arise. Table 7.3 below provides this illustration.

Table 7.3: Illustrative Matrix of Significance of Effects

Magnitude / Sensitivity	**High**	**Medium-High**	**Medium**	**Medium-Low**	**Low**	**Negligible**
High	Significant	Significant	Significant	Significant or not significant	Not Significant	Not Significant
Medium-High	Significant	Significant	Significant or not significant	Significant or not significant	Not Significant	Not Significant
Medium	Significant	Significant or not significant	Significant or not significant	Not Significant	Not Significant	Not Significant
Medium-Low	Significant or not significant	Significant or not significant	Not Significant	Not Significant	Not Significant	Not Significant
Low	Significant or not significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

7.63 Effects that are assessed within the dark grey boxes in the matrix, are assessed to be significant in terms of the requirements of the EIA Regulations. Those effects that are assessed within the light grey boxes may be significant, or not significant, depending on the specific factors and effect that is assessed in respect of a particular landscape or visual receptor. In accordance with the Landscape Institute's 'GLVIA3' (paragraph 3.23), experienced professional judgement is applied to the assessment of all effects and reasoned argument is presented in respect of the findings in each case.

7.64 A significant effect occurs where the Proposed Development will provide a defining influence on a landscape element, landscape character receptor or view. A significant cumulative effect occurs where the combined effect of the Proposed Development with other existing and Proposed Developments will result in a landscape character or view that is defined by the presence of more than one wind farm and is characterised primarily by wind farms.

Nature of Effects

7.65 'Guidance provided by the Landscape Institute on the Nature of Effect, in its publication GLVIA3, is limited to a single entry which states that "One of the more challenging issues is deciding whether the landscape (or visual) effects should be categorised as positive or negative. It is also possible for effects to be neutral in their consequences for the landscape. An informed professional judgement

should be made about this and the criteria used in reaching the judgement should be clearly stated.".

7.66 In relation to many forms of development, the EIA Report will identify beneficial, neutral and adverse effects under the term Nature of Effect. The landscape and visual effects of wind farms are difficult to categorise in these brackets as, unlike other disciplines, there are no definitive criteria by which these effects can be measured as being categorically beneficial or adverse. For example, in disciplines such as noise or ecology it is possible to identify the nature of the effect of a wind farm by objectively quantifying its effect and assessing the nature of that effect in prescriptive terms. However, this is not the case with landscape and visual effects, where the approach combines quantitative and qualitative assessment. The LVIA will determine whether effects are beneficial, neutral or adverse in accordance with defined criteria.

7.67 Judgements on the nature of effect are based on professional experience and reasoned opinion informed by best practice guidance.

Cumulative Assessment

7.68 The operational, consented, application stage and scoping stage cumulative wind farms within a 40km radius of the Proposed Development are shown in **Figure 7.2**.

7.69 The cumulative assessment will be carried out in accordance with 'Assessing the cumulative impact of onshore wind energy developments', SNH 2012, and advice will be sought from THC and SNH as to sites to be included in the assessment, as well as agreement of a cut-off date for updating cumulative data prior to submission.

7.70 The cumulative assessment will focus on the most relevant cumulative sites as recommended in SNH's guidance. The cumulative effect of the Proposed Development in conjunction with the existing cluster of Lochluichart, Lochluichart Extension and Corriemoillie will be given due consideration, along with the additional interactions relating to application stage Kirkan Wind Farm to the immediate east of Corriemoillie.

7.71 The cumulative assessment will also include the 'in combination' effects which considers the relationship of the Proposed Development in-combination with the cumulative developments and the extent to which this in-combination effect may alter the pattern of wind farm developments in this area and, in so doing, redefine the character of the landscape or visual receptors.

Key Issues

7.72 The following bullet points summarise the key considerations that will be addressed in the LVIA. This is not intended to be a definitive list, but indicates OPEN's assessment of the potential key effects of the Proposed Development at the Scoping stage:

- The potential cumulative effects of the Proposed Development in respect of the cumulative context comprising the existing Lochluichart, Lochluichart Extension and Corriemoillie Wind Farms, as well application stage Kirkan Wind Farm.
- The potential effects of the Proposed Development on those relevant LCTs and LCUs within a 15km radius.

- The potential effects of the Proposed Development on the Special Landscape Areas of Ben Wyvis, and Fannichs, Beinn Dearg and Glen Calvie.
- The potential effects of the Proposed Development on the Fisherfield, Letterewe and Fannichs WLA and on the Rhiddoroch, Beinn Dearg and Ben Wyvis WLA.
- The potential effects on the views and visual amenity of road-users on the A835 and residents and visitors at Aultguish Inn; and
- The potential effects on the views and visual amenity of hill walkers on the surrounding mountains and hills.

References

Scottish Government. (2017) 'Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017'

Landscape Institute and Institute of Environmental Management and Assessment (2013) 'Guidelines for Landscape and Visual Assessment: Third Edition'

Scottish Natural Heritage. (February 2017) 'Visual Representation of Wind Farms: Version 2.2'

Scottish Natural Heritage. (May 2014) 'Siting and Designing Windfarms'

Scottish Natural Heritage. (1999) 'Ross and Cromarty Landscape Character Assessment'

Scottish Natural Heritage. (2017) 'Assessing Impacts on Wild Land technical guidance'

Landscape Character Assessment of Scotland held by Scottish Natural Heritage and available at:

https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions

Inventory of Gardens and Designed Landscapes held by Historic Environment Scotland and available at:

https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/gardens-and-designed-landscapes/

Scottish Natural Heritage (2010) 'The Special Qualities of the National Scenic Areas: Commissioned Report No. 374'

The Highland Council. (July 2016) 'Visualisation Standards for Wind Energy Developments'

Scottish Natural Heritage. (2012) 'Assessing the cumulative impact of onshore wind energy developments'

8. Hydrology, Hydrogeology, Geology & Peat

8.1 Introduction

8.1.1 Due to the limited nature of the changes arising, comparing the Consented Development to the Proposed Development (e.g. increased size of foundations and crane pads), any update to the Hydrology and Soils Chapter will focus solely on the change in the footprint and potential impacts upon peat.

8.1.2 In line with Hydrology, Hydrogeology, Geology and Peat Chapter, it is considered appropriate that the changes arising from the increased foundation and crane pad footprint and potential impact on peat is carried forward through to an updated Outline Peat Management Plan (PMP).

8.2 Baseline

8.2.1 As per the Consented Development EIA Report, the Proposed Development lies within the overall catchment of Loch Glascarnoch and the River Glascarnoch and is drained by a series of tributaries of Allt Giubhais Mor and Allt Giubhais Beag. The southernmost part of the Proposed Development boundary lies within the catchment of Loch Luichart, however no infrastructure is located within this catchment.

8.2.2 Two private water supplies were identified within 1 km of the Consented Development boundary. However, neither are within 1 km of proposed infrastructure and the effect of the Proposed Development on PWS has been assessed as negligible.

8.2.3 British Geological Survey mapping information on superficial soils indicates the majority of the site to be underlain by peat, with pockets of either glacial till or no superficial cover in the north, west and south respectively. Solid geology mapping indicates the majority of the Proposed Development to be Neoproterozoic aged Crom Psammite belonging to the Morar Group.

8.2.4 A maximum peat depth of 3.75 m recorded to the east although more generally the peat depths were between 1.0 m and 2.5 m. Peat depths in the western site area were generally less than 1.0 m, and more frequently, in the region of 0.5 m or less. Effects of peat disturbance were considered moderated however, with appropriate mitigation, residual effects were considered low and not significant. Effects on peat stability are considered low and with micro-siting, considered negligible.

8.2.5 During construction, operation and decommissioning of the Proposed Development, a number of established good practice measures will be put in place to minimise peat disturbance, control surface and groundwater pollution and manage surface water run-off/drainage. These are designed to ensure the protection of the surface water, geology and hydrogeological regimes. These measures will be included in the Construction Environmental Management Plan (CEMP) and a monitoring program will be supervised by an Ecological Clerk of Works (or equivalent).

8.2.6 With effective and well managed embedded good construction practice measures in place, no significant residual effects of the Proposed Development on hydrology, water quality, water resources, hydrogeology and geology are predicted.

8.3 Potential Impacts

8.3.1 Construction Impacts

8.3.2 An increase in tip height, could in turn, lead to an increase in the size of the turbine foundations and associated crane hardstand arrangement, ultimately impacting a larger surface area and any underlying peat deposits. Detailed peat depth surveys have already been undertaken at the turbine positions and within the micro-siting allowance, therefore further survey works are not required.

8.3.3 All turbines are located within shallow peat (0 - 0.5 m). While the turbines were sited on thin peat, particularly in the western site area, deep peat was recorded in the eastern site area, however, the increase in surface area associated with an

increased tip height is expected to be a marginal change in terms of peat disturbance, and not likely to increase any potential peat slide risk, therefore upon agreement with THC and SEPA, it is proposed that any update to the assessment of peat and geology is to be scoped out. It is acknowledged however that an update to the Peat Management Plan may be required to update the excavation and re-use estimations.

8.3.4 Similarly, the potential increase in hardstanding area could reduce the distance between working areas and watercourses onsite. Given the distance between the original turbine locations and watercourses onsite it is anticipated that the increase in hardstanding area will not change the assessment on hydrological resources and that that this is confirmed in a succinct section within the updated EIA Report.

Operational Impacts

8.3.5 No additional effects predicted on hydrology, peat and geology during operational Phase.

Decommissioning Impacts

8.3.4 No additional effects on hydrology, peat and geology resources during decommissioning Phase are predicted.

Summary

8.4 As such, the hydrology and soils information presented in the Consented Development EIA Report, and subsequent SI, are applicable to the Proposed Development and it is not proposed that the hydrology assessment is updated through the EIA. Such effects will remain not significant when considering the Proposed Development and are therefore scoped out of further assessment.

It is acknowledged however that an update to the Peat Management Plan may be required to update the excavation and re-use estimations.

9. The Historic Environment

Introduction

9.1 This chapter of the EIA Report will identify any changes to the Historic Environment baseline since submission of Lochluichart Wind Farm Extension II ('Consented Development') EIA Report and subsequent SI, and any changes to impacts upon that baseline as a result of the proposed changes to the turbine tip heights.

9.2 A heritage asset is defined as any element of the Historic Environment which is of sufficient cultural significance to merit consideration in the planning process. Designated assets include Scheduled Monuments, Listed Buildings, World Heritage Sites, Conservation Areas, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and Historic Marine Protected Areas. Other assets may also be locally designated through policies in the Local Plan.

9.3 The majority of heritage assets are not designated. Some undesignated assets are recorded in Historic Environment Records (HERs) maintained by local authorities and other agencies. However, many heritage assets are currently unrecorded, and the information contained in HERs is not definitive.

Baseline Conditions

9.4 As far as can be determined, baseline conditions remain unaltered from those described in the Consented Development EIA Report and subsequent SI.

Potential Impacts

9.5 As the location of the turbines, access tracks and associated infrastructure has remained unchanged, all potential construction impacts remain as predicted in the Consented Development EIA Report and subsequent SI It is proposed that potential impacts arising from construction and decommissioning be scoped out of further assessment.

9.6 As a consequence of the proposed increase in blade tip height, there is the potential for the operational phase of this development to have an impact on the setting of cultural heritage assets which are present within the surrounding area.

Potential mitigation

9.7 As stated in the Consented Development EIA Report and subsequent SI, construction impacts on heritage assets will be eliminated or reduced where possible through design and adopting preventative measures such as fencing off assets during construction. Where this is not practicable, impacts will be mitigated by an appropriate level of survey, excavation, recording, analysis and publication of the results.

9.8 Setting impacts will be avoided or reduced where possible through design.

Assessment methodology

Consultation

9.9 Pre and post-scoping consultation with THC and HES was undertaken during the assessment process in support of the Consented Development and no additional consultation beyond the submission of this scoping report is proposed.

Field Surveys and Assessment

9.10 The Inner and Outer Study Areas will remain as defined in the Consented Development EIA Report.

9.11 A comprehensive desk-based review of the existing baseline for the study areas will be carried out.

9.12 A targeted walkover survey of the inner study area and setting assessment visits in the outer study area were undertaken for the Consented Development EIA Report. It is considered that the results of these surveys and visits remain valid, and no additional field survey will be undertaken

9.13 The assessment of impacts will consider:

- Potential impacts on the settings of designated heritage assets within the outer study area, including cumulative impacts with other existing, consented or proposed wind energy developments in the surrounding area.

9.14 The assessment will be carried out with reference to the following policy and guidance:

- Standards and Guidance for Archaeological Desk-Based Assessment (Chartered Institute for Archaeologists 2014)
- Scottish Planning Policy (Scot Gov, 2014)
- Environmental Impact Assessment Handbook, (Scottish Natural Heritage & Historic Environment Scotland 2018)
- Historic Environment Policy for Scotland (HES 2019)
- Historic Environment Scotland Circular (HES 2019)
- Designation Policy and Selection Guidance (HES 2019)

- Planning Advice Note 2/2011: Planning and Archaeology
- Managing Change in the Historic Environment: Setting (Historic Scotland 2016)
- The Highland – wide Local Development Plan (2012)
- Onshore Wind Energy Supplementary Guidance (The Highland Council, 2016)
- Standards for Archaeological Work (THC, 2012)

10. Traffic & Transport

10.1 Introduction

10.1.1 The increase tip height associated with the Proposed Development will result in the increase size of turbine foundations and crane hardstandings. As a result, there will be changes to the concrete requirements presented in the Consented Development EIA Report and subsequent SI.

10.2 Baseline

10.2.1 As per the Consented Development EIA Report and subsequent SI, the majority of construction vehicles are anticipated to approach the Proposed Development from the south, via the A9 and A835. The route for Abnormal Load Vehicles, which will be used for the delivery of wind turbine components, is from the Port of Invergordon via the A9, Cromarty Bridge and A835.

10.2.2 During construction overall traffic flow levels, and levels of Heavy Good Vehicles (HGVs) flow, can be expected to increase on routes approaching the Proposed Development. During the peak period of construction overall traffic flow is expected to increase by 3% within the vicinity of the site entrance junction on the A835, a corresponding 7% increase in HGVs is also expected. These increases represent the worst case predicted traffic flow increases identified in the study and in both cases fall significantly below the 30% threshold of significance. The predicted increase in traffic flow on all routes is therefore negligible in terms of the EIA Regulations.

10.2.3 As the predicted increase in traffic flow during construction is low and temporary no significant effects on traffic and transport are expected to occur. Traffic associated with operation of the Proposed Development is not significant.

10.3 Potential Impacts

10.3.1 Construction Impacts

10.3.2 It is unlikely that the increase in concrete requirements will significantly alter the findings of the traffic assessment, and it is unlikely that the threshold of significance for overall traffic flow and HGV vehicle flow would be exceeded. The access route is considered capable of accommodating a slight increase in traffic volumes (i.e. within the capacity limits of all roads). Upon agreement with THC, it is proposed that an update to the traffic volumes is scoped out of further assessment.

10.3.3 The revision to the candidate turbine has the potential to alter the results of the Abnormal Load Route Assessment (ALRA). The latest ALRA covers a 67 m blade length which is sufficient to assess the candidate turbine model. As such, an updated ALRA is not required.

Operational Impacts

10.3.2 During operation, the Proposed Development would not be staffed and any routine maintenance would result in minimal vehicle movements at sporadic intervals. Therefore, no mitigation is proposed and no adverse impact is anticipated. Operational impacts are scoped out of further assessment.

Decommissioning Impacts

10.3.3 The decommissioning phase will be similar to construction phase however, shorter in duration. Mitigation measures similar to those during construction would be implemented following agreement with the appropriate authorities at the time. Decommissioning impacts are scoped out of further assessment.

10.4 Summary

10.4.1 The traffic and transport information presented in the Consented Development EIA Report and subsequent SI are applicable to the Proposed Development and it is not proposed that the traffic and transport assessment is updated through the EIA. Such effects will remain not significant when considering the Proposed Development. As such, all aspects of the traffic and transport assessment should be scoped out of further assessment.

11. Noise

11.1 Baseline

11.1.1 The area surrounding the Proposed Development was subject to comprehensive noise monitoring in order to establish background noise levels for the Lochluichart Wind Farm Environmental Statement in 2004. Monitoring was undertaken at five locations representative of the closest noise-sensitive receptors. Noise limits derived from this monitoring were used to assess the impact of the Lochluichart Wind Farm Extension II both as part of the Consented Development EIA Report and subsequent SI, and the subsequent SI, as agreed with the Environmental Health Officer (EHO) of the Highland Council (THC) at the time.

Noise due to the operation of the Consented Development is controlled through Condition 18 of the extant planning permission, which specifies noise limits based upon predicted wind turbine noise levels (with an additional 2 dB buffer).

It is therefore proposed that noise due to the Proposed Development is assessed against the consented noise limits; no additional baseline monitoring is therefore necessary.

11.2 Potential Impacts

Construction Impacts

11.2.1 No change to the construction noise impacts, discussed in the Consented Development EIA Report and subsequent SI, will occur as a result of the Proposed Development (i.e. increased turbine tip height). As such, it is proposed that construction noise is scoped out of further assessment.

Operational Impacts

11.2.2 Operational noise impacts are associated primarily with the aerodynamic noise generated by the movement of the turbine blades through the air, and to a lesser

extent by the operation of mechanical components housed within the turbine itself.

11.2.3 Given the Proposed Development's increased tip height relative to the Consented Development EIA Report, noise due to the Proposed Development will be re-modelled using an alternative candidate turbine type, representative of the increased turbine dimensions.

11.2.4 The noise limits specified in the Consented Development extant planning permission were developed with due consideration of cumulative noise effects, and are applicable to the Proposed Development in isolation. As such, providing noise due to the alternative candidate turbine type remains compliant with the consented noise limits, then the impact will be no greater than that already consented, and therefore acceptable.

11.2.5 As with the majority of wind energy developments, and as stated in the Consented Development EIA Report, ground-borne vibration, low-frequency noise and amplitude modulation are not likely be significant. It is therefore not considered necessary to carry out specific assessments of these effects.

11.3 Potential Mitigation

Construction Noise Mitigation

11.3.1 Noise generated by construction traffic and on-site construction activities will be temporary. As stated in the Consented Development EIA Report and subsequent SI, construction noise will be controlled through the restriction on working hours in the extant planning permission, along with the application of best practice methods in line with the requirements of BS5228.

Operational Noise Mitigation

11.3.2 Operational noise will be controlled through the noise limits applied in the extant planning permission. The Proposed Development will be operated in such a way that compliance with these noise limits is achieved.

11.4 Assessment Methodology

11.4.1 The assessment methodology for operational noise is described in ETSU-R-97 'The Assessment and Rating of Noise from Windfarms' (DTI, 1996). The specific methodologies involved in applying ETSU-R-97 are detailed in full in the 2019 EIA Report, and will be followed where applicable.

11.4.2 The Good Practice Guide (GPG) was published by the Institute of Acoustics (IOA) in May 2013 and has been endorsed by the Scottish Government as current industry good practice (IOA, 2013). The guide presents current good practice in the application of ETSU-R-97 assessment methodology for wind turbine developments at the various stages of the assessment, and will be followed throughout the assessment.

11.5 Summary

11.5.1 It is proposed that noise due to the operation of the Proposed Development is assessed against the consented noise limits.

11.5.2 With the exception of operational noise monitoring, the information presented in the Consented Development EIA Report and subsequent SI in relation to noise is

applicable to the Proposed Development and can therefore be scoped out of further assessment.

12. Climate Change

12.1 Summary

12.1.1 Climate Change Impact Assessment (CCIA) is a form of environmental assessment required by the amended European Commission (EC) Directive 2014/52/EU. This EC Directive was transposed into UK law in 2017 and therefore, CCIA is required to be included in the Environmental Impact Assessment (EIA) Report.

12.1.2 CCIA will determine how the Proposed Development is likely to interact with a changing climate and whether any significant effects could arise. The assessment will consider what the impacts of the Proposed Development are that could influence climate change, and also how vulnerable the Proposed Development is to changes in the future baseline environment as a result of climate change.

12.1.3 As per the Consented Development EIA Report and subsequent SI, the Proposed Development remains unchanged with the exception of the increased tip height and an increased operational lifetime of 40 years. As a result of the increased tip height, turbine foundations have increased in size. No other changes to the Consented Development are proposed.

12.2 Baseline

12.2.1 As per the Consented Development EIA Report and subsequent SI, it is predicted that climatic changes are likely to occur during the lifespan of the Proposed Development. The changes in annual mean temperature for the Proposed Development site will remain the same; as well as the projected annual change in summer precipitation.

12.2.2 As per the Consented Development EIA Report and subsequent SI, the medium emissions scenario (a1B) will be utilised as the future baseline as it remains as the most appropriate for this assessment. The projected climatic changes at the 50% probability level (central estimate) will be utilised in the CCIA.

12.2.3 The Consented Development EIA Report, and subsequent SI, concluded that the predicted future climatic baseline conditions are highly unlikely to affect the operation of the Consented Development. The Proposed Development will have a positive effect on carbon savings, and a significant positive effect when considered cumulatively with UK-wide renewable energy deployment. No additional significant effects to those already identified within the Consented Development EIA Report, and subsequent SI, will occur as a result of climate change during the operational phase of the Proposed Development.

12.2.4 The Proposed Development will not significantly influence climate change and the Development will have a positive cumulative effect with regards to reduction in carbon emissions when considering the UK-wide electricity generation mix.

12.2.5 As such, the Consented Development EIA Report, and subsequent SI, stated that the effect of the Proposed Development on climate change is not significant.

12.3 Potential Impacts

12.3.1 As the layout of the Proposed Development remains unchanged from the Consented Development EIA Report and subsequent SI, it is considered that the turbines and other associated infrastructure are located in suitable areas out with deep peat. Siting turbines and infrastructure appropriately will reduce or avoid the negative impact on greenhouse gas emissions disturbing such areas. The turbines and infrastructure are located outside areas prone to flooding events, or other events which may increase in frequency and severity as a result of the effects of climate change.

12.3.2 As with the Consented Development EIA Report and subsequent SI, the Proposed Development will utilise existing infrastructure associated with the operational Lochluichart Wind Farm and Lochluichart Wind Farm Extension to minimize the requirements for new access tracks and compounds areas.

12.4 Assessment Methodology

12.4.1 As the policy context set out within the Climate Change Chapter of the Consented Development EIA Report and subsequent SI, has not changed in the time period within which the Application for the Proposed Development will be submitted, an update to the policy context is scoped out of further assessment. This will be given due consideration in the standalone Planning Statement accompanying the Application.

12.4.2 The Proposed Development remains unchanged to that presented in the Consented Development EIA Report, and subsequent SI, with the exception of an increased tip height, subsequent increased generation capacity and associated increased foundation size. As such, an update to the Carbon Calculator, presented in Appendix 5A of the Supplementary Environmental Information (SEI), and an update to the carbon savings elements will be included in the assessment for the Proposed Development.

12.5 Summary

12.5.1 An update to the Carbon Calculator, and the carbon savings elements will be included in the assessment for the Proposed Development.

All remaining information presented in relation to Climate Change within the Consented Development EIA Report, and subsequent SI, is applicable to the Proposed Development. Such effects will remain not significant when considering the Proposed Development and can be Scoped out of further assessment.

13. Air Quality

13.1 Air Quality

Baseline Conditions

13.11 The Scoping Report for the Consented Development scoped out Air Quality from the EIA.

Potential Impacts

13.12 Based on the existing Consented Development baseline, there are no perceived Air Quality impacts from the Proposed Development.

Assessment Methodology

13.13 Air Quality is therefore scoped out from further assessment.

14. Infrastructure

14.1 Aviation and Radar

Baseline Conditions

14.11 The EIA Report of the Consented Development stated that there would be no impacts on Aviation and Radar. The Consented Development received no objections from statutory consultees in respect of Aviation and Radar.

Potential Impacts

14.12 With no changes in turbine and infrastructure locations, in comparing the Consented Development to the Proposed Development, it is not expected the development will have any negative impact on military or civil aviation, or radar operations.

Potential Mitigation

14.13 If an objection is raised by consultees, Infinergy will consult with the operator directly to work towards a mitigation solution agreeable to both parties.

Assessment Methodology

14.14 In order to assess any potential impacts on aviation or radar, Infinergy will consult the MoD, CAA and NATS to advise them on the increased tip heights for the Proposed Development.

14.15 If any significant impacts are expected, further studies such as radar impact assessments will be carried out, if required.

14.2 Telecommunications

Baseline Conditions

14.21 The EIA Report of the Consented Development stated that there would be no impacts on Aviation and Radar. The Consented Development received no objections from statutory consultees in respect of Telecommunications.

Potential Impacts

14.22 Based on the existing baseline, there are no perceived impacts from the proposal on telecommunications.

Assessment Methodology

14.23 The telecommunications information presented in the Consented Development EIA Report, and subsequent SI, are applicable to the Proposed Development and it is not proposed the Telecommunications assessment is updated through the EIA. Such effects will remain not significant when considering the Proposed Development and are therefore scoped out of further assessment.

15. Shadow Flicker & Safety

15.1 Shadow Flicker

Baseline Conditions

15.11 The EIA Report of the Consented Development stated that there would be no Shadow Flicker impacts on nearby properties.

Potential Impacts

15.12 Based on the existing Consented Development baseline, there are no perceived Shadow Flicker impacts from the Proposed Development.

Assessment Methodology

15.13 The Shadow Flicker information presented in the Consented Development EIA Report, and subsequent SI, are applicable to the Proposed Development and it is not proposed the Shadow Flicker assessment is updated through the EIA as turbine locations have not changed.

15.14 The turbine on which the Proposed Development is based on, a Nordex N133 with a 133m rotor diameter, has changed since the Consented Development (Senvion NES 114/114m rotor diameter). However, with the nearest residential property (Aultguish Inn) over 2km away from the nearest turbine, shadow flicker is still not predicted to occur based on ten times rotor diameter rule.

15.15 Such effects will remain not significant when considering the Proposed Development and are therefore scoped out of further assessment.

15.2 Safety

Baseline Conditions

15.21 The study of safety considerations in the EIA Report for the Consented Development confirmed that appropriate mitigation measures have been incorporated during the site selection and design stages to minimise safety risks, and that adherence to the relevant British and European Standards will ensure that risks can be managed during the operational stage.

Potential Impacts

15.22 Based on the existing Consented Development baseline, there are no perceived Safety impacts from the Proposed Development.

16. Socio-Economic

Introduction

16.1 Socio-economic, land-use and recreation effects will be assessed based on the guidance presented in 'Guidelines for Environmental Impact Assessment' (IEMA,2004) and 'A Handbook for EIA' (Scottish Natural Heritage (SNH), 2003) and considered against:

- The economic profile of the surrounding area;
- Tourism and Recreation receptors;
- Land-use and ownership; and
- Public attitudes to wind farms.

Baseline

16.2 There will be no significant direct or indirect effects on tourism or recreation as a result of the Consented Development both in isolation or cumulatively, although land within the Proposed Development will be inaccessible to the public during the construction and decommissioning phases for health and safety reasons. These effects are considered to be not significant in terms of the EIA Regulations.

The Proposed Development will further contribute to the positive economic effect of renewable energy, and associated skills base within the UK and Scotland. The contributions of the Proposed Development to the local community benefit fund (approximately £4.05 million over the lifetime of the Proposed Development) will be a valuable contribution to the community of the local area however, not significant in terms of EIA Regulations.

No significant effects in terms of the EIA Regulations are predicted on socio-economics, tourism and recreation and land-use receptors during the construction, operation or decommissioning phases of the Proposed Development.

Potential Impacts

16.3 As there will be no change to the layout since the Consented Development EIA Report and subsequent SI, there would be no significant change to land or recreational use of the area. Visual impacts on recreation users will be considered in Chapter 9- Landscape and Visual Impact Assessment (LVIA).

The Proposed Development will have an increased benefit to the local community through the increase in community fund brought about by the increase in output from the wind turbines. However, this is not considered material to the determination of the Application.

In addition, since the submission of the Consented Development EIA Report and subsequent SI, the economic profile of the surrounding area and public attitudes to wind farms are unlikely to have evolved significantly.

Summary

16.4 The information presented in the Consented Development EIA Report, and subsequent SI, in relation to socio-economics land use and recreation remains applicable to the Proposed Development and it is not proposed that the socio-economics, land-use and recreation should assessment is updated through the EIA. As such, socio-economics, land-use and recreation can be scoped out of further assessment.

17. Forestry

Introduction

17.11 Parts of the Proposed Development would be within conifer forest plantations and potentially requires the permanent removal of some 4.00 hectares for the turbine locations and associated infrastructure.

17.12 This section of the Scoping Report describes the existing forest resource, identifies potential for effects to occur and details the scope of information and assessment to be included in the EIA Report.

Baseline Conditions

17.3 The Proposed Development would be located within a conifer plantation. The Forest Study Area extends to approximately 296.97 hectares and comprises of a single forest unit under private ownership. The woodlands are described as pole stage Scots pine, a native pinewood.

17.4 No part of the woodland which would be affected by the Proposed Development is classed as Plantation on Ancient Woodland Sites (PAWS) or are included on the Ancient Woodland Inventory (AWI).

Potential Significant Effects

17.5 At least 4.00 hectares of woodland would need to be cleared, and some remain unplanted, to accommodate the Proposed Development for permanent infrastructure, turbine layout and associated stand-off buffers and tracks.

17.6. This area is based on typical current bat buffer zones and turbine clearance requirements which equate to two hectares per turbine location. Additional tree removal will be required for further infrastructure.

17.7. It is noted that the areas of interest contain significant open ground and are not all stocked woodland.

17.8. This woodland has a Forest Plan in place, Lochluichart Estate North Forest Plan reference number 4515368.

Proposed Scope of Assessment

17.9 A targeted Forest Impact Assessment, a Forestry Chapter, will be completed for the Proposed Development. This is anticipated to include the following activities:

- Calculation and description of areas required to be cleared of woodland, both temporary and permanent;
- an assessment of woodland composition within the current forest plan; and,
- proposals for Compensatory Planting according to the Scottish Governments' Policy on Woodland Removal.

Issue Scoped out

17.10 The Forest Impact Assessment would be limited to the effects of the Proposed Development on forest composition and yield. Secondary effects resulting from forestry activities including effects on habitats and species, ornithology, hydrology and landscape and visual effects would be considered within their respective chapters of the EIA Report and would not be covered by the Forest Impact Assessment.

Assessment Methodology

17.11 The preparation of the Forest Impact Assessment will refer to relevant industry guidance including, but not limited to:

- Forestry Commission Scotland (2009): The Scottish Government's Policy on Control of Woodland Removal. Forestry Commission Scotland, Edinburgh and
- Implementation Guidance (February 2019);
- Forestry Commission (2017): The UK Forestry Standard, The Government's Approach to Sustainable Forestry. Forestry Commission, Edinburgh;

- Forestry Commission (2017): Forests and Water. UK Forestry Standard Guidelines (and other guidelines in the same series). Forestry Commission, Edinburgh;
- Scottish Government (2019): Scotland's Forestry Strategy >>2019-2029 Forestry Commission, Edinburgh;
- UKWAS 4.0 (2012): The UK Woodland Assurance Standard Third Edition. UKWAS, Edinburgh;
- SEPA Guidance on the Management of Forestry Waste (SEPA, 2013).
- The Highland Council (2006): Highland Forest & Woodland Strategy
- The Highland Council (2013): Supplementary Guidance. Trees, Woodlands & Development
- Scottish Planning Policy 2014 (A Natural, Resilient Place; Valuing the Natural Environment) Section 218 (Woodland)

17.12 The Forest Impact Assessment will be a factual assessment describing the changes to the forest structure resulting from incorporation of parts of the wind farm into the forest. This will identify and quantify areas of forest which will need to be removed to accommodate the Proposed Development, those available for replanting once construction is complete, any temporary felling if required, and the net area of permanent forest land lost. The Assessment will evaluate the potential impacts of this loss on the forest resource and structure. It will also detail proposals for forest redesign if required and any proposals for mitigation through compensatory planting as necessary.

17.13. The forestry baseline will describe the crops existing at the time of preparation of the EIA Report. This will include current species; the planting year; felling and restocking plans; and other relevant woodland information. It will be prepared from existing forest records; desk-based assessments; site visits; and aerial photographs. Areas of woodland may need to be felled for the construction and operation of the proposed development including access tracks, turbine locations and other infrastructure. The potential effects would be changes to the structure of the woodlands, which may result in a loss of woodland area.

17.14 This would be addressed through a redesign of the existing forest including, for example, the use of designed open space, alternative woodland types, changing the management intensity, or the provision of compensation planting on an alternative site

17.15 The resulting changes to the woodland structure and any requirement for compensation planting to mitigate against any woodland loss will be considered in the context of the Control of Woodland Removal Policy and in consultation with Scottish Forestry as the Scottish Government agency responsible for forestry policy, support and regulations.

17.16 The Forest Impact Assessment will be presented as a Forestry Chapter in the EIA Report.

Summary

17.17 The Proposed Development would require clearing of areas of existing coniferous forest plantation. A targeted Forest Impact Assessment, a dedicated Forestry Chapter, will be carried out for the Proposed Development including calculation of areas of temporary and permanent loss and measures for replanting on and off site as compensatory planting. The Assessment will also consider the future management through the current Lochluichart Estate North Forest Plan.

18. Proposed content of the EIA Report

18.1 A contents list (subject to change) for the EIA Report is set out below:

- **Non-Technical Summary**
- **Chapter 1** outlines the Proposed Development and the structure of the EIA Report;
- **Chapter 2** describes the EIA Process undertaken for the Proposed Development, including this Scoping exercise and its outcomes;
- **Chapter 3** provides a detailed Description of the Proposed Development and includes an overview of the construction methodology;
- **Chapter 4** describes the relevant regulatory obligations and the international, national, regional and local planning context and whether the Proposed Development conforms with Planning Policy;
- **Chapter 5** Climate change policy, carbon payback and peat management;
- **Chapters 6 - 15** provide the EIA, i.e. the assessment of impacts on the various environmental parameters
    - **Chapter 6**: Socio-Economic;
    - **Chapter 7**: Traffic and Transport;
    - **Chapter 8**: Noise;
    - **Chapter 9**: Landscape and Visual Impact Assessment;
    - **Chapter 10**: The Historic Environment;
    - **Chapter 11**: Ecology and Nature Conservation;
    - **Chapter 12**: Ornithology;
    - **Chapter 13**: Hydrology, Hydrogeology, Geology and Peat;
    - **Chapter 14**: Shadow Flicker & Safety;
    - **Chapter 15**: Infrastructure;
    - **Chapter 16**: Forestry.

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