Beinn Bheag Wind Farm

Information to Support a Formal Request for an Environmental Impact Assessment Scoping Opinion

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1 Introduction

1.1 Background and Context

1.1.1 Renewable Energy Systems Limited (RES) (the Applicant) intends to apply to Scottish Ministers via the Government's Energy Consents Unit (ECU) for permission to construct and operate the Beinn Bheag Wind Farm (hereafter referred to as the "Proposed Development") at a site (hereafter referred to as the "Site") located approximately 26 kilometres (km) west of Invergarry along the A87, south of Loch Quoich (*Loch Chuaich*), in the Scottish Highlands.

1.1.2 The Proposed Development comprises up to 28 turbines, each with a maximum height of 230 m from ground to blade tip when vertical. Its total generating capacity, whilst dependent on the rated power of the turbine model procured, will exceed 50 megawatts (MW). Ancillary infrastructure will include temporary construction compound(s); a gatehouse compound; crane pads; temporary laydown areas adjacent to the turbines; internal access tracks; watercourse crossings; cabling; an electrical switching station; an on-site substation and control building; and energy storage infrastructure.

1.1.3 RES intends to apply for consent under section 36 of the Electricity Act 1989 and deemed planning permission under the Town and Country Planning (Scotland) Act 1989, to construct and operate the Proposed Development. The consent application will be accompanied by an Environmental Impact Assessment Report (EIA Report) in line with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (hereafter referred to as "the EIA Regulations").

1.1.4 This document is the Environmental Impact Assessment (EIA) Scoping Report submitted to the Scottish Ministers to accompany a formal request for an Opinion on the scope and level of detail required in the EIA Report which will accompany the consent application.

1.2 Need for the Proposed Development

1.2.1 The science behind the climate emergency is well established and demonstrates the need to phase out fossil fuels to avoid negative economic, environmental, and social effects. There are international and European agreements to reduce carbon dioxide (CO_2) emissions and tackle the climate crisis. In response to these agreements, the UK has made significant, legally binding commitments to increase the use of renewable energy and achieve net zero emissions by 2050. The Proposed Development relates directly to those commitments.

1.2.2 The Scottish Government published the Onshore Wind Policy Statement (OWPS) in December 2022. The OPWS states that with nearly 9 gigawatts (GW) currently operational in Scotland, onshore wind is a cheap and reliable source of zero carbon electricity. The OWPS, which is the culmination of an extensive consultative process with industry and statutory consultees and the public, sets an overall ambition to reach 20 GW of installed onshore wind capacity in Scotland by 2030.

1.2.3 To meet the OWPS target, new renewable energy projects must be developed where resources are present, environmental effects can be satisfactorily mitigated, and social

and economic contributions to local communities and/or regional programmes can be secured.

1.2.4 The Proposed Development will contribute to the OWPS target by generating renewable electricity in Scotland, thereby providing an opportunity to reduce CO_2 emissions. The EIA Report will include information on the Proposed Development's contribution to renewable energy targets and reducing the effects of climate change through a carbon balance calculation.

1.3 Purpose of this Report

1.3.1 This EIA Scoping Report is submitted in support of a formal request by the Applicant under regulation 12 of the EIA Regulations seeking an opinion as to the scope and level of detail to be provided in the EIA Report which will be submitted with the consent application. The Applicant recognises the value of the scoping approach. The purpose of this report is to provide the relevant information specified in regulation 12 (2) of the EIA Regulations. Accordingly, this EIA Scoping Report:

- describes the location of the development;
- describes the nature and purpose of the development;
- identifies key organisations to be consulted in the EIA process;
- establishes the format of the EIA Report;
- provides baseline information;
- describes potential significant effects; and
- presents the proposed assessment methodologies for various technical assessments to be covered in the EIA Report.

1.3.2 Each technical section of the EIA Scoping Report concludes with questions for consultees regarding the information provided for which it would be useful to receive feedback. Not all questions will be relevant to all consultees. Therefore, the Applicant requests that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that they are satisfied with the approach adopted/proposed.

1.4 The Applicant

1.4.1 RES is the world's largest independent renewable energy company, active in onshore and offshore wind, solar, energy storage and transmission and distribution. At the forefront of the industry for 41 years, RES has delivered more than 23 GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 40 GW worldwide for a large client base. Understanding the unique needs of corporate clients, RES has secured 1.5 GW of power purchase agreements (PPA) enabling access to energy at the lowest cost. The company employs more than 4,000 people and is active in 24 countries. In the UK alone, RES is responsible for approximately 10% of the current wind energy capacity.

1.4.2 From its Glasgow office, RES has been developing, constructing, and operating wind farms in Scotland since 1993, and has developed and/or built 22 wind farms in Scotland with a total generation capacity of 660 MW. The company has previously developed Aberarder Wind Farm and Dunmaglass Wind Farm, also near Invergarry in the Highlands.

1.5 The EIA Consultant

1.5.1 RSK Environment Limited (RSK Environment) has been appointed by RES to co-ordinate the preparation of the EIA Scoping Report and the EIA Report for the Proposed Development. RSK Environment is one of over 200 environmental, engineering and technical services companies within RSK Group (RSK).

1.5.2 RSK is headquartered in the UK, with offices in 40 countries around the world. It is a founding member and registrant of the Institute of Environmental Management and Assessment's (IEMA's) EIA Quality Mark Scheme. RSK is also a Registered Organisation with the Chartered Institute for Archaeologists (CIfA).

1.5.3 RSK Environment has significant experience and expertise in undertaking EIA and in preparing planning applications for a wide variety of projects across the UK, including applications under Scotland's Electricity Act 1989.

EIA Project Team

1.5.4 RSK Environment are working with a team of technical specialists to prepare the EIA Scoping Report, and in due course, the EIA Report for the Proposed Development. The EIA project team comprises:

- Planning – DB Planning
- Landscape and Visual - MVGLA
- Cultural Heritage – Headland Archaeology (RSK)
- Ecology – MacArthur Green
- Ornithology - MacArthur Green
- Geology, Hydrology and Hydrogeology - Gavia
- Transport and Access – Pell Frischmann
- Acoustics - RES
- Forestry – Scottish Woodlands
- Carbon Balance - Gavia
- Shadow Flicker - RES
- Telecommunications - RES
- Aviation and Radar - RES
- Socio Economics - BiGGAR

1.5.5 The EIA project team are competent experts with experience of undertaking EIA for wind energy developments across Scotland, and meet the terms of regulation 5(5) of the EIA Regulations.

1.6 Structure of the EIA Scoping Report

1.6.1 The remainder of this EIA Scoping Report is structured as follows:

- **Section 2** describes the Site and surrounding context and summarises the main elements of the Proposed Development.
- **Section 3** sets out the approach to EIA and the format of the EIA Report.
- **Section 4** provides the planning policy context including the development plan and a list of policy and guidance to be considered.
- **Sections 5 to 13** present the environmental topics to be considered within the EIA Report including the environmental studies, the methodology for assessment, potential significant effects of the Proposed Development, and aspects to be scoped out of assessment.
- **Section 14** presents other environmental issues which are proposed to be scoped out of EIA, and for which technical reports may be provided with the EIA Report and consent application.

2 The Proposed Development

2.1 Site and Surrounds

2.1.1 The Site for the Beinn Bheag Wind Farm is located approximately 26 km west of Invergarry, along the A87, adjacent the eastern end of Loch Quoich (see **Figure 2.1**). The existing landcover is heathland, moorland, and commercial forestry. The central coordinates of the Site are 206700 (E) 799700 (N).

2.1.2 The Site falls entirely within the Rocky Moorland – Lochaber Landscape Character Type (LCT). Notably, the northern and western sections of the Site are within the Highland Council's Moidart, Morar and Glen Shiel Special Landscape Area (SLA), while the Knoydart National Scenic Area (NSA) is approximately 6 km to the northwest.

2.1.3 The northern half of the Site is identified as Class 2 soils, classified as 'Nationally important carbon-rich soils, deep peat and priority peatland habitat' indicating the presence of peat soil with occasionally peaty soil, overlain with primarily peatland vegetation.

2.1.4 There are no ecological statutory designated sites within the Site Boundary.

2.2 Project Description

The Turbines

2.2.1 Based on current information, it is expected that the Site has the capacity to support up to 28 wind turbines. A plan showing the indicative turbine layout is provided in **Figure 2.2**.

2.2.2 The initial design recognises that future surveys and consultation will inform the design iteration of the Proposed Development. The exact number of turbines proposed will be determined based on environmental, technical, and commercial constraints identified through the iterative design process. A maximum blade tip height of 230 m is under consideration, but the final dimensions of the turbines will also be determined through the iterative design and EIA process.

2.2.3 For the purposes of Scoping, the Proposed Development will consist of up to 28 three-bladed horizontal axis turbines. The candidate turbine has not yet been confirmed. For the purpose of assessment, the 'worst case' turbine model will be used, with indicative dimensions as follows:

- height to blade tip of approximately 230 m;
- hub height of approximately 148 m; and
- blade diameter of approximately 163 m.

2.2.4 The indicative turbine locations are provided in **Table 2.1**.

Table 2.1 Beinn Bheag Wind Farm scoping turbine layout

Turbine ID	Easting (E)	Northing (N)
1	209837	800101
2	209978	799510
3	209299	799457
4	205100	798613
5	208863	799837
6	209558	799042
7	209005	798583
8	208671	798947
9	208413	798296
10	208046	798698
11	208412	799372
12	208333	799989
13	207731	799750
14	207791	800279
15	207343	800594
16	206992	800093
17	206358	800281
18	206157	800730
19	207333	798200
20	206719	798037
21	207026	798584
22	206613	798984
23	206588	799499
24	205985	798986
25	206075	799676
26	205932	798387

Turbine ID	Easting (E)	Northing (N)
27	205392	798023
28	205210	799968

2.2.5 The parameters of the EIA will be such that an appropriate level of assessment is undertaken for a given hub height and rotor diameter, within the envelope of a maximum tip height. As the project design progresses, the indicative turbine locations provided above are subject to change in response to the ongoing detailed assessment work, taking consideration of the environmental effects, terrain, current land use, and technical and health and safety issues.

2.2.6 Each element of the Proposed Development will be explicitly identified in the EIA Report. The final locations of the turbines will be 'frozen' at an appropriate time in order to complete the impact assessment and describe fully the Proposed Development for which Section 36 consent is sought.

Ancillary Infrastructure

2.2.7 In addition to the turbines, the following ancillary elements are proposed:

- turbine foundations and temporary laydown areas adjacent to the turbines;
- temporary construction compound(s);
- upgraded and new access tracks;
- watercourse crossings;
- underground cables between turbines and connecting to the on-site substation;
- an electrical switching station;
- an on-site substation compound with control building and telecoms mast;
- battery storage infrastructure and compound;
- a gatehouse compound;
- a concrete batching plant;
- drainage and drainage attenuation measures (as required);
- potential excavations/borrow workings; and
- habitat and peatland enhancements.

Battery Storage

2.2.8 The Proposed Development may include a Battery Energy Storage System (BESS) of approximately 50 MW (300 MWh rated capacity). The location of the BESS within the Site Boundary will be determined at design stage, considering relevant baseline information available. Typical drawings will be provided with the EIA Report and consent application to illustrate the scale and appearance of the proposed BESS.

2.2.9 The BESS would be designed to provide peak generation and grid balancing services to the electricity grid. It would do this primarily by allowing excess electricity generated from the wind turbines to be stored in batteries and dispatched when required. As a secondary function, it may also import surplus energy from the electricity grid when energy available to the grid exceeds demand.

2.2.10 Potential fire risk associated with the BESS will be managed by a cooling system designed to regulate temperatures to safe conditions to minimise risk of fire. Consultation will be undertaken with the Scottish Fire Service as part of the EIA Scoping process. Fire risk management, fire suppression, and fire extinguishing will be key factors to consider in relation to the design and development of the BESS. The Project Description chapter of the EIA Report will provide information on the BESS proposals to demonstrate compliance with Scottish Fire Service guidance applicable at the time of submission of the application.

Access

2.2.11 Feasibility studies are ongoing to identify potential access options from the A87 that are commercially and technically viable. The primary access option exits the A87 to the southwest of Loch Garry and follows existing forestry haulage tracks for approximately 25 km to reach the Site. The secondary access option would exit the A87 onto the C114. These access options will be subject to environmental and engineering appraisals before selecting the preferred option. The proposed Site access options will be considered in the iterative design process, and will be described in a chapter in the EIA Report on layout evolution and consideration of reasonable alternatives.

Grid connection

2.2.12 The grid connection from the substation to the wider grid network will be subject to a separate application for consent and, if required, its own EIA process. An indicative grid connection route will be provided in the EIA Report based on the information available at the time of submission of the application.

2.3 Site Design and Development

2.3.1 The initial design and layout of the Proposed Development, as presented in this EIA Scoping Report, has been developed through an iterative process which has avoided known potential impacts insofar as possible. Pre-application planning advice was sought from The Highland Council in April 2024. At the time of first applying for pre-application planning advice (in Autumn 2023), the Proposed Development comprised 32 wind turbines up to 250 m blade tip height. At the time of the pre-application meeting in March 2023, the scheme had been revised to 28 wind turbines with a reduced blade tip height of 230 m.

2.3.2 The Beinn Bheag Wind Farm layout will continue to be refined during the EIA and design process, and through further consultation. Any amendments to the design scoped here are unlikely to increase the likelihood of a significant effect. However, should there be any amendments to the layout that are likely to result in significant or unknown effects on an important feature previously scoped out, then this feature will be scoped back in to the EIA. Any changes to scope will be discussed with the relevant consultees to ensure that they are in agreement before altering the scope of the EIA.

2.3.3 Whilst the location of the infrastructure will be determined through an iterative environmental design process, there is the potential for exact locations to be further optimised through micro-siting allowances prior to construction. In this regard, the Applicant proposes a micro-siting allowance of up to 75 m in all directions within the Site

Boundary in respect of each turbine and the ancillary infrastructure in order to address any potential difficulties which may arise in the event that preconstruction surveys identify unsuitable ground conditions or environmental constraints that could be avoided.

2.3.4 Consent will be sought for an operational life of 50 years from the date of commissioning of the wind turbines.

2.3.5 Based on the indicative layout, the Proposed Development will provide a total generating capacity of approximately 190 MW for the 28 turbines (each with a 6.8 MW rated capacity), and approximately 50 MW for the BESS.

Community Benefits

2.3.6 Based on an installed capacity of 190 MW from the turbines and a community benefit contribution of £5,000 per MW of installed capacity, the Proposed Development could generate up to £950,000 per annum (up to £47,500,000 in total over 50 years) to support local groups and projects in the surrounding area.

2.4 Cumulative Developments

2.4.1 The EIA Regulations state that cumulative effects should be considered as a part of the EIA. It will therefore be important to consider the cumulative effects of the Proposed Development with other developments in the area, including those that are currently operational, consented and in planning. The scope of the cumulative assessment will be agreed through consultation with The Highland Council and NatureScot.

2.4.2 Key cumulative considerations for this project will include potential interactions with nearby developments such as the consented Bunloinn Wind Farm, the proposed Tomchrasky Wind Farm, the operational Beinneun Wind Farm and Extension, and the operational Millennium East Wind Farm and Extension, and Scottish and Southern Electricity Networks' proposed Skye Reinforcement Transmission Project.

2.4.3 The record of cumulative projects will be updated throughout the EIA process, up to a point prior to submission of the application. The Applicant welcomes any further information from stakeholders on additional proposed wind farm developments that should be considered.

3 Environmental Impact Assessment

3.1 Approach to EIA

3.1.1 The EIA Regulations require that before consent is granted for certain types of development, an EIA must be undertaken. The EIA Regulations set out the types of development which are always subject to EIA (Schedule 1 development) and other developments which may require EIA if there is the potential for significant environmental effects as a result of the development (Schedule 2 development).

3.1.2 The Proposed Development falls within Schedule 2 of the EIA Regulations and has the potential to result in some significant environmental effects. The Applicant considers that the Proposed Development qualifies as "EIA Development" and therefore will voluntarily submit an EIA Report with the consent application.

3.1.3 EIA is a process which includes the requirement for the preparation of an EIA Report by the Applicant. The EIA will be undertaken in line with the EIA Regulations and current good practice guidance. The results of the EIA will be presented within an EIA Report and will contain the information specified in Schedule 4 of the EIA Regulations.

3.1.4 An overview of the legislation, policy and guidance considered for each technical assessment is provided within the respective technical sections of this EIA Scoping Report.

Consultation

3.1.5 Stakeholder engagement is a key part of the EIA process and will be undertaken throughout the EIA process to agree assessment methodologies and address concerns consultees may have. Relevant stakeholders consulted will be agreed with the ECU and will vary depending on the technical topic.

3.1.6 Public consultation will also be undertaken by the Applicant following the guidance provided by the ECU. The Applicant will hold at least two public consultation events, the first following the submission of the EIA Scoping request, and the second prior to the Proposed Development design freeze. The dates and locations of the events are to be confirmed.

Baseline Conditions

3.1.7 The baseline conditions will be identified through desk-based studies and surveys and will describe the environmental characteristic and conditions. The extent of the proposed changes to the existing baseline environment as a result of the Proposed Development will be considered.

Potential Effects

3.1.8 The potential effects relating to the Proposed Development will be identified, described and assessed. The assessment of the effects upon environmental factors will cover the period over the construction and the operation of the Proposed Development. Decommissioning impacts are assumed to be similar to those of construction. The environmental factors noted with the EIA Regulations are:

- Population and human health;
- Biodiversity and in particular protected species and habitats;
- Land, soil, water, air and climate; and
- Material assets, cultural heritage and the landscape.

3.1.9 Based on the Applicant's experience of other wind farm development sites, the environmental factors for consideration within the EIA Report for Beinn Bheag Wind Farm have been adapted and are listed in Section 3.2.

Mitigation

3.1.10 The mitigation measures utilised to avoid, reduce or offset the consequences of the Proposed Development will be embedded within the design or adapted within the construction methodology or mode of operation.

3.1.11 It is likely the following draft management plans would be submitted in outline format as part of the EIA Report and consent application:

- Construction Environmental Management Plan (CEMP);
- Biodiversity Enhancement Management Plan (BEMP); and
- Construction Traffic Management Plan (CTMP).

Residual Effects

3.1.12 The remaining effects as a result of the Proposed Development, following implementation of any bespoke mitigation measures, will be considered within the EIA. Residual effects may be adverse or beneficial, short, medium or long term, direct or indirect, permanent or temporary and reversible or irreversible.

Cumulative Effects

3.1.13 The cumulative effects will consider the in-combination effects which are the combined effects of the Proposed Development together with other reasonably foreseeable developments. The cumulative developments will include EIA developments which have a planning application submitted, approved, or are under construction within a set radius of the Site. The study area will differ for each technical chapter as set out in the relevant technical sections below.

3.2 EIA Report Format

3.2.1 The structure of the EIA Report will follow the requirements of the EIA Regulations (Schedule 4) and other relevant good practice guidance. The EIA Report will be presented in five volumes:

- Volume 1 – Written Statement;
- Volume 2 – Figures;
- Volume 3 - Landscape and Visual Impact Assessment: Visualisations;
- Volume 4 – Technical Appendices; and
- Volume 5 – Confidential Annex.

3.2.2 Chapters 1 to 4 of Volume 1 will comprise:

- Chapter 1: Introduction;
- Chapter 2: Description of the Proposed Development;
- Chapter 3: Description of the Site selection and design iteration process; and
- Chapter 4: Information on the approach to EIA and determination of significance of effects.

3.2.3 The remainder of Volume 1 will present a description of effects in respect of a range of environmental topics. Based on available baseline information and the details of the Proposed Development, the environmental topics have been scoped on the basis of the potential for significant environmental effects.

3.2.4 The findings of the scoping process, as reported herein, have determined the need to undertake impact assessment to investigate potential effects of the Proposed Development. Each of the topics scoped in for assessment will be reported as a Chapter in Volume 1. The following topics will be considered:

- Chapter 5: Landscape and Visual;
- Chapter 6: Ecology;
- Chapter 7: Ornithology;
- Chapter 8: Geology, Hydrology and Hydrogeology;
- Chapter 9: Transport and Access;
- Chapter 10: Acoustics;
- Chapter 11: Forestry;
- Chapter 12: Carbon Balance
- Chapter 13: Other Issues (Shadow Flicker, Telecommunications, and Aviation and Radar) including technical reports as relevant.
- Chapter 14: Schedule of Mitigation; and
- Chapter 15: Summary of Residual Effects.

3.2.5 The EIA Report will reference figures and technical studies which will be presented in Volumes 2 to 5.

3.2.6 The consent application will be accompanied by the following documents;

- Non-Technical Summary (NTS) - providing a summary of the key findings from the EIA Report;
- Planning Statement - assessing the Proposed Development against all relevant planning and energy policy;
- Pre-Application Consultation (PAC) Report - explaining the consultations undertaken with the local communities about the Proposed Development;
- Economic and Community Impact Report; and
- Heritage Impact Assessment Report.

3.3 Consultation

3.3.1 Early consultation is key throughout the development process. The Applicant will ensure that local communities and stakeholders are given the opportunity to provide feedback and are kept informed of project progress.

4 Policy Framework

4.1 Introduction

4.1.1 This section outlines the renewable energy and planning policy framework considered to be relevant to the Proposed Development.

4.1.2 The Proposed Development will have an installed capacity of over 50 MW, and an application will be made to the Scottish Ministers under Section 36 of the Electricity Act 1989 along with a direction for deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997.

4.1.3 In applications submitted under Section 36 of the Electricity Act 1989, the role of the Development Plan is not the same as in applications submitted under the Town and Country Planning (Scotland) Act 1997. The test set out in Section 25 of the 1997 Act, which requires that development must accord with the terms of the Development Plan, is not engaged in the case of a Section 36 application. The Development Plan is a relevant consideration in the determination of a Section 36 application.

4.1.4 The assessment of the Proposed Development against the policy and legislative framework will be undertaken in a standalone Planning Statement which will be separate to the EIA Report.

4.2 Climate Change and Energy Policy Summary

4.2.1 The Scottish Government is legally committed to achieve net zero by 2045. The net zero target for Scotland is set out and defined in the Climate Change (Scotland) Act 2009 as amended by the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019.

4.2.2 Both the UK and Scottish Governments have produced energy policy documents which include detail on the renewable energy and greenhouse gas (GHG) emission reduction targets and how they plan to achieve them.

4.2.3 It is considered the most relevant policy, legislative documents and more recent policy statements published by the UK and Scottish Governments include:

- UK Government Energy White Paper (December 2020);
- HM Government British Energy Security Strategy (April 2022);
- HM Government, Powering up Britain, Energy Security Plan (March 2023);
- The Scottish Energy Strategy (December 2017);
- The Scottish Government's declaration of a Climate Emergency (April 2019);
- The Scottish Climate Change Plan Update (2020);
- The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 and the legally binding net zero target for 2045;
- Scottish Government, Onshore Wind Policy Statement (December 2022); and
- Scottish Government, Draft Energy Strategy and Just Transition Plan (January 2023).

4.2.4 The Scottish Government has set a minimum target of 20 GW of onshore wind to be deployed by 2030 which is confirmed in the Onshore Wind Policy Statement.

4.2.5 A comprehensive review of the renewable energy policy framework will be provided in a Planning Statement which will be submitted with the application.

4.3 National Planning Framework 4

4.3.1 The Scottish Government adopted and published NPF4 on 13 February 2023. NPF4 now forms part of the statutory Development Plan along with Local Development Plans (LDPs).

National Developments

4.3.2 NPF4 includes a number of national developments which are detailed in Annex B – National Developments Statements of Need. NPF4 (page 99) describes national developments as:

> *"significant developments of national importance that will help us to deliver our spatial strategy."*

4.3.3 The Proposed Development is categorised as a national development as part of National Development 3: Strategic Renewable Electricity Generation and Transmission Infrastructure as it is proposed to exceed 50 MW capacity of renewable energy generation.

4.3.4 The Need statement for this development states on page 103:

> *"Additional electricity generation from renewables and electricity transmission capacity of scale is fundamental to achieving a net zero economy and supports improved network resilience in rural and island areas."*

NPF4 Relevant Policies

4.3.5 It is considered that the key policy considerations from NPF4 include:

- Policy 1 Tackling the climate and nature crises;
- Policy 3 Biodiversity;
- Policy 4 Natural Places;
- Policy 5 Soils;
- Policy 6 Forestry, Woodland and Trees;
- Policy 7 Historic Assets and Places; and
- Policy 11 Energy.

4.3.6 Policy 11 is considered the lead policy within NPF4 for renewable energy developments however NPF4 will be considered as a whole.

4.3.7 Policy 11 outlines that all forms of development proposals for renewable energy will be supported which includes:

> *"i. wind farms including repowering, extending, expanding and extending the life of existing wind farms;"*

4.3.8 Policy 11 confirms the only places wind farms will not be supported are National Parks and National Scenic Areas.

4.4 The Local Development Plan

4.4.1 The Local Development Plan and related guidance with relevant policy provisions applicable to the Site is the Highland wide LDP (HwLDP) adopted April 2012 and its related Onshore Wind Energy Supplementary (OWESG) Guidance.

Highland-wide Local Development Plan (2012)

4.4.2 The following policies in the HwLDP would be considered:

- 28 - Sustainable Design;
- 30 - Physical Constraints;
- 51 – Trees and Development;
- 52 – Principle of Development in Woodland;
- 55 - Peat and Soils;
- 57 - Natural, Built & Cultural Heritage;
- 58 - Protected Species;
- 59 - Other Important Species;
- 60 - Other Importance Habitats and Article 10 Features;
- 61 – Landscape;
- 63 - Water Environment;
- 64 - Flood Risk;
- 66 - Surface Water Drainage;
- 67 - Renewable Energy Developments; and
- 77 - Public Access.

4.4.3 Given the HwLDP was adopted prior to the NPF4 and was prepared in the context of now superseded national planning policy if there is an incompatibility in policy, then the provisions of NPF4 will prevail.

The Onshore Wind Energy Supplementary Guidance (2016) and its Addendum (2017)

4.4.4 The HwLDP includes Supplementary Guidance. The OWESG was adopted in 2016 and its Addendum in 2017.

4.5 National Planning Guidance

4.5.1 National planning guidance and advice are relevant considerations. Those which are considered to be most applicable are listed below:

- Planning Advice Note (PAN) 1/2011 Planning and Noise (Scottish Government, March 2011);
- PAN 2/2011 Planning and Archaeology (Scottish Government, July 2011);
- PAN 1/2013 Environmental Impact Assessment (Scottish Government, August 2013);
- PAN 60 Planning for Natural Heritage (Scottish Government, January 2008);
- PAN 69 Planning and Building Standards Advice on Flooding (Scottish Government, August 2004);
- PAN 75 Planning for Transport (Scottish Government, August 2005);
- PAN 79 Water and Drainage (Scottish Government, September 2006); and

- Onshore wind turbines: planning advice (Scottish Government, May 2014).

4.6 Conclusions

4.6.1 The Proposed Development would be a national development which would provide a valuable source of renewable energy at a time when renewable energy targets have not been met and climate change policy encourages its growth.

4.6.2 The assessment of the Proposed Development against the planning and energy policy framework would be undertaken in a standalone Planning Statement, which will be separate to the EIA Report, and will be submitted with the application.

5 Landscape and Visual

5.1 Introduction

5.1.1 The Proposed Development has the potential to affect the character of the landscape around it, and the visual amenity of nearby receptors. Accordingly, a Landscape and Visual Impact Assessment (LVIA) will be undertaken.

5.1.2 The LVIA will describe the existing baseline landscape and visual receptors likely to be affected by the Proposed Development and attribute a value to each receptor. The susceptibility of landscape and visual receptors to change as a result of the Proposed Development and the magnitude or nature of such change will be assessed and will include the ancillary infrastructure (access track, masts, transformers, aviation lights etc.) during the construction and operational phases. The relative importance or significance of effects will be described and assessed and will be supported by figures and photomontages of the Proposed Development, the latter from agreed viewpoints. The LVIA will also consider cumulative effects (i.e., the incremental effects of the Proposed Development in combination with other wind farm developments).

5.1.3 The LVIA will be undertaken by suitably qualified and experienced Chartered Members of the Landscape Institute (CMLI), and in accordance with best practice guidance.

5.2 Consultation

5.2.1 This EIA Scoping Report section forms a continuation of the consultation process following a pre-application meeting with The Highland Council (THC) in March 2024 and takes cognisance of THC pre-application advice provided on 17th April 2024.

5.2.2 In relation to LVIA, key issues identified by THC include:

- Concern raised regarding the proposed 230 m tip height of the proposed turbines;
- The Proposed Development would extend wind farms further west raising concern regarding the scale, both in height and number of turbines, and would have the effect of reducing the apparent scale and distance in the landscape to an unacceptable level;
- THC highlighted the potential effects of the Proposed Development on the special qualities of the Moidart, Morar and Glen Shiel Special Landscape Area (SLA), and the potential to breach the complex of designated SLA and National Scenic Area (NSA) landscape designations extending westwards to the coast;
- NatureScot also highlighted the potential of the Proposed Development to affect regional distinctiveness, in part attributed to the Knoydart NSA, Wild Land Area (WLA) 18 Kinlochhourn – Knoydart – Morar and the Moidart, Morar and Glen Shiel SLA;
- Agree in advance with NatureScot the special landscape qualities assessment of the NSA and WLA;
- Concern raised about the potential views of the Proposed Development from the A87 road, Loch Cuiach, within Glen Kingie and Glen Garry, Kinlochhourn Road, Loch Loyne and the Macrae Memorial Viewpoint;
- Concern about the potential views of the Proposed Development from the summits of Munros, Corbetts and upland locations;

- Potential cumulative effect with other nearby renewable energy and electricity transmission projects; and
- Concern the Proposed Development does not meet THC's preferred threshold regarding a number of criteria listed in THC Onshore Wind Energy Supplementary Guidance.

5.2.3 A response to each of the bullet points is provided within this EIA Scoping section.

5.2.4 Following receipt of the Scoping Opinion from Scottish Ministers, detailed follow up consultation will be undertaken with THC and NatureScot to confirm the proposed approach to the LVIA, methodology, extent of the designated landscapes assessment, and to agree viewpoint locations and scope of the cumulative assessment.

5.3 Methodology and Guidance

Guidance

5.3.1 The LVIA will be prepared in accordance with the principles set out in the *Guidelines for Landscape and Visual Impact Assessment, Third Edition* (GLVIA3) (Landscape Institute, Institute of Environmental Management and Assessment, 2013), and professional judgement is applied to the assessment of effects and a reasoned justification presented in respect of the findings.

5.3.2 In addition to the GLVIA3, the LVIA will take account of the following guidance documents:

- GLVIA3 Statement of Clarification 1/13 10-06-13 (Landscape Institute, 2013);
- Siting and Designing Wind Farms in the Landscape, Guidance, Version 3a (Scottish Natural Heritage, 2017);
- Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland. (SNH, Historic Environment Scotland, 2018);
- General pre-application and scoping advice for onshore wind farms, Guidance (NatureScot, 2022);
- Landscape Character Assessment, Guidance for England and Scotland. (The Countryside Agency and Scottish Natural Heritage (SNH) 2002 Edition);
- Technical Guidance Note 02/21, Assessing landscape value outside national designations (Landscape Institute, 2021);
- Technical Information Note 01/2017 (Revised), Tranquillity – An overview (Landscape Institute, 2017)
- Assessing the Cumulative Impact of Onshore Developments (SNH, 2021);
- Visual Representation of Wind Farms, Version 2.2. (SNH, 2017);
- Technical Guidance Note 06/19, Visual Representation of Development Proposals (Landscape Institute, 2019); and
- Visualisation Standards for Wind Energy Developments (The Highland Council, 2016).

5.3.3 Where relevant, the LVIA will also consider the following supplementary guidance, spatial framework, development guidance and background documents available from THC:

- Green Networks (Jan 2013);
- Highland Historic Environment Strategy (Jan 2013);
- Highland Renewable Energy Strategy & Planning Guidelines (May 2006);

- Onshore Wind Energy Supplementary Guidance (OWESG) (Nov 2016);
- Spatial Framework for Onshore Wind Energy May 2020 – West Highland and Islands LDP Area (THC, 2020);
- Assessment of Landscape Sensitivity to Wind Turbine Development in Highland (Miller et al, 2010);
- Assessment of Highland Special Landscape Areas (THC, 2011); and
- Trees, Woodlands and Development Supplementary Guidance (THC, 2013).

Study Areas

5.3.4 As recommended in NatureScot guidance (SNH, 2017) for turbines of over 150 m to blade tip, the LVIA will use an initial study area of 45 km radius from the outermost turbines. To concentrate the assessment on effects that are likely to be significant, the assessment will focus on landscape and visual receptors where the Proposed Development is predicted to be theoretically visible by Zone of Theoretical Visibility (ZTV) mapping. The ZTV maps presented as **Figure 5.1** and **Figure 5.2** illustrate the potential visibility of the turbine tips in the scoping layout, based on bare-ground landform and topography (i.e., worst-case scenario) at 45 km and 25 km respectively.

5.3.5 Based on theoretical visibility of the Proposed Development and extent of containment by the surrounding landform, the following study areas are proposed for each assessment:

- Landscape character – 15 km;
- Visual receptors – 15 km;
- Residential Visual Amenity Assessment (RVAA) – 3 km;
- Night-time effects on landscape character and visual amenity – 15 km;
- Cumulative landscape and visual amenity – 25 km; and
- Designated Landscapes – 15 km.

5.3.6 The extent of each study area will be reviewed as the design of the Proposed Development evolves and agreed through consultation.

Landscape Effects

5.3.7 Predicted changes in both the physical landscape and landscape character will be identified in the LVIA. Effects will be considered in terms of the magnitude and type of change to the landscape, including its key characteristics as set out in published landscape character assessments (SNH, 2019).

5.3.8 The sensitivity of the landscape will also be considered, acknowledging value placed on the landscape through designation as well as the presence of other operational and under construction wind farms. The magnitude of the effect will be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered, to form a judgement regarding the overall level of landscape effect.

Visual Effects

5.3.9 Visual effects are experienced by people at different locations around the study area, for example, at static locations such as settlements or viewpoints, and from sequential locations when travelling along routes such as roads and footpaths. Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at those locations (for example residents, motorists, recreational users, etc.). Assessment of visual effects of the Proposed Development will be based on analysis of ZTV mapping, field studies and assessment of representative viewpoints.

5.3.10 GLVIA3 states that the nature of visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change in views/visual amenity and the value attached to particular views. The magnitude of the effect will be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered in forming a judgement regarding the overall level of effect.

Significance of Effects

5.3.11 Significance of landscape and visual effects, considering receptor sensitivity and the magnitude of change as set out above, will identify the level of effect using four categories: major, moderate, minor, and negligible. Major and moderate effects are considered to be significant in the context of EIA Regulations 2017.

Cumulative Assessment Methodology

5.3.12 The LVIA will consider operational wind farms and wind farms under construction as part of the existing baseline. A cumulative landscape and visual assessment (CLVIA) will be undertaken with consideration of other wind farms which are consented or have undetermined applications or appeals, in addition to the wind farms that form part of the existing baseline.

5.3.13 Cumulative wind farm information will be gathered for all wind farms within 45 km radius of the Proposed Development, but the CLVIA will focus on wind farms with which there will be cumulative relationships which may give rise to significant effects (likely to be those within approximately 15-25 km or visible sequentially from key routes). Schemes at scoping stage will not be included, except those within 5 km (at the request of the THC and NatureScot), and if sufficient information is available to make an informed assessment. Wind farms with turbines below 50 m to blade tip height will not be included in the assessment.

5.3.14 The list of wind farms for inclusion in the cumulative assessment will be drawn up during the assessment process, so as to be as up to date as possible at the time of submission. Sources for the list will include THC Wind Turbine Map (THC, 2024), Energy Consents Unit (ECU) application search, the assessors own cumulative database, and direct consultation with THC and NatureScot.

5.3.15 A cut-off date of three months prior to the application submission will be applied to the gathering of cumulative sites to allow for the production of supporting figures and assessment.

5.3.16 The intervisibility of the Proposed Development with other wind farms in the surrounding area will be illustrated using combined ZTV maps, using ZTVs of each wind farm overlain on a base map. Paired ZTVs will be prepared to illustrate the key relationships between the Proposed Development and other wind farms close to the Site. The combined ZTVs will be colour coded to distinguish between areas where the Proposed Development is predicted to be visible (either on its own, or in conjunction with other wind farm schemes), and areas where other wind farms are visible, but the Proposed Development is not. Visualisations will include cumulative schemes in accordance with NatureScot (2017) and THC guidance (2016).

5.3.17 The cumulative landscape and visual assessment will be carried out in accordance with the principles contained in NatureScot guidance on cumulative assessment (SNH, 2021). Cumulative relationships will be assessed with a series of scenarios, considering different levels of likelihood:

- **Existing Scenario**: is the LVIA, with all operational wind farms and those under construction;
- **Consented Scenario**: consented wind farms in addition to those in the existing scenario;
- **Application Scenario**: wind farm proposals (submitted to planning) with undetermined applications or appeals in addition to those in the consented scenario; and
- A fourth scenario may be used to consider cumulative effects with wind farm proposals at scoping stage within 5km (if required and sufficient information is available).

5.3.18 Cumulative visual effects will be assessed through analysis of combined ZTVs, views from individual viewpoints and sequential views from routes. The magnitude of cumulative change to landscape character is the additional influence the Proposed Development has on the characteristics and character of the landscape type assuming the other wind farm schemes are already present.

5.3.19 Cumulative effects will be considered in terms of the additional effects of the Proposed Development into a scenario, and the combined effects of the trend of wind energy development in the study area, considering the role of the Proposed Development within that trend.

5.4 Baseline

Site Context

5.4.1 The Proposed Development site is in an upland area on the eastern side of Loch Cuaich within Glen Kingie. Landform within the planning application boundary is undulating and includes a number of hill tops such as Beinn Bheag 339 m Above Ordnance Datum (AOD), and Meall a Chart 300 m AOD. The area includes several small tributaries draining eastwards to the River Kingie which passes through the Site. Landcover is predominantly moorland in the northern half of the Site with forestry along the River Kingie on the southern side.

5.4.2 Within the wider landscape, the Site is surrounded by high ground containing visibility to the north, west and south. To the east, Glen Kingie joins the wider Glen Garry offering distant views towards Knoydart from Invergarry.

Landscape Character

5.4.3 In 2019 the landscape character assessments across Scotland were updated and combined into a web-based resource (SNH, 2019). The updated Landscape Character Types (LCTs) within 15 km of the Site Boundary are shown on **Figure 5.3**, alongside the turbine tip height ZTV.

5.4.4 The LCT data identifies the Site as being entirely within LCT 237 Rocky Moorland – Lochaber[1].

5.4.5 The ZTV shown on **Figure 5.3** predicts a further seven LCTs as having the potential for theoretical visibility of the Proposed Development as follows:

- LCT 220 Rugged Massif Inverness[2] - 8.1 km to the north east;
- LCT 235 Broad Forested Strath[3] - partially within the north eastern part of the red line boundary;
- LCT 236 Smooth Moorland Ridges[4] -3.6 km to the south east;
- LCT 238 Rugged Massif – Lochaber[5] - 1.9 km to the south;
- LCT 239 Interlocking Sweeping Peaks[6] - 150 m to the north west and 3.5 km south east;
- LCT 328 Rugged Mountain Massif[7] - adjacent to the north western boundary of the Proposed Development site; and

[1] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 237 ROCKY MOORLAND – LOCHABER*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20237%20-%20Rocky%20Moorland%20-%20Lochaber%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[2] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 220 RUGGED MASSIF – INVERNESS*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20220%20-%20Rugged%20Massif%20-%20Inverness%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[3] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 235 BROAD FORESTED STRATH*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20235%20-%20Broad%20Forested%20Strath%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[4] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 236 SMOOTH MOORLAND RIDGES*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20236%20-%20Smooth%20Moorland%20Ridges%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[5] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 238 RUGGED MASSIF – LOCHABER*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20238%20-%20Rugged%20Massif%20-%20Lochaber%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[6] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 230 INTERLOCKING SWEEPING PEAKS – INVERNESS*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20230%20-%20Interlocking%20Sweeping%20Peaks%20-%20Inverness%20-%20Final%20pdf.pdf [accessed 20th June 2024]
[7] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 328 RUGGED MOUNTAIN MASSIF – ROSS & CROMARTY*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20328%20-%20Rugged%20Mountain%20Massif%20-%20Ross%20&%20Cromarty%20-%20final%20pdf.pdf [accessed 20th June 2024]

- LCT 365 Rugged Massif – Skye and Lochalsh[8] - 3.8 km to the northeast.

* All distances from the red line boundary shown in **Figure 2.1**.

5.4.6 Based on the scoping layout, the above will form the basis of the Landscape Character Assessment.

Visual Receptors and Visual Amenity

5.4.7 Visual receptors are people, and the LVIA will consider potential effects on views and visual amenity seen by people within the study area. Visual receptors to be considered will include:

- People within settlements, including individual properties within 3 km of the nearest turbine;
- People travelling on major roads across the study area;
- People using minor roads in the vicinity of the Proposed Development site;
- People using long distance walking routes, Scotways Scottish Hill Tracks, Core Paths and Rights of Way; and
- People visiting areas of interest such as visitor attractions, scenic viewpoints and hill summits.

5.4.8 Settlement is limited within the study area with a few small settlements located within Glen Kingie and Glen Garry to the east of the Proposed Development. Views from settlements will be considered in the LVIA where they are predicted to receive theoretical visibility.

5.4.9 It is considered that a Residential Visual Amenity Assessment (RVAA) will be required as there are several residential properties near the Proposed Development. The RVAA will be carried out in accordance with the Landscape Institute guidance, considering properties individually or in groups where they have a similar location, setting and outlook.

5.4.10 A series of viewpoint locations has been selected to provide a representative range of distances, directions and viewing experiences. The viewpoints are all publicly accessible locations and include settlements, hill tops, points of interest and routes (sequential views).

5.4.11 The proposed viewpoints are set out in **Table 5.1** and shown on **Figure 5.4**. These viewpoint locations may be refined based on observed field conditions and consultation with THC and NatureScot.

[8] SNH (2019) *SNH National Landscape Character Assessment, Landscape Character Type 365 RUGGED MASSIF – SKYE & LOCHALSH*. Available online: https://www.nature.scot/sites/default/files/LCA/LCT%20365%20-%20Rugged%20Massif%20-%20Skye%20&%20Lochalsh%20-%20final%20pdf.pdf [accessed 20th June 2024]

Table 5.1 Proposed LVIA Viewpoints

Viewpoint		Coordinate		Distance and Direction from the Proposed Development	Representing
1	Gleouraich	203947	805241	4.2 km to the north west	Munro
2	Spidean Malach	206580	804295	2.0 km to the north	Munro
3	Kingie	209702	801419	340 m to the north east	Residential property Road users
4	A87 road, Glengarry Viewpoint	221093	802868	11.4 km to the north east	Road users
5	Gairich	202592	799599	2.6 km to the west	Munro
6	Sgurr a' Mhaoraich	198398	806392	9.2 km to the north west	Munro
7	Ladhar Bhein	182477	803887	23.0 km to the west	Munro
8	Gulvain	200308	787624	11.4 km to the south west	Munro
9	Sron a' Choire	222187	794544	12.8 km to the south east	Munro
10	Poulary	213163	801529	3.5 km to the east	Residential property Road user
11	Loch Cuaich	201048	803503	5.3 km to the west	Road user
12	Loch Cuaich	198242	803635	7.8 km to the north west	Road user

Route Receptors

5.4.12 Key routes within the local area include:

- A87 road – 9.8 km to the north east;
- Kinloch Hourn Road – passes to the north of the Proposed Development site linking the A87 road in the east, to Knoydart in the west;
- Scotways Scottish Hill Tracks

  247 Strathan (Loch Arkaig) to Tomdoun (Glen Garry) – 1.7 km to the east;
  257 Glen Garry to Glen Shiel – 1.8 km to the east;
  258 Glen Garry to Cluanie Inn - 3.7 km to the north east; and
- Core Paths and Public Rights of Way.

Other Wind Farm Developments

5.4.13 The nearest operational wind farms are located to the north east and include those listed in **Table 5.2**.

Table 5.2 Operational Wind Farm Developments within 25 km

Wind Farm	Approximate Distance (km)	Status	Number of Turbines	Blade Tip Height (m)
Beinneun	15.3	Operational	25	136
Beinneun Extension	12.8	Operational	7	136
Millennium	17.8	Operational	26	20 x 115 6 x 125

5.4.14 The potential landscape and visual effects arising from the Proposed Development alongside these wind farm developments will be considered during project design and will be assessed in the LVIA.

5.4.15 The cumulative assessment will consider the Proposed Development in the context of other wind farms that are consented or are the subject of a valid planning application or appeal. The list of wind farm developments to be considered will be confirmed with THC during the LVIA preparation. From an initial review, wind farm and other developments listed in **Table 5.3** have been identified.

Table 5.3 Consented and Proposed Wind Farms & Other Developments within 25 km

Wind Farm	Approximate Distance (km)	Status	Number of Turbines	Height (m)
Bunloinn	8.5	Consented	9	230
Tomchrasky	17.8	Application	14	185
Skye Reinforcement Project	Passes northern boundary of the site.	Application	n/a	27 – 33 m

Designated Landscapes

5.4.16 Three NSAs are located within 15 km of the Proposed Development site as follows:

- Glen Affric NSA – 12.0 km to the northeast;
- Kintail NSA – 11.6 km to the northwest; and
- Knoydart NSA – 7.1 km to the northwest.

5.4.17 The ZTV provided in **Figure 5.5** shows limited theoretical visibility (1 to 7 turbines) within the Glen Affric NSA from the summit of A' Chioch (947 m AOD).

5.4.18 No theoretical visibility is predicted within the Kintail NSA.

5.4.19 Within the Knoydart NSA, theoretical visibility is predicted to be limited to the summits and upper east facing slopes in the eastern part of the designation and thereafter, reducing to a few summits. The LVIA will consider the potential effects on the special qualities of the Knoydart NSA and follow guidance on how to assess special qualities (NatureScot, 2024). The special qualities assessed will be those set out in *The Special Qualities of National Scenic Areas* (SNH, 2010).

5.4.20 The Glen Affric and Kintail NSAs will be scoped out of the LVIA due to the limited theoretical visibility predicted and distance from the Proposed Development.

5.4.21 One Garden and Designed Landscape (GDL) has been identified, Achinary, located approximately 12.7 km to the southeast of the Proposed Development site. No theoretical visibility is predicted within this GDL, and it has therefore been scoped out of the LVIA.

5.4.22 The western half of the Proposed Development site is within the Moidart, Morar, and Glen Shiel SLA. As such, the LVIA will include an assessment of the potential effect of the Proposed Development on the special qualities set out in *Assessment of Highland Special Landscape Areas* (THC, 2016).

5.4.23 One other SLA, Loch Lochy and Loch Oich, is located approximately 8.3 km to the southeast of the Proposed Development. Due to the limited theoretical visibility predicted, this SLA will be scoped out of the LVIA.

5.4.24 The Proposed Development site is not located within a WLA but is bounded to the south by WLA 18 Kinlochhourn – Knoydart – Morar which covers an extensive area extending to the north and west of the Proposed Development site. Due to its proximity to the Proposed Development, a Wild Land Assessment will be undertaken.

5.5 Potential Sources of Impact

5.5.1 Likely significant effects during the phases of the Proposed Development are set out below.

Construction

- Temporary effects on landscape character, primarily as a result of wind turbine installation, with direct effects on the fabric on the landscape and on the character of the Site landscape relating to ground level structures, and indirect effects on the perceived effects on the character of the surrounding character areas; and
- Temporary visual effects on views, primarily as a result of visibility of ground level activity and structures following wind turbine installation during construction, experienced by people (visual receptors).

Operation

- Long-term effects on landscape character, as a result of wind turbine operation and ground level structures, either affecting the pattern of elements that define the character or affecting the visual/perceptual characteristics of landscape character areas;
- Long-term visual effects as a result of the Proposed Development on views and visual amenity, experienced by people at places with visibility of different elements of the Proposed Development. This includes effects of aviation safety lighting after dark and effects on the visual aspects of residential amenity for residential properties close to the Site;
- Cumulative effects of the Proposed Development in combination with consented and proposed wind farm schemes across the wider area, including combined, successive and sequential visibility; and
- Effects on the landscape and visual resource identified in or affecting designated landscapes, which may affect their special qualities and reasons for designation.

Decommissioning

- The effects of the Proposed Development during decommissioning will be less than those identified during construction as structures will gradually be removed, and no ground disturbance is proposed. Effects will reduce as decommissioning proceeds.

5.6 Key Sensitivities

5.6.1 Key sensitivities for the Proposed Development in this location is likely to be views and visibility from valley locations including hill summits, settlements and routes. Most people will experience the Proposed Development from hilltops, footpaths and roads around the study area, which tend to run along valleys, hill passes or ridgelines. Other key sensitivities will include views from long distance routes that do not keep to valley routes but pass over hills and ridges.

5.7 Mitigation

5.7.1 Mitigation will be considered from the outset and embedded within the layout design to minimise potential effects on the landscape and visual resource. This process will be

undertaken in the design iterations which will strike a balance between maximising renewable electricity generation and minimising effects on sensitive landscape and visual receptors whilst taking account of other constraints.

5.8 Potential Effects

5.8.1 The following will inform the design of the Proposed Development and will be considered in the LVIA:

- Effects on the landscape fabric of the Proposed Development site;
- Effects on landscape character within 15 km;
- Effects on views and visual amenity for receptors (people) within 15 km of the Proposed Development site including on local roads, paths, hill summits, nearby settlements and selected representative viewpoints in the wider landscape;
- Effects on the residential aspects of visual amenity of the nearest properties (within 3 km);
- Potential cumulative landscape and visual effects arising from the relationship of the Proposed Development with future consented and proposed wind farms; and
- The implications of these findings on the special qualities of designated landscapes and their reasons for designation including an assessment of the special qualities of the Knoydart NSA and Moidart, Morar, and Glen Shiel SLA, and a Wild Land Assessment of WLA 18 Kinlochhourn – Knoydart – Morar.

5.9 Scoped Out

5.9.1 Given the baseline conditions and distance from the Proposed Development, it is proposed that the following are scoped out:

- LCTs with limited theoretical visibility and/or beyond 15 km from the Site, where the potential for significant effects on landscape character is limited;
- Settlements and routes with limited theoretical visibility and/or beyond 15 km from the Site, where the potential for significant visual effects is limited; and
- Wind farms at scoping stage and that are less than 50 m to blade tip.
- Landscape designations with limited theoretical visibility and/or beyond 15 km from the Site, where the potential for significant effects is limited;
- Effects on WLA (other than WLA 18 Kinlochhourn – Knoydart – Morar).

5.10 Impact Assessment

Landscape Effects

5.10.1 Predicted changes on both the physical landscape of the Proposed Development site (LCT 237 Rocky Moorland) and landscape character within the 15 km Study Area will be identified. It is anticipated that potential significant direct and indirect effects will be limited to within 15 km from the Proposed Development, and the assessment of the wider landscape will include the following LCTs:

- LCT 220 Rugged Massif Inverness;
- LCT 235 Broad Forested Strath;
- LCT 236 Smooth Moorland Ridges;
- LCT 237 Rocky Moorland;
- LCT 238 Rugged Massif – Lochaber;
- LCT 239 Interlocking Sweeping Peaks;
- LCT 328 Rugged Mountain Massif; and
- LCT 365 Rugged Massif – Skye and Lochalsh.

Visual Effects

5.10.2 The assessment of visual effects will be based on analysis of the ZTVs, field studies and assessment of representative viewpoints and will include the following:

- Settlements;
- Residential Properties within 3 km;
- Route receptors (roads and footpaths);
- Hilltops; and
- Visitor attractions (road viewpoints).

Visualisations

5.10.3 Visualisations and graphics used to support the assessment will include:

- ZTV maps analysing visibility of the proposed wind turbines to tip and hub heights as well as combined ZTV maps with other wind farms;
- photographs of existing views from the selected viewpoints;
- wireline images to illustrate theoretical visibility of the Proposed Development;
- photomontages to illustrate the predicted changes to views; and
- night-time photomontages for three viewpoints to illustrate the appearance of aviation lighting after dark.

5.10.4 Visualisations will include cumulative schemes and will be produced in accordance with NatureScot and THC guidance.

Night-time Assessment of Aviation Lights

5.10.5 In the interests of aviation safety, Civil Aviation Authority (CAA) (2017) policy states that turbines over 150 m to tip height are required to incorporate visible lighting. An assessment of the visual effects of aviation lighting on the proposed wind turbines will be carried out as part of the LVIA and will be included within the assessment.

5.10.6 The night-time context at viewpoint locations will be described, with the related sensitivity and magnitude of change arising from the proposed aviation lighting drawn upon, to assess the likely visual effects of aviation lighting and to provide general comment on the likely effects across the wider area, to approximately 25 km, beyond which distance attenuation and atmospheric conditions (even in clear weather) will reduce the brightness of the lights to very low, to the point of not being visible to most people.

5.10.7 Night-time photomontages, using photographs taken shortly after dusk (with due consideration of safety of photographers), will be produced for two to three viewpoints to illustrate the potential appearance of aviation lights on turbines relative to the existing night-time baseline. At present, based on the scoping layout, we propose:

- Viewpoint 3: Kingie;
- Viewpoint 4: A87 Glengarry Viewpoint; and
- Loch Cuaich.

5.10.8 It is not proposed to provide night-time visualisations from hills or remote off-road locations for Health and Safety reasons, and because there are less likely to be viewers in those locations after dark.

Cumulative Assessment

5.10.9 The cumulative assessment (CLVIA) will consider the pattern of wind farms across the wider landscape (to approximately 45 km) but will focus on closer wind farms and the relationship that the Proposed Development will have with them. The CLVIA will assess the combined visual effects of the Proposed Development with other existing or reasonably foreseeable wind farms within approximately 15-25 km. The CLVIA will consider schemes which have undetermined applications or appeals (as well as those that are existing or under construction). The CLVIA will seek to focus detailed assessment on the cumulative effects of the Proposed Development with developments most likely to have cumulative relationships with the Proposed Development that result in significant effects.

Residential Visual Amenity Assessment

5.10.10 Visual amenity is a component of 'residential amenity', which includes noise, shadow flicker, etc., and is strictly a planning consideration relevant to residents at their properties. Changes in visual aspects of residential amenity will be considered in a RVAA which typically considers effects on properties within approximately 3 km of proposed turbine locations.

5.11 Onshore Energy Supplementary Guidance (OWESG) Criteria

5.11.1 The LVIA will include an assessment of the relevant criteria from OWESG identified in THC pre-application advice as follows:

- *'Criterion 4: The Amenity of key Recreational routes and ways – with regards to the A87, Kinloch Hourn road and various hill routes, viewpoints at Glen Garry, above Loch Loyne and at the Willie Macrae memorial.*
- *Criterion 5: The Amenity of transport routes is respected – with regards to the A87 and Kinloch Hourn road.*
- *Criterion 8: The perception of landscape scale and distance is respected – with regard to potential effects on such perception particularly effecting the scale of the interior landscape in this part of the Highlands, most intensely concentrated around Loch Cuaich/Quoich, Glen Kingie and Glen Garry.'* (THC, 2024)

5.11.2 As the Proposed Development evolves, consideration will be given to all ten criteria in the OWSG during the design process.

5.12 Difficulties and Uncertainties

5.12.1 To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- The reliance on bare-ground modelling for wireframes and ZTVs used in graphics, which does not take account of potential screening by buildings and vegetation. The theoretical visibility indicated by the bare-ground models is therefore an over-estimation of visibility. Actual visibility will be identified for receptors based on fieldwork and will also be illustrated in photomontages.
- It should be noted that illustrations and modelling cannot replace the need for site visits and can only be used to represent what people may see from the viewpoint. Whilst accuracy of modelling is essential, modelling can only be as accurate as the data used and cannot be used to replace field visits. It is noted also that the movement of the turbines may render them more noticeable in the view than static photographs/photomontages can portray.
- Limitations to the cumulative assessment include the uncertainty of whether the proposed wind farms will be built in the future. This includes consented schemes that may or may not be built. The assessment will also rely on data available at the 'cut-off' date, and it should be noted that the locations and specifications of turbines may change for proposed and consented schemes before they are actually built, through redesign and/or micro-siting.

5.12.2 Any further difficulties and uncertainties encountered during the assessment process will be set out in the EIA Report.

5.13 Questions for Consultees

- Do consultees agree with the proposed approach and methodology of the LVIA?
- Do consultees agree with the proposed study areas for assessment?
- Do consultees agree with the LCTs to be assessed in the Landscape Character Assessment?
- Do consultees agree with the proposed list of viewpoints?
- Do consultees agree with the route receptors to be addressed?
- Do consultees agree with the extent of the RVAA study area?
- Do consultees agree with the approach to the cumulative baseline and assessment?
- Do consultees agree with the designated landscapes to be assessed and approach to assessment?

5.14 Figures

- Figure 5.1 Zone of Theoretical Visibility (45 km) at 230 m tip height
- Figure 5.2 Zone of Theoretical Visibility (25 km) at 230 m tip height (A1 Size)
- Figure 5.3 Landscape Character Types within the ZTV
- Figure 5.4 ZTV and Proposed Viewpoints
- Figure 5.5 Designated Landscapes

6 Archaeology and Cultural Heritage

6.1 Introduction

6.1.1 This EIA Scoping Report section has been prepared by Headland Archaeology (UK) Ltd., a Registered Organisation with the Chartered Institute for Archaeologists (CIfA) and abides by its standards and codes of conduct. As part of the RSK Group, Headland Archaeology is formally recognised as an Historic Environment Service Provider with the Institute of Historic Building Conservation (IHBC), an externally audited status which confirms our work is carried out in accordance with the highest standards of the profession.

6.1.2 The cultural heritage of an area comprises archaeological sites, historic buildings, gardens and designed landscapes, historic battlefields and other sites, features or places in the landscape that have the capacity to provide information about past human activity, or which have cultural relevance due to associations with folklore or historic events. Sites of cultural heritage interest may derive some, or all, of that interest from their setting within the wider landscape.

6.1.3 Direct and indirect physical effects involve the alteration or destruction of the fabric of heritage assets, and could occur during the construction of a Proposed Development. Effects on the setting of heritage assets can arise due to the relative scale of turbines, their potential to detract from understanding or appreciation of key views from/towards an asset, or a change resulting in an adverse experience of a heritage asset.

6.1.4 As part of the EIA Scoping Report, a Stage 1 Setting Assessment has been carried out following the methodology defined in Managing Change in the Historic Environment: Setting (Historic Environment Scotland (HES) 2020). The purpose of the assessment is to identify heritage assets that may be affected by the Proposed Development. The Stage 1 Setting Assessment considers all heritage assets within defined study areas to identify whether it is likely that their cultural significance could be affected as a result of development within their setting. The scoping layout is considered a 'worst case' to provide the visual 'Rochdale Envelope' for the Stage 1 Setting Assessment.

6.1.5 Cultural significance is a quality that applies to all heritage assets and, as defined by HES in Appendix 1, page 175, of Scottish Natural Heritage (SNH, now NatureScot) and HES (2018), relates to the ways in which a heritage asset is valued both by specialists and the general public. It may derive from factors including the asset's fabric, setting, context and associations. Following National Planning Framework (NPF) 4 'Policy Principles', the analysis of a heritage asset's cultural significance aims to identify any special characteristics which should be protected, conserved or enhanced. Such characteristics may include elements of the asset's setting, which is defined in Section 1 of HES (2020) as *"the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated"*.

6.1.6 Historic landscape is not treated as a heritage asset for the purposes of this assessment except where a defined area of landscape has been designated for its cultural heritage interest. It is recognised that all landscapes have a historic dimension, and this will be considered as part of the assessment of Landscape Character (covered in the LVIA chapter of the EIA Report). Furthermore, although any effects on the cultural significance

and importance of heritage assets due to change in their setting are likely to be visual in nature, the assessment of these visual effects and conclusions reached regarding visual change within the setting of a heritage asset is distinct from the assessment of visual change as assessed in the LVIA.

6.2 Consultation

6.2.1 The following stakeholders have been consulted at pre-application stage in relation to cultural heritage (THC 23/03963/PREMAJ, 17th April 2024), and will be formally consulted:

- Historic Environment Scotland (HES); and
- The Highland Council (THC) Historic Environment Team (HET), statutory historic environment advisors to THC.

HES Pre-App Advice

6.2.2 HES advised it is not possible to provide a definitive comment on the principle of the development until further information is available but that the proposed development is unlikely to cause adverse impacts that reach a level for HES to recommend objecting.

6.2.3 HES strongly recommends that a Zone of Theoretical Visibility (ZTV) be used to inform the scoping process and further assessment, which should also consider impacts on views towards as well as views from the heritage asset in which the proposed development might be visible. Accordingly, the ZTV for the scoping layout used for the Stage 1 Setting Assessment in this Scoping section has been provided as a digital shapefile as part of this submission for consideration by consultees in their scoping opinion.

THC Pre-App Advice

6.2.4 No comments were submitted by THC HET as part of the pre-application advice pack.

6.3 Existing Baseline Conditions

6.3.1 The baseline information used for this EIA Scoping Report section has been compiled using existing data on the historic environment from the following sources:

- HES designations data available as Geographical Information Systems (GIS) datasets downloaded in June 2024;
- Highland Council Historic Environment Record (HER) data, viewed on PastMap and provided digitally by THC in May 2024; and
- National Record of the Historic Environment (NRHE) comprising the Canmore database, downloaded in June 2024.

Study Areas

6.3.2 Overlapping study areas have been used for the identification of heritage assets that may be affected by the Proposed Development:

- the Site Boundary, to identify potential direct and indirect (physical) impacts; and
- the Outer Study Area (OSA) based on a bare earth ZTV to identify assets that may be affected through development within their setting.

6.3.3 Within the OSA, assets are included in the assessment based on the level of importance assigned to them to ensure that all likely significant effects are recognised. The overlapping OSA reflects that the more important the asset, the more likely significant effects could be generated over further distances, as follows:

- Up to 20 km from the proposed turbines: World Heritage Properties, Category A Listed Buildings, Inventory Gardens and Designed Landscapes, Scheduled Monuments;
- Up to 10 km from the proposed turbines: Conservation Areas, and Inventory Historic Battlefields;
- Up to 5 km from the proposed turbines: Category B Listed Buildings; and
- Up to 2 km from the proposed turbines: Category C Listed Buildings and non-designated heritage assets.

6.3.4 In addition, beyond the OSA as defined above, consideration has been given to any other designated asset which is within the ZTV and is considered exceptionally important and/or sensitive to visual change within its setting, and/or where long-distance views from or towards the asset are thought to contribute to cultural significance. In the case of this assessment, SM90172 Inverlochy Castle which is located beyond the 20 km OSA has been included in the Stage 1 Setting Assessment.

6.3.5 The baseline has been screened to identify any assets of particular sensitivity or importance. Criteria for the identification of assets of particular sensitivity or importance is based on the approach set out in HES (2020) which lists a range of factors which might form part of the setting of a heritage asset as follows:

- *"Current landscape or townscape context;*
- *Views to, from and across or beyond the historic asset or place;*
- *Key vistas: for instance, a 'frame' of trees, buildings or natural features that give the historic asset or place a context, whether intentional or not);*
- *The prominence of the historic asset or place in views throughout the surrounding area, bearing in mind that sites need not be visually prominent to have a setting;*
- *Aesthetic qualities;*
- *Character of the surrounding landscape;*
- *General and specific views including foregrounds and backdrops;*
- *Views from within an asset outwards over key elements in the surrounding landscape, such as the view from the principal room of a house, or from a roof terrace;*
- *Relationships with other features, both built and natural;*
- *Non-visual factors such as historical, artistic, literary, place name, or scenic associations, intellectual relationships (e.g., to a theory, plan, or design), or sensory factors; and*
- *A 'sense of place': the overall experience of an asset which may combine some of the above factors."*

Site Boundary

6.3.6 There is only one designated heritage asset located partially within the Site: Category B Listed Building LB51704, Great Glen Hydro Electric Scheme, Quoich Dam and Intake Gatehouse Towers. The dam forms the northern corner of the Site Boundary.

6.3.7 There are four non-designated heritage assets within the Site Boundary, all of which are the remains of historic farmsteads (MHG26858, MHG26859, MHG26860, MHG26861). The four farmsteads are located at lower elevations, on the floodplain of the River Kingie which passes east-west through the southern part of the Site.

Outer Study Area

6.3.8 See **Figure 6.1** for the location of heritage assets within the defined OSA, along with the zone of theoretical visibility (ZTV) for the Proposed Development scoping layout.

6.3.9 Within the 2 km OSA there are seven non-designated heritage assets comprising three bridges, two farmsteads, a fish trap and a hydroelectric power station. All are within the ZTV for the scoping layout.

6.3.10 Within the 5 km OSA there are no designated heritage assets.

6.3.11 Within the 10 km OSA there is one Scheduled Monument: SM7856 Tigh nan Saighdearan, barracks which is located outwith the ZTV for the scoping layout.

6.3.12 Within the 20 km OSA there is one Inventory Garden and Designed Landscape (GDL6 Achnacarry), nine Scheduled Monuments, and four Category A Listed Buildings. All assets in the 20 km OSA are located outwith the ZTV for the scoping layout.

6.3.13 Beyond 20 km a Scheduled Monument and Property in Care SM90172 Inverlochy Castle is included in the Stage 1 Setting Assessment. This is located outwith the ZTV for the scoping layout.

6.4 Likely Significant Effects / Justification for Scoping Out Archaeology and Cultural Heritage from EIA

6.4.1 It is proposed that assessment of Archaeology and Cultural Heritage is scoped out of the EIA as significant environmental effects are not anticipated upon either the physical fabric and settings of heritage assets within the Site, or on the cultural significance of assets within the wider landscape as a result of development within their setting.

Construction Effects

6.4.2 Wind projects typically have minimal ground impacts compared to the Site Boundary, with scope for micro siting to avoid direct physical impacts to archaeological remains during construction.

6.4.3 Any Site infrastructure associated with the Proposed Development will be designed to avoid identified heritage assets.

6.4.4 The scoping layout turbine locations for the Proposed Development avoids all known heritage assets within the Site with a minimum buffer of 180 m.

6.4.5 Category B Listed Building LB51704, Great Glen Hydro Electric Scheme, Quoich Dam and Intake Gatehouse Towers forming the northern corner of the Site Boundary would clearly not be physically impacted by the Proposed Development.

6.4.6 The four non-designated heritage assets within the Site Boundary, the remains of historic farmsteads (MHG26858, MHG26859, MHG26860, MHG26861) are all of Low (Local)

importance, a physical impact upon which (in EIA terms) would result in, at most, an adverse effect of Minor Significance before mitigation. Following mitigation, residual effects would be Negligible. Nevertheless, no physical impacts are anticipated.

6.4.7 Whilst it is not possible to avoid unknown archaeological remains that may be within the Site at the design stage (i.e., 'archaeological potential'), options for evaluation measures during construction will include monitoring to address the possibility of direct impacts on buried remains. Where potential direct impacts are identified, mitigation will be employed (intrusive works to ameliorate the impact, or better understand the extent and cultural significance of archaeological remains to enable their avoidance by micro siting). Following mitigation, any residual effects would be None/Negligible. Therefore, no significant physical effects are anticipated.

6.4.8 Construction phase setting effects will be temporary and are not considered to be significant in EIA terms due to their very short duration. Construction phase setting effects are therefore proposed to be scoped out of the assessment.

Operational Effects

6.4.9 As part of this Scoping Report, a Stage 1 Setting Assessment has been conducted and presented in full in a Gazetteer (**Appendix A** and **Figure 6.1**). The Stage 1 Setting Assessment methodology follows the approach set out in HES (2020) and Appendix 1 of NatureScot & HES (2018). The methodology has considered each heritage asset in the OSA in turn to identify heritage assets in the ZTV that have a wider landscape setting that contributes to their cultural significance and whether it is likely that cultural significance would be adversely impacted by the Proposed Development. Where heritage assets are located outwith the ZTV, viewpoints within the ZTV which may be a key view toward the heritage asset and the Site are considered.

6.4.10 The Stage 1 Setting Assessment undertaken for this EIA Scoping section has identified no heritage assets which cultural significance may be affected by the Proposed Development within its setting.

6.4.11 The only designated heritage asset within the ZTV for the scoping layout is Category B Listed Building LB51704, Great Glen Hydro Electric Scheme, Quoich Dam and Intake Gatehouse Towers, located partially within the Site Boundary. This is a modern industrial construction, understood in the context of Gearr Garry, its valley, and the artificially-raised Loch Cuaich. It is considered that the presence of wind turbines within its setting would not restrict the ability to understand, appreciate and experience the context of the dam.

6.4.12 There are 11 non-designated heritage assets located within the Site/2 km OSA, all within the ZTV, none of which is considered sensitive to change within their setting such that the Proposed Development would result in an impact upon their cultural significance. Therefore, no operational effects are anticipated upon cultural heritage.

6.4.13 Throughout the iterative design process, care will be taken to ensure that the settings of heritage assets will continue to remain unaffected by the Proposed Development, as per the scoping layout.

Cumulative Effects

6.4.14 Cumulative effects are considered in cases where an effect of more than negligible significance would occur upon a heritage asset as a result of the Proposed Development. Wind energy developments (consented, under construction, or at application stage) would be included in a cumulative assessment where they also feature prominently within views of or towards those heritage assets which are identified as affected by the Proposed Development, and thus also have a potential to impact upon their cultural significance.

6.4.15 As no impacts upon the cultural significance of heritage assets is anticipated as a result of the operation of the Proposed Development, and it is proposed to scope out further detailed assessment of the setting of heritage assets, it is similarly proposed to scope out consideration of cumulative effects, as no effects are anticipated.

Decommissioning

6.4.16 Ground disturbance associated with decommissioning will not extend beyond the construction footprint, where any impacts would have been previously mitigated. Therefore, decommissioning effects on heritage assets within the Site Boundary will not occur. Any residual operational phase setting effects (albeit none are anticipated) would be reversed. Decommissioning effects are therefore proposed to be scoped out of the assessment.

6.5 Heritage Impact Assessment

6.5.1 In place of a Cultural Heritage EIA Report chapter, a standalone Heritage Impact Assessment report is proposed in order to identify any potential physical impacts which would form a basis for a programme of mitigation.

Data Sources

6.5.2 A Baseline Assessment will be conducted to establish the condition of the Site. The principal source of information will be THC Historic Environment Record (HER), supplemented by relevant published documentary and cartographic material as appropriate, including aerial photography. Various other sources will also be consulted for the collation of data. These sources include:

- Designation data downloaded from HES;
- HER data, digital extract from THC HET;
- The National Record of the Historic Environment (NRHE), including the Canmore database and associated photographs, prints/drawings and manuscripts held by HES;
- Conservation Area Character Appraisals;
- Historic Landscape Assessment data;
- The National Collection of Aerial Photography;
- Geological data available online from the British Geological Survey;
- Historic maps held by the National Library of Scotland;
- Unpublished maps and plans held by the National Records of Scotland;
- Relevant internet resources, including Google Maps, Google Earth, Bing satellite imagery and PastMap;

- Readily available published sources and unpublished archaeological reports.
- Zone of theoretical visibility (ZTV) / cumulative ZTV; and
- Findings of other environmental topics (LVIA, peat depth, ground conditions, noise and vibration).

6.5.3 A LiDAR dataset is not available from the Scottish Remote Sensing Portal for this Site.

6.5.4 A field visit will be undertaken to record site characteristics, and any visible archaeology and geographical/geological features which may have a bearing on previous land use and archaeological survival, as well as those which may constrain subsequent archaeological investigation. Known heritage assets identified through desk-based assessment will be visited to record their location, extent and significance. Areas of proposed infrastructure where a potential direct impact could occur will be inspected for hitherto unknown heritage assets. The location and extent of all assets will be checked or recorded with handheld (i.e. navigation grade) GPS.

Importance of Receptors

6.5.5 As set out in **Table 6.1**, the importance of a heritage asset is the overall value assigned to it based on its cultural significance, reflecting its statutory designation or, in the case of non-designated assets, the professional judgement of the assessor.

Table 6.1 Criteria for Assessing the Importance of Heritage Assets

Importance	Criteria
Very High	Assets valued at an international level, e.g. World Heritage Properties, or other designated assets that meet the relevant criteria in the opinion of the assessor.
High	Assets valued at a national level, e.g. scheduled monuments, Category A listed buildings, Inventory gardens and designed landscapes, Inventory battlefields, historic marine protected areas, some conservation areas and non-designated assets that meet the relevant criteria for designation in the opinion of the assessor. Category B or C-listed buildings where the existing designation does not adequately reflect their value, in the opinion of the assessor.
Medium	Assets valued at a regional level, e.g. Category B listed buildings, some conservation areas and non-designated assets of similar value in the opinion of the assessor. Category C-listed buildings where the existing designation does not adequately reflect their value, in the opinion of the assessor.
Low	Assets valued at a local level, e.g. Category C listed buildings, some conservation areas and non-designated assets of similar value in the opinion of the assessor.
Negligible	Identified historic remains of no importance in planning considerations, or heritage assets and findspots that have already been removed or destroyed (e.g. through excavation)
Uncertain	Heritage assets for which a level of importance cannot be defined on current information

Impact Assessment

6.5.6 Data from desk-based and field-based sources will be gathered in a project Geographical Information Systems (GIS) database. The cultural heritage team will work throughout the EIA process with colleagues and consultees to understand potential effects, providing input into design measures to address them.

6.5.7 As has been demonstrated in this Scoping chapter, setting and cumulative setting effects upon cultural heritage are not anticipated. As such, effects on cultural heritage would only potentially arise through direct physical or indirect effects:

- Direct physical effects describe those development activities that directly cause damage to the fabric of a heritage asset. Typically, these activities are related to construction works and will only occur within the Site Boundary.
- Indirect effects describe secondary processes, triggered by the Proposed Development, that lead to the degradation or preservation of heritage assets. For example, changes to hydrology may affect archaeological preservation, and changes to the setting of a building may affect the viability of its current use and thus lead to dereliction.

6.5.8 Effects on currently unknown heritage assets ('archaeological potential') will also be considered. The level of risk depends on the level of archaeological potential combined with the nature and scale of disturbance associated with construction activities and may vary between high and negligible for different elements or activities associated with a development, or for the Proposed Development as a whole.

6.6 Mitigation

Embedded Mitigation

6.6.1 Assessment of impacts is part of the iterative design process. Within the Site, all known and potential heritage assets will be assessed for potential direct and indirect (physical) effects. Should any previously unknown heritage assets be noted during the desk-based assessment or field visit, any infrastructure associated with the Proposed Development such as internal access tracks will take into account the presence of these heritage assets. These assets will be avoided through design.

Secondary Mitigation

6.6.2 Precautionary measures to avoid accidental impacts may be employed such as fencing off heritage assets during construction works. Cultural heritage constraint areas will, where appropriate, be defined to include an appropriate buffer around known heritage assets.

6.6.3 Adverse effects may also be mitigated by an appropriate level of survey, excavation, recording, analysis and publication of the results. A programme of mitigation to be specified in a written scheme of investigation (NPF4 Policy 7.o and PAN2/2011 sections 25-27) and agreed following consent in advance of the work, will be outlined as appropriate as part of the HIA. Mitigation measures may include:

- Adjustment of design to avoid impacts securing preservation *in situ*.
- Advance archaeological evaluation or excavation, recording and reporting.

- Archaeological monitoring and recording during ground works and reporting.

6.7 Legislation, Policy, and Guidance

6.7.1 The HIA will be carried out with reference to the following legislation, policy and guidance relevant to cultural heritage:

Legislation

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997; and
- The Historic Environment Scotland Act 2014.

Policy

- NPF4 Part 1 A National Spatial Strategy for Scotland 2045 and NPF4 Part 2 National Planning Policy (The Scottish Government, February 2023) Policy 7: Historic assets and places;
- Historic Environment Policy Scotland (HEPS) (HES, 2019); and
- Highland-wide Local Development Plan (HwLDP, 2012): Policy 57: Natural, Built and Cultural Heritage.

Guidance

- Historic Environment Scotland Circular (HES, 2019);
- PAN 2/2011: Planning and Archaeology (Scottish Government);
- IEMA/CIfA/IHBC Principles of Cultural Heritage Impact Assessment in the UK (2021);
- Designation Policy and Selection Guidance (HES 2019);
- Our Past, Our Future: The Strategy for Scotland's Historic Environment (HES 2023);
- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA 2020);
- Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (CIfA 2020);
- Managing Change in the Historic Environment: Setting (2020), and any other relevant Managing Change in the Historic Environment guidance;
- Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment Process in Scotland (NatureScot and HES, 2018); and
- Highland Council Standards for Archaeological Work (2012).

6.8 Scoping Questions

- Are consultees content with the Study Areas presented in this Scoping Report?
- Do consultees agree with the proposal for Archaeology and Cultural Heritage to be scoped out of the EIA Report as Significant Effects are unlikely, and that a stand-alone Heritage Impact Assessment (HIA) will be sufficient to form the basis of a programme of mitigation as necessary?
- The Zone of Theoretical Visibility (ZTV) for the scoping layout used for the Stage 1 Setting Assessment in this Scoping section has been provided as a digital shapefile as

part of this submission. Do consultees wish to request any further digital datasets to be provided to aid their response to the EIA scoping request?

- Are there any other relevant consultees other than HES and THC who should be contacted with respect to the Cultural Heritage assessment?

7 Ecology

7.1 Introduction

7.1.1 This section defines the proposed methodology for the ecological assessment that will be included within the EIA Report. It also details the methods that will be used to establish the baseline conditions within the Site and its surroundings, and the process used to determine the sensitivity of the habitats and species' populations present.

7.1.2 The ways in which habitats or species might be affected (directly or indirectly) by the construction and operation of the Proposed Development will be assessed prior to and after any mitigation measures are considered. In addition, any relevant cumulative effects will be considered, taking together effects of other wind farm projects in the area, whether operational, consented or at application stage, along with the significance of any predicted effects associated with the Proposed Development.

7.1.3 Avian ecology is covered separately in Section 8: Ornithology.

7.2 Baseline Description

7.2.1 Baseline ecological conditions have been established from a desk study using the following sources:

- Ancient Woodland Inventory (AWI) for ancient woodland and NatureScot SiteLink to confirm the location and qualifying features of designated sites within potential zones of influence of the Proposed Development;
- National Biodiversity Network (NBN) Atlas Scotland on ecological records within 5 km of the Site within the last 15 years (i.e. since 2009);
- Carbon and Peatland Map 2016;
- Deer Distribution Survey by the British Deer Society;
- Saving Scotland's Red Squirrels website; and
- EIA Reports or technical reports from other developments or proposed developments in the local area.

NBN Atlas

7.2.2 A search of the NBN Atlas showed that the following protected or notable species were recorded within 5 km of the Site since 2009, as shown in **Table 7.1**.

Table 7.1 National Biodiversity Network records (2009 – 2024) for Protected and Notable species within 5 km of the Site

Common name	Scientific name	Relevance	License	Rightsholder (Recorder)
Common lizard	*Zootoca vivipara*	Protected species	CC-BY	Amphibian and Reptile Conservation (N. Littlewood)
Palmate newt	*Lissotriton helveticus*	Notable species	CC-BY	Amphibian and Reptile Conservation (E. Ing)
Pine marten	*Martes martes*	Protected species	OGL	British Trust for Ornithology
Red deer	*Cervus elaphus*	Notable species	OGL	British Trust for Ornithology, NatureScot (SNH/FES)
Roe deer	*Capreolus capreolus*	Notable species	OGL	British Trust for Ornithology

7.2.3 No invasive non-native species (INNS) were recorded under these search parameters.

Scottish Soils Carbon Peatland Map 2016

7.2.4 The Carbon and Peatland Map shows peat present across the Site. As shown on **Figure 7.1**, a narrow strip of Class 1 peatland is present along the south western boundary of the Site along the River Kingie, however, it is not proposed to be developed on. A large area of Class 2 peatland covers the majority of the northern section of the Site; and a large area (approximately 50% of the Site) is composed of Class 5 peatland extending from the south west to the north east, with one small patch in the north west of the Site. The remaining area of the Site (located on the western boundary) is classed as Class 0 mineral soil.

Deer Distribution Survey

7.2.5 Every five years the British Deer Society undertakes a survey plotting the current distribution of the six species of wild deer in the United Kingdom. This is used it to monitor and record changes from the previous survey to see if the range has changed or expanded. The results of the 2023 Deer Distribution Survey indicate that the following deer species are present in the general area of the Site:

- Fallow deer (*Dama dama*);
- Red deer;
- Roe deer; and
- Sika deer (*Cervus nippon*).

Designated Sites

7.2.6 There are no statutory designations with ecological (non-avian) features within the Site, or within 5 km of the Site Boundary. The closest statutory ecological (non-avian) designations to the Site are Loch Arkaig Pinewood Site of Special Scientific Interest (SSSI) and Glen Barisdale SSSI, located approximately 6.5 km (south) and 13.2 km (west) from the Site Boundary respectively. In addition to the distances between these SSSIs and the Site, they have no hydrological connectivity to the Site. Furthermore, based on their respective qualifying features and the adoption of embedded mitigation (e.g., Site design

and embedded mitigation set out in a Construction Environmental Management Plan (CEMP)), it is highly unlikely that any significant effects will result to these designated sites and as such, Loch Arkaig Pinewood SSSI and Glen Barisdale SSSI are scoped out of assessment.

Ancient Woodland

7.2.7 The Ancient Woodland Inventory shows no areas of ancient woodland within the Site Boundary (**Figure 7.1**). Areas of ancient woodland within 5 km of the Site are numerous. The majority are to the east of the Site Boundary, with the closest areas separated by the River Garry.

Baseline Field Surveys

7.2.8 Further baseline information will be obtained from a suite of ecology surveys. The surveys to be conducted are summarised below.

National Vegetation Classification (NVC) & Phase 1 Habitat Surveys

7.2.9 NVC surveys, incorporating Phase 1 Habitat and potential Groundwater Dependent Terrestrial Ecosystem (GWDTE) habitat characterisation will be undertaken in 2024 across the full Site extent.

Protected Species Surveys

7.2.10 Protected species walkover surveys, including daytime bat walkover surveys, will be undertaken in 2024 across the full Site including any relevant buffers for protected species, if required.

Static Bat Detector Surveys

7.2.11 Seasonal bat detector (Anabat) surveys following NatureScot *et al*. (2021) guidelines are currently in progress. Eighteen Anabats are currently being deployed across the Site, with deployments beginning in May 2024 and due to conclude in September 2024. The locations of the deployments were selected based on ornithological constraints identified in 2024 together with an indicative design layout and positioned such as to cover the areas where turbines are proposed to be located (as per NatureScot *et al*. 2021).

7.2.12 Statics bat data will be processed static bat data will be processed using Ecobat (Mammal Society (2017)), if available.

Fisheries Surveys

7.2.13 Electrofishing and fish habitat suitability surveys will be carried out in 2024 by the local fisheries trust, Ness and Beauly Fisheries Trust, at watercourses within the Site and downstream as deemed relevant.

7.3 Legislation, Policy and Guidance

7.3.1 This assessment will be undertaken in line with the following European and National legislation, policy and guidance.

Legislation

- European Union Council Directive 92/43/EEC on Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (Habitats Directive);
- European Union Council Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy (Water Framework Directive);
- Environmental Impact Assessment Directive 85/337/EEC (as amended) (EIA Directive), (as subsequently codified by Directive 2011/92/EU, as amended by Directive 2014/52/EU);
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations);
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) (Habitats Regulations);
- The Water Environment and Water Services (Scotland) Act 2003;
- Nature Conservation (Scotland) Act 2004 (as amended);
- Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003;
- Protection of Badgers Act 1992;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- Wildlife and Countryside Act 1981 (as amended); and
- Wildlife and Natural Environment (Scotland) Act 2011.

Policy

- Joint Nature Conservation Committee (JNCC) and Department for Environment, Food and Rural Affairs (DEFRA) (2012). UK Post-2010 Biodiversity Framework;
- Scottish Executive (2004). Scottish Biodiversity Strategy: It's in Your Hands;
- Scottish Government (2022a). Onshore Wind Policy Statement 2022;
- Scottish Government (2022b). Scottish Biodiversity Strategy to 2045. Tackling the Nature Emergency in Scotland; and
- Scottish Government (2023). National Planning Framework 4 (NPF4).

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7.4 Opportunities for Enhancing the Environment

7.4.1 Opportunities for enhancing the Site and local area will be considered after baseline surveys are completed, through development of an Outline Biodiversity Enhancement Management Plan (OBEMP) – a Technical Appendix to the Ecology chapter of the EIA Report. The OBEMP will be developed with landowners and agreed with relevant consultees (namely NatureScot and The Highland Council) and will explore opportunities to provide wider biodiversity benefits within the local area of the Site and aim to develop and connect nature networks.

7.4.2 Opportunities for enhancement may include, but are not limited to, the following:

- peatland restoration;
- heath/moorland management;
- appropriate habitat creation: riparian woodland, mixed mosaic habitats and broadleaf woodland; and
- suitable habitat enhancement for species recorded during baseline surveys.

7.5 Assessment Methodology

7.5.1 The EIA Report for the Proposed Development will include an Ecological Impact Assessment (EcIA). This will consider the potential direct, indirect and cumulative impacts that the construction, operational and decommissioning phases of the Proposed Development may have on Important Ecological Features (IEFs) scoped into the assessment. The EcIA will be supported by technical appendices covering habitats, protected species, bats, fisheries, and an OBEMP. These will include details of survey methodologies, survey data collected to support the assessment, and outputs of any analysis.

7.5.2 The EIA Report will incorporate the following study areas:

- designated sites: the Site plus a 5 km study area;
- habitats and potential GWDTE: the Site;
- protected species, including daytime bat walkover surveys and assessment of static bat data: the Site plus any species-specific buffers as deemed necessary;
- electrofishing and fish habitat suitability surveys: the Site plus watercourses downstream as deemed necessary; and
- cumulative assessment (if required): the Site plus a 5 km study area.

7.5.3 This assessment will be carried out following CIEEM (2022) guidance.

7.5.4 The assessment will be informed by information currently available (outlined in Section 7.2: Baseline Description). The evaluation for wider countryside interests (i.e. unrelated to any Natura 2000 sites) involves the following process:

- identification of potential ecological effects of the Proposed Development, (beneficial and adverse);

- considering the likelihood of occurrence of potential effects, where appropriate;
- defining the nature conservation value (NCV) of the ecological features present;
- establishing the feature's conservation status, where appropriate;
- establishing the magnitude of change associated with the likely effect (both spatial and temporal);
- based on the above information, making a judgement as to whether or not the resultant effect is significant in terms of the EIA Regulations;
- if a potential effect is determined to be significant, measures to avoid, reduce, mitigate or compensate for the effect are suggested, where required;
- considering opportunities for enhancement, where appropriate; and
- confirming residual effects after mitigation, compensation or enhancement are considered.

7.5.5 Determining the level of sensitivity of an IEF is based on a combination of the feature's NCV, defined on the basis of the geographic scale and conservation status, based on its distribution and/or population trend.

7.5.6 The magnitude of potential effects will be identified by considering the degree of change to baseline conditions predicted as a result of the Proposed Development, how IEFs are likely to respond to the Proposed Development, the duration and reversibility of an effect, best practice guidance and legislation, and professional judgement. Effects are judged in terms of magnitude in space and time, and effects can be beneficial, neutral or adverse.

7.5.7 The significance of potential effects is determined by integrating the assessments of IEF sensitivity and magnitude of effect in a reasoned way, based on the available evidence and professional judgement.

7.5.8 The criteria set out above will be used in assessing the potential effects of the Proposed Development to establish whether there will be any effects which will be sufficient to adversely affect an IEF to the extent that its conservation status deteriorates above and beyond that which would be expected should baseline conditions remain (i.e., the 'do nothing' scenario).

7.5.9 No difficulties or uncertainties are anticipated in the establishment of baseline ecological conditions and the subsequent assessment of impacts on IEFs.

7.5.10 As there are no designated sites with ecological (non-avian) features scoped in to the assessment, consideration to the Habitats Regulations is not required.

7.6 Consultation

7.6.1 Other than consulting Scottish Ministers (via the Energy Consents Unit (ECU)), relevant bodies to consult prior to submitting the EIA Report to Scottish Ministers will likely include:

- NatureScot;
- Scottish Environment Protection Agency (SEPA);
- The Highland Council:

  in furtherance to Pre-Application Advice (17 April 2024), where (i) NVC surveys and (ii) protected species surveys have been recommended following best practice

guidance to assess potential impact on the Site and surrounding area, and inform design;

- Fisheries Management Scotland; and
- Ness District Salmon Fishery Board.

7.7 Embedded Mitigation

7.7.1 Significant effects on ecological features will be avoided or minimised where possible during the design process. Good practice during construction and operational phases of the Proposed Development will be implemented as standard (and the assessment undertaken on this basis). This would include the following:

- a Species Protection Plan (SPP) would be implemented as part of a CEMP or similar during the construction phase of the Proposed Development to ensure that all reasonable precautions are taken to adhere to the relevant wildlife legislation and guidance;
- pre-construction and during-construction surveys carried out by an Ecological Clerk of Works (ECoW) or suitably qualified ecologist would take place as part of the SPP, and an ECoW present throughout the construction phase;
- an OBEMP would be developed for the operational phase and agreed with consultees to mitigate and enhance habitat for IEFs, and to provide wider biodiversity benefits within the local area; and
- during the operational phase, and in line with best practice guidance on bats (NatureScot *et al.*, 2021), the Proposed Development will utilise the method of reduced rotation speed whilst idling by feathering, at all turbines, to reduce collision risks to bats during the bat active period (April to October). The guidance notes that, "The reduction in speed resulting from feathering compared with normal idling may reduce fatality rates by up to 50 %". Given the likely presence of high collision risk bat species at the Site, this measure will be put in place from the start of the operational phase of the Proposed Development, and it does not result in any loss of output.

7.7.2 Where unmitigated significant effects on IEFs are identified, additional measures to prevent and reduce such adverse effects would be proposed to conclude a non-significant residual effect.

7.8 Potential Effects

7.8.1 The assessment will concentrate on the effects arising from construction, operation and decommissioning of the Proposed Development upon those IEFs, as per CIEEM (2022) guidance, identified during the baseline period. Key sensitivities and potential effects will likely include:

- sensitive terrestrial habitats such as Habitats Directive Annex I habitats – effects include direct (i.e., derived from land-take) and indirect (i.e., changes caused by impacts to supporting systems such as groundwater or overland flow), including habitats such as blanket bog;

- aquatic habitats – effects are limited to the ecological impacts of changes in water conditions through potential pollution effects (hydrological effects and GWDTEs are considered in Section 9: Geology, Hydrology and Hydrogeology); and
- protected species – impacts considered include direct (i.e., loss of life as a result of the Proposed Development; loss of key habitat; displacement from key habitat; barrier effects preventing movement to/from key habitats; risks of bats colliding or suffering barotrauma from proximity to operational wind turbine blades; and general disturbance) and indirect (i.e., loss/changes of/to food resources; population fragmentation; degradation of key habitat e.g. as a result of pollution.

Cumulative Effects

7.8.2 The assessment will include a cumulative impact assessment on ecological effects arising from the addition of the Proposed Development in combination with other relevant wind farm projects.

Summary of Ecological Features and Impacts

7.8.3 A summary of the features and impacts and to considered and the phases for which they are likely to be scoped in or out for are presented in **Table 7.2**. Decommissioning impacts are not included given they are assumed to be similar to those of construction.

Table 7.2 Summary of Features and Impacts for Ecology

Features	Scoped in: Construction	Scoped in: Operation	Justification
Protected species (including bats species)	Yes	Yes	Protected species cannot be scoped out until the ecological baseline surveys are complete and the presence and distribution of ecological features in relation to the planned infrastructure and activities associated with the Proposed Development are fully understood.
Habitats on Annex I to the Habitats Directive	Yes	Yes	Habitats on Annex I to the Habitats Directive cannot be scoped out until the ecological baseline surveys are complete and the presence and distribution of such habitats in relation to the planned infrastructure and activities associated with the Proposed Development are fully understood.
Habitats not on Annex I to the Habitats Directive and species not protected by other legislation (e.g., Wildlife and Countryside Act 1981 (as amended))	No	No	On the basis of results of the desk-based work undertaken to date, the professional judgment of the ecology EIA team, experience from other relevant projects, policy, guidance and standards, generally common and widely distributed habitats and species which do not fall within the categories listed above will be scoped out of the assessment.
Wild deer population	Yes	No	The desk-based study will collate relevant information on the deer populations in the locality to inform whether this should be

Features	Scoped in: Construction	Scoped in: Operation	Justification
			scoped out or assessed further in the EIA Report.
Migratory salmonoids	Yes	No	Impacts on fish populations cannot be scoped out until the ecological baseline surveys are complete and the presence and distribution of species and suitable habitats in relation to the planned infrastructure and activities associated with the Proposed Development are fully understood.
Ecological statutory designated sites (non-avian)	No	No	Significant effects on designated sites are scoped out of assessment as no designated sites are within the Site Boundary nor considered to have connectivity to the Site.

7.9 Questions for Consultees

- Are there any other relevant consultees who should be consulted, or other sources of information that should be considered?
- Do consultees agree that the suite of field surveys planned and currently being carried out in 2024 in addition to a desk study are sufficient to inform a robust impact assessment?
- Do consultees agree that the methodology and scope of assessment is appropriate?
- Do consultees agree with the features proposed to be scoped out from further assessment?

7.10 Figures

- Figure 7.1 Ancient Woodland and Peatland within 5 km

8 Ornithology

8.1 Introduction

8.1.1 This section of the EIA Scoping Report details the approach to baseline ornithological information gathering and the assessment of the following potentially significant effects upon Important Ornithological Features (IOFs) that may result from the Proposed Development:

Direct displacement/habitat loss through wind farm construction;

- Mortality through collision with operational turbines/other infrastructure; and
- Indirect displacement/habitat loss through the avoidance of operational wind farm infrastructure.

8.1.2 The potential for significant effects will be assessed for the Proposed Development alone and where appropriate, cumulatively with other relevant developments.

8.1.3 The potential for adverse effects upon ornithological features will be considered throughout the design process for the Proposed Development, and where possible will either be avoided completely through scheme design or will be prevented/ minimised via good practice industry standard embedded mitigation measures.

8.1.4 The EIA Report Ornithology chapter will detail all those measures required to avoid, minimise or offset any potentially significant adverse effects on IOFs and outline the opportunities to enhance baseline ornithological conditions that will be included as part of the Proposed Development.

8.2 Baseline Description

8.2.1 Baseline ornithological studies to inform the Proposed Development commenced in September 2022 and have comprised a desk-based review of existing ornithological information relevant to the Site, and ornithological field surveys, in accordance with NatureScot guidance (SNH, 2017).

8.2.2 This section provides a summary of those baseline studies that have been completed and which are proposed. Full details will be presented within the EIA Report.

Desk Study Surveys

8.2.3 The following key sources have been consulted for existing ornithological information within proximity to the Proposed Development:

- NatureScot Sitelink website;
- RSPB Scotland;
- Forestry Land Scotland (FLS); and
- Highland Raptor Study Group (HRSG).

Ornithological Field Surveys

8.2.4 Target species for survey and recording have been identified in accordance with NatureScot guidance (SNH, 2017 and 2018a), knowledge of bird-habitat associations in Scotland and preliminary survey visits.

8.2.5 The following ornithological field surveys have been completed or are otherwise proposed to be completed between September 2022 and August 2024 and which will provide two full consecutive years of survey in accordance with NatureScot guidance (SNH, 2017) and pre-application advice (see Section 8.6 ' Consultation):

- Flight activity surveys (2022/2023 and 2023/2024 non-breeding seasons, 2023 and 2024 breeding seasons), from a total of four Vantage Points (VPs);
- Scarce breeding bird surveys (2023 and 2024 breeding seasons);
- Black grouse surveys (2023 and 2024 breeding seasons);
- Breeding bird surveys (2023 and 2024 breeding seasons); and
- Winter walkover surveys (2022/2023 and 2023/2024 non-breeding seasons).

8.2.6 All field surveys have followed methodologies recommended by NatureScot (SNH, 2017), including species-specific survey methodologies as set out in Hardey *et al*. (2013) and Gilbert *et al*. (1998).

8.2.7 VP viewsheds and survey areas are illustrated on **Figure 8.1**.

8.2.8 Field survey areas have been defined on the basis of the Site Boundary (i.e. the largest possible layout of turbines and ancillary infrastructure) and species or species group-specific buffers as set out in NatureScot guidance (SNH, 2017).

8.2.9 Full details of ornithological survey methods and conditions will be presented within the EIA Report.

Established Baseline Conditions

8.2.10 A review of existing ornithological information (to be updated as necessary), together with ornithological field surveys completed to date, has established a comprehensive understanding of the distribution and activity of ornithological species relative to the Site.

8.2.11 Such information will be reviewed over the course of the design of the Proposed Development in order to avoid the potential for significant effects upon important ornithological features in so far as is possible and provide context for subsequent assessment.

8.2.12 A summary of baseline conditions established to date from existing sources and to March 2024 from ornithological field surveys is presented below. Full details of ornithological baseline conditions will be presented within the EIA Report, associated technical appendices and figures.

8.2.13 It is proposed that NatureScot will be consulted on the scope of baseline studies completed prior to submission to confirm their accordance with its guidance (see Section 8.6 'Consultation).

Designated Sites

8.2.14 There are two statutory designated sites for nature conservation with ornithological qualifying interests located within 20 km of the Site (**Figure 8.2**):

- West Inverness-shire Lochs Special Protection Area (SPA); and
- West Inverness-shire Lochs Site of Special Scientific Interest (SSSI)

8.2.15 Both designations are located *c.* 1.18 km to the east of the Site at the nearest point and are designated for breeding black-throated diver and common scoter.

8.2.16 In review NatureScot guidance (SNH, 2016a), there is considered to be potential for connectivity between the Site and the designations due to spatial proximity and maximum foraging distances of black-throated divers during the breeding season (10 km).

Flight Activity

8.2.17 Flight activity surveys completed between September 2022 and March 2024 recorded flight activity of a total of 10 target species comprising: golden eagle, golden plover, greylag goose, hen harrier, merlin, osprey, pink-footed goose, red kite, white-tailed eagle and whooper swan.

8.2.18 The potential for significant collision mortality risks to these species, and any additional species recorded over the 2024 breeding season, will be assessed using the NatureScot collision risk model (SNH, 2000 and Band *et al.*, 2007), depending on the distribution of flight activity in relation to the final turbine layout.

8.2.19 Full details of target species' flight activity collision mortality risk calculations will be presented within the EIA Report.

Scarce Breeding Birds

8.2.20 Scarce breeding bird surveys together with existing ornithological records obtained from the HRSG, RSPB Scotland and FLS have established the presence and distribution of sensitive breeding raptors and divers within proximity to the Site.

8.2.21 In summary, no species of raptor listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) has been established or is known to breed within 2 km of the Site. Golden eagle, peregrine falcon and white-tailed eagle breeding sites, are however known to occur beyond 2 km from the Site.

8.2.22 Overall activity of golden eagle has been very low and does not suggest that the Site forms an important part of any occupied breeding range. Activity of white-tailed eagle recorded from surveys to date has included that of adult, sub-adult and juvenile birds, and immature birds, both in flight and roosting within the field survey area.

8.2.23 Surveys in 2023 recorded activity of both red and black-throated diver. Existing records provided by RSPB also identify these species' known presence within the lochs and lochans in the surrounding area, including those forming part of the West Inverness-shire Lochs SPA.

8.2.24 Focal breeding diver loch watches were not undertaken during the 2023 breeding season due to the absence of advanced breeding evidence for either species within 2 km of the Site. Human disturbance (walkers) and presence/competition from Canada geese at

lochans within the survey area are considered to result in sub-optimal breeding sites for both species (and common scoter).

8.2.25 No flight activity of either species has been recorded during VP flight activity surveys completed to date, indicating that the Site does not fall under a regularly used commuting route between breeding lochs/breeding and feeding areas during the breeding season. The Proposed Development does not lie on a direct line of flight between lochans forming part of the West Inverness-shire Lochs SPA. It is also considered highly unlikely that the high ground in the north-eastern extent of the Site between Beinn Bheag and Meall a' Chait and within the west of the Site, rising from Druim na Geig Salaich (reaching >300 m) would very likely deter divers from choosing to commute through the Site (and therefore the proposed turbine array) from lochans to the south of the Site to Loch Cuaich, and from/to known foraging and breeding lochs to the far north and east of the Site (including Lochs Garry, Loyne and Blair of the West Inverness-shire Lochs SPA).

8.2.26 Activity of red-throated and black-throated divers will be monitored during the 2024 breeding season, and focal breeding loch watches undertaken in accordance with NatureScot guidance (SNH, 2017) where advanced breeding attempts observed within 1 km of the Site require them.

8.2.27 No observations of common scoter or Slavonian grebe have been recorded over the course of surveys, but existing species records have been obtained from the RSPB illustrating the species' known presence within the wider area, including the lochs and lochans forming part of the West Inverness-shire Lochs SPA. It is similarly considered highly unlikely that these species would regularly fly across the Site, between known foraging and breeding lochs to the north and east of the Site, due to the location of the Proposed Development and high ground present within the Site. In the absence of existing records, common scoter are not thought to utilise Loch Cuaich.

8.2.28 Information pertaining to the locations of breeding sites of birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) will be restricted to a Confidential Volume of the EIA Report. This Volume of the EIA Report will not be made publicly available, but will be provided to NatureScot and RSPB Scotland to inform their own appraisals of the Proposed Development.

Moorland Breeding Birds

8.2.29 Breeding bird surveys undertaken in 2023 established a moorland breeding bird assemblage within the survey area comprising common sandpiper, dunlin, golden plover, greenshank, oystercatcher, redshank, ringed plover, snipe and wood sandpiper.

8.2.30 Observations of woodcock were also recorded over the course of surveys however, no confirmed breeding evidence was recorded.

8.2.31 With the exception of breeding territories of greenshank and wood sandpiper, the distribution of breeding wader territories will be presented within the EIA Report. Information pertaining to the locations of breeding sites of birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) will be restricted to a Confidential Volume of the EIA Report.

Black Grouse

8.2.32 Surveys to identify areas of black grouse activity, locate lek locations and establish lek sizes were conducted in April and May 2023.

8.2.33 Surveys in 2023 identified four lek locations within the 1.5 km survey area with all leks supporting either single or two males. Two lek locations were recorded within the Site.

8.2.34 The distribution of lek locations, including the identification of any main leks recorded, will be presented within the EIA Report.

8.2.35 No observations of capercaillie or signs indicating the species presence have been made over the course of surveys and no existing records of the species have been obtained during consultations with RSPB. The species is not thought to be resident locally.

Non-breeding Birds

8.2.36 Winter walkovers were undertaken during the 2022/2023 and 2023/2024 non-breeding seasons to record any aggregations of target species, with reference to Annex 1 of NatureScot guidance (SNH, 2018a) and the potential for winter Schedule 1 raptor roosts within the survey area.

8.2.37 No existing records of communally roosting Schedule 1 raptors were obtained from key sources. Observations of roosting white-tailed eagle, typically one or two birds have however, been made within field survey areas over the course of ornithological surveys.

8.2.38 The open upland moorland and forestry habitats within the Site do not provide suitable foraging opportunities for migratory waterfowl. No aggregations of foraging or roosting birds were recorded within the Site or on the adjacent Loch Cuaich, during survey over the 2022/2023 and 2023/2024 non-breeding seasons. Small numbers of whooper swan (four or fewer birds) were noted loafing on occasion at Kingie Pool (to the north east of the Site) and at Lochan nan Sgùd (to the south of the Site), but surveys did not identify the Site is located on an important flyway for this species or migratory geese.

8.3 Legislation, Policy and Guidance

8.3.1 The following key pieces of legislation, planning policy and guidance of relevance to ornithology will be referred to during the completion of baseline studies and subsequent assessment.

Legislation

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations);
- Environmental Impact Assessment Directive 2014/52/EU (the EIA Directive);
- Directive 2009/147/EC on the Conservation of Wild Birds (the EU Birds Directive);
- The Habitats Regulations 1994 (as amended) and The Conservation of Habitats and Species Regulations 2010, as amended by The Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019 in Scotland (hereafter the 'Habitat Regulations');
- The Wildlife & Countryside Act 1981 (as amended);
- The Wildlife and Natural Environment (Scotland) Act 2011; and

- The Nature Conservation (Scotland) Act 2004.

Policy

- National Planning Framework 4 (NPF4) (February 2023);
- Draft Planning Guidance: Biodiversity (November 2023);
- Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency in Scotland (September 2023);
- Planning Advice Note 60: Planning for Natural Heritage (January 2000);
- Planning Advice Note 1/2013-Environmental Impact Assessment (August 2013);
- Onshore Wind Turbines: Planning Advice (May 2014);
- West Highland and Islands Local Development Plan (September 2019);
- THC Draft Biodiversity Planning Guidance (November 2023);
- THC Highland Nature Biodiversity Action Plan 2021-2026 (2020); and
- The Scottish Biodiversity List (2020).

Guidance

- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018);
- Developing field and analytical methods to assess avian collision risk at wind farms (Band *et al.*, 2007);
- Bird monitoring methods (Gilbert *et al.*, 1998);
- Disturbance distances review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022);
- Raptors: a field guide to survey and monitoring (Hardey *et al.*, 2013);
- Standing advice for planning consultations – Birds (NatureScot, 2022);
- General pre-application and scoping advice for onshore wind farms. NatureScot, Inverness (NatureScot, 2024);
- Calculating a theoretical collision risk assuming no avoiding action (SNH, 2000);
- Assessing connectivity with Special Protection Areas (SNH, 2016a);
- Environmental Statements and Annexes of environmentally sensitive bird information: Guidance for developers, consultants and consultees (SNH, 2016b);
- Dealing with construction and birds (SNH, 2016c);
- Recommended bird survey methods to inform impact assessment of onshore wind farms (SNH, 2017);
- Assessing significance of impacts from onshore wind farms outwith designated areas (SNH, 2018a);
- Avoidance rates for the onshore SNH wind farm Collision Risk Model (SNH, 2018b);
- Assessing the cumulative impacts of onshore wind farms on birds. Scottish Natural Heritage (SNH, 2018c);
- Birds of Conservation Concern 5 (Stanbury *et al.*, 2021); and
- Natural Heritage Zone Bird Population Estimates (Wilson *et al.*, 2015).

8.4 Opportunities for Enhancing the Environment

8.4.1 The EIA Report will recognise that the Proposed Development must deliver contributions to both biodiversity net gain and delivery against renewable energy targets. The Proposed Development will therefore include for a Biodiversity Enhancement Management Plan (BEMP), and an Outline BEMP (OBEMP) will be submitted with the EIA Report.

8.4.2 Measures to be contained within the BEMP will seek to conserve, restore and enhance habitats for bird species over the lifetime of the Proposed Development, including for conservation priority species where practicable and where opportunities arise.

8.4.3 The following opportunities are currently being explored for inclusion in the OMBEP:

- Long-term support and habitat expansion of Kingie forest in support of black grouse;
- Long-term support for local common scoter habitat management and monitoring, including in conjunction with other relevant developments where opportunities arise;
- Riparian planting along the River Kingie and which may provide movement corridors for black grouse; and
- Extensive restoration of heavily degraded peatland areas with consideration to location of neighbouring scheme and which will provide improved habitats for ground-nesting waders and foraging resources for scarce birds of prey.

8.5 Proposed Assessment Methodology

8.5.1 The assessment presented within the Ornithology chapter of the EIA Report will be undertaken adopting an established approach to the assessment of onshore wind farm developments in Scotland, as recommended in NatureScot guidance (SNH, 2018a) and impact assessment outlined in guidance published by the Chartered Institute of Environmental and Ecological Management (CIEEM, 2018).

8.5.2 The assessment will consider in detail impacts upon Important Ornithological Features (IOFs), which are considered sensitive to wind farm developments as set out in Annex 1 of NatureScot guidance (SNH, 2018a), and upon which potentially significant effects may occur.

8.5.3 The assessment will be supported by technical appendices and figures as appropriate and will include the following stages:

- determination and evaluation of ornithological features;
- scoping in/out of IOFs and associated impacts;
- identification and characterisation of potentially significant effects;
- outline of mitigating measures to avoid and reduce significant effects;
- 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.

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

8.5.5 The potential for significant effects upon IOFs will be assessed in relation to the species' relevant reference population, conservation status, range and distribution, based on best available evidence.

8.6 Consultation

8.6.1 Consultation advice has been obtained from NatureScot as part of The Highland Councils (THCs) pre-application advice for the Proposed Development (Reference no: 23/03963/PREMAJ). Key matters identified and advisory provided included:

- Advised on proximity to the West Inverness-shire Lochs SPA and SSSI and the requirement for a HRA of any subsequent application, to be informed by existing species records, survey of waterbodies within 1 km of the development site and access track, theoretical assessment of potential common scoter flights lines between SPA lochs;
- Advised that access track routes >750 m from the SPA would reduce risks of disturbance to birds breeding within the SPA;
- Advised that turbine layout aims to avoid any likely flight routes by bids moving into and out of the SPA, or between breeding lochs/breeding and feeding areas during the breeding season;
- Advised that the loss of 'breeding adult common scoter' could affect the viability of the population and adversely affect the integrity of the SPA;
- Advised a minimum of two years of survey is conducted in line with its guidance (SNH, 2017);
- Advised baseline studies should cover any access track route;
- Support the intended use of the Golden Eagle Topographical (GET) model to inform the potential for impacts upon golden eagle;
- Advised any cumulative assessment should be undertaken at the relevant Natural Heritage Zone (NHZ) 7 'Northern Highlands' level;
- Direction to standard advice on the assessment of impacts on birds from wind farms.

8.6.2 Further consultation with NatureScot and additional stakeholders will therefore be undertaken to respond further to these points and where required during the design and assessment of the Proposed Development to provide further context for field survey findings and where necessary to identify possible opportunities for biodiversity enhancements.

8.7 Study Area

8.7.1 The EIA Report will adopt the following study areas within which baseline information will have been gathered and the potential for significant effects upon IOFs will be considered:

- Designated sites: the Proposed Development and a 20 km buffer (as per SNH, 2016a);
- Collision risk modelling: the results of the flight activity surveys will be used to inform collision risk modelling. A Collision Risk Analysis Area (CRAA) will be created using GIS Delaunay triangulation from final proposed turbine locations to create a wind farm area which will then be buffered out to 500 m;

- Scarce breeding birds: Proposed Development and a 2 km buffer (800 m for access tracks, extended to 1km for common scoter and black-throated diver) (as per SNH, 2017 and NatureScot pre-application advice);
- Moorland breeding birds: Proposed Development and a 500 m buffer (as pr SNH, 2017);
- Black grouse: Proposed Development 1.5 km buffer (750 m for access tracks) (as per SNH, 2017); and
- Cumulative assessment: as per NatureScot guidance (SNH, 2018c) and pre-application advice, the NHZ level is considered practical and appropriate for breeding species not connected to designated sites. The relevant NHZ for the Proposed Development NHZ will be the 'Northern Highlands' (NHZ 7) and within which the Site is located.

8.8 Difficulties and Uncertainties

8.8.1 No difficulties or uncertainties are anticipated in the establishment of baseline ornithological conditions and the subsequent assessment of effects upon IOFs.

8.9 Embedded Mitigation

8.9.1 Significant effects on birds during construction/decommissioning and operation of the Proposed Development will be avoided/minimised where possible during the design process. This will be based on the proximity to statutory designated sites, locations of known nest, roost and lek sites, key foraging areas, likely sensitivities of species identified and the adoption of recommended bird disturbance distances, as set out in Goodship and Furness (2022).

8.9.2 Good practice (SNH, 2016c) during construction/decommissioning and operation of the Proposed Development will also be implemented (and the assessment undertaken on this basis). This will include the following:

- A Construction Environmental Management Plan (CEMP) that will set out all industry standard good practice runoff control, pollution prevention and habitat restoration measures to be adopted during the construction and decommissioning of Proposed Development;
- A Bird Disturbance Management Plan (BDMP) that will set out all reasonable precautions to be taken during construction/ decommissioning and operational maintenance works to enable legislative compliance with regards the protection afforded to wild birds and to avoid or where otherwise minimise disturbance to lekking black grouse;
- Appointment of an Ecological Clerk o Works (ECoW) or Environmental Clerk of Works (EnvCoW); and
- Pre-commencement surveys carried out by the appointed ECoW, EnvCoW, or suitably qualified ornithologist as part of the BDMP.

8.9.3 The assessment will also be undertaken on the basis of the implementation of the Proposed Developments BEMP, that will developed for the operational phase and agreed in consultation with relevant stakeholders. This will serve to mitigate or enhance habitats for IOFs and to provide wider biodiversity improvements.

8.9.4 Where unmitigated potentially significant effects on IOFs are identified, additional measures to prevent, reduce and where possible offset these adverse effects will be proposed, in order to conclude a non-significant residual effect.

8.10 Potential Effects

8.10.1 The Ornithology chapter of the EIA Report will consider the potential for significant effects upon IOFs during the construction, operation and decommissioning of the Proposed Development as set out below.

Construction

8.10.2 During construction of the Proposed Development, in the absence of specific mitigation, potentially significant effects upon IOFs may arise from:

- nesting, lekking, roosting and foraging habitat loss, fragmentation or change as a result of the delivery and installation of Proposed Development infrastructure; and
- disturbance to and/or foraging birds, loss of nest sites, eggs and/or dependent young.

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

8.10.4 Impacts would likely to be greatest during the breeding season (generally between February and August, depending upon the species), but are considerably variable between locations and species. The potential for disturbances to occur to breeding sites of specific species will therefore be assessed on the basis of best available species guidance, including Goodship and Furness (2022) which will be referred to within the EIA Report.

8.10.5 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 across the whole of the Site but phased within small defined working areas.

Operation

8.10.6 The operation of the Proposed Development, including maintenance activities, has the potential to cause disturbance and displacement of birds from nesting, lekking, roosting or foraging habitats throughout the Proposed Development's operational lifetime. The extent of displacement is, however, highly variable between species and species-group and therefore a species-specific assessment will take place on the basis of baseline studies.

8.10.7 The potential for disturbances to occur to specific species, will therefore be assessed on the basis of best available species guidance, including Goodship and Furness (2022) and which will be referred to within the EIA Report.

8.10.8 In relation to golden eagles, the potential for significant operational habitat loss (displacement) to golden eagles will be considered within the EIA Report. This may include an assessment where appropriate, using the GET model (Fielding *et al.*, 2019).

8.10.9 The operation of the Proposed Development also has the potential to result in the risk of collisions with operational wind turbine blades or any other permanent infrastructure. Where the level of flight activity data justifies it, the NatureScot Collision Risk Model (CRM) (Band *et al.*, 2007) will be used to provide an estimate of collision rates of target species.

Decommissioning

8.10.10 The nature of impacts upon IOFs resulting from the decommissioning, including the removal of infrastructure from the Site, are considered to be similar to those identified for the construction phase. Associated effects will therefore not be assessed exclusively within the EIA Report but assessed in conjunction with construction phase effects.

8.11 Features/Matters to be Scoped into Further Assessment

8.11.1 CIEEM (2018) guidelines stipulate that it is not necessary to carry out a detailed assessment of impacts upon ornithological features that are sufficiently widespread, unthreatened and/or resilient to impacts of a development proposal.

8.11.2 NatureScot guidance (2018a and 2024) similarly advises that there are some species, which with standard mitigation measures, are unlikely to experience a significant environmental effect as a result of the construction and/or operation of onshore windfarms. This includes species that do not require surveys to inform the EIA but may require appropriate mitigation to ensure legislative compliance, such as breeding passerine species. As such, the assessment within the EIA Report will be restricted to consideration of the effects upon ornithological features which are considered 'important' (i.e., the IOFs) on the basis of relevant guidance and professional judgement.

8.11.3 At this time, and on the basis of established baseline conditions it is likely that the following species will be identified as IOFs and upon which the potential for significant effects will be considered in detail within the EIA Report:

- golden eagle;
- greenshank; and
- white-tailed eagle.

8.11.4 On the basis of proximity, the Proposed Development is likely to have a significant effect on the West Inverness-shire Lochs SPA. The EIA report will therefore provide sufficient information to inform a Habitats Regulations Appraisal (HRA) of the Proposed Development in relation to the SPA (and an assessment of the underpinning SSSI as part of the EIA process). In accordance with NatureScot's advice set out in the THC pre-application advice for the Proposed Development, this will include consideration of the likelihood of black-throated diver and common scoter to fly through the Site between the SPA lochs (and any other lochs or lochans these species are known to use), based on best available existing information and completed ornithological field surveys.

8.11.5 The potential for significant effects upon common scoter and black-throated diver are however proposed to be scoped out of detailed assessment within the EIA (see below).

8.12 Features/Matters to be Scoped out of Further Assessment

8.12.1 Where ornithological features are unlikely to be so important in the context of the Proposed Development as to warrant a detailed assessment or where they are unlikely to be significantly affected on the basis of established baseline information or avoidance of impact through scheme design, it is proposed that these are 'scoped out' of the assessment.

8.12.2 Embedded and/or specific mitigation measures for such features may, however, still be outlined as appropriate within the EIA Report, to reduce and/or avoid any potentially adverse effects, or to enable legislative compliance during construction/decommissioning or operational maintenance works i.e. the implementation of a BDMP.

8.12.3 It is therefore proposed that the following species will be 'scoped out' of detailed consideration within the EIA Report since, on the basis of embedded mitigation, significant effects are considered highly unlikely:

- Common and/or low conservation species not recognised in statute as requiring special conservation measures (i.e., not Annex 1 or Schedule 1 species);
- Common and/or low conservation species not included in non-statutory lists (i.e., not listed as a Red-listed BoCC species as per Stanbury *et al.*, 2021), showing birds whose populations are at some risk either generally or in parts of their range;
- Passerine species, not generally considered to be at risk from wind farm developments (SNH, 2017), unless being particularly rare or vulnerable at a national level;
- Wood sandpiper, due to the adoption of 300 m infrastructure avoidance buffers from known breeding locations in accordance with Goodship and Furness (2022);
- Black grouse, due to the low lekking population established within 1.5 km of the Site and the adoption of 500 m infrastructure avoidance buffers from known lek locations in accordance with Goodship and Furness (2022);
- Red-throated diver due to the adoption of 500 m infrastructure avoidance buffers from potential breeding lochans and absence of established flight corridors through the Site; and
- Slavonian grebe, due to the absence of confirmed breeding sites recorded within 1 km of the Site and absence of established flight corridors through the Site.

8.12.4 Should the adoption of infrastructure buffers specified above not be possible, or results from remaining ornithological field surveys require it, the potential for significant effects upon those relevant IOFs will be assessed in within the EIA Report.

8.12.5 On the basis of spatial separation, with the exception of the West Inverness-shire Lochs SPA and SSSI, there is considered to be no potential for connectivity with any other ornithological designated site.

8.12.6 The potential for significant effects upon black-throated diver and common scoter, in the context of the EIA regulations, is also considered highly unlikely and is proposed to be scoped out of assessment. Whilst both species are known to be present at suitable lochans within the surrounding area including as qualifying features of the West Inverness-shire Lochs SPA (and underpinning SSSI), no breeding sites of either species

have been identified within 2 km of the Site and for reasons detailed both species are considered highly unlikely to regularly traverse through the Site.

8.12.7 Further, in relation to common scoter, best available evidence from detailed studies at offshore wind farms identifies that common scoters strongly avoid wind farms in general, including those on land, and that their typical flight heights (<30 m above the ground) means that they are not at risk of collision with modern turbine specifications (e.g. Anon, 2006; Petersen *et al.*, 2006; Fox *et al.*, 2007; Kuvlesky *et al.*, 2007; Blew *et al.*, 2008). Studies also identify that common scoters tend not to fly during particularly dark conditions at night, or in poor visibility weather conditions during the day (e.g. Anon, 2006; Peterson *et al.*, 2006; Kuvlesky *et al.*, 2007), which further reduces the risks posed by vertical structures in their landscape and the potential for adverse effects from onshore wind farms.

8.12.8 The EIA report will present sufficient information, including from existing evidence and where relevant expert opinion , to inform a HRA of the Proposed Development in relation to the West Inverness-shire Lochs SPA and conclude an absence of adverse of effects upon the integrity of the designations qualifying breeding common scoter and black-throated diver features. It is proposed that NatureScot would be consulted on the scope of this information to confirm its adequacy prior to submission.

8.12.9 Evidence from recent research identifies the main potentially significant impact of wind farms in Scotland to golden eagles as habitat loss through operational disturbance/displacement, with the probability of collision mortality considered to be very low, although not zero (Fielding *et al.*, 2019, 2022 and 2022). Estimated collision mortality risks to golden eagle will be calculated using the NatureScot CRM for the Proposed Development and presented within the EIA Report. However, on the basis of the species' evident avoidance of operational wind farms in Scotland and the rarity of reported collisions and low levels of flight activity recorded during baseline surveys, the potential for the Proposed Development alone or to cumulatively contribute to significant cumulative collision mortality risks to golden eagle is considered highly unlikely and will not be considered within the EIA Report.

8.12.10 Baseline studies have also not identified the importance of the Site for species susceptible to elevated risks to collisions with lit turbines (as per SNH, 2020) and as such impacts upon ornithological features relating to turbine lighting, will not be assessed within the EIA Report.

8.13 Cumulative Effects

8.13.1 The assessment within the ornithology chapter of the EIA Report will include a cumulative impact assessment, in accordance with NatureScot guidance (SNH, 2018c) concerning:

- operational collision mortality risks; and
- operational displacement.

8.13.2 The cumulative impact assessment will consider the potential for significant cumulative effects on IOFs forming part of wider countryside populations at the regional NHZ 7 'Northern Highlands' scale, in accordance with NatureScot guidance (SNH, 2018c).

8.13.3 The cumulative assessment will include consideration of the following developments within NHZ 7 where sufficient information is available:

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

8.13.4 NatureScot will be consulted for the most up to date cumulative assessment of operational collision mortality risks and species displacements from onshore wind farm developments for identified IOFs in relation to NHZ 7.

8.13.5 At this time, no additional non-wind farm developments with a valid planning application submission have been identified as being relevant to include within the cumulative assessment.

8.14 Questions for Consultees

- Are consultees aware of any additional existing information that is or can be made available and that should be reviewed to inform the identification of IOFs and potential for impacts?
- Do consultees agree with the scope of baseline ornithological surveys?
- Do Consultees agree with those features/issued that will be scoped out of assessment in respect to ornithology (and the justification provided)?
- Are there any specific non-wind developments that consultees believe should be considered in the cumulative assessment?

8.15 Figures

- Figure 8.1 Ornithological Survey Areas
- Figure 8.2 Ornithological Designated Sites within 20 km

9 Geology, Hydrology and Hydrogeology

9.1 Introduction

9.1.1 This section outlines the proposed scope of works of the EIAR to assess the potentially significant effects from the Proposed Development on geology, hydrology and hydrogeology.

9.1.2 This Chapter is accompanied by the following figures:

- Figure 9.1 Slope
- Figure 9.2 Carbon and Peatland Map (NatureScot)
- Figure 9.3 Hydrology Constraints

9.2 Baseline conditions

Geology and Soils

9.2.1 Review of BGS 1:50,000 bedrock mapping indicates that the majority of the Proposed Development area (where turbines are proposed in the scoping layout shown in **Figure 2.2**) is underlain by the sedimentary Upper Garry Psammite Formation. In the west of the Proposed Development area, areas of the West Highland Granite Gneiss Intrusion are present. There are several minor igneous intrusions across the Proposed Development area including microdiorite and pegmatite intrusions. A major fault lines trends NW-SE across the Proposed Development area (BGS, 2024). The OS 1:25 000 scale mapping and aerial imagery indicate that there is significant exposed bedrock in the Proposed Development area.

9.2.2 Across the central section of the Proposed Development area no superficial deposits are recorded on BGS 1:50,000 mapping. Around the margins of the Proposed Development area hummocky glacial deposits are present along with more isolated patches of peat. Alluvium deposits of sand and gravels are present along the banks of the River Kingie.

9.2.3 The Carbon and Peatland Map (NatureScot, 2016) (**Figure 9.2**) indicates that the majority of the Proposed Development area is underlain by Class 2 soils classified as 'Nationally important carbon-rich soils, deep peat and priority peatland habitat' indicating the presence of peat soil with occasionally peaty soil, overlain with primarily peatland vegetation. Class 5 soils are present within the forestry areas, indicating the presence of peat soils but no peatland vegetation.

Hydrogeology

9.2.4 Review of BGS 1:625 000 scale hydrogeology mapping indicates that the majority of the Proposed Development area is within Loch Eil Group groundwater body which is classified as a low productivity aquifer. To the north of the Proposed Development area, a Neoproterozoic Igneous Intrusion aquifer is present and to the northwest the Glennfinnian Group is present. Both are classed as low productivity aquifers. The small amount of groundwater flow within these groups is limited to the near surface weather zone and secondary and other fractures with virtually all flow through fractures and

discontinuities. Groundwater flow may be higher in areas containing igneous dykes or along faults.

9.2.5 Hummocky till deposits generally have low productivity ratings and it is likely that the highest permeability deposits will be associated with the small areas of alluvium.

9.2.6 Review of SEPA's Water Classification Hub indicates that the Site is located within the Northern Highlands groundwater body which has an Overall Good status, as classed in 2022.

Hydrology

9.2.7 The Site of the Proposed Development is located within River Ness main river and coastal catchment (Catchment ID:21). The southern section of the Site drains to the River Kingie via Allt Luib an Achaidh Dhuibh, Allt Sron na Geid Salaich, Allt Torrain Dharaich, Aobran Allt a' Ghiubhais, Allt Doire Huan and several unnamed tributaries. The northwestern section of the Site drains to Loch Quoich via Allt na h-Airigh, Allt Lochan an Fhigheadair and several unnamed tributaries. The northeastern section drains directly to the River Garry via Allt Poll a'Gharbh Fhearna and minor watercourses.

9.2.8 The River Garry (Loch Poulary to Loch Quoich), River Kingie and Loch Quoich are designated waterbodies under the Water Framework Directive (WFD). The River Kingie (ID: 20302) has Moderate Overall status as classed in 2022. The River Garry (ID: 20256) has Poor overall ecological status, as classed in 2022. Loch Quoich (ID: 100186) has Overall Good ecological status as classed in 2022. All water bodies have been designated as heavily modified waterbodies on account of the physical alterations that cannot be addressed without any significant impact on water storage for hydroelectricity generation.

Flood Risk

9.2.9 According to the SEPA Flood Maps (2024), there is a High Risk (1 in 10 years) of fluvial flooding along the banks of the River Kingie as it flows through the Site. However, these areas of high flood risk do not generally extend far beyond the riverbanks. Isolated patches of Low to High-Risk surface water flooding are scattered across the Site, associated with areas of low topographic elevation and small water bodies.

Designated Sites

9.2.10 Review of the NatureScot Sitelink Map (2024) confirms that there are two statutory designations within the Site, the Quoich Spillway Site of Special Scientific Interest (SSSI) and Geological Conservation Review Site (GCR). Quoich Spillway SSSI is designated for exposures of Quoich Granite Gneiss and its contact with the Moine meta-sedimentary rocks which helps pinpoint the timing of the deposition of the Moine Supergroup and its deformation.

9.2.11 Glen West Inverness-shire Loch SSSI and SPA is located within the 2 km buffer at Loch Pulary and is designated for supporting nationally important numbers of breeding black-throated divers and common scoters.

Private Water Supplies

9.2.12 Two potential Private Water Supplies (PWS) have been identified within 2 km of the Site as shown on THC PWS mapping (2024), one at Quoich Power Station and the other at Kingie Estate.

9.2.13 A Drinking Water Protected Area (DWPA) for surface water is located immediately beyond the northeast corner of the Site, at an unnamed tributary of River Garry (ID 23654).

9.2.14 The Site is located within the Northern Highlands DWPA for groundwater.

9.2.15 It is recommended that Scottish Water is consulted to determine whether there are any Scottish Water assets which may be impacted by the construction and operation of the Proposed Development.

9.3 Legislation and Guidance

9.3.1 The assessment of hydrology, geology and hydrogeology effects will take account of the relevant legislation, policy and guidance.

Legislation

- The Water Environment and Water Services (Scotland) Act 2003;
- The Water Resources (Scotland) Act (Scottish Government, 2013);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended;
- The Environmental Protection Act 1990, as amended;
- The Pollution Prevention and Control (Scotland) Regulations 2012;
- Flood Risk Management (Scotland) Act (Scottish Government, 2009);
- The Contaminated Land (Scotland) Regulations 2000, as amended;
- The Private Water Supplies Act (Scotland) 2009; and
- The Private and Public Water Supplies (Miscellaneous Amendments) (Scotland) Regulations 2015.

Policy

- Scottish Government's National Planning Framework 4 (NPF4);
- Scottish Government's Planning Advice Notes (PAN) with particular reference to:
- PAN 51: Planning, Environmental Protection and Regulation.
- PAN 61: Sustainable urban drainage systems.
- PAN 79: Water and Drainage.
- Scottish Government Online Planning Advice on Flood Risk (2015); and
- Scottish Planning Policy (Scottish Government, 2020).

Guidance

- SEPA's Guidance for Pollution Prevention (GPPs) with particular reference to:

  GPP 1: Understanding your environmental responsibilities - good environmental practices (EA, SEPA & EHSNI, 2021).
  GPP2: Above ground oil storage tanks (EA, SEPA & EHSNI, 2018).
  GPP5: Works and maintenance in or near water (EA, SEPA & EHSNI, 2018).

PPG6: Working at construction and demolition sites (EA, SEPA & EHSNI, 2023).
GPP21: Pollution incidence response planning (EA, SEPA & EHSNI, 2021).

- The Scottish Government, Scottish Natural Heritage (SNH) & Scottish Environment Protection Agency (SEPA)'s Guidance on Developments on Peatland (2017);
- The Highland Council's Highland-wide Local Development Plan (2012);
- The Highland Council's Onshore Wind Energy Supplementary Guidance (2016);
- Scottish Renewables, NatureScot, SEPA & Forestry Commission Scotland (FCS)'s Good Practice during Wind Farm construction Guidance (2019);
- SEPA's Position Statement (WAT-PS-10-01) Assigning Groundwater Criteria for Pollutant Inputs (2014); and
- SEPA's Land Use Planning System (LUPS) Guidance Notes 4 & 31 (2017).

9.4 Study area

9.4.1 The study area will be based primarily on the land within the Site, within a wider study area of 2 km for geological, hydrological, and hydrogeological receptors. This study area has been selected based on the scale of the Proposed Development.

9.4.2 Where there are potential effects identified on sensitive hydrological receptors, the downstream effects of these will also be considered which may extend out with the above described 2 km study area. This scoping section has not accounted for any potential access tracks that may be located beyond the study area, but the approach taken in the EIA will address impacts on such receptors for the proposed access track.

9.5 Proposed Assessment Methodology

Consultation

9.5.1 Freedom of Information (FOI) requests have been sent to The Highland Council (THC) and Scottish Environmental Protection Agency (SEPA) requesting any information the organisations hold on flood risk, surface and groundwater levels, quality and quantity and Private Water Supplies (PWS).

9.5.2 It is assumed that consultation with relevant bodies and authorities (i.e., NatureScot, Scottish Water, SEPA, THC) will be undertaken by the Applicant with relevant actions to Geology, Hydrology and Hydrogeology addressed within the EIA chapter.

Data Sources to Inform the EIA Baseline Characterisation

9.5.3 The baseline conditions of the Site and the proposed assessment scope have been established primarily through use of the following sources:

- Identification of locations and characteristics of catchments, watercourses and waterbodies, as shown on 1:50,000 and 1:25,000 scale Ordnance Survey mapping;
- Identification of SEPA / Water Framework Directive watercourse and waterbody classification, as identified using The Scottish Government's interactive environmental mapping web service and SEPA's Water Classification Hub;
- Review of NatureScot SiteLink designated sites mapping;
- Review of British Geological Survey (BGS) geological mapping;

- Review of Scotland's Natural Heritage Carbon and Peatland 2016 map;
- Review of SEPA's online flood risk mapping; and
- Review of THC's PWS open data.

Surveys to Inform the EIA Baseline Characterisation

9.5.4 No surveys have been undertaken to inform the proposed assessment scope. The surveys outlined in the sections below will be undertaken to inform the EIA.

9.5.5 Phase 1 peat probing will be undertaken on a 100 m grid across the developable area to obtain a baseline overview of the peat depth, distribution and condition across the Site.

9.5.6 Following design chill, phase 2 peat probing will be undertaken across the footprint of the proposed infrastructure to inform infrastructure micro-siting. Probe points will be taken along proposed access at 50 m intervals with a 10 m offset on either side and at tower locations across a 10 m grid spacing within a 50 m buffer from turbine centre. The siting of proposed infrastructure will avoid areas of peat and deep peat where reasonably practicable.

9.5.7 During the phase 2 peat probing, shear vane testing, peat stratification profiling and peat sampling will be undertaken at representative locations across the Proposed Development infrastructure. These will be used to inform the Peat Landslide Hazard Risk Assessment (PLHRA), Peat Management Plan (PMP) and Carbon Balance Calculation.

9.5.8 A hydrological site walkover will be undertaken to assess baseline conditions at the Site during which a watercourse crossing survey conducted.

9.5.9 No NVC data is currently available for the Site, but it is considered that GWDTE may be present.

9.5.10 Subject to the results of the NVC survey, if required, a Groundwater Dependent Terrestrial Ecosystem (GWDTE) survey will be undertaken to inform the GWDTE Assessment. This will involve water quality testing and characterisation of situation and habitat water supply mechanisms based on NVC data.

9.5.11 PWS surveys will be undertaken including consultation with the PWS owners to determine the source location, use, treatment, and any associated infrastructure.

Proposed Scope of Assessment

9.5.12 The matters scoped in for further assessment will be analysed through the following assessments, which will be included as Appendices to the Geology, Hydrology and Hydrogeology chapter:

- Stage 1 Peat Landslide Hazard Risk Assessment (PLHRA) to be informed by the conditions recorded during the phase 1 peat survey. The assessment will include results of a qualitative risk assessment calculating the probability and adverse consequences of potential instability effects as a function of geotechnical and topographical conditions;
- Stage 2 PLHRA to include summary of phase 2 peat survey findings and sample results, details on quantitative slope stability analysis performed and recommendations for specific activities aimed at reducing the risk of instability;

- Peat Management Plan (PMP) detailing peat excavation and reuse volume estimates, design of site work to minimise peat excavation, likely volumes of surplus peat, potential re-use options, and peat management measures such as treatment, handling, and temporary storage of peat;
- PWS Assessment to include mitigation measures for development impacts on PWS during construction and operation, suggested modifications to location of turbines and associated infrastructure or information on the need to provide alternative supplies;
- Watercourse Crossing Schedule will be produced detailing the locations of each watercourse crossing, identifying an appropriate crossing type and determining whether licensing or registration will be required under CAR;
- GWDTE Assessment will be produced and micro siting of infrastructure will be suggested. Potential GWDTE areas within the buffer zones of proposed infrastructure will be assessed for actual groundwater dependency based on the hydrogeological regime. The buffer zones to be considered are 100m from excavations down to 1 m bgl (below ground level), and 250 m from excavations deeper than 1 m bgl; and
- Climate Impact Assessment and Carbon Balance Assessment to assess project works anticipated to lead to carbon emissions and calculation of greenhouse gas emissions and carbon payback times.

Significance Criteria

9.5.13 The sensitivity of hydrological, geological and hydrogeological receptors has been guided by the matrix presented in **Table 9.1**.

Table 9.1 Significance Criteria

Sensitivity	Description
High	Areas containing geological, geomorphological or hydrological features considered to be of national interest, for example, Aquatic Natura 2000 Sites, SACs, SSSIs. Areas of Geological Conservation Review (GCR) sites of international importance. Highly permeable superficial deposits allowing free transport of contaminants to groundwater and surrounding surface waters. Wetland/watercourse of High or Good Ecological Status. Average peat depth ≥1 m. High risk of flooding (defined as 1 in 10-year return period) to Proposed Development or to property or infrastructure within downstream catchments. Land capable of supporting Arable Agriculture i.e. Class 1, 2 and 3.1. Surface water abstraction (PWS) within 0 – 400 m from proposed excavations. Groundwater abstraction (PWS) within 0 – 250 m from proposed excavations >1 m or within 0 – 100 m from proposed excavations <1 m. GWDTE within 100 m of track (assumed excavation <1 m) and within 250 m of other wind farm infrastructure (assumed excavation of >1 m) with a high groundwater dependency as described in SEPA LUPS-GU31.
Medium	Areas containing features of designated regional importance, for example, Regionally Important Geological and Geomorphological Sites (RIGS) considered worthy of protection for their educational, research, historic or aesthetic importance. Areas of GCR sites of national importance.

Sensitivity	Description
	Moderately permeable superficial deposits allowing some limited transport of contaminants to groundwater and surrounding surface waters. Wetland/watercourse of Moderate Ecological Status. Average peat depth ≥0.5 m and <1 m. Medium risk of flooding (defined as 1 in 100 year return period) to Proposed Development or to property or infrastructure within downstream catchments. Private Water Supplies – Surface water abstractions within 400 m – 600 m, groundwater abstractions within 250 m – 800 m. GWDTE within 100 m of track (assumed excavation <1 m) and within 250 m of other wind farm infrastructure (assumed excavation of >1 m) with a moderate groundwater dependency as described in SEPA LUPS-GU31.
Low	Geological features not currently protected and not considered worthy of protection. Low permeability superficial deposits likely to inhibit the transport of contaminants. Wetland/watercourse of Poor or Bad Ecological Status or no WFD classification. Average peat depth <0.5 m. Low risk of flooding to development or downstream catchments Private Water Supplies – Surface water abstractions from 600 m – >800 m, groundwater spring abstractions from >250 m. No GWDTE within 100 m of track (assumed excavation <1 m) and within 250 m of other wind farm infrastructure (assumed excavation of >1 m).

9.5.14 Effects of Major and Major/Moderate significance are considered significant in terms of the EIA Regulations.

9.6 Difficulties and uncertainties

9.6.1 Information provided in this scoping assessment has been obtained from desk-based study only and is not informed by any survey work. Therefore, additional constraints and receptors may be identified throughout the EIA assessment once site surveys have been undertaken.

9.6.2 The scoping section is based on the current Site Boundary and does account for any specific infrastructure layouts or proposed access outwith the Proposed Development. The study areas and approach to assessment in the EIA report will account for the proposed access track to the Site once this is confirmed.

9.6.3 No water quality monitoring or intrusive investigation, other than peat depth survey work, peat coring and sampling will be undertaken to inform the Geology, Hydrology and Hydrogeology assessments.

9.7 Embedded mitigation

Design Considerations

9.7.1 The location of peat across the Site will be assessed and reviewed to inform the design of Proposed Development infrastructure to ensure deep peat is avoided and the impacts of peat loss are avoided.

9.7.2 A minimum 50 m buffer will be maintained around watercourses and lochs where practicable. If this cannot be achieved, suitable engineering work will be recommended for each breach.

Construction

9.7.3 A Construction Environmental Management Plan (CEMP) will be in place to control potentially polluting activities and to prevent adverse impact to downstream persons, properties and environment during the construction phase.

9.7.4 A Drainage Management Plan (DMP) and detailed drainage design will be in developed for the Proposed Development to minimise potential risk of flooding and watercourse pollution.

9.7.5 A Water Quality Monitoring Plan (WQMP) will be prepared in consultation with SEPA and THC.

9.7.6 An appropriately qualified Environmental Clerk of Works (EnvCoW) will be appointed to supervise operations on site during the whole construction period, manage water quality monitoring, review installed temporary and permanent drainage and with the authority to stop work and implement remedial work with immediate effect.

9.7.7 An Outline Peat Management Plan will be produced detailing appropriate peat handling and storage measures.

9.7.8 All watercourse crossings will be designed to allow hydraulic continuity to be maintained such that the local hydrology is not significantly altered.

Operation

9.7.9 An Operational Environmental Management Plan (OEMP) will be developed and agreed with SEPA and THC. This will detail the Site drainage design, soft engineering and measures proposed to control surface water runoff rates from hardstanding.

9.8 Potential effects

Construction

9.8.1 Pollution of surface waters from sediment or chemical contaminated runoff from construction works may lead to significant deterioration in water quality of the surrounding watercourses and downstream receptors in the absence of mitigation.

9.8.2 The PWS at Quoich Power Station may be surface water sourced and as such pollution of the local water environment could result in contamination of this PWS source.

9.8.3 The construction of new tracks, borrow pits, hardstanding and turbine foundations may result in significant loss and disturbance of peat deposits.

9.8.4 During construction geological loss and instability may occur as a result of be the removal of *in situ* geological deposits during excavation for the borrow pits, access tracks and foundations.

9.8.5 The installation of the foundations may come into contact with shallow groundwater and have localised impacts on the groundwater regime, resulting in potentially significant

impacts on groundwater quality and flow and may also impact on any potential groundwater flows feeding GWDTE and lower the water quality of groundwater supplying GWDTE habitat.

9.8.6 The movement of construction traffic throughout the Proposed Development could cause compaction of soils. This has the potential to result in a reduction in soil permeability and rainfall infiltration, thereby significantly increasing the potential for runoff and erosion.

Operation

9.8.7 The Proposed Development infrastructure could result in an increased rate of surface water run-off. This could significantly increase downstream flood risk and potentially result in erosion of soil and silt-laden runoff, which may pollute downstream watercourses.

9.8.8 The introduction of infrastructure such as turbine foundations and access tracks have the potential to disrupt groundwater flow such as causing barriers to flow.

9.8.9 Poor design of watercourse crossings resulting in changes to flow could potentially adversely affect the geomorphology of watercourse crossings.

9.9 Receptors/Matters to be Scoped in for Assessment

9.9.1 Following review of the baseline conditions relating to geology, hydrology and hydrogeology at the Proposed Development, it is proposed that the receptors outlined in **Table 9.2** are brought forward for assessment.

Table 9.2 Geology, hydrology and hydrogeology receptors / matters scoped in for assessment

Receptor/Matter	Phase	Justification
Surface Water	Construction	West Inverness-shire Lochs SSSI and SPA is located downstream of the Proposed Development.
Flood Risk	Construction and Operation	Areas at high risk of flooding (defined as 1 in 10-year return period) within the Proposed Development area.
PWS	Construction and Operation	The Commercial PWS at Quoich Power Station may be abstracting from Loch Quoich, immediately adjacent to the Proposed Development.
Bedrock and Superficial Geology	Construction	Quoich Spillway GCR site is situated within the Proposed Development.
Peat and Soils	Construction	The Carbon and Peatland Map indicates that the majority of the Proposed Development is underlain by Class 2 soils.
Groundwater	Construction and Operation	The Site is located on a low productivity aquifer but is designated as DWPA for groundwater.
GWDTE	Construction and Operation	Likely potential for GWDTE at the Proposed Development.

Receptor/Matter	Phase	Justification
DWPA at unnamed tributary of River Garry	Construction and Operation	The DWPA catchment is a tributary of the River Garry and may be influenced as it is located downstream of the Proposed Development.

9.10 Receptors/matters to be Scoped out of Assessment

9.10.1 It is not considered that any potential effects can be scoped out of the detailed assessment at this stage.

9.11 Opportunities for Enhancing the Environment

9.11.1 Following an assessment of the peatland condition on the Site, there may be the potential for peatland restoration to be undertaken at the Site. Such peatland proposals will be worked on collaboratively with the biodiversity enhancement commitments developed for the project in relation to Ecology and Ornithology (Section 7.4 and Section 8.4 refer).

9.12 Scoping Questions

- Do you agree with the proposed study areas?
- Do consultees agree with the topics scoped in and out of the assessment?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors/assets/resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed factor-specific assessment approach?

9.13 Figures

- Figure 9.1 Slopes
- Figure 9.2 Carbon and Peatland Map
- Figure 9.3 Hydrology Constraints

10 Transport and Access

10.1 Introduction

Scope of Study

10.1.1 The section covers the predicted transport and access issues that may arise from the construction of the Proposed Development, the significance of these effects and what suitable mitigation can be put in place to avoid, minimise or offset adverse effects.

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

10.1.3 The key issues for consideration as part of the assessment will include:

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

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

10.2 Study Area

10.2.1 Construction traffic access for the Proposed Development is proposed to be taken directly from the A87 to the west of Invergarry from an upgraded forestry access junction. Loads will then proceed to the proposed turbine locations using upgraded forestry and new access tracks.

10.2.2 Abnormal Indivisible Loads (AIL) for turbine components will use the same access junction to enter the Site. A detailed Route Survey Report will support the application and will identify the necessary access improvements that will be required to enable loads to access the Site.

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

10.2.4 The proposed study area is based on those roads that are expected to experience increased traffic flows associated with the construction of the Proposed Development. The geographic scope was determined through a review of the other developments in the area, Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

10.2.5 The proposed extents of the study area would be as follows:

- The A82 between Spean Bridge and Fort Augustus;
- The A87 between Invergarry and Invershiel; and
- A887 between Bun Loyne and Invermoriston.

10.3 Baseline Conditions

10.3.1 The A82 is a two-way single carriageway road which forms part of the trunk road network and links Glasgow to Inverness via Fort William. The A82 is predominantly subject to the national speed limit, however, this reduces when travelling through villages and settlements.

10.3.2 The A87 is a two-way single carriageway road which runs from Invergarry to Uig, in the north of Skye and is predominantly subject to the national speed limit, however, this reduces when traveling through villages and settlements along the route.

10.3.3 The A887 is a two-way single carriageway road which forms part of the trunk road network and links the A87, at Bun Loyne, to the A82, at Invermoriston. The A887 is predominantly subject to the national speed limit, which reduces to 40 miles per hour (mph) when travelling through Invermoriston.

10.3.4 The trunk road network within the study area is maintained by BEAR Scotland.

10.3.5 A review of The Highland Council's Core Path network indicates that there are no Core Paths within the Site's boundary.

10.3.6 A review of Sustrans' Map of the National Cycle Network (NCN) indicates that there are no NCN routes within the study area. The closest NCN route is Route 78, which runs from Campbeltown to Inverness. A section of the on-road route which is not on the NCN crosses the A82 in Fort Augustus at the Station Road / A82 / Glendoe Road junction.

10.4 References and Standard Guidance

10.4.1 The following policy and guidance documents will be used to inform the Transport and Access chapter:

- Transport Assessment Guidance (Transport Scotland, 2012);
- Guidelines for Transport Assessments (The Highland Council, 2014);
- Environmental Assessment of Traffic and Movement (Institute of Environmental Management & Assessment (IEMA), 2023); and
- National Planning Framework 4 (Scottish Government, 2023).

10.5 Method of Assessment and Reporting

Baseline Data Collection

10.5.1 Baseline traffic count data will be obtained from new Automatic Traffic Count (ATC) surveys located on the A87 near the proposed Site access junction.

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

10.5.3 Traffic accident data will be obtained from Crashmap UK for the study network to inform the accident review for the immediate road study area. Five years of data will be collated for roads within the study area.

Desk Study

10.5.4 A desk review of the study area roads will be undertaken using OS maps and aerial photography to identify constraints and receptors in the area and to inform the wider study.

Consultation

10.5.5 Consultation will be undertaken with the following statutory consultees:

- Transport Scotland (trunk road matters); and
- The Highland Council (for local road network matters).

10.5.6 Further consultation will be undertaken via the Electronic Service Delivery for Abnormal Loads (ESDAL) weight review for structures on the proposed AIL access route from the Port of Inverness to the Site via the strategic trunk road and local road networks.

Assessment of Effects

10.5.7 The Environmental Assessment of Traffic and Movement (IEMA, 2023) sets out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

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

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

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

10.5.9 Increases below these thresholds are generally considered to be insignificant given that daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flow below this level predicted as a consequence of the Proposed Development will therefore be assumed to result in no discernible environmental impact and as such, no further consideration will be given to the associated environment effects.

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

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

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

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

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

10.5.15 Potential effects arising from the construction of the Proposed Development on road users and residents along the delivery route may include the following:

- Severance;
- Driver delay;
- Pedestrian delay;
- Non-motorised user amenity;
- Fear and intimidation;
- Road safety; and
- Large loads.

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

10.5.17 The effects on receptors identified within the study area will be reviewed for the construction phase, with a peak construction period assessment undertaken. This will include a review of the maximum potential impact and therefore it is considered to provide a robust assessment of the effects of construction traffic on the local and trunk road networks.

Residual and Cumulative Effects

10.5.18 Short term residual effects may occur and would be addressed by mitigation measures.

10.5.19 Medium long-term residual effects would not occur due to the short-term nature of the construction traffic.

10.5.20 Cumulative traffic assessments will be undertaken where publicly available information is available for consented developments that are of a significant scale.

10.6 Proposed Mitigation

Approach to Mitigation

10.6.1 Embedded mitigation measures that are likely to be included in the assessment are:

- Production of a Construction Traffic Management Plan;
- The design of suitable access arrangements with full consideration given to the road safety of all road users;

- A Staff Sustainable Access Plan; and
- A Framework Abnormal Load Transport Management Plan.

10.6.2 Additional mitigation will be included should the assessment identify effectsthat are significant following the application of standard mitigation measures.

10.6.3 Site specific mitigation, based upon experience of other schemes in the surrounding area, will include:

- Section 96 Agreement of the Roads (Scotland) Act to protect the public road against abnormal wear and tear in the study area;
- Design of the Site access junction to ensure that approved access routes are adhered to; and
- Enhanced temporary construction warning and direction signage.

10.6.4 Details of these measures will be detailed in the Transport Assessment.

10.7 Potential Sources of Impact

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

10.8 Receptors / Matters Scoped Out

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

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

10.9 Questions for Consultees

- Can stakeholders and consultees confirm their acceptance of the proposed Transport and Access study area, data collection methodology and assessment methodology?
- Can stakeholders and consultees confirm any cumulative development considerations?

11 Acoustics

11.1 Introduction

11.1.1 This chapter sets out the proposed approach to the assessment of potential effects resulting from the construction, operation and decommissioning of the Proposed Development in relation to sound and vibration.

11.2 Baseline Description

11.2.1 The acoustic environment around the Site is expected to be typical of a rural area and consist of sounds generated by foliage, birds, distant traffic, watercourses and occasional overflying aircraft.

11.2.2 It is proposed to undertake background sound measurements at representative properties close to the Site. The survey locations will be selected in consultation with the environmental health department of The Highland Council and are subject to permission being granted by the residents to access relevant amenity areas outside dwellings.

11.3 Legislation, Policy, and Guidance

11.3.1 Operational acoustic impact will be assessed in accordance with ETSU-R-97 (Department of Trade and Industry, 1997), and the Good Practice Guide to its application issued by the Institute of Acoustics (2013). This is consistent with 'Planning Advice Note 1/2011: Planning and Noise' (Scottish Government, 2011) and the further guidance provided in the web-based planning advice on renewable technologies for onshore wind turbines (Scottish Government, 2014).

11.3.2 Although ETSU-R-97 makes reference to a background and operational noise, there is a distinction between sound and noise. This scoping chapter differentiates between sound and noise and therefore the use of 'background sound' as well as 'operational sound' is more appropriate.

11.3.3 Construction sound immissions will be discussed with reference to the procedures within BS 5228-1:2009+A1:2014 (British Standards Institution, 2015). This is consistent with the web-based Scottish Government technical advice on construction sound assessment in 'Appendix 1: Legislative Background, Technical Standards and Codes of Practice' (Scottish Government, 2011).

11.3.4 If blasting is required at any proposed borrow pits located at the Proposed Development, the expected sound and vibration levels will be discussed with reference to BS 5228-1:2009+A1:2014, BS 5228-2:2009+A1:2014 (British Standards Institution, 2014), BS 6472-2:2008 (British Standards Institution, 2008) and 'best practicable means' in this regard.

11.4 Study Area

11.4.1 The study area will be determined by the proximity of nearby properties to the Proposed Development and the location of any neighbouring wind farms being considered as part of the cumulative assessment.

11.4.2 The acoustic assessment will include the nearest properties to the Proposed Development. Any properties that are in planning or consented but not yet built or occupied will be considered alongside those already existing.

11.4.3 The cumulative assessment will consider any neighbouring wind turbines that are close enough to result in the potential for a significant cumulative effect on the identified properties. Any wind farms that are in planning, including those subject of appeal, will be considered along with those that are already operational or consented.

11.5 Assessment Methodology

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

11.5.2 A discussion of the potential effects due to construction sound, including associated traffic sound, at the nearest properties, will be provided. Sound and vibration levels at the nearest properties will also be discussed if blasting is required to extract material from any proposed borrow pits.

11.5.3 An assessment of the potential effects of sound due to operation of the wind turbines at the nearest properties will be undertaken. The operational acoustic assessment will be carried out on the basis of the sound pressure levels with penalties applied for tonality, if applicable.

11.5.4 It is not proposed to carry out an assessment of the potential effects of sound from operation of the wind farm at specific frequencies (e.g., low frequency sound). Neither is it proposed to assess the potential effects of other sound and vibration characteristics due to operation, such as amplitude modulation and vibration. However, a generalised discussion of these topics with reference to the Proposed Development will be provided citing current guidance and research.

11.5.5 An assessment of the potential effects of sound due to the operation of the proposed battery energy storage system and substation associated with the wind farm will not be undertaken as these will be located a minimum of 1 km from the nearest properties are located a significant distance from these and the resulting sound immissions at the properties will be insignificant.

11.6 Potential Effects

11.6.1 The potential effect of sound and vibration on residential amenity at nearby properties due to the construction, operation and decommissioning of the wind farm will be assessed. Where necessary, appropriate mitigation measures will be proposed and any residual impacts identified.

11.7 Embedded Mitigation

11.7.1 Standard good practice measures to reduce acoustic impact during construction will be implemented in line with the ‘best practicable means’ defined by the Control of Pollution Act 1974 (her Majesty’s Stationery Office, 1974). If additional mitigation measures are

required, this will include a reduction in construction activities or traffic during certain periods where considered appropriate.

11.7.2 The potential effects of sound due to operation of the wind turbines will be considered in the design process via the application of nominal buffers to neighbouring residences within which turbines will not be placed.

11.7.3 The baseline sound monitoring results will also inform site design, with greater separation distances potentially being required for residences with relatively low background sound levels and corresponding derived acoustic limits.

11.7.4 The wind turbines which comprise the Proposed Development will be operated in reduced sound modes if this is necessary to meet the acoustic limits derived in accordance with ETSU-R-97.

11.8 Receptors and Effects Scoped in or out of the Assessment

11.8.1 Potential effects relating to the construction, operation and decommissioning of the Proposed Development will be discussed and assessed as part of the Environmental Impact Assessment Report supporting the planning application.

11.8.2 The nearest planned, consented, or existing properties are scoped into the assessment.

11.8.3 Potential effects relating to the operation of the battery energy storage system and substation associated with the wind farm are scoped out of the assessment.

11.8.4 Any wind turbines that are in planning are scoped into a cumulative assessment along with those wind turbines that are already operational or consented.

11.8.5 Specific assessments of low frequency sound, amplitude modulation or vibration due to operation of the Proposed Development are scoped out of the assessment. However, a discussion of relevant guidance and research regarding these topics will be provided as supporting information.

11.9 Questions for Consultees

- Do the consultees agree with the proposed approach to the assessment of potential effects resulting from the construction, operation and decommissioning of the Proposed Development in relation to sound and vibration?

12 Forestry

12.1 Introduction

12.1.1 The Forestry chapter of the EIA Report will provide an assessment of the impacts of the construction and operation of the Proposed Development on the commercial forestry crops and other woodland areas present on the Site.

12.1.2 The purpose of the assessment will be to:

- Confirm the present age and species structure of the tree crops;
- Analyse the impact of any necessary tree removal to facilitate the Proposed Development; and
- Identify any measures necessary to mitigate the impact of the Proposed Development on the existing tree crops.

12.2 Baseline Description

12.2.1 The Site is located approximately 26 km west of Invergarry along the A87, and is on the edge of the extensive area of forestry within Glen Garry. The southern and eastern portions of the Site comprise of a large block of conifer woodland extending to approximately 830 hectares.

12.2.2 The forestry baseline will describe the crops existing at the time of preparation of the EIA Report including information on species, planting year and both felling and restocking design proposals.

12.3 Legislation, Policy and Guidance

12.3.1 The forestry proposals will be prepared in accordance with the current industry best practice and guidance including, but not limited to:

- Forestry Commission Scotland (2009): The Scottish Government's Policy on Control of Woodland Removal. Forestry Commission, Edinburgh;
- SEPA (2014): Use of Trees Cleared to Facilitate Development on Afforested Land. Land Use Planning System SEPA Guidance Note LUPS-GUS2;
- UKWAS (2018): The UK Woodland Assurance Standard Fourth Edition. UKWAS, Edinburgh;
- Forestry Commission (2017): The UK Forestry Standard, The Government's Approach to Sustainable Forestry. Forestry Commission, Edinburgh;
- The Scottish Government (2019): Scotland's Forestry Strategy. The Scottish Government, Edinburgh; and
- Forestry Commission (2019): Managing forest operations to protect the water environment. Forestry Commission, Edinburgh;

12.4 Assessment Methodology

12.4.1 Existing forestry records will be analysed and augmented as required through further survey and assessment to document the full details of the existing tree cover over the

Site. Analysis will be presented documenting any requirement to remove tree crops in order to accommodate the infrastructure footprint of the Proposed Development.

12.5 Potential Effects

12.5.1 Areas of woodland will need to be felled for the construction and operation of the Proposed Development including areas for access tracks, turbine locations and other infrastructure. Further woodland may also need to be felled for wind yield and other technical reasons and the structure of the woodlands may therefore change, resulting in a potential loss of woodland area. This will be addressed through the redesign of the existing forest including, for example, replanting areas of existing open ground, replanting alternative woodland types or the provision of compensatory woodland planting on an alternative site.

12.6 Potential Mitigation

12.6.1 There is a presumption against permanent woodland removal within the UK unless it addresses other environmental concerns or delivers additional and clearly defined public benefits. The Scottish Government's Control of Woodland Removal Policy (2009) records the assessment requirements and compensatory measures which should be considered when removing woodland cover and the requirements under this policy will be addressed within the EIA Report.

12.7 Questions for Consultees

- Do consultees agree to the proposed methodology?

13 Carbon Balance

13.1 Introduction

13.1.1 This section of the document sets out the proposed approach to the assessment of the carbon balance of the Proposed Development as a result of its construction and operation.

13.1.2 The EIA Report will provide an estimate of the potential amount of CO_2 savings that can be made based on assessing the electricity generation mix that the Proposed Development is displacing at any given time, and the carbon released due to construction of the Proposed Development.

13.1.3 Based on the indicative layout, the Proposed Development will provide a total generating capacity of approximately 190 MW for the 28 turbines (each with a 6.8 MW rated capacity), and approximately 50 MW for battery energy storage facility.

13.1.4 The renewable electricity generated from the Proposed Development has the potential to displace electricity generated from fossil fuels during its operational lifespan and consequently prevent carbon dioxide (CO_2) from being released.

13.1.5 Calculation of the carbon footprint will be based on best practice guidelines including the Scottish Government's Carbon Calculator Tool.

13.2 Baseline Description

13.2.1 The Proposed Development is situated within an area of commercial forestry, health land and moorland.

13.3 Legislation, Policy and Guidance

13.3.1 The United Nations, UK Government, Scottish Government and The Highland Council have set targets for tacking climate change.

Legislation

- UK Government, Climate Change Act (2008); and
- Scottish Government, The Climate Change (Scotland) Act (2009).

Guidance

- Scottish Government, Calculating potential carbon losses and savings from wind farms on Scottish Peatlands, Technical Note Version 2.10.0 (2018).

13.4 Assessment Methodology

13.4.1 A Phase 1 Peat survey will be undertaken to determine the extent of carbon rich soils within the Site.

13.4.2 A wind farm constructed within forestry has the potential to generate CO_2 emissions as a result of the removal of forestry. The current best practice guidance available on the

Scottish Government website provides a method to calculate carbon emission savings associated with wind farm developments on Scottish peatlands using a full life cycle analysis approach using a web-based application. The tool was originally published in 2008 and the latest version was published in December 2018 (Scottish Government, 2018). The Scottish Government's Carbon Calculator Tool V1.7.0 or the latest version at the time of writing will be utilised to inform this chapter.

13.4.3 The tool compares the carbon costs of wind farm developments with the carbon emissions savings attributable to the Proposed Development. The calculation is summarised as the length of the time (in years) it will take the carbon savings to amount to the carbon costs also referred as the 'payback period'. An assessment of effect of significance will not be undertaken but the volumes of CO_2 savings and emissions will be provided in the chapter.

13.5 Potential Mitigation

13.5.1 The Proposed Development will reduce the CO_2 emissions being released by the electricity generation system.

13.5.2 The Proposed Development will be designed to minimise turbines being sited on areas of deep peat, reduce the excavation of peat and minimise removal of forestry as far as possible. Best practice measures will also be considered to minimise peat disturbance during construction. These will be provided as a part of the PMP if required.

13.5.3 Further mitigation at the construction phase will be considered within the CEMP.

13.6 Questions for Consultees

- Do consultees agree with the above methodology for assessing carbon emissions and savings as a result of the Proposed Development?

14 Other Issues

14.1 Shadow Flicker

Introduction

14.1.1 This section considers shadow flicker, which is a phenomenon that can occur when the blades of a wind turbine cover the sun for brief moments as they rotate. For an observer viewing this phenomenon through a narrow opening (such as a window from within the affected area), it can create a rapid change in luminance, appearing as if the light is being 'flicked' on and off each time a blade passes in front of the sun.

Assessment Methodology

14.1.2 Potential for shadow flicker impacts will be assessed at all residential receptors within the shadow flicker study area. The shadow flicker study area includes the area within a distance of 11 times the rotor diameter in accordance with The Highland Council Onshore Wind Energy Supplementary Guidance (2017). The study area will be determined once all turbine positions are fixed at design freeze.

14.1.3 The affected area is constrained in size and shape by astronomic and geometric parameters, such as the trajectory of the sun and the position and dimensions of the wind turbine. For a fixed observer, the occurrence of shadow flicker from a given wind turbine is generally limited to daylight hours during certain periods of the year and during certain times of the affected days. It is possible to predict when, where and for how long shadow flicker could theoretically occur.

14.1.4 Residential receptors within the study area, as described above, will be identified and assessed for the potential to be affected by shadow flicker.

14.1.5 The assessment will present clear findings on the estimated number of hours of shadow flicker effects predicted for each receptor. Where required, potential mitigation measures will be discussed, including screening or, if necessary, shutting down turbines for those periods of time when shadow flicker is predicted to occur.

14.1.6 No impacts are anticipated during construction or decommissioning.

Questions for Consultees

- Do the consultees agree with the proposed assessment methodology?

14.2 Telecommunications

Introduction

14.2.1 This section considers potential issues associated with telecommunications from the Proposed Development during construction, operation and decommissioning phases.

Assessment Methodology

14.2.2 Wind turbines can cause interference of electromagnetic signals through physical and electrical interference. Physical interference can cut across electromagnetic signals resulting in a ghosting effect which largely affects television and radar. Electrical interference may arise from operation of the generator within the nacelle of the turbine and can also affect communication equipment in proximity to the turbines. Where possible, any potential effects on electromagnetic signals will be mitigated during the turbine layout design with the application of exclusion zones around any electromagnetic links.

Television and Radio

14.2.3 Digital television signals are much better at coping with signal reflections than analogue television signals and do not suffer from ghosting (Ofcom, 2009). Given the strength of the digital signal in the area and the inherently resilient nature of digital television reception, there is considered to be a low risk of any interference from a wind energy development at this location on domestic television reception.

14.2.4 Broadcast radio (FM, AM and DAB digital radio) are transmitted on lower frequencies than those used by terrestrial television signals. Lower frequency signals tend to pass through obstructions more easily than the higher frequency signals, and diffraction effects also become more significant at lower frequencies. Both these factors will tend to lessen the impact of new structures on broadcast radio (Ofcom, 2009).

14.2.5 It is therefore proposed that an assessment of potential effects on television and radio is scoped out of the EIA.

Fixed Links and Other Operations

14.2.6 Ofcom is responsible for the licensing of two-way radio transmitters. It holds a register of most fixed links and will therefore be consulted to establish baseline conditions. However, because not all fixed links are published, system operators will also be individually consulted on the potential for the Proposed Development to cause electromagnetic interference. An assessment will be made as to the significance of potential operational effects and where appropriate, suitable mitigation measures will be identified. The outcome of this assessment will be detailed in the EIA Report. If other operations, besides fixed links, are identified in communication with operators, these will be discussed and mitigated as necessary.

Questions for Consultees

- Do the consultees agree with the proposed assessment methodology?

14.3 Aviation and Radar

Introduction

14.3.1 The EIA Report will include a description of military and civilian aeronautical and radar issues relating to the Proposed Development.

14.3.2 Radar systems can be susceptible to interference from wind turbines as the blade movement can cause intermittent detection by radars within their operating range. This is particularly relevant where there is a radar line of sight between the radar and the wind turbines. Due to their height, wind turbines can also impact airports and airfields if they protrude into the safeguarding areas above and around them.

Consultation

14.3.3 Consultation has been initiated with the Defence Infrastructure Organisation (DIO) which indicated in March 2023 that, based on the pre-application proforma, the Ministry of Defence (MOD) would be unlikely to object to the impact on low flying aircraft. However, the MOD is likely to request lighting and charting conditions. Further liaison will be undertaken with the MOD and other aviation stakeholders up to the point that the locations of the wind turbines have been finalised. The EIA Report will present the findings of these consultations and all responses received, as well as any predicted impacts on aviation and mitigation required.

Baseline

14.3.4 There are few aviation interests in the area that could potentially be affected by the Proposed Development. Initial assessments indicate that low flying operations in the military low flying area 14 (LFA14), may be impacted, as shown in **Plate 14.1**. It is unlikely there will be any impact on radar stations or aviation operations given the closest aerodrome is 85.4 km away.

14.3.5 Consultation will be undertaken as necessary with civil and military aviation stakeholders to agree if any mitigation measures are necessary.

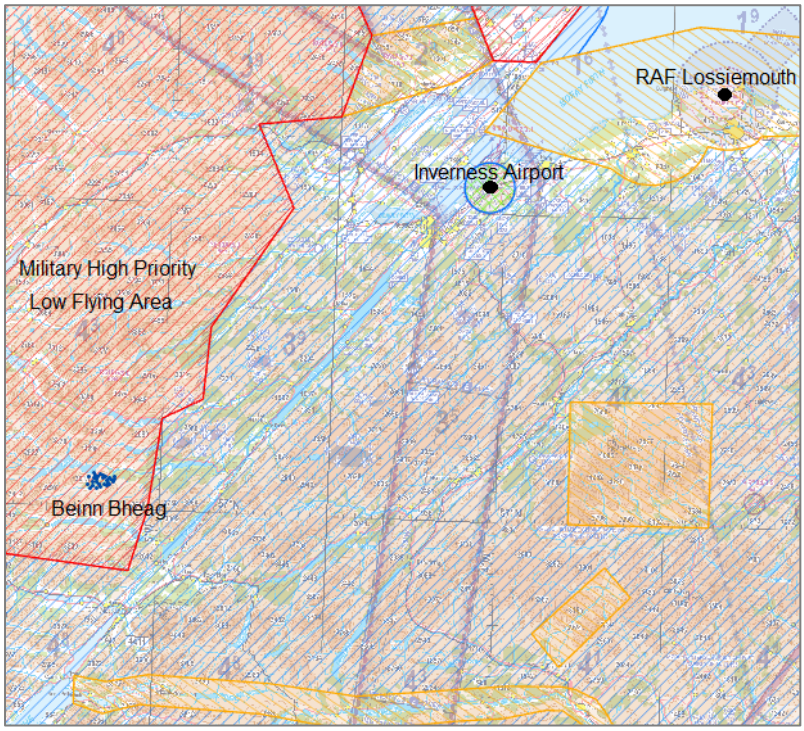

Plate 14.1: Potential aviation impacts and receptor locations

Mitigation

The UK Air Navigation Order (ANO) 2016, Article 222, sets out the statutory requirement for the lighting on en-route obstacles, which applies to structures of 150 m or more above ground level. A visible lighting scheme will be agreed with the CAA. The MOD is likely to request an infra-red lighting scheme for low flying military aircraft in the area and this will be agreed through consultation with the MOD.

Questions for Consultees

- Do consultees agree with the approach to aviation and radar interests proposed?

14.4 Socio-economics

Introduction

14.4.1 BiGGAR Economics has been commissioned to undertake an assessment of the socio-economic and tourism elements of the Proposed Development. Socio-economic and tourism assessments of onshore wind farms over the last decade have found no adverse effects assessed as significant in terms of the EIA Regulations and there is no reason to expect significant effects for the Proposed Development. It is therefore proposed to scope socio-economics and tourism out of the EIA.

14.4.2 It is recognised that socio-economic and tourism issues will be of interest to stakeholders and local authorities. A separate Economic and Community Impact Report will be provided and submitted with the consent application to ensure these matters are

appropriately addressed in a format that is accessible to these stakeholders. This Economic and Community Impact Report will include consideration of local tourism activity, direct effects such as employment generation, and any indirect or induced effects from the Proposed Development. The Economic and Community Impact Report will also consider whether the Proposed Development maximises net economic benefit, in the context of Policy 11c of the fourth National Planning Framework (NPF4) and the role that the Proposed Development will have in maximising community wealth building opportunities.

14.4.3 This section describes what will be considered in the separate Economic and Community Impact Report and the approach that will be taken.

Baseline Description

14.4.4 The study areas of the socio-economic and tourism assessment will be selected to meet the interests of key stakeholders and will be made of predefined geographies. The baseline assessment will include a summary of the economic performance data and a description of the relevant tourism assets that will be covered in the assessment.

14.4.5 The baseline description will cover and compare the study areas of:

- Highland (The Highland Council area); and
- Scotland.

14.4.6 The population of Highland was 238,100 in 2021 (2.7 % of the Scottish total), of which 61 % were working age, lower than the figure for Scotland of 64 %. Between 2021 and 2043, the population is projected to decrease by 2.0 %, compared to a 0.4 % increase for Scotland as a whole.

14.4.7 The proportion of the population that is economically active is significantly lower in Highland (74.2 %), compared to Scotland as a whole (77.1 %), while the unemployment rate is 3.7 % compared to 3.5 % nationally.

14.4.8 The main sectors of employment are human, health and social work activities (16 % of employment in Highland compared to 15 % in Scotland), wholesale and retail trade (14 % across both Highland and Scotland) and agriculture, forestry and fishing (11 % compared to 3 % nationally). The share of employment in construction in Highland is 7 %, higher than the Scottish average (6 %).

14.4.9 In Highland, around 13 % of employment is in the sustainable tourism sector, which is higher than the proportion in Scotland as a whole (10 %). This indicates the importance of tourism in the area surrounding the Proposed Development.

14.4.10 The socio-economic and tourism baseline will be expanded on in the Economic and Community Impact Report through a review of publicly available data sources which include:

- the population characteristics of the local area, including local and national demographic trends;
- deprivation statistics set within a national context;
- employment and economic activity in the local area within the context of the national economy;
- wage levels in the local area compared to the national level;

- the industrial structure of the local economy compared to the national level; and
- the role of the tourism sector in the local economy.

Legislation, Policy and Guidance

14.4.11 There is no specific legislation or guidance on the methods that should be used to assess the socio-economic impacts of a proposed onshore wind farm development. There is also no formal legislation or guidance on the methods that should be used to assess the effects that wind farm developments may have on general tourism interests. In relation to socio-economic assessment, the proposed method of assessment is based on established best practice, including that used in the UK Government and industry reports on the sector. In particular, the assessment will draw from two studies by BiGGAR Economics on the UK onshore wind energy sector:

- a report published by RenewableUK and the Department for Energy and Climate Change (DECC) in 2012 on the direct and wider economic benefits of the onshore wind sector to the UK economy; and
- a subsequent update to this report published by RenewableUK in 2015.

14.4.12 In addition, more recent industry data on the onshore wind sector and its supply chain. In relation to assessment of tourism impacts, the proposed method will consider specific attractions or tourism facilities to assess if there could be any effects from the Proposed Development as a result of changes to visitor behaviour.

14.4.13 The socio-economic and tourism assessment will take account of the relevant local and national policy objectives as contained in the following strategies:

- Scottish Government (2022), Scotland's National Strategy for Economic Transformation;
- Scottish Government (2023), Scotland's National Performance Framework;
- Scottish Government (2021), Local Energy Policy Statement;
- Scottish Government (2022), Onshore Wind Policy Statement;
- Scottish Government (2023), Onshore Wind Sector Deal;
- Highlands and Islands Enterprise (2023), Strategy 2023-28; and
- Scottish Tourism Alliance (2021), Scotland Outlook 2030.

14.4.14 It is also essential to take into consideration NPF4, the national spatial strategy for Scotland. The document considers:

- Scotland's spatial principles;
- National planning policy;
- National developments; and
- Regional priorities.

14.4.15 In the context of energy generation, Policy 11 of NPF4 is relevant to the socio-economic impact of the Proposed Development. Paragraph (c) states that "development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities". The socio-economic impact analysis will conclude on whether the Proposed Development maximises the net economic impact in the context of this NPF4 Policy 11(c).

14.4.16 Paragraph (d) of Policy 11 sets out a number of impacts that should be addressed during project design and mitigation, but excludes tourism.

14.4.17 NPF4 does not require consideration of tourism when assessing net economic impact or in the project design and mitigation process. However, relevant employment statistics show that in the Highlands, the employment in the sustainable tourism sector accounts for a higher percentage of total employment (13%) compared to Scotland as a whole (10%). This indicates the importance of tourism in the local area surrounding the Proposed Development. It is recognised that local stakeholders may be interested in the potential impact. Thus, a tourism assessment will be included in the Economic and Community Impact Report.

Assessment Methodology

14.4.18 It is anticipated that the Economic and Community Impact Report will include:

- introduction;
- economic development and tourism strategic context;
- baseline socio-economic context;
- baseline tourism context;
- socio-economic impact assessment;
- tourism impact assessment;
- proposed measures and actions to maximise local economic and community impacts; and
- summary of findings and conclusion.

14.4.19 This will primarily be a desk-based study with consultation undertaken by the Applicant with the local community to further inform the baseline and any opportunities from the Proposed Development which may arise.

14.4.20 The assessment of socio-economic effects will be based on industry best practice and will consider the share of contracts that can be secured in each study area listed in Section 14.4.5, and the level of employment that can be supported as a result.

14.4.21 In order to assess effects on tourism, the features that make the local area distinctive and attractive will be identified and the potential impact of the Proposed Development on those key features will be assessed.

Mitigation

14.4.22 Proposed mitigation measures will depend on the findings of the socio-economic and tourism assessment. Measures that may be adopted to enhance the socio-economic and tourism benefits of the Proposed Development include:

- engaging early with the local community and local businesses;
- providing clear information on technical requirements that can allow businesses to prepare; and
- incentivising Tier 1 suppliers to engage with local businesses.

14.4.23 Other measures will be identified in the Economic and Community Impact Report.

Potential Effects

14.4.24 The effects that will be considered in this assessment will include the potential socio-economic and tourism effects associated with the Proposed Development.

14.4.25 An economic impact analysis will be undertaken using the methodology developed by BiGGAR Economics which has been used to assess over 150 onshore wind farms across the UK. The potential socio-economic effects that will be considered are:

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

14.4.26 This will include the potential number of jobs and economic activity associated with the development, construction, operation and decommissioning of the Proposed Development.

14.4.27 The link between onshore wind energy developments and the tourism sector has been a subject of debate. Based on the most recent research undertaken by BiGGAR Economics and published in 'Wind Farms & Tourism Trends in Scotland: Evidence from 44 Wind Farms' (2021), there is no link between tourism employment and visitor numbers and onshore wind development. This research identified 16 wind farms with a capacity of at least 10 megawatts (MW) that became operational between 2015 and 2019. Analysis of trends in tourism employment in the locality of the wind farms (15 km radius) found that 11 of the 16 areas had experienced more growth in tourism employment than for Scotland as a whole. For 13 of the 16 windfarms, trends in tourism employment in the locality had outperformed the local authority in which they were based.

14.4.28 This research was an update of previous work undertaken by BiGGAR Economics as reported in 'Wind Farms and Tourism Trends in Scotland: A Research Report' (2017) which considered 28 wind farms constructed between 2009 and 2015 and the trends in tourism employment in the areas local to these developments. The analysis found that there was no relationship between the development of onshore wind farms and tourism employment at the level of the Scottish economy, at the local authority level or in the areas immediately surrounding the wind farm developments.

14.4.29 The tourism sector is an important contributor to the Scottish economy, and particularly in Highland where the sustainable tourism sector accounts for 13 % of the total employment, which is higher than the relative proportion in Scotland (10 %). Therefore, there is merit in considering whether the Proposed Development will have any effect on tourism behaviour and the tourism economy. The tourism assessment will consider the potential effects that the Proposed Development could have on tourism following a more focussed approach on effects related to key tourist attractions and assets.

Matters Scoped out of EIA

14.4.30 As evidenced in this section, socio-economic and tourism assessments of onshore wind farms over the last decade have found no adverse effects assessed as significant in terms of the EIA Regulations. There is no reason to expect significant effects for the Proposed Development. It is therefore proposed to scope socio-economics and tourism out of the EIA and instead produce a standalone socio-economic and tourism assessment.

Questions for Consultees

- Do you agree that the scope of the proposed assessment is appropriate?
- Are there specific socio-economic and tourism effects that should be considered?

15 Summary

15.1.1 This EIA Scoping Report outlines the proposed technical and environmental assessments that will be included within the EIAR for the Proposed Development. The proposed scope and methodologies for each assessment have been provided and the guidance to be followed set out. Should any further information be required in order that a full EIA Scoping Opinion can be provided we would be happy to provide further information and/or discuss any further requirements.

15.1.2 A summary of the topics to be scoped in or out of EIA is noted in **Table 16.1.**

Table 16.1 Summary of EIA topics scoped in or out

EIA Topics	Scoped In or Out
Landscape and Visual	Scoped In
Archaeology and Cultural Heritage[9]	Scoped Out
Ecology	Scoped In
Ornithology	Scoped In
Geology, Hydrology and Hydrogeology	Scoped In
Transport and Access	Scoped In
Acoustics	Scoped In
Forestry	Scoped In
Carbon Balance	Scoped In
Shadow Flicker	Scoped Out
Telecommunications	Scoped Out
Aviation and Radar	Scoped Out
Socio-economics[10]	Scoped Out

[9] A Heritage Impact Assessment Report will be provided with the consent application.
[10] An Economic and Community Impact Report will be provided with the consent application.

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