



# Carn na Saobhaidh Wind Farm

## Scoping Report

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Author	RES
Date	01 August 2024
Ref	405.064997.00001

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# Contents

Abbreviations.....	i
1 Introduction.....	1
2 Environmental Impact Assessment.....	5
3 Site Description.....	9
4 Description of the Proposed Development.....	11
5 Legislation, Energy Policy and Planning Policy Context.....	19
6 Landscape and Visual.....	23
7 Cultural Heritage and Archaeology.....	45
8 Ecology.....	64
9 Ornithology.....	81
10 Geology, Hydrology and Hydrogeology.....	98
11 Traffic and Transport.....	116
12 Acoustics.....	122
13 Socio-economics.....	126
14 Other Considerations.....	132
15 Summary.....	146
Appendix A Figures	
Appendix B Consultee List	
Appendix C Cultural Heritage Appraisal	

## Abbreviations

Term	Definition
ANO	Air Navigation Order
AOD	Above Ordnance Datum
AU	Assessment Unit
AWI	Ancient Woodland Inventory
AST	Above-ground storage tank
ATC	Automatic Traffic Counter survey
BDMP	Bird Disturbance Management Plan
BESS	Battery Energy Storage System
BGS	British Geological Society
BS	British Standard
CAA	Civil Aviation Authority
CAR	Controlled Activities (Scotland) Regulations 2011 (as amended)
CBA	Carbon Balance Assessment
CCC	Committee on Climate Change
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CNP	Cairngorm National Park
COP	Conference of Parties
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DRP	Decommissioning and Restoration Plan
DTM	Digital Terrain Model
DWPA	Drinking Water Protected Area
EC	European Commission
EclA	Ecological Impact Assessment
ECoW	Environmental Clerk of Works
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EU	European Union
GDL	Garden and Designed Landscape
GET	Golden Eagle Topographical model
GLVIA3	Guidelines for Landscape and Visual Impact Assessment: Third Edition
GPP	Guidance for Pollution Prevention

Term	Definition
GWDTE	Ground Water Dependent Terrestrial Ecosystem
HER	Historic Environment Record
HES	Historic Environment Scotland
IEFs	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment
IFA	Institute for Archaeologists
IMFLDP1	The Inner Moray Firth Local Development Plan 1
IMFLDP2	The Inner Moray Firth Local Development Plan 2
IOA	Institute of Acoustics
IOFs	Important Ornithological Features
IPCC	Intergovernmental Panel on Climate Change
JNCC	Joint Nature Conservation Committee
LCT	Landscape Character Type
LDP	Local Development Plan
LI	Landscape Institute
LUPS	Land Use Planning System SEPA Guidance
LVIA	Landscape and Visual Impact Assessment
MOD	Ministry of Defence
MSS	Marine Scotland Science
NBN	National Biodiversity Network
NCR	National Cycle Route
NHZ	Natural Heritage Zone
NP	National Park
NPG4	National Planning Framework 4
NSA	National Scenic Areas
NVC	National Vegetation Classification
oBEMP	Outline Biodiversity Enhancement Management Plan
OWPS	Onshore Wind Policy Statement
PAN	Planning Advice Note
PIRP	Pollution Incident Response Plan
PMP	Peat Management Plan
PWS	Private Water Supply
RBMP	River Basin Management Plan
RCP	Representative Concentration Pathway
RSPB	Royal Society for the Protection of Birds
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation

Term	Definition
SEPA	Scottish Environmental Protection Agency
SLA	Special Landscape Areas
SNH	Scottish Natural Heritage (now NatureScot)
SPA	Special Protection Area
SPP	Specific Protection Plan
SSSI	Site Special Scientific Interest
THC	The Highland Council
UK	United Kingdom
UKCP18	The UK Climate Projections 2018
VP	Vantage Point
WELSPS	The Dava Moor, Nairn and Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study
WEWS	The Water Environment and Water Services (Scotland) Act 2003
WFD	Water Framework Directive
WLA	Wild Land Areas
WMP	Water Management Plan
ZTV	Zone of Theoretical Visibility

# 1 Introduction

## 1.1 Background and Context

- 1.1.1 RES ('the applicant') is intending to apply to Scottish Ministers for consent under Section 36 of the Electricity Act 1989 (as amended) to construct and operate a wind farm (the 'proposed development'), on land located in the Monadhliath Mountains.
- 1.1.2 The location of the proposed development (hereafter referred to as 'the site') is within the administrative boundary of The Highland Council (THC). It is located adjacent to, and north-east of, the under construction Aberarder Wind Farm, south-east of the B851 and approximately 22 km south of Inverness. The general site location is shown on **Figure 1.1** in **Appendix A**.
- 1.1.3 The proposed development will have an installed generational capacity in excess of 50 megawatts (MW). It is anticipated that the proposed development will comprise of up to 29 wind turbines with a likely blade tip height of 200 m.
- 1.1.4 The proposed development will constitute a Schedule 2 development as set out in the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations') by virtue of being a generating station requiring Section 36 consent, but which is not Schedule 1 development. The applicant considers that the proposed development would be of a size and nature that has the potential for significant environmental effects. The applicant therefore proposes to undertake an Environmental Impact Assessment (EIA) and submit an EIA Report in support of the Section 36 application.
- 1.1.5 This document forms the Scoping Report submitted to Energy Consents Unit (ECU) in order to request a 'Scoping Opinion' from the Scottish Ministers, on the EIA of the proposed development.

## 1.2 Need for Development

- 1.2.1 The science behind climate change is well established and points strongly towards a need to reduce our reliance on fossil fuels in order to avoid adverse economic, environmental, and social effects. International and European commitments to reducing CO<sub>2</sub> and tackling climate change have been made by all major economies. In response to these issues the UK has

made significant, legally binding commitments to increase the use of renewable energy.

- 1.2.2 In May 2019 the Scottish Government announced its intention to set a legally binding goal to achieve net-zero greenhouse gas emission by 2045 at the latest (Scottish Government, 2019<sup>1</sup>) and THC declared a climate and ecological emergency in May 2019 (THC, 2019<sup>2</sup>). The proposed development relates directly to both the need and those commitments.

## 1.3 Purpose of the Scoping Report

- 1.3.1 Undertaking an EIA Scoping study is regarded as good practice<sup>3</sup> and is considered to be an important step in the EIA as it allows all parties involved in the process to agree on key environmental issues relevant to the proposed development and to agree the methodology used for their assessment. The Scoping stage seeks to engage the determining authority and other stakeholders at an early stage in the planning process; and ensures that key opinions, based on local understanding, are identified.
- 1.3.2 The specific aims of this Scoping Report are:
- to identify the technical subject areas that may be subject to significant environmental effects, as a result of the proposed development proceeding, and which would therefore require further study;
  - to identify the technical subject areas that are unlikely to be subject to significant environmental effects and can therefore be scoped out of further study;
  - to provide a basis for the consultation process to agree the scope and content of the EIA with the ECU;
  - to provide a basis for the agreement of methodologies to undertake required studies with the ECU, based upon currently available baseline data; site characteristics and best practice across the technical disciplines; and
  - provide all statutory consultees, non-statutory consultees and interested parties, as listed in **Appendix B**, with an opportunity to comment on the proposed development at an early stage.

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<sup>1</sup> Scottish Government (2019). Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Available at: <https://www.legislation.gov.uk/asp/2019/15/enacted>.

<sup>2</sup>The Highland Council (2019). Meeting minutes of the Highland Council, 9 May 2019. Available at: [https://www.highland.gov.uk/meetings/meeting/4119/highland\\_council/attachment/75435](https://www.highland.gov.uk/meetings/meeting/4119/highland_council/attachment/75435).

<sup>3</sup> SNH (2013) A Handbook on Environmental Impact Assessment 4th Edition.

- 1.3.3 Upon receipt of the Scoping Opinion the applicant will continue the EIA process that will lead to the preparation of an EIA Report, paying due cognisance to the findings and responses received. In the 2017 version of the Environmental Impact Assessment (EIA) Directive (2014/52/EU), scoping remains voluntary, however, if a Scoping Opinion is requested, there is a requirement to base the EIA on the Scoping Opinion received.

## 1.4 Notice of Intention

- 1.4.1 The applicant hereby gives the ECU notice in writing that it intends to make an application for consent (as detailed above), and to accompany such an application with an EIA Report. This notice, made pursuant to Regulation 17 of the EIA Regulations, includes information necessary to identify the location, the nature and purpose of the proposed development, and indicates the main environmental consequences to which the applicant proposes to refer to in its EIA.

## 1.5 The Applicant

- 1.5.1 RES is the world's largest independent renewable energy company active in onshore and offshore wind, solar, energy storage, biomass, green hydrogen, transmission and distribution. At the forefront of the industry for 40 years, RES has delivered more than 26 GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 41 GW of renewable energy projects across the globe for a large client base. Understanding the unique needs of corporate clients, RES has secured 1.5 GW of power purchase agreements (PPAs) enabling access to energy at the lowest cost. RES employs more than 4,500 people and is active in 24 countries.
- 1.5.2 RES is a privately-owned British company with a proud history in Scotland. From its Glasgow office RES has been developing, constructing and operating wind farms in Scotland since 1993. To date, this includes the development and/or construction of 22 wind farms in Scotland with a total generation capacity of 660 MW.

## 1.6 SLR Consulting Limited

- 1.6.1 SLR is a Registered Environmental Impact Assessor and Member of the Institute of Environmental Management and Assessment (IEMA) and holder of the EIA Quality Mark (<http://www.iema.net/qmark>). SLR is also a Registered Organisation validated by the Institute for Archaeologists (IfA),



a member of the Association of Geotechnical and Geoenvironmental Specialists, and a Landscape Institute (LI) Registered Practice.

- 1.6.2 The company has significant experience and expertise in the preparation of planning applications and Section 36 Electricity Act applications and undertaking EIA for a wide variety of projects. SLR's environmental specialists, have the skills and relevant competency, expertise and qualifications to undertake EIA for the proposed development.
- 1.6.3 Further information on SLR can be found on its corporate website at <https://www.slrconsulting.com>.

## 1.7 Project Team

- 1.7.1 SLR have been commissioned by the applicant to co-ordinate the EIA for the proposed development and provide planning, cultural heritage and landscape and visual inputs. Inputs are also provided from specialist consultants MacArthur Green (Ecology and Ornithology), Natural Power (Geology & Hydrology), Systra (Traffic and Transport), BiGGAR Economics (Socioeconomics), and McMillan Consultancy (Community and Communications).

## 2 Environmental Impact Assessment

### 2.1 Approach to EIA

- 2.1.1 The EIA Regulations require that before consent is granted for certain types of development, an EIA must be undertaken. The Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments which may require EIA if they are above certain thresholds and are likely to give rise to significant environmental impacts (Schedule 2 development).
- 2.1.2 The proposed development falls within Schedule 2 of the EIA Regulations and has the potential to have some significant environmental effects. Therefore, it is the opinion of the applicant that the proposed development qualifies as ‘EIA Development’ and therefore the applicant will submit an EIA Report, in support of a Section 36 application to the Scottish Ministers.
- 2.1.3 EIA is an iterative process which identifies the potential environmental effects that in turn inform the eventual design of the proposed development. It seeks to avoid, reduce, offset and minimise any adverse environmental effects through mitigation. It takes into account the effects arising during the construction, operation and decommissioning phases. Consultation is an important part of the EIA process and assists in the identification of potential effects and mitigation measures.
- 2.1.4 The EIA for the proposed development will be undertaken in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (the EIA Regulations)<sup>4</sup>, Circular 01/2017<sup>5</sup> (Scottish Government, 2017), the best practice guidelines of the Institute of Environmental Management and Assessment (Guidelines for Environmental Impact Assessment)<sup>6</sup> published in 2004 and the Scottish Natural Heritage (SNH; now NatureScot) Handbook on EIA published in 2018. Other topic specific specialist methodologies and good practice guidelines will be drawn on as necessary.

<sup>4</sup> Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (the EIA Regulations) - <https://www.legislation.gov.uk/ssi/2017/101/contents/made>

<sup>5</sup> Scottish Government, Planning Circular 01/2017 - <https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/>

<sup>6</sup> Institute of Environmental Management and Assessment (Guidelines for Environmental Impact Assessment) 2004 - <https://www.thenbs.com/PublicationIndex/documents/details?DocId=267357#:~:text=Guidelines%20for%20environmental%20Impact%20Assessment%201%20Publication%20Year,Information%20Institute%20of%20Environmental%20Management%20and%20Assessment%20>

## 2.2 Purpose of EIA Scoping

- 2.2.1 The EIA Regulations provides for potential applicants to ask Scottish Ministers to state in writing the information that should be provided within the EIA Report. The Scoping Opinion is to be offered following discussion with the consultation bodies.
- 2.2.2 The applicant recognises the value of the scoping approach, and the purpose of this Scoping Report is to ensure that relevant issues are identified and to confirm that the assessment process described will meet legislative requirements.
- 2.2.3 This Scoping Report:
- describes the existing site and its context;
  - establishes the format of the EIA Report;
  - provides baseline information; and
  - describes key issues and the proposed assessment methodologies for various technical assessments to be covered in the EIA Report.
- 2.2.4 In addition, each technical section concludes by listing the key questions we would like the Scoping Opinion to answer.
- 2.2.5 This Scoping Report will be issued to the Scottish Ministers via the ECU, who will seek opinions from a range of statutory and non-statutory consultees. Where requested, the report can be made available to other interested parties.

## 2.3 The EIA Report

- 2.3.1 The structure of the EIA Report will follow the requirements of EIA (Scotland) Regulations 2017 and other relevant good practice guidance. Essentially, the EIA Report will comprise the following volumes:
- Volume 1 - EIA Report Main Text;
  - Volume 2 - Figures and Visualisations;
  - Volume 3 - Technical Appendices; and
  - Volume 4 - Non-Technical Summary.

The following supporting documents will accompany the Section 36 applications:

- Planning Statement;
- Design and Access Statement;
- Pre-Application Consultation Report; and
- Socio-Economic Report.

### 2.3.2 Volume 2 will comprise of the following chapters:

- Introduction;
- EIA Process;
- Design Evolution;
- Description of the Proposed Development;
- Landscape and Visual Impact Assessment;
- Cultural Heritage Assessment;
- Ecology Assessment;
- Ornithology Assessment;
- Geology, Hydrology and Hydrogeology Assessment;
- Traffic and Transport Assessment;
- Acoustics Assessment;
- Other Considerations including Aviation and Radar, and Climate and Carbon Balance; and
- Schedule of Mitigation.

### 2.3.3 Each technical chapter will include, as a minimum, the following sections:

- Introduction;
- Legislation, Policy and Guidance;
- Consultation;
- Assessment Methodology;
- Baseline Conditions;
- Environmental Design Measures;
- Assessment of Potential Effects;
- Additional Mitigation;
- Assessment of Residual Effects;
- Assessment of Cumulative Effects;
- Summary.

## 2.4 EIA Report Format

- 2.4.1 The EIA Report will be made available online, on USB flash drive and hard copy although in the interest of sustainability the applicant would encourage take up of the online format.

## 2.5 Consultation

- 2.5.1 The applicant is committed to undertaking meaningful consultation with the local community and stakeholders. Albeit not a requirement for applications under Section 36 of the Electricity Act 1989, the applicant

aims to apply the principles of the consultation process recommended for ‘major’ planning applications as set out in The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 and Circular 3:2022 - Development Management Procedures. This enables the local community and all those with an interest in the proposals to have a clear opportunity to view the proposals, and importantly provide comment and feedback.

- 2.5.2 During the development phase, a website for the proposed development will be maintained, with at least two rounds of in-person public exhibitions taking place. These events will be advertised locally, with a phone number, email and postal address established to receive comment and feedback. It is also anticipated that meetings will take place with the neighbouring community councils, local residents and interested parties.
- 2.5.3 Consideration will be given to ensure that engagement methods reflect varying levels of access to technology.
- 2.5.4 A list of all statutory consultees, non-statutory consultees and interested parties who will be notified of the proposed development is set out in **Appendix B**.

## 3 Site Description

### 3.1 Site and Surrounding Area

- 3.1.1 The area bounded by the site boundary (red line) on **Figure 1.1** in **Appendix A** shall be referred to as ‘the site’. The Ordnance Survey (OS) grid reference of the approximate centre of the site is E267000, N823000.
- 3.1.2 The centre of the site is located approximately 10 km south of Farr and 14 km west-south-west of Tomatin in the Monadhliath Mountains and is located on three estates, namely Aberarder, Glenmazeran, and Glenkyllachy.
- 3.1.3 The site will be adjacent to, and just north-east of, Aberarder Wind Farm (in construction). The operational Dunmaglass Wind Farm is located south-west, while Farr and Glen Kyllachy Wind Farms are located north-east.
- 3.1.4 The site comprises open moorland in an upland environment with areas of marshland as indicated on OS mapping. Areas of mixed woodland are present within the site in lower altitude areas to the east and west. The site reaches its highest point, 737 m, at Carn a’ Chúil, which is located to the south of the proposed wind turbine locations. The site extends north, via the proposed access route, to the A9.
- 3.1.5 Various watercourses extend into the site, which mostly lies within the catchment of the River Findhorn and consists of the Kyllachy Burn and Glen Mazeran Burn sub-catchments to the south and east of the proposed wind turbine locations. However, a small area, to the north, also lies within the River Nairn catchment and consists of Allt Dearg and River Brin sub-catchments.
- 3.1.6 The current land use is a mix of livestock farming, commercial forestry and hunting sport.

### 3.2 Cumulative Development

- 3.2.1 Schedule 4, regulation 5 of the EIA Regulations details the information for inclusion in EIA Reports. Schedule 4, regulation 5 (e) states the following with respect to cumulative effects:

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

3.2.2 The current known cumulative sites within 45 km of the site are shown on **Figure 6.7** in **Appendix A**. The rationale for these sites is explained in section 6 of this Scoping Report.

## 4 Description of the Proposed Development

### 4.1 Need for the Development

4.1.1 The UK and Scottish Government have made a number of international and domestic commitments in respect of reducing emissions of greenhouse gases to combat climate change and commitments to renewable energy generation.

4.1.2 In May 2019, the Scottish Government formally declared a climate emergency, stating that:

*“There is a global emergency. The evidence is irrefutable. The science is clear. And people have been clear: they can expect action.”*

4.1.3 The declaration of a Climate Emergency resulted in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019<sup>7</sup>. This commits Scotland to a legally binding target for net zero emissions of all greenhouse gases by 2045 at the latest.

4.1.4 At the COP26 event held in Glasgow in November 2021 there was worldwide consensus on the severity of the current climate emergency, in particular recognition of the loss and damage that the current impacts of climate change are already having.

4.1.5 A large increase in the deployment of this renewable energy technology is supported through a number of UK level policy documents including the latest UK Energy White Paper (2020)<sup>8</sup> and Net Zero Strategy (2021)<sup>9</sup>. Scottish Government policy commitments are also clear - most recently expressed in the Onshore Wind Policy Statement (OWPS) (2022)<sup>10</sup> and in the adopted National Planning Framework 4 (NPF4) (2023)<sup>11</sup>, which will be key consideration in the determination of the application.

<sup>7</sup> Scottish Government (2019). Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Available at: <https://www.legislation.gov.uk/asp/2019/15/enacted> [Accessed May 2024]

<sup>8</sup> HM Government (2020). Energy White Paper: Powering our Net Zero Future. Available at: [https://assets.publishing.service.gov.uk/media/5fdc61e2d3bf7f3a3bdc8cbf/201216\\_BEIS\\_EWP\\_Command\\_Paper\\_Accessible.pdf](https://assets.publishing.service.gov.uk/media/5fdc61e2d3bf7f3a3bdc8cbf/201216_BEIS_EWP_Command_Paper_Accessible.pdf) [Accessed May 2024].

<sup>9</sup> HM Government (2021). Net Zero Strategy: Build Back Greener. Available at: <https://assets.publishing.service.gov.uk/media/6194dfa4d3bf7f0555071b1b/net-zero-strategy-beis.pdf> [Accessed May 2024].

<sup>10</sup> Scottish Government (2022). Onshore Wind Policy Strategy. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/12/onshore-wind-policy-statement-2022/documents/onshore-wind-policy-statement-2022/onshore-wind-policy-statement-2022/govscot%3Adocument/onshore-wind-policy-statement-2022.pdf> [Accessed May 2024].

<sup>11</sup> Scottish Government (2023). National Planning Framework 4. Available at <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf> [Accessed May 2024].



- 4.1.6 The key points which can be drawn from the OWPS include:
- The central requirement for a rapid transition to net zero and the crucial role of further onshore wind development in achieving legally binding targets, especially through the 2020s;
  - Unequivocal Scottish Government policy support for the future role of onshore wind;
  - The urgency of the Climate Emergency and the scale of the necessary ambition - there is express recognition in the OWPS of the need for *“decisive and meaningful action”*, *“further and faster”* delivery and that continued deployment of onshore wind will be key to ensuring our 2030 targets are met;
  - The OWPS sets out a new ambition for the deployment of onshore wind in Scotland of *“A minimum installed capacity of 20GW...by 2030”* and recognition that *“This ambition will help support the rapid decarbonisation of our energy system, and the sectors which depend upon it, as well as aligning with a just transition to net zero whilst other technologies reach maturity”*; and
  - The OWPS is clear that rapid transformation is required across all sectors of our economy and society in order to meet climate targets. *“Meeting the ambition of a minimum installed capacity of 20GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape”*.
- 4.1.7 To meet this 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.
- 4.1.8 The proposed development is needed to meet these climate change and renewable energy commitments, to provide greater energy security and to meet rising electricity demands.

## 4.2 The Proposed Development

- 4.2.1 This section describes the proposed development and provides information on its location, physical characteristics, proposed components and design. The wind turbine and infrastructure layout will be subject to an iterative design process as part of the EIA.
- 4.2.2 Careful consideration has been given to the provisional layout of the proposed development. The design will evolve as the EIA progresses,

taking into account environmental and technical constraints and feedback obtained during consultation with key consultees and the local community.

4.2.3 It is currently anticipated that the proposed development would consist of up to 29 wind turbines with a maximum blade tip height of up to 200 m and an associated battery energy storage system. An indicative layout of the proposed development is shown on **Figure 4.1** in **Appendix A**.

Although the proposed development will be optimised through the EIA and conceptual design process, based on preliminary feasibility work, it is anticipated that proposed infrastructure would likely include the following components:

- up to 29 three-bladed horizontal axis wind turbines of up to 200 m tip height;
- associated low to medium voltage transformers and related switchgear would be located at each wind turbine;
- permanent wind turbine foundations;
- hardstand areas for erection cranes at each wind turbine location;
- a network of access tracks including watercourse crossings, passing places, turning heads and an access track and site entrance from the public road network;
- borrow pits (dependent on availability of stone within the site);
- a substation compound containing electrical infrastructure, control building, welfare facilities and meteorological and communications masts;
- a possible battery energy storage system (BESS) compound;
- a network of buried electrical and communication cables to be routed alongside the access tracks;
- felling and replanting of forestry;
- signage;
- habitat management and biodiversity enhancement; and
- temporary construction compounds including a concrete batching plant.

## 4.3 Wind Turbines

4.3.1 The proposed development will have an installed capacity of greater than 50 MW. A range of wind turbine models may be suitable for the proposed development. The choice of candidate wind turbine model for this application will be dependent on wind analysis and the findings of the relevant technical and environmental assessments to be undertaken. The

final choice of wind turbine model for construction will be dependent on the wind turbine economics and available technology at the time of procurement. For the purpose of scoping, wind turbines with a 200 m height to blade tip are being considered.

4.3.2 **Table 4.1** shows the current wind turbine specifications being considered, as well as the coordinates for the layout shown in **Figure 4.1** in **Appendix A**. This layout has been developed through an iterative process which has avoided known potential impacts as far as possible. The layout will continue to be refined during the EIA process and through further consultation. Any amendments to the design scoped here are unlikely to increase the likelihood of a significant effect. However, should any changes occur that are likely to result in a significant or unknown effect on an important feature previously scoped out, then this feature will be scoped back into the EIA process. Any changes will first be discussed with the relevant consultees, to ensure that they are in agreement before altering the scope of the EIA.

**Table 4.1: Turbine Coordinates and Indicative Specifications**

Wind Turbine ID	Easting	Northing	Tip Height (m)
T1	269201	824251	200
T2	269464	823916	200
T3	269875	823675	200
T4	270031	823218	200
T5	270292	822899	200
T6	269449	822648	200
T7	269245	823117	200
T8	268890	823375	200
T9	268412	823530	200
T10	268861	824520	200
T11	268109	824260	200
T12	267587	824374	200
T13	268016	823776	200
T14	267940	822989	200
T15	268418	822832	200
T16	268782	822582	200
T17	268569	822036	200
T18	268049	822292	200
T19	267513	822386	200

T20	267504	823183	200
T21	267184	823805	200
T22	266967	823286	200
T23	266483	822514	200
T24	267177	822650	200
T25	267347	821880	200
T26	267831	821696	200
T27	266879	821345	200
T28	266619	821665	200
T29	266526	822078	200

## 4.4 Electrical Layout and Grid Connection

- 4.4.1 The applicant has accepted an offer of connection to the National Grid at Tomatin Substation for April 2031, however the specific configuration of the grid connection between the proposed development and the grid network is not yet finalised. The grid connection route will be subject to a separate application under Section 37 of the Electricity Act 1989<sup>12</sup>.
- 4.4.2 Wind turbines will be electrically connected to each other via inter-array cable circuits. A substation compound, which would house transformer(s) and associated switchgear to convert the electricity generated by the wind turbines onto an appropriate voltage for onward transmission onto the National Grid.

## 4.5 Access

- 4.5.1 The wind turbine components would be delivered to the site from the A9, along existing tracks serving Farr and Glen Kyllachy Wind Farms and Glenkyllachy Estate. Some short sections of new access track will be required to connect the existing tracks, north and south of the U1116 (Farr - Garbole Road).
- 4.5.2 Construction traffic will access the proposed development either by the same route as the wind turbine components, from the A9, or directly from the U1116. Loads will then proceed to the proposed wind turbine locations using upgraded and new access tracks.

<sup>12</sup> The Electricity Act (2009), Section 37 - <https://www.legislation.gov.uk/ukpga/1989/29/section/37>

## 4.6 Battery Storage

- 4.6.1 Energy storage such as the use of batteries is being considered for inclusion as part of the proposed development. Battery storage would comprise a number of units with ancillary equipment such as inverters. The batteries could store excess power generated by the proposed development and release into the grid at a later date.

## 4.7 Borrow Pits

- 4.7.1 It is anticipated that borrow pits would be included as part of the proposed development. A review of suitability of materials on the site will be undertaken and borrow pit search areas will be identified as part of the borrow pit assessment. If appropriate areas are identified, a description of likely materials, borrow pit size and the ability to supply appropriate materials for the construction of the proposed development will be included.
- 4.7.2 Material for the construction of access tracks, hardstands and compounds would, where possible, be won from borrow pits. This approach would minimise transportation movements of stone to site. The location and design of borrow pits will be defined as part of the EIA process and site design.
- 4.7.3 Should a suitable borrow pit search area not be identified within the site, the applicant will need to make provision for the import of aggregate from a suitable off-site source.

## 4.8 Construction Phase

- 4.8.1 It is anticipated that the construction phase of the proposed development would be completed over a period of approximately 20-24 months.
- 4.8.2 Temporary compound(s) would be required during construction. The temporary compound(s) would include site cabins and welfare facilities for construction workers and could also be used as a laydown area for the delivery of some materials.
- 4.8.3 All statutory legislation will be fully complied with during construction and Scottish Environment Protection Agency (SEPA) best practice guidance and Pollution Prevention Guidelines<sup>13</sup> will be adhered to.

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<sup>13</sup> Scottish Environmental Protection Agency, Pollution Prevention and Control - <https://www.sepa.org.uk/regulations/pollutionprevention-and-control/>

- 4.8.4 Construction mitigation and environmental protection measures would be implemented via a Construction Environmental Management Plan (CEMP). In the event that the consent application for the proposed development is approved, the CEMP will be issued to THC for approval in consultation with NatureScot, prior to the commencement of construction work. An Outline CEMP will be prepared as part of the EIA Report and will include information on specific environmental requirements and construction good practice that will likely be included in the construction phase.
- 4.8.5 Relevant licenses, such as a Construction Site License, Controlled Activities Regulation (CAR) Licenses<sup>14</sup>, Simple License etc will be applied for as required prior to construction commencing.

## 4.9 Operational Phase

- 4.9.1 The assessments undertaken to inform the EIA will consider the operational phase of the proposed development as being 50 years.
- 4.9.2 Routine operational and maintenance work would be carried out as necessary.

## 4.10 Decommissioning Phase

- 4.10.1 At the end of the operational life, the proposed development would be decommissioned, or an application may be submitted to extend the life or repower the proposed development. The decommissioning period would take up to one year. Decommissioning effects would likely be similar to or less than those assessed during the construction phase.
- 4.10.2 The final decommissioning approach would be agreed with THC and other appropriate regulatory authorities in line with best practice guidance and requirements of the time. This would be done through the preparation and agreement of a Decommissioning and Restoration Plan (DRP). Should the proposed development gain consent, it is common for the financial provision for decommissioning to be in place before construction commences.
- 4.10.3 Over the period of operation of the wind farm it is recognised that there are likely to be changes in legislation and guidance, environmental designations, the status/condition of sensitive environmental receptors and stakeholder objectives that may affect decommissioning and

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<sup>14</sup> Scottish Environmental Protection Agency, Controlled Activities Regulation (CAR)-  
<https://www.sepa.org.uk/media/34800/introduction-to-the-controlled-activities-regulations.pdf>

restoration methodologies. The detailed DRP would reflect the scientific knowledge and best practice current at the time of decommissioning and restoration.

- 4.10.4 A high-level assessment of the decommissioning of the proposed development will be undertaken as part of the EIA, as at this stage the future baseline conditions cannot be predicted accurately and both the proposals for repowering/decommissioning and the future regulatory context are unknown. As decommissioning is in essence a reversal of the construction process, for a shorter period, the effects of decommissioning can in general be anticipated to be no greater than those arising from construction.

## 5 Legislation, Energy Policy and Planning Policy Context

### 5.1 Introduction

- 5.1.1 The EIA Report will provide an overview of the relevant legislative and planning policy context within each chapter topic. Each assessment will have regard to national and local planning policy requirements, where relevant. However, it is not proposed to include a technical chapter on Legislation, Energy Policy and Planning Policy Context in the EIA Report.
- 5.1.2 Instead, it is proposed that a separate Planning Statement will be submitted with the Section 36 application. The Planning Statement will set out the relevant legislative context, energy policy considerations, and planning policy context for the proposed development. The Planning Statement will provide an assessment of the proposed development in relation to the statutory Development Plan and other relevant material considerations, before weighing up the planning case for the proposals and providing a conclusion on the overall acceptability of the proposed development.
- 5.1.3 While the Planning Statement will not form part of the EIA Report, it will be informed by the conclusions of the EIA Report in assessing the proposed development against the provisions of the Development Plan and other relevant material consideration.

### 5.2 Legislative Context

#### The Electricity Act 1989

- 5.2.1 The proposed development would have an installed capacity of over 50 MW and as such, the application would be made pursuant to Section 36 of the Electricity Act 1989 (as amended).
- 5.2.2 Paragraph 3(2) of Schedule 9 of the Act requires the Scottish Ministers, in considering any relevant proposals for which their consent is required under Section 36, to have regard to:
- the desirability of the matters mentioned in paragraph 3(1)(a) of the Schedule; and,
  - the extent to which the person by whom the proposals were formulated has complied with his duty.



- 5.2.3 The matters mentioned in paragraph 3(1)(a) are: the desirability of preserving natural beauty, conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historical or archaeological interest.
- 5.2.4 The duty under paragraph 3(1)(b) requires the person who formulated the proposals to do what they reasonably can to mitigate any effect that the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects. Sub-paragraph 1 can be relevant to an applicant if they hold a License at the date a Section 36 application is made.
- 5.2.5 The Act does not say that these are the only matters to be considered. Scottish Ministers will take into account other matters which would be material to their decision. These will include national energy policy, national and local planning policy as well as the full scope of the environmental information submitted with the application.

### The Town and Country Planning (Scotland) Act 1997

- 5.2.6 The principal planning statute in Scotland is the Town and Country Planning Act (Scotland) 1997 (as amended) (the ‘Planning Act’). Section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended) states that:
 

*“On granting or varying a consent under section 36 or 37 of the Electricity Act 1989, the Scottish Ministers may give a direction for planning permission to be deemed to be granted, subject to such conditions (if any) as may be specified in the direction, for—*

  - (a) so much of the operation or change of use to which the consent relates as constitutes development;*
  - (b) any development ancillary to the operation or change of use to which the consent relates.”*
- 5.2.7 Section 25 of the Planning Act, to determine the application in accordance with the provisions of the development plan unless material considerations indicate otherwise, is not engaged. The Development Plan is however a relevant and important consideration that may be taken into account by Scottish Ministers in the determination of the application.

## 5.3 Renewable Energy Policy Context

- 5.3.1 The commitment to increase the amount of electricity generated from renewable sources is a vital response to climate change. Renewable energy generation will contribute to more secure and diverse energy supplies and support sustainable economic growth.
- 5.3.2 The renewable energy policy framework at the international and national level applies to renewable electricity generation and related climate change action and is an important consideration for the proposed development.
- 5.3.3 The Planning Statement will highlight these policy documents and set out the hierarchy of EU, UK and Scottish Government energy policy.
- 5.3.4 In terms of the relevant policy framework at the International and European level, the following key documents are of relevance at this stage:
- The Conference of Parties (COP) 26 Glasgow Climate Pact (2021);
  - The COP 21 UN Paris Agreement (2015); and
  - Intergovernmental Panel on Climate Change (IPCC) Reports on the Impacts of Global Warming (2016, 2021, 2023).
- 5.3.5 In terms of UK renewable energy policy, the following documents are of most significant relevance:
- Committee on Climate Change (CCC) Progress Reports to Parliament on Reducing Emissions (2019- 2023);
  - The UK Government’s Energy Security Strategy (2022);
  - The UK Government’s Energy White Paper Powering our Net Zero Future (2020); and
  - Powering Up Britain - The Net Zero Growth Plan.
- 5.3.6 In terms of Scottish renewable energy policy, the following documents are of most significant relevance:
- Scotland’s Draft Energy Strategy and Just Transition Plan (2023);
  - Scotland’s Onshore Wind Policy Statement (2022);
  - Committee on Climate Change (CCC) Progress Reports to Parliament on Reducing Emissions in Scotland (2019-2023);
  - Scottish Government’s Response to the 2021 CCC Progress Report (2022);
  - Scottish Government’s Response to the 2022 CCC Progress Report (2023);

- Scottish Climate Change Adaptation Programme: Progress Report 2023-2024 (2024);
- Scottish Energy Strategy (2017) and associated Position Statement (2021); and
- The Climate Change Plan (2018) and associated update: Securing a Green Recovery on a Path to Net Zero (2020).

## 5.4 Planning Policy Considerations

5.4.1 In addition to the energy policy consideration details in section 5.3, the Planning Statement will also consider the proposed development against a range of planning policy documents, having regard to their status at the time of application submission. At this stage, the key planning policy documents that will be assessed within the Planning Statement are likely to comprise, but not necessarily be limited to the following:

- The requirements of Schedule 9 of the Electricity Act 1989 (as amended);
- National Planning Policy Framework 4 (2023, as the national element of the Development Plan);
- Highland-wide Local Development Plan (2012), as the adopted Local Development Plan for Highland and associated Supplementary Guidance particularly the Onshore Wind Supplementary Guidance document;
- The Inner Moray Firth Local Development Plan 1 (IMFLDP1) (2015) (and the emerging IMFLDP2 once adopted) where relevant to the proposed development; and
- The Dava Moor, Nairn and Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study (2021)<sup>15</sup> (WELSPS).

## 5.5 Questions for Consultees

Q5.1 Are consultees in agreement that national policy considerations and development plan policy be identified and assessed in the Planning Statement and that there is consequently no need to include a detailed chapter on Legislation, Energy Policy and Planning Policy Context in the EIA Report?

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<sup>15</sup> Carol Anderson Landscape Associates. (2021) Dava Moor, Nairn And Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study

## 6 Landscape and Visual

### 6.1 Introduction

- 6.1.1 This section of the Scoping Report sets out the proposed methodology and approach to be applied in the production of the Landscape and Visual Impact Assessment (LVIA) for the proposed development.
- 6.1.2 The purpose of the LVIA is to identify and record the potential effects that the proposed development may have on the landscape and visual resource, taking into account effects on:
- the landscape elements of the site;
  - the landscape character of the site and surrounding area;
  - areas that have been designated for their scenic or landscape-related qualities;
  - Wild Land Areas; and
  - views from various locations such as settlements, routes, hilltops and other sensitive locations.
- 6.1.3 The potential cumulative effects that may arise from the addition of the proposed development to other wind farms will also be considered.
- 6.1.4 The LVIA will consider the potential effects of the proposed development during construction, operation and decommissioning.
- 6.1.5 The following figures are associated with this section of the Scoping Report and are provided in **Appendix A**:
- **Figure 6.1** Site Location and Study Area
  - **Figure 6.2** Landscape Character
  - **Figure 6.3** Landscape Designations
  - **Figure 6.4** Wild Land Areas
  - **Figure 6.5** Principal Visual Receptors (45 km radius)
  - **Figure 6.6** Principal Visual Receptors (20 km radius)
  - **Figure 6.7** Cumulative Wind Farms
  - **Figure 6.8** Blade Tip Zone of Theoretical Visibility (ZTV) with Designations and Viewpoints
  - **Figure 6.9** Hub Height ZTV with Viewpoints
- 6.1.6 In accordance with guidance<sup>16</sup> for wind turbines of 200 m to blade tip, the study area will cover a radius of 45 km from the nearest wind turbine. A

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<sup>16</sup> SNH (2017) Visual Representation of Wind Farm, Version 2.2

focussed study area of 20 km radius will also be considered. These study areas are shown on **Figure 6.1**.

## 6.2 Baseline Conditions

6.2.1 Baseline information for the site is described below. Establishing a baseline helps to gain an understanding of what makes the landscape distinctive and what its important components or characteristics are, and is instrumental in the identification of the landscape character receptors, visual receptors and viewpoints that are relevant to the proposed development.

### Landscape Character

6.2.2 The landscape character for the 45 km study area is classified according to NatureScot's 2019 dataset<sup>17</sup> and is shown on **Figure 6.2**.

6.2.3 The site lies entirely within the Rolling Uplands - Inverness (221) Landscape Character Type (LCT). This is an extensive LCT that lies to the south-east of the Great Glen, running along the full length of Loch Ness between Moy in the north-east and Fort Augustus in the south-west. Rolling Uplands - Inverness is host to a number of wind farms, including Aberarder, Cloiche, Corriegarh, Corriegarh 2, Dell, Dunmaglass, Farr, Glen Kyllachy, Moy, and Stronelaig.

6.2.4 The relevant characteristics of this LCT are described as follows in the NatureScot description:

- *“A series of large scale, smooth, rounded hills with summits of similar height forming broad, undulating upland plateaux containing occasional steep-sided straths.*
- *Open heather moorland dominates, the uniform colour and texture accentuating the landform.*
- *Straths floors contain inbye pastures, trees and small patches of woodland.*
- *Conifer forests limited to the lower edges of uplands and strath sides.*
- *Settlement limited to a few isolated farms in remote straths.*
- *A few mainly single-track roads, integrated within the landform.*
- *Uninhabited interior, largely inaccessible to vehicles.*
- *Archaeological evidence of settlement and farming from prehistoric times to the 19th century.*

<sup>17</sup> <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions> [Accessed: 5 July 2024]

- *Striking colour and textural contrast between strath floors and moorland vegetation above.*
- *Expansive views from the hill tops and plateaux create a strong sense of openness and exposure.*
- *Scale and distance difficult to judge.*
- *Few signs of active management in the interiors, creating a strong perception of remoteness, although this is affected by a number of large wind farm developments.”*

6.2.5 In addition to the NatureScot 2019 classification, a further classification is provided in the Dava Moor, Nairn and Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study (2021)<sup>18</sup> (WELSPS). This study defines the landscape of the site as part of Rolling Uplands Assessment Unit (AU), of which the boundaries are broadly similar to the NatureScot Rolling Uplands - Inverness LCT. There is, however, a variation in that WELSPS distinguishes Strathdearn as a separate AU - called Strath in Rolling Uplands - whereas in the NatureScot classification it is part of the wider Rolling Uplands - Inverness.

6.2.6 Where the WELSPS study area overlaps with that of the proposed development, the AU units in the WELSPS will be considered alongside the NatureScot 2019 dataset for the classification of landscape character in the LVIA.

6.2.7 The LVIA will include an assessment of the effects of the proposed development on relevant LCTs/AUs within the study area.

### Landscape Designations

6.2.8 The site itself is not covered by any known international, national, or regional landscape-related planning designations. Various designated areas are, however, found elsewhere in the study area, as shown on **Figure 6.3** and in conjunction with the blade tip ZTV on **Figure 6.8**, and described below.

#### Cairngorms National Park

6.2.9 National Parks (NPs) are important on a national level. Policy 4c of NPF4 states that:

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<sup>18</sup> Carol Anderson Landscape Associates. (2021) Dava Moor, Nairn And Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study

*“Development proposals that will affect a National Park, National Scenic Area, Site of Special Scientific Interest or a National Nature Reserve will only be supported where:*

- i The objectives of designation and the overall integrity of the areas will not be compromised; or*
- ii Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental, or economic benefits of national importance.”*

6.2.10 The Cairngorms National Park (CNP) is a minimum of approximately 11.5 km to the east of the nearest wind turbine in the proposed development.

6.2.11 The blade tip ZTV (**Figure 6.8**) shows that theoretical visibility of the scoping layout of the proposed development is limited to small areas of high ground along the north-western edge and very intermittent interior areas of CNP. Visibility of the proposed development from CNP will be monitored throughout the design process and the need for an assessment of effects on CNP will be reviewed in relation to visibility of the final layout of the proposed development. If an assessment of effects on CNP is required, this will be carried out in accordance with NatureScot guidance<sup>19</sup> which uses the Special Qualities of the National Park as a basis for the assessment.

#### **National Scenic Areas**

6.2.12 National Scenic Areas (NSAs) are important on a national level. Policy 4c, as quoted above for NPs, is also relevant for NSAs.

6.2.13 There are four NSAs within or partially within the 45 km study area:

- Cairngorm Mountains NSA;
- Deeside and Lochnagar NSA;
- Glen Affric NSA; and
- Glen Strathfarrar NSA.

6.2.14 Of these, the closest is the Cairngorm Mountains NSA, which is a minimum of approximately 22 km to the south-east of the nearest wind turbine in the proposed development and is shown on the ZTV to have very intermittent theoretical visibility of the scoping layout of the proposed development. The other NSAs are all over 30 km away and are shown on the ZTV to have very intermittent visibility of the scoping layout of the proposed development.

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<sup>19</sup> SNH (2018). Working draft Guidance for Assessing the Effects on Special Landscape Qualities

6.2.15 It is likely that the very intermittent and distant visibility of the proposed development from all of the NSAs will result in effects on the NSAs being discounted from the assessment. This will be monitored throughout the iterative design process and the need for an assessment of effects on NSAs will be reviewed in relation to visibility of the final layout of the proposed development. If an assessment of effects on an NSA is required, this will be carried out in accordance with NatureScot guidance which uses the Special Qualities of the NSA as a basis for the assessment.

#### **Gardens and Designed Landscapes**

6.2.16 Gardens and Designed Landscapes (GDLs) are considered in Policy 7, NPF4, which is concerned with ‘Historic assets and places’. Policy 7 states that: *“i) Development proposals affecting nationally important Gardens and Designed Landscapes will be supported where they protect, preserve or enhance their cultural significance, character and integrity and where proposals will not significantly impact on important views to, from and within the site, or its setting.”*

6.2.17 There are a number of GDLs in the study area, of which the majority lie to the north of the site. The closest of these is Aldourie Castle, which is a minimum of approximately 15 km away from the nearest wind turbine in the scoping layout of the proposed development.

6.2.18 As GDLs are considered as historic assets rather than landscape designations, effects on GDLs and their settings are considered in section 7 of this Scoping Report.

#### **Special Landscape Areas**

6.2.19 Special Landscape Areas (SLAs) are areas of land considered to be important at a local level. While the majority of these are designated by THC, the north-eastern extremity of the study area is covered by the Moray Council area and includes one SLA.

6.2.20 Detailed citations for each of the SLAs that lie within THC administrative area are provided in THC Guidance<sup>20</sup>. These citations describe each SLA in terms of its *“key landscape and visual characteristics, the special qualities for which it is valued, its key sensitivities to landscape change, and possible measures for its enhancement.”*

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<sup>20</sup> THC in partnership with SNH (2011). Assessment of Highland Special Landscape Areas



- 6.2.21 Policy covering the Moray Council SLAs is contained within Policy EP3 ‘Special Landscape Areas and Landscape Character’ of the Moray LDP<sup>21</sup>. This policy applies to development within SLAs, and is therefore not relevant to the proposed development.
- 6.2.22 There are seven THC SLAs within, or partially within, the 45 km study area:
- Ben Alder, Laggan and Glen Banchor SLA;
  - Ben Wyvis SLA;
  - Cromarty Sutors, Rosemarkie and Fort George SLA;
  - Drynachan, Lochindorb and Dava Moors SLA;
  - Loch Lochy and Loch Oich SLA;
  - Loch Ness and Duntelchaig SLA; and
  - Strathconon, Monar and Mullardoch SLA.
- 6.2.23 The closest SLA to the nearest wind turbine in the proposed development is Loch Ness and Duntelchaig SLA, which is a minimum of approximately 5 km to the north-west of the proposed development, while the Drynachan, Lochindorb and Dava Moors SLA is a minimum of approximately 14.5 km to the north-east of the proposed development. The other SLAs are all more than 15 km away.
- 6.2.24 The Loch Ness and Duntelchaig SLA is shown on the ZTV to have intermittent theoretical visibility of the proposed development, and effects on this SLA will be considered in the LVIA.
- 6.2.25 The remaining SLAs, including the Drynachan, Lochindorb and Dava Moors SLA, lie more than 14.5 km away and most are shown on the ZTV to gain negligible or very intermittent theoretical visibility. The distance of these SLAs from the site and the very limited visibility/ influence of the proposed development ensures that there will not be a significant effect on the overall integrity of the designated areas and it is therefore proposed that they are discounted from the assessment.

### Wild Land Areas

- 6.2.26 Wild Land Areas (WLAs) are shown on NatureScot’s 2014 wild land mapping<sup>22</sup> and referred to in Policy 4 of NPF4, as below.

*“g) Development proposals in areas identified as wild land in the Nature Scot Wild Land Areas map will only be supported where the proposal:*

<sup>21</sup> Moray Local Development Plan 2020

<sup>22</sup> <https://www.nature.scot/doc/wild-land-areas-map-and-descriptions-2014> [accessed 5 July 2024]

- i will support meeting renewable energy targets; or,*
- ii is for small scale development directly linked to a rural business or croft, or is required to support a fragile community in a rural area.*

*All such proposals must be accompanied by a wild land impact assessment which sets out how design, siting, or other mitigation measures have been and will be used to minimise significant impacts on the qualities of the wild land, as well as any management and monitoring arrangements where appropriate. Buffer zones around wild land will not be applied, and effects of development outwith wild land areas will not be a significant consideration.”*

6.2.27 There are six WLAs within or partially within the 45 km study area, as shown on **Figure 6.4**:

- WLA 14 Rannoch - Nevis - Mamores - Alder;
- WLA 15 Cairngorms;
- WLA 19 Braeroy - Glenshirra - Creag Meagaidh;
- WLA 20 Monadhliath;
- WLA 24 Central Highlands; and
- WLA 29 Rhidorroch - Beinn Dearg - Ben Wyvis

6.2.28 The closest WLA to the nearest wind turbine in the proposed development is WLA 20 Monadhliath, which is a minimum of approximately 5 km to the south-east of the proposed development. The other WLAs are all more than 25 km away.

6.2.29 As the proposed development lies outwith any WLA, it is proposed that WLAs are discounted from the assessment in accordance with advice contained in NPF4.

### Visual Receptors

6.2.30 Visual receptors are features such as settlements and routes from which views may be affected by the proposed development. Visual receptors are shown on **Figure 6.5** and **Figure 6.6**.

### Settlements

6.2.31 The pattern of settlement development in the study area is widely varied, with towns and villages concentrated in the accessible corridors of the Great Glen, Strathnairn and the A9. There are very few settlements in the remote uplands that lie to the south, south-east and south-west of the site. The settlements that are considered in the LVIA are those that are identified as settlements in adopted local development plan mapping.

6.2.32 The effect that the proposed development will have on views from relevant settlements will be considered in the LVIA.

### Routes

6.2.33 Routes considered in the LVIA will include roads, long distance recreational routes, core paths, and railway lines.

6.2.34 The closest A-class road is the A9, which passes to the east of the proposed development at a minimum distance of approximately 11.5 km away, while the A82 passes a minimum of approximately 14.5 km to the north-west. The closest B-class road is the B851, which runs through Strathnairn to the north-west of the proposed development, a minimum of approximately 4 km away. There is a network of other B roads between the B851 and Loch Ness, including the B852, B861 and B862.

6.2.35 Where relevant, the assessment of effects on views from roads will take into consideration the identification of roads as national scenic tourist routes.

6.2.36 The Highland Main Line (Perth to Inverness) railway line passes a minimum of approximately 11 km to the east of the proposed development, running through the same corridor as the A9.

6.2.37 There are a number of long-distance recreational routes in the 45 km study area, including the Affric-Kintail Way, East Highland Way, Great Glen Way, Great Glen Canoe Trail, South Loch Ness Trail, the Speyside Way, and National Cycle Route 7 (NCR7). The closest of these are the South Loch Ness Trail and NCR7, which pass a minimum of approximately 11 km to the west and east of the proposed development respectively.

6.2.38 The effect of the proposed development on views from relevant routes will be considered in the LVIA.

6.2.39 There is a network of core paths in the study area, and effects on views from core paths in the vicinity of the proposed development will be considered in the LVIA.

### Viewpoints

6.2.40 The LVIA will be informed by a series of viewpoints which are selected to cover points of specific importance, including recognised viewpoints, settlements, hilltops, important routes, designated landscapes and so on. A variety of landscape character types and points from different directions and distances will also be represented in the selected views.

6.2.41 The locations shown in **Table 6.1** below have been identified as possible viewpoints for the assessment. The final viewpoint locations will depend on the final layout for the proposed development, and these locations are intended to be indicative only. The viewpoint locations are shown in conjunction with the blade tip ZTV for the scoping layout on **Figure 6.8** and with the hub height ZTV on **Figure 6.9**.

**Table 6.1: Proposed Viewpoint List**

Viewpoint Number and Name	Grid Reference and Approx Distance to Nearest Wind Turbine	Comment
1. Minor road in Glen Kyllachy	273896, 825392 4.4 km	Viewpoint on a minor road to the east of the site.
2. B851 near Milton of Farr	268405, 833204 8.7 km	Viewpoint on the B851 to the north of the site.
3. B851 north of Aberarder House	263388, 826156 4.5 km	Viewpoint on the B851 to the north-west of the site.
4. B862 north of Torness	257847, 827631 10.0 km	Viewpoint on the B862 to the north-west of the site, within the Loch Ness and Duntelchaig SLA.
5. West end of Loch Duntelchaig	259875, 830909 10.1 km	Viewpoint on the B862 to the north-west of the site, within the Loch Ness and Duntelchaig SLA.
6. Daviot	271004, 838471 14.1 km	Viewpoint in Daviot, north of the site.
7. B861, Inverness to Farr road	267392, 839161 14.7 km	Viewpoint on the B861 to the north of the site.
8. A9 north of Kessock Bridge	266071, 847930 23.6 km	Viewpoint on the A9 to the north of the Kessock Bridge, where visibility can be gained by southbound travellers.
9. Carn na Leitire, Abriachan	254887, 833566 15.7 km	Viewpoint on a core path and within the Loch Ness and Duntelchaig SLA, on the elevated western side of Loch Ness. The Great Glen Way runs nearby.
10. Near A833 north of Drumnadrochit	249454, 831460 19.2 km	Viewpoint situated on an elevated slope close to the A833, north-west of Drumnadrochit.
11. Meall Fuar Mhonaidh	245893, 822193 20.6 km	Popular walking destination accessed by signed path, within Loch Ness and Duntelchaig SLA.
12. Carn Na Saobhaidhe	260028, 814496 9.7 km	Corbett (810m AOD), the highest point of the northern Monadhliath.
13. Carn Sgulain	268296, 805813 15.6 km	Munro that lies on the western edge of CNP and within WLA 20 Monadhliath.
14. A9 north of Slochd	281961, 826839 12.3 km	Viewpoint on the A9 between Slochd and Tomatin.
15. Geal-Charn Mor	283631, 812327	Munro that lies on the western edge of CNP, and the eastern edge of WLA 20 Monadhliath.

Viewpoint Number and Name	Grid Reference and Approx Distance to Nearest Wind Turbine	Comment
	17.0 km	
16.Carn Ban Mor	289313, 797200 32.0 km	Munro that lies within CNP, the Cairngorm Mountains NSA, and WLA 15 Cairngorms.
17. Knockfarrel	250427, 858486 38.2km	Viewpoint at popular walking destination near Strathpeffer with a panoramic view and located on a core path.

## 6.3 Assessment Methodology

### Categories of Effects

6.3.1 The LVIA is intended to determine the likely significant effects that the proposed development will have on the landscape and visual resource. Five categories of potential effects on the landscape and visual resource are considered:

- physical effects on landscape elements;
- effects on landscape character;
- effects on wild land;
- effects on views (including night-time effects of visible aviation lighting on wind turbines); and
- cumulative effects.

#### Physical Effects on Landscape Elements

6.3.2 Physical effects are restricted to the area within the site and are the direct effects on the existing fabric of the site, such as the removal of, alteration to, or reinstatement of ground cover. This category of effects is made up of landscape elements, which are the components of the landscape, such as moorland, which may be directly and physically affected by the proposed development.

#### Effects on Landscape Character

6.3.3 Landscape character is the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and the way that this pattern is perceived. Effects on landscape character arise either through the introduction of new elements that physically alter this pattern of elements, or through visibility of the proposed development, which may alter the way in which the pattern of elements is perceived. This category

of effects is made up of landscape character receptors, which fall into two groups: LCTs and landscape-related designated areas.

### Effects on Wild Land Areas

- 6.3.4 The assessment of the effects on the ‘wild land qualities’ of WLAs is carried out through consideration of impacts on the physical attributes and perceptual responses of relevant WLA(s). The assessment of effects on WLAs is carried out in accordance with the methodology described in NatureScot guidance<sup>23</sup>. It is anticipated that wild land assessment will not be required for the proposed development due to its location outwith a WLA.

### Effects on Views

- 6.3.5 The assessment of effects on views is an assessment of how the introduction of the proposed development will affect views throughout the study area. The assessment of effects on views is carried out in three parts:
- an assessment of the effects that the proposed development will have on a series of viewpoints;
  - an assessment of the effects that the proposed development will have on views from principal visual receptors, which include relevant settlements and routes throughout the study area; and
  - an assessment of the potential night-time effects of visible aviation lighting.

### Cumulative Effects

- 6.3.6 Cumulative effects arise where the study areas for two or more wind farms overlap so that both wind farms are experienced at proximity where they may have a greater incremental effect, or where wind farms may combine to have a sequential effect, irrespective of overlap in study areas.

### Significance of Effects

- 6.3.7 The objective of the assessment of the proposed development is to predict its likely significant effects on the landscape and visual resource. The EIA Regulations require that the direct and indirect significant effects of the proposed development are identified, described and assessed, and therefore the LVIA effects are assessed to be either significant or not

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<sup>23</sup> NatureScot (2020). Assessing Impacts on Wild Land Areas Technical Guidance

significant. The LVIA does not define intermediate levels of significance as the EIA Regulations do not provide for these.

6.3.8 As described in best practice guidance (GLVIA3)<sup>24</sup>, the significance of effects is assessed through a combination of two considerations; the sensitivity of the landscape or visual receptor and the magnitude of change that will result from the addition of the proposed development. While this methodology is not reliant on the use of a matrix to arrive at the conclusion of a significant or not significant effect, a matrix is included in **Table 6.2** to illustrate how combinations of sensitivity and magnitude of change ratings can give rise to significant effects. The matrix also gives an understanding of the threshold at which significant effects may arise.

**Table 6.2: Illustrative Significance Matrix**

		Magnitude of Change					
		High	High-Medium-	Medium	Medium-Low	Low	Negligible
Sensitivity	High	Major (Significant)	Major (Significant)	Major-moderate (Significant)	Moderate (Significant or Not Significant)	Moderate-minor (Not Significant)	Minor (Not Significant)
	High-Medium-	Major (Significant)	Major-moderate (Significant)	Moderate (Significant or Not Significant)	Moderate (Significant or Not Significant)	Moderate-minor (Not Significant)	Minor (Not Significant)
	Medium	Major-moderate (Significant)	Moderate (Significant or Not Significant)	Moderate (Significant or Not Significant)	Moderate-minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)
	Medium-Low	Moderate (Significant or Not Significant)	Moderate (Significant or Not Significant)	Moderate-minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Negligible (Not Significant)
	Low	Moderate (Significant or Not Significant)	Moderate-minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

<sup>24</sup> Guidelines for Landscape and Visual Impact Assessment: Third Edition (Landscape Institute and IEMA, 2013) (GLVIA3)

- 6.3.9 In accordance with GLVIA3, experienced professional judgement is applied to the assessment of all effects and reasoned justification is presented in respect of the findings of each case.
- 6.3.10 A significant effect occurs where the proposed development will provide one of the defining influences on a landscape element, landscape character receptor or view. A not significant effect occurs where the effect of the proposed development is not material, and the baseline characteristics of the landscape element, landscape character receptor, view or visual receptor continue to provide the definitive influence.

#### **Sensitivity**

- 6.3.11 Sensitivity is an expression of the ability of a landscape receptor or view to accommodate the proposed development and is determined through a combination of the value of the receptor and its susceptibility to the proposed development.
- 6.3.12 Levels of sensitivity (high, medium, and low) are applied in order that the judgement used in the process of assessment is apparent. Intermediate levels (medium-high and medium-low) may also be applied where the particular combination of value and susceptibility results in an intermediate definition.

#### **Magnitude of Change**

- 6.3.13 Magnitude of change is an expression of the extent of the effect on landscape and visual receptors that will result from the introduction of the proposed development. The magnitude of change is assessed in terms of a number of variables, including the size and scale of the impact and the extent of the affected area.
- 6.3.14 Levels of magnitude of change (high, medium, low, and negligible) are applied in order that the judgement used in the process of assessment is apparent. Intermediate levels (medium-high and medium-low) may also be applied where the particular combination of variables results in an intermediate definition.

#### **Nature of Effects**

- 6.3.15 The ‘nature of effects’ relates to whether the effects of the proposed development are beneficial or adverse. The landscape and visual effects of wind farms are difficult to categorise in either of these brackets as, unlike other disciplines, there are no definitive criteria by which effects can be measured as being categorically beneficial or adverse.



- 6.3.16 The LVIA will adopt a precautionary approach, which assumes that significant landscape and visual effects will be weighed on the adverse side of the planning balance, although beneficial or neutral effects may arise in certain circumstances.

### Assessment of Cumulative Effects

- 6.3.17 The objective of the cumulative assessment is described in NatureScot guidance<sup>25</sup> as to “...describe, visually represent and assess the ways in which a proposed wind farm would have additional impacts when considered with other consented or proposed wind farms. It should identify the significant cumulative impacts arising from the proposed wind farm”.
- 6.3.18 The outcome of the assessment is the identification of any significant cumulative effects that may arise from the addition of the proposed development to the cumulative situation, in accordance with the NatureScot guidance, which states that cumulative assessment should “focus on the likely significant impacts and those which are likely to influence the outcome of the consenting process”.
- 6.3.19 In relation to the significance of cumulative landscape effects, GLVIA3 notes (paragraph 7.28) that “the most significant cumulative landscape effects are likely to be those that would give rise to changes in the landscape character of the study area of such an extent as to have major effects on its key characteristics and even, in some cases, to transform it into a different landscape type. This may be the case where the project being considered itself tips the balance through its additional effects.”
- 6.3.20 GLVIA3 (paragraph 7.38) goes on to state the following in relation to the significance of cumulative visual effects:
- “Higher levels of significance may arise from cumulative visual effects related to:
- developments that are in closer proximity to the main project and are clearly visible together in views from the elected viewpoints;
  - developments that are highly inter-visible, with overlapping ZTVs - even though the individual developments may be at some distance from the main project and from individual viewpoints, and when viewed individually not particularly significant, the overall combined

<sup>25</sup> NATURESCOT (2021). Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments

*cumulative effect on a viewer at a particular viewpoint may be more significant.”*

- 6.3.21 In some situations, it is relevant to consider the “*combined effects of all the past, present and future proposals together with the new project*” as noted in paragraph 7.18 of GLVIA3. This type of cumulative effect is described in GLVIA3 (paragraph 7.17) as “*incremental change as a result of successive individual developments such that the combined landscape and/or visual effect is significant even though the individual effects may not be*”.
- 6.3.22 It should be noted that if the proposed development itself is assessed to have a significant effect, it does not necessarily follow that the cumulative effect would also be significant.

### Assessment of ‘Hours of Darkness’ Visual Effects

- 6.3.23 The Civil Aviation Authority (CAA) requires that ‘en-route obstacles’ at or above 150 m above ground level are lit with visible lighting to assist their detection by aircraft. As the proposed wind turbines will be up to 200 m tip height, there will be a requirement for some or all of these wind turbines to display visible red lights at night and an hours of darkness assessment of effects will therefore be required. The lights will be placed on the nacelles (and potentially the towers) of the wind turbines. Should a reduced lighting scheme be agreed with the CAA by the applicant, is it proposed that this would form the basis of the assessment of wind turbine lighting.
- 6.3.24 The assessment of wind turbine lighting is intended to determine the likely effects that the proposed development will have on the visual resource e.g. it is an assessment of the effects of visible aviation lighting on views experienced by people during hours of darkness. This assessment will be carried out in accordance with NatureScot pre-application guidance<sup>26</sup>.
- 6.3.25 The assessment of hours of darkness effects will be informed by a ZTV of the wind turbine lights and night-time visualisations from three viewpoints, to be agreed with THC and NatureScot, that illustrate the proposed lighting effects. These viewpoints will represent locations from where people are most likely to experience the proposed development at night.

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<sup>26</sup> NatureScot (2023) NatureScot pre-application guidance for onshore wind farms Annex 1 NatureScot advice on turbine lighting [Online] Available from [https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms#Annex\\_1](https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms#Annex_1) [Accessed: 4 June 2024]

6.3.26 A hub height ZTV of the scoping layout is shown on **Figure 6.9**. This gives an impression of where there would be theoretical visibility of nacelle lighting on the wind turbines in the scoping layout.

### Residential Visual Amenity Assessment

6.3.27 A Residential Visual Amenity Assessment (RVAA) will be carried out in accordance with Landscape Institute Technical Guidance Note 2/19<sup>27</sup>. In accordance with the guidance, this will include an assessment of effects on the views gained by residential properties that lie within a 2 km radius of the nearest wind turbine in the proposed development. This does not form part of the LVIA and will be presented as a separate appendix.

### Visualisations

6.3.28 Two separate sets of visualisations will be produced for the proposed development; one in accordance with NatureScot guidance<sup>28</sup> and one in accordance with THC guidance<sup>29</sup>.

### Policy and Technical Guidance

6.3.29 The following guidance and information/data sources will be considered in the LVIA and the presentation of graphics:

- Carol Anderson Landscape Associates. (2021) Dava Moor, Nairn And Monadhliath Area Wind Energy Landscape Sensitivity Pilot Study;
- Guidelines for Landscape and Visual Impact Assessment: Third Edition (Landscape Institute and IEMA, 2013) (GLVIA3);
- Landscape Institute (2019). Visual Representation of Development Proposals: Landscape Institute Technical Guidance Note 06/19;
- Landscape Institute (2019). Technical Guidance Note 2/19 Residential Visual Amenity Assessment;
- NatureScot (2020). Assessing Impacts on Wild Land Areas Technical Guidance;
- NatureScot (2021). Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments;
- SNH (2010). The special qualities of the National Scenic Areas. Scottish Natural Heritage Commissioned Report No. 374;

<sup>27</sup> Landscape Institute (2019). Technical Guidance Note 2/19 Residential Visual Amenity Assessment

<sup>28</sup> SNH (2017). Visual Representation of Wind Farms, Version 2.2

<sup>29</sup> THC (July 2016). Visualisation Standards for Wind Energy Developments

- SNH and Cairngorms National Park Authority (2010). The special landscape qualities of the Cairngorms National Park. Scottish Natural Heritage Commissioned Report, No.375;
- SNH (June 2014). Map of Wild Land Areas;
- SNH (2017). Description of Wild Land Areas;
- SNH (2017). Siting and Designing Wind Farms in the Landscape Version 3a;
- SNH (2017). Visual Representation of Wind Farms, Version 2.2;
- SNH (2018). Working draft Guidance for Assessing the Effects on Special Landscape Qualities;
- THC (November 2016) Onshore Wind Energy Supplementary Guidance; and
- THC (July 2016). Visualisation Standards for Wind Energy Developments.

#### 6.3.30 Online resources:

- NatureScot (2023) NatureScot pre-application guidance for onshore wind farms [Online] Available from <https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms%20>[Accessed:%2018%20January%202024] [Accessed: 4 June 2024];
- NatureScot (2023) NatureScot pre-application guidance for onshore wind farms Annex 1 NatureScot advice on turbine lighting [Online] Available from [https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms#Annex\\_1](https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms#Annex_1) [Accessed: 4 June 2024];
- NatureScot (2023) Scottish Landscape Character Types Map and Descriptions [Online] Available from <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions> [Accessed: 5 July 2024]; and
- Scottish Natural Heritage (2014) Wild Land Areas map and descriptions [online] Available from
- <https://www.nature.scot/doc/wild-land-areas-map-and-descriptions-2014> [accessed 5 July 2024]

## Survey Methodology

### Desk Study

- 6.3.31 The assessment is initiated through a desk study of the site and the study area. This study identifies aspects of the landscape and visual resource

that may need to be considered in the landscape and visual assessment (including, for example, landscape-related planning designations, landscape character classification, NSAs, SLAs, WLAs, potential cumulative wind farms, routes such as roads, railway lines, National Cycle Routes, long-distance walking routes and recreational waterborne routes, and settlements).

- 6.3.32 The desk study also utilises Geographic Information System (GIS) and Resoft Wind Farm software to explore the potential visibility of the proposed development. The resultant ZTV figures and wirelines provide an indication of which landscape and visual receptors are likely to be key in the assessment.

### **Field Survey**

- 6.3.33 Field surveys are carried out throughout the study area, although the focus is on the areas shown on the ZTV to gain theoretical visibility of the proposed development. The baseline field survey has four broad stages:
- A preliminary familiarisation around the study area in order to visit the aspects of the landscape and visual resource that have been identified through the desk study and verify their existence and importance. Important features and characteristics that have not become apparent through the desk study are also identified, and particularly sensitive receptors are noted in order to inform the design process.
  - A visit onto the site, in order to establish the potential for the proposed development and to identify the most suitable areas for wind turbine placement in landscape and visual terms, along with any constraints that may restrict layout design of the proposed development.
  - Further field survey around the study area, concurrent with the design process for the proposed development, to identify those receptors that are likely to be particularly important in the assessment and inform the layout design, possible wind turbine height, and the extent of the proposed development.
  - The identification of representative viewpoints, and route assessments, to include in the landscape and visual assessment, including a wide range of receptors, landscape character, and directions and distances from the proposed development.

### **Consultation**

6.3.34 Consultation will be carried out with NatureScot and THC with regard to various matters including the daytime and hours of darkness viewpoints to be included in the LVIA and cumulative wind farms to be included in the cumulative assessment.

## 6.4 Potential Effects

6.4.1 Potential effects are those which could result from the construction and operation of a wind farm. **Table 6.3** describes the typical landscape and visual impacts that can arise from the construction and operation of a wind farm. It should be noted that their inclusion does not imply that they will arise, or be significant, in the case of the proposed development.

**Table 6.3: Potential Effects**

Elements	Potential Impacts	Potential Sensitive Receptors
Construction		
<ul style="list-style-type: none"> <li>• Construction plant;</li> <li>• borrow pit excavation and extraction;</li> <li>• construction of access tracks and crane hardstands (including cut and fill earthworks);</li> <li>• temporary construction facilities (i.e. compounds, fencing);</li> <li>• forestry removal for keyholing/ access track buffers;</li> <li>• excavation and laying of wind turbine foundations;</li> <li>• wind turbine erection (including tall cranes); and</li> <li>• construction of buildings within substation and BESS compounds.</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary, short-term physical effects on physical landscape fabric;</li> <li>• permanent effects on physical landscape fabric (i.e. forestry removal);</li> <li>• temporary, short-term effects on landscape character; and</li> <li>• temporary, short-term effects on views (including hours of darkness effects).</li> </ul>	<ul style="list-style-type: none"> <li>• Physical landscape features e.g. forestry, ground cover;</li> <li>• landscape character receptors: landscape character types, landscape designations;</li> <li>• WLAs; and</li> <li>• views experienced by different receptors e.g. residents, road users, walkers.</li> </ul>
Operation		
<ul style="list-style-type: none"> <li>• Wind turbines;</li> <li>• met mast;</li> <li>• BESS;</li> <li>• access tracks;</li> <li>• visible aviation lighting;</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary, long-term effects on landscape character;</li> <li>• temporary, long-term effects on views;</li> <li>• temporary, long-term cumulative effects</li> </ul>	<ul style="list-style-type: none"> <li>• Physical landscape features e.g. forestry, ground cover;</li> <li>• landscape character receptors: landscape character types,</li> </ul>

Elements	Potential Impacts	Potential Sensitive Receptors
<ul style="list-style-type: none"> <li>• borrow pits under restoration/restored; and</li> <li>• buildings within substation and BESS compounds.</li> </ul>	<ul style="list-style-type: none"> <li>• with other wind farms on landscape character and views; and</li> <li>• ongoing permanent effects on physical landscape fabric (e.g. forestry removal if required).</li> </ul>	<ul style="list-style-type: none"> <li>• landscape designations;</li> <li>• WLAs; and</li> <li>• views experienced by different receptors e.g. residents, road users, walkers (including hours of darkness views).</li> </ul>
<b>Decommissioning</b>		
<ul style="list-style-type: none"> <li>• Decommissioning plant;</li> <li>• Decommissioning of access tracks and crane hardstands;</li> <li>• temporary decommissioning facilities (i.e. compounds, fencing);</li> <li>• replanting of forestry;</li> <li>• wind turbine removal; and</li> <li>• decommissioning of buildings within substation and BESS compounds.</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary, short-term physical effects on physical landscape fabric;</li> <li>• permanent effects on physical landscape fabric (i.e. forestry planting);</li> <li>• temporary, short-term effects on landscape character; and</li> <li>• temporary, short-term effects on views (including hours of darkness effects).</li> </ul>	<ul style="list-style-type: none"> <li>• Physical landscape features e.g. forestry, ground cover;</li> <li>• landscape character receptors: landscape character types, landscape designations;</li> <li>• WLAs; and</li> <li>• views experienced by different receptors e.g. residents, road users, walkers.</li> </ul>

## 6.5 Cumulative Effects

6.5.1 The assessment of cumulative effects in the LVIA will describe the effects arising from the addition of the proposed development to a range of cumulative scenarios, including operational, under construction, consented and application stage wind farms. Scoping stage sites are not usually included in the assessment due to the uncertainty of their layout and design, and the potential for considerable changes to be made between scoping stage and submission. THC and NatureScot will be consulted over the final list of wind farms to be considered in the cumulative assessment.

6.5.2 The cumulative assessment will include supporting graphics such as cumulative ZTVs and cumulative wirelines.

- 6.5.3 In accordance with NatureScot guidance<sup>30</sup>, the preliminary cumulative assessment study area will be 60 km with the detailed cumulative assessment likely to focus on a study area with a maximum 45 km radius.
- 6.5.4 The current known cumulative situation for a 45 km study area is shown on **Figure 6.7**. This will be updated as close as possible to the submission date for the EIA Report, with a ‘cut-off’ date being set in agreement with the ECU and THC.

## 6.6 Approach to Mitigation

- 6.6.1 The nature of landscape and visual effects means that landscape and visual mitigation is embedded into the design of the proposed development. The layout design of the proposed development is a vital part of the EIA process and is the stage where the biggest contribution can be made to mitigate potential landscape and visual effects, creating a wind farm which is appropriate for the existing landscape character and visual features of an area. Landscape and visual objectives will be given a high priority in the design of the proposed development from an early stage, while ensuring that environmental constraints and technical and economic factors are also given due consideration.

## 6.7 Summary of Scope

- 6.7.1 The LVIA will include an assessment of effects on the landscape and visual receptors that are referenced in this section. The level of assessment will vary dependent on the likelihood of a significant effect arising, ranging from a high level, preliminary assessment to a full, detailed assessment.
- 6.7.2 It is proposed that the following receptors or impacts will be scoped out of the LVIA:
- assessment of effects on GDLs;
  - assessment of effects on NSAs (subject to the ZTV of the final proposed development layout);
  - assessment of effects on SLAs other than Loch Ness and Duntelchaig SLA; and
  - assessment of effects on wild land.

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<sup>30</sup> NATURESCOT (2021). Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments



## 6.8 Questions for Consultees

Q6.1 Do consultees have any comments on the proposed LVIA methodology (including that for the cumulative and hours of darkness assessments)?

Q6.2 Are consultees in agreement with the proposed study areas?

Q6.3 Do consultees have any comments or suggestions in relation to the preliminary viewpoint locations listed in **Table 6.1**?

Q6.4 Are consultees in agreement with the proposal to scope out NSAs (subject to the ZTV of the final proposed development layout) and GDLs?

Q6.5 Are consultees in agreement with the proposal to scope out SLAs other than the Loch Ness and Duntelchaig SLA (subject to the ZTV of the final proposed development layout)?

Q6.6 Are consultees in agreement with the proposal to scope out an assessment of effects on wild land?

## 7 Cultural Heritage and Archaeology

### 7.1 Introduction

7.1.1 The ‘cultural heritage’ of an area comprises archaeological sites, historic buildings, Inventoried Gardens and Designed Landscapes (GDLs), Inventoried Battlefields and other historic environment features. Alongside its inherent values, the ‘setting’ of an asset may also contribute to its cultural heritage significance.

7.1.2 The cultural heritage impact assessment will:

- identify cultural heritage assets that may be subject to significant effects, both within the limits of the proposed development and within a proposed surrounding radius of 10 km from the proposed wind turbine locations;
- establish the potential for currently unknown archaeological assets to survive buried within the site;
- assess the predicted effects on these assets; and
- and propose a programme of mitigation where appropriate.

7.1.3 It will consider direct effects (such as physical disturbance), indirect effects (such as vibration), setting effects, and cumulative effects (where assets affected by the proposed development are also likely to be affected by other unrelated development proposals).

7.1.4 The proposed approach to the assessment of effects on cultural heritage is set out below. The assessment would be undertaken by Erin Ashby (MSc, PCIfA), Senior Archaeology and Heritage Consultant, and overseen by Beth Gray (MA Hons, ACIfA), Associate Archaeology and Heritage Consultant.

### 7.2 Baseline Conditions

#### Assets within the Site Boundary

7.2.1 There are two designated heritage assets within the site boundary. These comprise the Mains of Aberarder fort (SM11541) and the Mains of Aberarder hut circles (SM11542), which are both prehistoric in date. These assets are located within the west of the site, c.4 km from the proposed wind turbine locations. The closest wind turbines, based on the scoping layout, to these assets are T21 and T22.

7.2.2 There are a further 25 non-designated heritage assets noted on Canmore, an online resource of the historic environment record compiled by Historic

Environment Scotland (HES). These assets, along with the Scheduled Monuments are noted in **Table 7.1**.

7.2.3 These non-designated assets are varied in date and usage, with there being three prehistoric assets, nine post-medieval assets, and 13 undated assets. Out of these non-designated heritage assets, there are 14 that are agricultural in nature, one post-office, three military roads, a bloomery, and six buildings. The prehistoric assets are focussed along the west side of the site, around the scheduled monuments. The undated and post-medieval assets are focussed along the east and west bounds of the site, with the centre of the site bare of any recorded archaeology.

7.2.4 A full commercial HER data search will be undertaken ahead of the baseline survey and used to inform an understanding of key constraints.

**Table 7. 1: Heritage assets within the site boundary, recorded on Canmore and the Scheduled Monument database.**

Canmore/Designation Reference	Name	Type	Period
13106/SM11541	Mains Of Aberarder	Fort (Prehistoric)	Prehistoric
13107/SM11542	Cairn Poullachie	Field System (Period Unassigned), Hut Circle (Prehistoric)	Prehistoric
13090	Carn Ban	Burnt Mound (Prehistoric), Field System (Prehistoric), Hut Circle (Prehistoric)	Prehistoric
13094	Gleann Beag	Field System (Prehistoric), Hut Circle(s) (Prehistoric)	Prehistoric
13093	Carn Ban	Clearance Cairn(S) (Post Medieval), Field System (Prehistoric) - (Medieval)	Post-medieval
78787	Creag Cuirn Na Laraiche	Hut(s) (Medieval) - (18th Century)	Post-medieval
78774	Carn Ban	Building (Medieval) - (18th Century)	Post-medieval
78654	Glenbeg	Kiln Barn (Post Medieval), Township (Post Medieval)	Post-medieval
139396	Dunkeld - Dalnacardoch - Ruthven - Aviemore - Inverness Military Road	Military Road (18th Century)	Post-medieval
275843	Moy, Farr Wind Farm	Military Road (18th Century) (Possible)	Post-medieval
275844	Moy, Farr Wind Farm	Military Road (18th Century) (Possible)	Post-medieval
331571	Glenmazeran, Laggan	House (Post Medieval)	Post-medieval

Canmore/Designation Reference	Name	Type	Period
331573	Glenmazeran, Old Post Office	Post Office (Post Medieval)	Post-medieval
13081	Aberarder	Bloomery (Period Unassigned) (Possible)	Undated
78786	Allt Na Beinne	Building (Period Unknown)	Undated
78775	Gleann Beag	Cairnfield (Period Unknown), Enclosure (Period Unknown), Rig And Furrow (Medieval) - (Post Medieval)	Undated
78788	Allt Na Beinne	Cairnfield (Period Unknown)	Undated
78784	Creag Liath	Cairnfield (Period Unknown)	Undated
115853	River Nairn	Enclosure (Period Unassigned)	Undated
115854	River Nairn	Building(S) (Period Unassigned), Enclosure (Period Unassigned), Rig And Furrow (Medieval) - (Post Medieval)	Undated
115855	River Nairn	Field System (Period Unassigned), Township (Period Unassigned)	Undated
115856	River Nairn	Building (Period Unassigned)	Undated
115704	Glen Mazeran	Sheepfold (Period Unassigned) (Possible)	Undated
115739	Glen Mazeran	Township (Period Unassigned)	Undated
115740	Glen Mazeran	Farmstead (Period Unassigned)	Undated
275846	Moy, Farr Wind Farm	Farmstead (Period Unassigned)	Undated
13093	Carn Ban	Clearance Cairn(S) (Post Medieval), Field System (Prehistoric) - (Medieval)	Post-medieval
78787	Creag Cuirn Na Laraiche	Hut(S) (Medieval) - (18th Century)	Post-medieval
78774	Carn Ban	Building (Medieval) - (18th Century)	Post-medieval
78654	Glenbeg	Kiln Barn (Post Medieval), Township (Post Medieval)	Post-medieval
139396	Dunkeld - Dalnacardoch - Ruthven - Aviemore - Inverness Military Road	Military Road (18th Century)	Post-medieval
275843	Moy, Farr Wind Farm	Military Road (18th Century) (Possible)	Post-medieval

Canmore/Designation Reference	Name	Type	Period
275844	Moy, Farr Wind Farm	Military Road (18th Century) (Possible)	Post-medieval
331571	Glenmazeran, Laggan	House (Post Medieval)	Post-medieval
331573	Glenmazeran, Old Post Office	Post Office (Post Medieval)	Post-medieval
13081	Aberarder	Bloomery (Period Unassigned) (Possible)	Undated
78786	Allt Na Beinne	Building (Period Unknown)	Undated
78775	Gleann Beag	Cairnfield (Period Unknown), Enclosure (Period Unknown), Rig And Furrow (Medieval) - (Post Medieval)	Undated
78788	Allt Na Beinne	Cairnfield (Period Unknown)	Undated
78784	Creag Liath	Cairnfield (Period Unknown)	Undated
115853	River Nairn	Enclosure (Period Unassigned)	Undated
115854	River Nairn	Building(S) (Period Unassigned), Enclosure (Period Unassigned), Rig And Furrow (Medieval) - (Post Medieval)	Undated
115855	River Nairn	Field System (Period Unassigned), Township (Period Unassigned)	Undated
115856	River Nairn	Building (Period Unassigned)	Undated
115704	Glen Mazeran	Sheepfold (Period Unassigned) (Possible)	Undated
115739	Glen Mazeran	Township (Period Unassigned)	Undated
115740	Glen Mazeran	Farmstead (Period Unassigned)	Undated
275846	Moy, Farr Wind Farm	Farmstead (Period Unassigned)	Undated

### Assets outwith the Site Boundary

7.2.5 Within 10 km of the proposed development there are a total of 46 designated heritage assets. This includes 31 Scheduled Monuments and 15 Listed Buildings. There are 13 Category B Listed Buildings and 2 Category C Listed Buildings. Of these Listed Buildings, there are three within 5 km of the proposed wind turbines, all Category B. There are no World Heritage Sites within 10 km of the proposed development.

7.2.6 The Scheduled Monuments within 10 km and Listed Buildings within 5 km of the proposed wind turbines are noted in the appraisal table in Appendix C.

## 7.3 Assessment Methodology

### Study Area

7.3.1 For purposes of this assessment, a study area for the assessment of impact on setting has been defined extending 10 km from the proposed wind turbines<sup>31</sup>.

7.3.2 Assessment of direct and indirect effects on assets (as defined in section 7.4.11) will be conducted on known heritage assets within the site as part of the chapter. Known heritage assets within the site and the 1 km buffer will be used to conduct a model of predictability in order to assess the potential for further unrecorded heritage assets within the site. The potential for direct and indirect effects on unrecorded heritage assets will be assessed within the chapter.

7.3.3 The sources identified within **Table 7.2** will be consulted to inform the assessment within the chapter, however, this list is not exhaustive.

**Table 7.2 1: Sources to be Consulted**

Subject	Author Summary	Source
Designated cultural heritage assets (except conservation areas)	The database of HES	HES digital data download
Conservation Areas	The Highland Council Historic Environment Team and HES	HES digital data download
Non-designated cultural heritage assets	Data held by the Highland Council Historic Environment Team and displayed on Pastmap	Digital data purchased from the Highland Council Historic Environment Team as download and shown on Pastmap website
Historic Mapping	National Library of Scotland	National Library of Scotland website
Historic Environment Information	Canmore online database curated by Historic Environment Scotland	Canmore online database
	Unpublished reports	Various
	Published works of synthesis	Various
Aerial Photography	HES	HES database Canmore and National

<sup>31</sup> There is no guidance defining what the extent of an appropriate 'study area' should be for the archaeological and cultural heritage assessment of wind farms. Any given study area will therefore represent an exercise in professional judgment, refined to point of agreement between stakeholders during consultation.

Subject	Author Summary	Source
		Collection of Aerial Photography (NCAP) (online)
Historic Land Use Assessment	HES	Online

## Scope of Assessment

### Assets within the site

- 7.3.4 Designated and non-designated assets within the site will be assessed in order to determine any direct (physical) and indirect (non-physical) impacts. Should the Highland Council Archaeological Officer identify any non-designated assets that they consider to be of national/regional significance, and which they consider derive significance from their setting, these should be made known to the applicant via consultation.

### Assets outwith the site

- 7.3.5 All nationally significant designated assets (**Appendix C**) outwith the site but within the aforementioned 10 km study area will be subject to setting assessment in order to determine any impacts.

### Consultation

- 7.3.6 Based on the results of the baseline study, constraint mapping will be generated using GIS software to show mapped heritage assets in relation to a ZTV. This will filter out those assets that do not require further assessment. It will also be used to identify and agree on the most potentially sensitive assets; these may then require computer-generated visualisations to be produced as part of their assessment, in liaison with consultees.
- 7.3.7 Consultation will be undertaken with HES in relation to the method of assessment employed in assessing those heritage assets within their remit; these include: Scheduled Monuments, Category A Listed Buildings, Inventoried Gardens and Designed Landscapes (GDLs), and Inventoried Battlefields. The Highland Council Historic Environment Team will be consulted in relation to non-designated heritage assets and designated heritage assets of regional significance, and any non-designated assets they consider to be of higher significance.

### Field Surveys

- 7.3.8 A targeted site inspection will be carried out in relation to those recorded assets likely to be impacted by the proposed development; the aim of this

would be to establish the condition of any recorded assets and identify the potential for any additional presently unrecorded assets.

- 7.3.9 Targeted field inspection of other assets will also be undertaken following a desk-based comparison of asset mapping with ZTV and satellite imagery; the aim of this would be to identify and inspect any designated heritage assets potentially susceptible to impact as a result of change to setting under the proposed development.

#### **Assessment and Types of Impact**

- 7.3.10 Impacts have the potential to be caused by the proposed development where it changes the baseline condition of either the asset itself or its setting; it being noted that change does not necessarily result in an impact.
- 7.3.11 In accordance with EIA Regulations, this assessment will identify impacts and effects as either direct or indirect, adverse or beneficial, and short-term, long-term or permanent. The definition of impact is described below:
- Direct (physical) impacts: occur where the physical fabric of the asset is removed or damaged, or where it is preserved or conserved, as a direct result of the proposed development. Such impacts are most likely to occur during the construction phase and are most likely to be permanent.
  - Indirect (physical) impacts: occur where the fabric of an asset, or buried archaeological remains, is removed or damaged, or where it is preserved or conserved, as an indirect result of the proposed development, even though the asset may lie some distance from the proposed development. Such impacts are most likely to occur during the construction phase and are most likely to be permanent.
  - Setting impacts: result from the proposed development causing change within the setting of a heritage asset that affects its cultural significance or the way in which it is understood, appreciated, and experienced. Such impacts are generally, but not exclusively, visual, occurring directly as a result of the appearance of the proposal in the surroundings of the asset. Setting impacts may also relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land-use and related historic features. Such impacts may occur at any stage of a proposal's lifespan and may be permanent, reversible, or temporary.



- Cumulative impacts: can relate to the physical fabric or setting of assets. They may arise as a result of impact interactions, either of different impacts of the proposed development itself, or additive impacts resulting from incremental changes caused by the proposed development together with other projects already in the planning system or allocated in a Local Development Plan.
- 7.3.12 Assessment will be undertaken separately for direct impact, indirect impact and impact to setting. Direct and indirect impacts are those which would change the heritage significance of an asset through physical alteration; setting impacts are those which would affect the heritage significance of an asset by causing change within its setting.
- 7.3.13 Direct impacts upon the significance of heritage assets will take into account the level of their heritage significance (where known) and the magnitude (extent) of the identified impacts.
- 7.3.14 Setting impacts on the significance of heritage assets will be identified and assessed with reference to *Managing Change in the Historic Environment: Setting*<sup>32</sup> and the guidance set out by NatureScot and HES<sup>33</sup>. Assessment will be carried out in the following stages:
- initial consideration of intervisibility and other factors leading to the identification of potentially affected assets;
  - assessment of the cultural heritage significance of potentially affected assets;
  - assessment of the contribution of setting to the cultural heritage significance of those assets;
  - assessment of the extent to which change to any contributing aspects of the settings of those assets, as a result of the proposed development, would affect their cultural heritage significance (magnitude of impact); and
  - determination of the significance of any identified effects.

### Zone of Theoretical Visibility

- 7.3.15 The settings assessment will be assisted by a ZTV calculation, presented in **Figure 7.1**. A ZTV calculation maps the predicted degree of visibility of a proposed development from all points within a proportionate, defined

<sup>32</sup> Historic Environment Scotland (2020). *Managing Change in the Historic Environment: Setting*. Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=80b7c0a0-584b-4625-b1fd-a60b009c2549>

<sup>33</sup> NatureScot and Historic Environment Scotland (2018). *Environmental Impact Assessment Handbook*. Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=6ed33b65-9df1-4a2f-acbb-a8e800a592c0>

study area around the site, as would be seen from an average observer’s eye level (two metres above ground level). The ZTV model presented in **Figure 7.1** is based upon the maximum level of theoretical visibility, i.e., the maximum height of the wind turbine blade tips.

### Cultural Heritage Significance

- 7.3.16 The categories of cultural heritage significance to be referred to are presented in **Table 7.3**, which will act as an aid to consistency in the exercise of professional judgement and provide a degree of transparency for others in evaluating the conclusions drawn.
- 7.3.17 The significance categories take into account factors such as: designation, status and grading. For non-designated assets, consideration will be given to their inherent heritage interests, intrinsic, contextual, and associative characteristics. In relation to these assets, the assessment will focus upon an assessment of the assets’ inherent capability to contribute to our understanding of the past; the character of their structural, decorative and field characteristics as informed by the Historic Environment Record (HER) and Canmore records and / or site visit observations; the contribution of an asset to their class of monument, or the diminution of that class should an asset be lost; and how a site relates to people, practices, events, and/or historical or social movements. Assessments of the cultural significance of specific assets, where recorded within the HER, will be taken into account where appropriate.

**Table 7.3 2: Cultural Heritage Significance**

Heritage Significance	Explanation
Highest	Sites of international importance, including: World Heritage Sites, Sites on the ‘Tentative List’ for WHS status under the Cultural Category.
High	Site of National importance, including: Scheduled Monuments, Category A Listed Buildings, Gardens and Designed Landscapes included on the national inventory, Designated Battlefields, Non-designated assets of equivalent significance.
Medium	Sites of Regional/local importance, including: Category B and C Listed Buildings, Some Conservation Areas, Non-designated assets of equivalent significance.

Heritage Significance	Explanation
Low	Sites of minor importance or with little of the asset remaining to justify a higher importance.
None	Sites that are of no heritage significance.
Unknown	Further information is required to assess the significance of these assets.

### Magnitude of Impact

- 7.3.18 Determining the magnitude of any likely impacts will include consideration of the nature of the activities proposed during the construction and operational phases of the proposed development.
- 7.3.19 The changes could potentially include direct change (e.g. ground disturbance), and indirect change (e.g. visible change, noise, vibration, traffic movements affecting the setting of the asset). Impacts may be beneficial or adverse, and may be short term, long term or permanent.
- 7.3.20 The magnitude of any effects will be assessed using professional judgment, with reference to the criteria set out in **Table 7.4**.

**Table 7.4 3: Magnitude of Impact**

Magnitude of Impact	Explanatory Criteria
High Beneficial	The proposed development would considerably enhance the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Medium Beneficial	The proposed development would enhance, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Low Beneficial	The proposed development would enhance, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Beneficial	The proposed development would enhance, to a very minor extent, the cultural heritage significance of the affected asset, or the ability understand, appreciate and experience it.
Neutral/None	The proposed development would not affect (or would have harmful and enhancing impacts of equal magnitude upon) the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.

Magnitude of Impact	Explanatory Criteria
Very Low Adverse	The proposed development would erode, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact would not be considered to affect the integrity of the asset's setting.
Low Adverse	The proposed development would erode, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact would rarely be considered to affect the integrity of the asset's setting.
Medium Adverse	The proposed development would erode, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact might be considered to affect the integrity of the asset's setting.
High Adverse	The proposed development would considerably erode the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact would probably be considered to affect the integrity of the asset's setting.

## Significance of Impact

7.3.21 The categories of impact referred to, and the criteria used in their determination, are presented in **Table 7.5**.

**Table 7.5 4: Cultural Heritage Impact**

Impact	Criteria
Major	Severe harm or notable enhancement, such as total loss of significance of the asset or of the integrity of its setting, or exceptional improvement of the cultural heritage significance of the asset and/or the ability to understand, appreciate and experience it.
Moderate	Harm or enhancement, such as the introduction or removal of an element that would affect the cultural heritage significance of the asset and the ability to understand, appreciate and experience it to a clearly discernible extent.
Minor	Harm or enhancement to the asset's heritage significance and/or to the ability to understand, appreciate and experience it to a modest extent, such that the majority of the

Impact	Criteria
	asset's inherent interests and aspects of setting would be preserved.
Very Minor	Harm or enhancement to the asset's cultural heritage significance and/or to the ability to understand, appreciate and experience it, that is barely discernible.
Negligible/Nil	The development would not affect the cultural heritage significance of the asset and/or the ability to understand, appreciate and experience it, or would have harmful and enhancing impacts of equal magnitude.

7.3.22 **Table 7.6** provides a matrix that relates the cultural heritage significance of the asset to the magnitude of impact on its significance, to produce an overall anticipated level of impact. This assessment will be undertaken separately for physical (direct and indirect) impacts and impacts resulting from change to the setting of heritage assets.

**Table 7.65: Cultural Heritage Impact Matrix**

		Cultural Heritage Significance (excluding unknown)			
		Highest	High	Medium	Low
Magnitude of Impact	High beneficial	Substantial	Substantial	Moderate	Minor
	Medium beneficial	Substantial	Moderate	Minor	Very Minor
	Low beneficial	Moderate	Minor	Very Minor	Very Minor
	Very low beneficial	Minor	Very Minor	Negligible	Negligible
	Neutral/None	Neutral/Nil	Neutral/Nil	Neutral/Nil	Neutral/Nil
	Very low adverse	Minor	Very Minor	Negligible	Negligible
	Low adverse	Moderate	Minor	Very Minor	Very Minor
	Medium adverse	Substantial	Moderate	Minor	Very Minor
	High adverse	Substantial	Substantial	Moderate	Minor

### Mitigation

7.3.23 Where adverse effects on cultural heritage assets are identified, measures to prevent, reduce and/or, where possible, offset these effects, will be proposed. Potential mitigation measures can be discussed in terms of direct, indirect and settings impact.

7.3.24 Suitable measures for mitigating direct and indirect impacts might include:

- the micro-siting of proposed development away from sensitive locations;

- the fencing off or marking out of heritage assets or features in proximity to construction activity in order to avoid disturbance where possible;
- a programme of archaeological work where required, such as an archaeological watching brief during construction activities in or in proximity to areas of archaeological sensitivity, or excavation and recording where impact is unavoidable; and/or
- a working protocol to be implemented should unrecorded archaeological features be discovered.

7.3.25 Suitable measures for mitigating any settings impacts might include:

- alteration of the proposed wind turbine layout;
- reduction of proposed wind turbine heights; and/or
- changing the proposed colour of select wind turbines.

### Residual Impacts

7.3.26 Residual impacts are those that remain even after the implementation of suitable mitigation measures. Residual impacts will be identified, and the level of those residual impact defined with reference to **Table 7.5** and **Table 7.6**.

### Significance of Impact

7.3.27 Professional judgment will be used in the determination of whether any impacts/residual impacts are ‘Significant’ or ‘Not Significant’ for the purposes of EIA.

7.3.28 With reference to the matrix presented in **Table 7.6** and Section C.8.8 of the EIA Handbook<sup>34</sup>, any impacts identified as ‘Major’ or ‘Moderate’ within the matrix would almost certainly be considered ‘Significant’. With any impacts identified as below ‘Moderate’ considered ‘Not Significant’.

7.3.29 A clear and justified statement will be made as to whether any identified impacts are ‘Significant’ or ‘Not Significant’ for the purposes of EIA. In cases where the impact is identified as significant, the impact of the proposed development on the integrity of the asset would be assessed, following National Planning Framework 4 (NPF4, 2023), Policy 7h.

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<sup>34</sup> NatureScot and Historic Environment Scotland (2018). *Environmental Impact Assessment Handbook*. Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0>

## Legislation, Policy and Guidance

7.3.30 The assessment will be undertaken in accordance with the following principal relevant legislation:

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservations Areas (Scotland) Act 1997;
- The Historic Environment (Amendment) (Scotland) Act 2014; and
- Scottish Statutory Instrument No. 101 The Electricity Works (Environment Impact Assessment) (Scotland) Regulations 2017.

### Planning Policy

7.3.31 The Scottish Government, HES and THC have issued a number of statements of policy with respect to dealing with the historic environment in the planning system:

- National Planning Framework 4 (NPF4; 2023);
- Onshore Wind Turbines: Planning Advice (2014);
- Planning Advice Note 2/2011: Planning and Archaeology;
- Highland-wide Local Development Plan (2012);
- Our Past, Our Future: The Strategy for Scotland’s Historic Environment (2023);
- Historic Environment Policy for Scotland (HEPS 2019); and
- Designation Policy and Selection Guidance (2020).

### Guidelines and Technical Standards

7.3.32 Relevant guidance and technical standard documents comprise:

- Historic Environment Scotland Guidance on Managing Change in the Historic Environment: Setting (2020);
- A Guide to Climate Change Impact: On Scotland’s Historic Environment (2019);
- Scottish National Heritage (NatureScot) and Historic Environment Scotland Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment Process in Scotland (2019); and
- Chartered Institute for Archaeologists Standard and Guidance for Historic Environment Desk Based Assessment (2014, updated 2020).

## Cumulative Effect

7.3.33 A cumulative effect is considered to occur when there is a combination of:

- an effect on an asset or group of assets due to changes resulting from the development subject of assessment; and
- an effect on the same asset or group of assets resulting from another development (consented or proposed) within the surrounding landscape.

7.3.34 Consideration of other developments will be limited to:

- wind farm planning applications within 10 km of the affected assets that have been submitted and have a decision pending; and
- wind farm planning applications within 10 km of the affected assets which have been granted permission but not yet constructed.

7.3.35 Any effect resulting from operational wind farms would be considered as part of the baseline impact assessment. Cumulative impact would be considered in two stages:

- assessment of the combined impact of the developments, including the proposed development; and
- assessment of the extent to which the proposed development contributes to the combined impact.

### Matters Scoped Out

7.3.36 On the basis of the work undertaken to date, the professional judgement of the cultural heritage team, and experience of other comparable projects, it is considered that indirect and cumulative impacts of the proposed development on Category C Listed Buildings can be scoped out of the EIA in relation to cultural heritage. As per best practice guidance within EIA Handbook (NatureScot, 2019), Category C Listed Buildings are of local rather than national or regional importance, unless in the opinion of an assessor the designation should be higher.

7.3.37 Category B Listed Buildings outwith 5 km of the proposed wind turbines have been scoped out of any further assessment, with the exception of those wherein specific views are considered to contribute to their significance and/or to the ability to understand, appreciate and experience them. Category B Listed Buildings located more than 5 km away from the site have been scoped out of further assessment.

7.3.38 The significance of a Conservation Area derives from its local heritage and the assets that it contains, rather than the wider landscape. As such, any conservation area outwith 5 km has been scoped out, with the justification that, even if visibility between the proposed development and the



conservation areas may still occur, the conservation areas' significance would not be diminished.

- 7.3.39 It is also considered that any assets that fall outwith the ZTV (and where those assets' approaches also fall outwith the ZTV) can be scoped out of the EIA in relation to cultural heritage.

## 7.4 Potential Effects

### Direct and Indirect Effects

- 7.4.1 As stated, there are two scheduled monuments and an additional 25 non-designated recorded cultural heritage assets within the site boundary. Whilst positioned outside of the current placement of the wind turbines, these known cultural heritage assets may be susceptible to a significant level of direct or indirect impact as a result of the construction of the proposed development. In addition, any design changes for the placement of the wind turbines may incur potential direct impacts on the heritage assets. Potential mitigation is discussed in section 7.6 of this Scoping Report.
- 7.4.2 Furthermore, there is the potential for direct impact on any unrecorded cultural heritage assets within the site as a result of the construction process. Relevant mitigation measures will be embedded within the design of the proposed development as design progresses.
- 7.4.3 If there are any further ground-breaking works undertaken during operation or decommissioning of the wind farm (e.g. access track widening), then there is the potential for further impact on recorded or unrecorded heritage assets. If this is the case, then further mitigation methods, such as a watching brief or design changes to proposed development may be required.

### Settings Impacts

- 7.4.4 Settings impacts are most likely to occur as part of the construction and operational phases of development, these will be considered as part of the chapter.
- 7.4.5 Five designated cultural heritage assets within 10 km of the proposed wind turbine locations will be subject to detailed settings assessment within the chapter, as there is the potential for the proposed development to have a significant effect upon them.

- 7.4.6 To provide a preliminary list of assets that will be subject to a detailed assessment, all scheduled monuments within 10 km of the site and Category B listed buildings within 5 km of the site have been preliminarily assessed in **Appendix C**. **Appendix C** has aimed to create a proportionate scope for the assessment and will be an evolving document throughout the EIA process. Assets that fall out of the proposed study area, the ZTV, and that do not have a third viewpoint that contributes to the significance of the monument have been scoped out of assessment. Assets that have been scoped in may be scoped out and vice versa, dependent on the final layout as a result of consultee comments.
- 7.4.7 All designated cultural heritage assets within 10 km, along with the ZTV indicating their visibility of the proposed wind turbines, are depicted on **Figure 7.1** in **Appendix A**.
- 7.4.8 The assets scoped in for further assessment within the chapter after the initial heritage appraisal are as follows:
- Mains of Aberarder Fort, 270m S of (SM11541);
  - Mains of Aberarder, hut circle 1145m ESE of (SM11542);
  - West Croachy House, cairns 1000m ESE of (SM11433);
  - Banchor, cairn 315m SE of (SM11814); and
  - Dalarossie Cottage, cairn 375m SSE of (SM11815).
- 7.4.9 Visualisations, in the form of photomontages, will be produced for the following assets as part of the chapter:
- Mains of Aberarder Fort, 270m S of (SM11541); and
  - Mains of Aberarder, hut circle 1145m ESE of (SM11542);
  - West Croachy House, cairns 1000m ESE of (SM11433).
- 7.4.10 Visualisations, in the form of wirelines, will be produced for the following assets as part of the chapter:
- Banchor, cairn 315m SE of (SM11814); and
  - Dalarossie Cottage, cairn 375m SSE of (SM11815).
- 7.4.11 Assets that fall out of the proposed study area, the ZTV, and that do not have a third viewpoint that contributes to the significance of the monument have been scoped out of assessment. Assets that have been scoped in may be scoped out and vice versa, dependent on the final layout as a result of consultee comments.

## Consultation

7.4.12 It is anticipated that consultation with HES and the Historic Environment Team at THC will be undertaken during the course of the assessment (for example, to agree upon the finalised selection of heritage assets for further assessment).

## 7.5 Approach to Mitigation

7.5.1 As stated in the proposed methodology, there are multiple methods of mitigation that may be employed to reduce the potential for impact as a result of the proposed development.

7.5.2 Suitable measures for mitigating direct and indirect impacts might include:

- the micro-siting of proposed development away from sensitive locations;
- the fencing off or marking out of heritage assets or features in proximity to construction activity in order to avoid disturbance where possible;
- a programme of archaeological work where required, such as an archaeological watching brief during construction activities in or in proximity to areas of archaeological sensitivity, or excavation and recording where impact is unavoidable; and/or
- a working protocol to be implemented should unrecorded archaeological features be discovered.

7.5.3 There will be a 250 m fenced off buffer around the Scheduled Monuments within the site, to ensure that there are no direct impacts from the construction of the proposed development. Furthermore, a buffer of 10 m will be placed around any known heritage assets within the site. The cultural heritage team will work with the design team to ensure that any known archaeology within the site is avoided.

7.5.4 Suitable measures for mitigating any settings impacts might include:

- alteration of the proposed wind turbine layout; and
- reduction of proposed wind turbine heights.

7.5.5 These mitigation measures will be embedded into the design of the proposed development and developed through careful consultation with the relevant statutory consultees.

## 7.6 Summary of Scope

- 7.6.1 Cultural heritage assets both within the site and outwith the site will be considered for potential for direct, indirect, settings and cumulative impacts as a result of the proposed development.
- 7.6.2 In regard to direct and indirect impacts, mitigation will be embedded into the design of the proposed development, in order to ensure that no known heritage assets will be impacted. Furthermore, the potential for direct impacts on as of yet unrecorded heritage assets will be considered within the chapter. If warranted, further mitigation will be agreed with the Historic Environment Team at THC.
- 7.6.3 A high level appraisal has been undertaken of the designated heritage assets within 10 km of the proposed development. This appraisal can be found in **Appendix C** of this Scoping Report. As a result of the appraisal, the assets scoped in for further assessment within the chapter after the initial heritage appraisal are as follows:
- Mains of Aberarder Fort, 270m S of (SM11541);
  - Mains of Aberarder, hut circle 1145m ESE of (SM11542);
  - West Croachy House, cairns 1000m ESE of (SM11433);
  - Banchor, cairn 315m SE of (SM11814); and
  - Dalarossie Cottage, cairn 375m SSE of (SM11815).
- 7.6.4 Furthermore, the potential for cumulative impacts as a result of the proposed development on any sensitive heritage receptors will be considered.

## 7.7 Questions for Consultees

Q7.1. Do consultees agree with the proposed scope of the assessment, including the proposed study areas and elements to be scoped out of the assessment?

Q7.2. Do consultees agree with the proposed assessment methodology?

Q7.3. Are consultees satisfied with the mitigation measures proposed?

Q7.4. Are consultees satisfied with the locations and types of visualisations proposed?

## 8 Ecology

### 8.1 Introduction

- 8.1.1 This section defines the proposed methodology for the ecological (non-avian) 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.
- 8.1.2 The ways in which habitats or species might be affected (directly or indirectly) by the construction, operation and decommissioning of the proposed development will be assessed considering embedded mitigation, and prior to and after any additional 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.

### 8.2 Baseline Conditions

- 8.2.1 Baseline ecological conditions to inform the design and assessment of the proposed development will be established through a review of existing ecological information relevant to the site and ecological field surveys.
- 8.2.2 Full details of baseline studies, including field survey methodologies and results will be presented within the EIA Report.

#### Desk Study

- 8.2.3 The following key sources have been, or will be, consulted for existing ecological information, within proximity to the proposed development:
- National Biodiversity Network (NBN) Atlas Scotland<sup>35</sup> on open data ecological records within 5 km of the site within the last 15 years (i.e. since 2009);
  - Ancient Woodland Inventory (AWI)<sup>36</sup> for the presence of AWI sites within 5 km of the site;

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<sup>35</sup> National Biodiversity Network Atlas Scotland (2024). Available at: <https://scotland.nbnatlas.org/>. Accessed 24 May 2024.

<sup>36</sup> Ancient Woodland Inventory (Scotland). Available at: <https://www.spatialdata.gov.scot/geonetwork/srv/api/records/A091F945-F744-4C8F-95B3-A09E6EF6AE33>. Accessed 24 May 2024.

- NatureScot Sitelink<sup>37</sup> to confirm the location and qualifying features of designated sites within 5 km of the site;
- Carbon and Peatland Map 2016<sup>38</sup>;
- Deer Distribution Survey by the British Deer Society<sup>39</sup>;
- Saving Scotland’s Red Squirrels website<sup>40</sup>; and
- relevant data within the EIA Reports or technical reports for the Aberarder and Dunmaglass Wind Farms, both located to the south-west of the proposed development.

### NBN Atlas

8.2.4 A search of the NBN Atlas<sup>35</sup> identifies existing records (with open data) of the following protected and/or notable species within 5 km of the site since 2009 (10 km for bat species), as shown in **Table 8.1**.

**Table 8.1: 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)
Badger	<i>Meles meles</i>	Protected species	CC-BY <sup>41</sup>	HBRG (D. Jardine, R. Scott, W. Macdougall, I. MacLennan, J. Teesdale, C. Du Feu, G. Fullarton)
Brown hare	<i>Lepus europaeus</i>	Protected species (during the close season)	CC-BY	Highland Biological Recording Group (HBRG) (D. Jardine, J. O’Donovan, A. Proud, C. Smout, S. Woodfin)
			OGL <sup>42</sup>	British Trust for Ornithology (BTO)
Brown long-eared bat	<i>Plecotus auritus</i>	Protected species	CC-BY	HBRG (A. Ritchie, S. Pepper)
			OGL	NatureScot (T. Koczy)
Common lizard	<i>Zootoca vivipara</i>	Protected species	CC-BY	HBRG (M. Macdonald, S. Moran, M. Taylor, R. Raynor, L. Templeton)

<sup>37</sup> NatureScot Sitelink (2024). Available at: <https://sitelink.nature.scot/home>. Accessed 24 May 2024.

<sup>38</sup> Scottish Government (2024). Scotland’s Soils. Available at: [https://map.environment.gov.scot/Soil\\_maps/?layer=10#](https://map.environment.gov.scot/Soil_maps/?layer=10#). Accessed 24 May 2024.

<sup>39</sup> British Deer Society (2023). Deer Distribution Survey. Available at: <https://bds.org.uk/science-research/deer-surveys/deer-distribution-survey/>. Accessed 24 May 2024.

<sup>40</sup> Scottish Squirrels (2024). Sightings of Red and Grey Squirrels across Scotland. Available at: <https://scottishsquirrels.org.uk/squirrel-sightings/>. Accessed 24 May 2024.

<sup>41</sup> Creative Commons with Attribution 4.0 (CC-BY) <https://creativecommons.org/licenses/by/4.0/>. Accessed 13 June 2024.

<sup>42</sup> Open Government Licence (OGL) <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>. Accessed 13 June 2024.

Common name	Scientific name	Relevance	License	Rightsholder (Recorder)
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Protected species	OGL	Bat Conservation Trust NatureScot (R. Koczy, T. Koczy)
Daubenton's bat	<i>Myotis daubentonii</i>	Protected species	CC-BY OGL	HBRG (Inverness Bat Group) Bat Conservation Trust NatureScot (T. Koczy)
Mountain hare	<i>Lepus timidus</i>	Protected species	CC- BY OGL	HBRG (D. Jardine, A. Proud, N. Dunn, D. Pierce, J. Willet) BTO
Natterer's bat	<i>Myotis nattereri</i>	Protected species	OGL	Bat Conservation Trust
Otter	<i>Lutra lutra</i>	Protected species	CC-BY OGL	HBRG (R. Scott, W. Macdougall, A. Proud, J. Willet, N. Redgate) BTO & Scottish Natural Heritage
Palmate newt	<i>Lissotriton helveticus</i>	Notable species	CC-BY	HBRG (M. Macdonald, D. O'Brien, J. Willet, J. Scott)
Pine marten	<i>Martes martes</i>	Protected species	CC-BY OGL	HBRG (D. Jardine, R. Scott, G. Onwin, R. Macdonald, N. Turner) BTO
Red deer	<i>Cervus elaphus</i>	Notable species	CC-BY OGL	HBRG (M. Macdonald, D. Jardine, R. Scott, A. Proud, J. Willet, B. How) The Mammal Society and Biological Records Centre (N. Wright) BTO
Red squirrel	<i>Sciurus vulgaris</i>	Protected species	CC-BY OGL	HBRG (M. Macdonald, D. Jardine, W. Macdougall, A. Proud, J. Teesdle, R. Holt, R. Wood) Scottish Wildlife Trust The Mammal Society and Biological Records Centre (A. Whitelee, P. O'Connell) BTO

Common name	Scientific name	Relevance	License	Rightsholder (Recorder)
Roe deer	Capreolus capriolus	Notable species	CC-BY OGL	HBRG (D. Jardine, R. Scott, R. Wood) BTO
Soprano pipistrelle	Pipistrellus pygmaeus	Protected species	CC-BY OGL	HBRG (Inverness Bat Group, K. Martin A. Young, R. Holt, R. Thwaites) NatureScot (T. Koczy, R. Koczy)
Sika deer	Cervus nippon	Notable species	CC-BY OGL	HBRG (D. Jardine) BTO
Water vole	Arvicola amphibius	Protected species	CC-BY	HBRG (R. Scott, A. Proud, K. Kortland)

8.2.5 The following invasive non-native species (INNS) were also returned by these search parameters, shown in **Table 8.2**.

**Table 8.2: National Biodiversity Network records (2009-2024) for INNS within 5 km of the site boundary**

Common name	Scientific name	Relevance	License	Rightsholder (Recorder)
Grey squirrel	Sciurus carolinensis	INNS	CC-BY OGL	HBRG (M. Macdonald, D. Jardine, W. Macdougall, A. Proud, J. Teesdale, R. Holt, R. Wood) Scottish Wildlife Trust The Mammal Society and Biological Records Centre (A. Whitelee, P. O'Connell) BTO
American mink	Neovison vison	INNS	CC-BY OGL	Highland Biological Recording Group (A. Proud) BTO
American skunk-cabbage	Lysichiton americanus	INNS	CC-BY OGL	Botanical Society of Britain and Ireland and Biological Records Centre (M. Nicolson, R. Campbell, E. Di Cuffa, J. Kyle) Scotland's Environment Web and Biological Records Centre (M. Nicolson)

### Designated Sites



8.2.6 There are no statutory designations with ecological (non-avian) features within the site.

8.2.7 There are three statutory sites designated for ecological (non-avian) qualifying interests located within 5 km of the site boundary as summarised in **Table 8.3** and illustrated in **Figure 8.1**.

**Table 8.3: Designated Sites with Ecological (Non-Avian) Qualifying Interests within 5 km of the site**

Designated site	Qualifying ecological features	Condition of feature (and date monitored)	Distance from site boundary
Loch Ruthven Special Area of Conservation (SAC)	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained (27 July 2010)	1.5 km
	Otter	Favourable Maintained (29 July 2011)	
Loch Ruthven Site of Special Scientific Interest (SSSI)	Mesotrophic loch	Favourable Maintained (27 July 2010)	1.5 km
Creag nan Clag SSSI	Lichen assemblage	Favourable Maintained (13 August 2008)	3.7 km

8.2.8 Creag nan Clag SSSI is 3.7 km from the site boundary and designated for its lichen assemblage, as such it is considered there is no connectivity with the proposed development due to distance and the respective qualifying feature, and potential effects on this SSSI are scoped out.

8.2.9 Otters are a qualifying species of the Loch Ruthven SAC. Otters that form part of the SAC population may periodically use habitat within the site for commuting in the wider area, and foraging. Otter home ranges are large, and any individuals present are unlikely to be fully dependent on prey availability and access within watercourses within the site. The proposed development is not considered likely to result in any otter population or territory fragmentation, nor create any barrier effects with respect to the movement of otters within the SAC or locally. In taking account of the above and standard and proven mitigation measures, any adverse effects on the SAC's conservation objectives for otter can be discounted and a likely significant effect from the proposed development on otter can be ruled out. As it has been concluded that there is no likely significant effects on otter as a feature of the Loch Ruthven SAC they therefore are scoped out.

8.2.10 The clear-water lakes qualifying feature of Loch Ruthven SAC and the underpinning Loch Ruthven SSSI has no connectivity with the proposed development due to topographical and hydrological barriers. Therefore, any likely significant effects from the proposed development can be scoped out.

### Ancient Woodland

8.2.11 In review of the AWI<sup>36</sup>, a number of AWI sites are identified within and to the east of the site boundary. Additional AWI sites are also identified within 5 km of the site primarily to the north along the River Nairn and Loch Moy see **Figure 8.1**).

8.2.12 The closest area of ancient woodland to a wind turbine is to the south-east, approximately 980 m from T6. A section of access track is proposed to pass through an area mapped as AWI (categorised on the AWI as Ancient (of semi-natural origin) by Glen Kyllachy (**Figure 8.1**)). From initial desk-based review this area appears to be a commercial conifer plantation area, much of which has been clear-felled in the recent past and is dissected by a number of existing tracks. The proposed development will seek to utilise the existing track here as much as possible, and ecological field surveys will gather further information on the type and character of the woodland in the area mapped on the AWI.

### Scottish Soils Carbon and Peatland Map 2016

8.2.13 The Carbon and Peatland Map 2016<sup>38</sup> suggests that the site is predominately Class 1<sup>43</sup> peatland within the proposed development, with small patches of Class 2<sup>44</sup> peatland, Class 3<sup>45</sup> peatland, Class 4<sup>46</sup> peatland, Class 5<sup>47</sup> peatland and Class 0<sup>48</sup> mineral soil across the site. Currently, all wind turbines are located on predicted Class 1 peatland according to this tool (**Figure 8.1**).

8.2.14 Much of the site where wind turbines will be located is above 600 m in altitude, this, coupled with the predominance of Class 1 peatland here,

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<sup>43</sup> Class 1 - Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value.

<sup>44</sup> Class 2 - Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential.

<sup>45</sup> Class 3 - Dominant vegetation cover is not priority peatland habitat but is associated with wet and acidic type. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat.

<sup>46</sup> Class 4 - Area unlikely to be associated with peatland habitats or wet and acidic type. Area unlikely to include carbon-rich soils.

<sup>47</sup> Class 5 - Soil information takes precedence over vegetation data. No peatland habitat recorded. May also include areas of bare soil. Soils are carbon-rich and deep peat.

<sup>48</sup> Mineral soil - Peatland habitats are not typically found on such soils (Class 0).

will likely be considered montane bog, in line with recent NatureScot guidance<sup>49</sup>. However, from initial desk-based reviews of aerial imagery it appears the peatland is highly degraded, primarily through extensive peat hagg and gully erosion, but also through artificial drains. Therefore, the presence of any near-natural peatland here is likely to be limited, and field surveys will provide evidence on the nature and condition of peatland at the site and opportunities for restoration and enhancement.

### Deer Distribution Survey

- 8.2.15 The results of the 2023 Deer Distribution Survey<sup>39</sup> indicate that the following deer species are present in the general area of the site:
- Red deer;
  - Roe deer; and
  - Sika deer.

### Baseline Field Surveys

- 8.2.16 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

- 8.2.17 NVC surveys, incorporating Phase 1 Habitat and potential Groundwater Dependent Terrestrial Ecosystem (GWDTE) habitat characterisation will be undertaken in 2024 across the survey area as indicated in **section 8.3.1**.

#### Protected Species Surveys

- 8.2.18 Protected species walkover surveys, including daytime bat walkover surveys, will be undertaken in 2024 and will be carried out across the survey area including relevant buffers for protected species along the access tracks<sup>50</sup>.
- 8.2.19 Further surveys will be carried out if potential bat roost features are identified and within an area of potential impact.

#### Static Bat Activity Surveys

- 8.2.20 Seasonal bat detector (Anabat) surveys following NatureScot *et al.* (2021) guidelines<sup>51</sup> are currently in progress. Seventeen Anabats have been

<sup>49</sup> NatureScot (2023). Advising on peatland, carbon-rich soils and priority peatland habitats in development management <https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management>

<sup>50</sup> Species-specific 30 m, 100 m and 250 m buffers will be considered outwith the site boundary insofar as access is permitted.

<sup>51</sup> NatureScot (2021). Bats and onshore wind turbines - survey, assessment and mitigation. Available at: <https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation>. Accessed: 24 May 2024.

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 an indicative design layout and positioned such as to cover the areas where wind turbines are proposed to be located.

- 8.2.21 Static bat data will be processed using Ecobat (Mammal Society (2017)<sup>52</sup>), if available<sup>53</sup>.

#### **Fish and Fish Habitat Survey**

- 8.2.22 Electrofishing and fish habitat suitability surveys will be carried out in 2024 by the local fisheries trust on watercourses within the site and downstream as deemed relevant.

### **8.3 Assessment Methodology**

- 8.3.1 The EIA Report for the proposed development will incorporate the following study areas for ecology:

- habitats and potential GWDTE: survey area is generally, and a minimum of, 500 m offset from the wind turbines and 250 m offset the lengths of new access tracks;
- protected species: survey area is generally, and a minimum of, 500 m offset from the wind turbines and 250 m offset the lengths of new access tracks and any species-specific buffers as necessary;
- potential bat roost features: proposed development and a 200 m plus wind turbine rotor radius buffer (as per NatureScot *et al.* 2021) study area;
- bat collisions: the proposed development, static bat data will be processed using Ecobat<sup>47</sup> if available<sup>48</sup>;
- electrofishing surveys: watercourses within the site and downstream as deemed relevant; and
- cumulative assessment: the proposed development and a 5 km study area.

- 8.3.2 The following data sources will be consulted as part of the assessment:

- NBN Atlas;
- NatureScot Sitelink;
- The British Deer Society;
- Carbon and Peatland Map;

<sup>52</sup> Mammal Society (2017). Ecobat. Available at: <http://www.ecobat.org.uk/>. Accessed: 24 May 2024.

<sup>53</sup> The Ecobat tool which is listed in the NatureScot *et al.* (2021) guidance as the recommended methodology for assessing bat activity has been undergoing maintenance and is currently unavailable for use. The timescale of this work is currently unknown, and as such alternative quantitative methods may be used to assess bat activity levels.

- The Highland Council (2021). Highland Nature Biodiversity Action Plan 2021 to 2026;
- Ancient Woodland Inventory;
- Highland Biological Recording Group;
- Findhorn, Nairn & Lossie Rivers Trust;
- SEPA Water Environment Hub;
- Saving Scotland’s Red Squirrels Map (Saving Scotland’s Red Squirrels, 2024);
- relevant data within the EIA Reports and associated documents from Aberarder and Dunmaglass Wind Farms, both located to the south-west of the proposed development; and
- relevant scientific literature on protected species’ distribution, habitats distribution and conservation status etc.

8.3.3 The EIA Report will include an Ecological Impact Assessment (EclA). This will consider the potential direct, indirect, and cumulative effects that the construction, operation and decommissioning of the proposed development could have on any Important Ecological Features (IEFs) scoped into the assessment. The EclA will be supported by technical appendices covering habitats, protected species, bats, fisheries, and an outline Biodiversity Enhancement Management Plan (oBEMP). These will include details of survey methodologies, survey data, and outputs of any analysis.

8.3.4 Effects on IEFs will be assessed in relation to the species’ reference population or habitat extent, conservation status, range and distribution. The assessment of potential effects will be informed by CIEEM (2022)<sup>54</sup> and NatureScot guidance (see also **section 8.3: Legislation, Guidance and Policy**).

8.3.5 The assessment will be informed by information currently available. The evaluation for wider countryside interests (i.e. unrelated to any Natura 2000 sites) involves the following process:

- identifying potential impacts of the proposed development (beneficial and adverse);
- considering the likelihood of occurrence of potential impacts, where appropriate;

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<sup>54</sup> CIEEM (2022). Guidelines for Ecological Impact Assessment in the UK and Ireland. Version 1.2. Available at: <https://cieem.net/wp-content/uploads/2019/02/Combined-EclA-guidelines-2018-compressed.pdf>. Accessed: 24 May 2024.

- defining the nature conservation value (NCV) and conservation status of relevant populations for each IEF to determine overall sensitivity;
- establishing the magnitude of the likely impact (both spatial and temporal) on each IEF;
- based on the above information, making a judgement as to whether or not any consequent potential effect would be significant with respect to the EIA Regulations;
- if a potential effect is determined to be significant, measures to avoid, or reduce, mitigate or compensate for the effect are suggested, where required the significance of effects are considered;
- considering opportunities for enhancement where appropriate; and
- concluding residual potential effects after considering mitigation, compensation and enhancement are considered.

8.3.6 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.

8.3.7 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.

8.3.8 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.

8.3.9 A set of pre-defined significance criteria 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).

### Legislation, Policy and Guidance

8.3.10 The following key pieces of legislation, planning policy and guidance of relevance to ecology will be referred to during the completion of baseline studies and subsequent assessment:

#### 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, and as amended by Directive 2014/52/EU);
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations);
- Nature Conservation (Scotland) Act 2004 (as amended);
- Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003;
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) ‘The Habitats Regulations’;
- The Protection of Badgers Act 1992;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- The Wildlife and Countryside Act 1981 (as amended); and
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE).

### Policy

8.3.11 The assessment will be carried out in accordance with the principles contained within the following policy and guidance documents:

- Joint Nature Conservation Committee (JNCC) and Department for Environment, Food and Rural Affairs (DEFRA) (2012). UK Post-2010 Biodiversity Framework;
- Scottish Government (2013) Scottish Biodiversity Strategy: It’s in Your Hands (2004)/2020 Challenge for Scotland’s Biodiversity (2013);
- Scottish Government (2022). Onshore Wind Policy Statement 2022;
- Scottish Government (2022). Scottish Biodiversity Strategy to 2045. Tackling the Nature Emergency in Scotland; and
- Scottish Government (2023). National Planning Framework 4 (NPF4).

### Guidance

- Chartered Institute of Ecology and Environmental Management (CIEEM) (2022) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (version 1.2).

Chartered Institute of Ecology and Environmental Management,  
Winchester;

- Collins, J. (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London;
- The Highland Council Highland-wide Local Development Plan (2012) and Supplementary Guidance;
- The Highland Council (2021) Highland Nature Biodiversity Action Plan 2021 to 2026;
- The Highland Council (2023) Draft Biodiversity Planning Guidance;
- European Commission (2020) Guidance document on wind energy developments and EU nature legislation;
- JNCC (2022) Guidelines for selection of biological Sites of Special Scientific Interest (SSSI);
- NatureScot, Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT) (2019, with minor updates 2021). Bats and Onshore Wind Turbines - Survey, Assessment and Mitigation;
- NatureScot (2020) General Pre-application and Scoping Advice to Developers of Onshore Wind Farms;
- NatureScot (2021). Assessing the cumulative landscape and visual impact of onshore wind energy developments;
- NatureScot (2023). Advising on peatland, carbon-rich soils and priority peatland habitats in development management;
- NatureScot (2023). Planning and development: protected species;
- Scottish Badgers (2018) Surveying for Badgers: Good Practice Guidelines. Version 1;
- Scottish Executive (2000) Nature conservation: implementation in Scotland of EC Directives on the conservation of natural habitats and of wild flora and fauna and the conservation of wild birds ('The Habitats and Birds Directives'). Revised guidance updating Scottish Office Circular no. 6/1995;
- Scottish Environment Protection Agency (SEPA) (2017) Land Use Planning System Guidance Note 4 - Planning guidance on on-shore windfarm developments;
- SEPA (2017) Land Use Planning System Guidance Note 31 - Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems;
- Scottish Executive (2000). Nature conservation: implementation in Scotland of EC Directives on the conservation of natural habitats and



of wild flora and fauna and the conservation of wild birds ('The Habitats and Birds Directives'). Revised guidance updating Scottish Executive Circular no. 6/1995;

- Scottish Executive Rural Affairs Department (SERAD) (2001). European Protected Species, Development Sites and the Planning Systems: Interim guidance for local authorities on licensing arrangements.
- Scottish Government (2016) Draft Peatland and Energy Policy Statement;
- Scottish Government (2017) Planning Advice Note 1/2013 - Environmental Impact Assessment, Revision 1.0;
- Scottish Government (2017) Planning Circular 1/2017: Guidance on The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Scottish Government (2018) Climate Change Plan: Third Report on Policies and Proposals 2018-2032;
- Scottish Government (2019) The Scottish Forestry Strategy 2019 - 2029;
- Scottish Government (2020) Scottish biodiversity strategy post-2020: statement of intent;
- Scottish Government (2020) EU Exit: The Habitat Regulations in Scotland;
- Scottish Government (2020). Securing a green recovery on a path to net zero: climate change plan 2018 - 2032 - update;
- Scottish Government (2021) Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines;
- SNH (2015) Scotland's National Peatland Plan;
- SNH (2016) Planning for Development: What to consider and include in deer assessments and management at development sites (Version 2);
- SNH (2016) Planning for Development: What to consider and include in Habitat Management Plans. Version 2;
- SNH (2018) Environmental Impact Assessment Handbook - Version 5: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland; and
- Scottish Renewables, SNH, SEPA, Forestry Commission (Scotland), HES, AEECoW (2019) Good Practice During Windfarm Construction (4th Edition).

## Consultation

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

- NatureScot;
- SEPA;
- THC; and
- Findhorn, Nairn and Lossie Rivers Trust.

## 8.4 Potential Effects

8.4.1 The assessment will consider the potential impacts associated with construction, operation and decommissioning of the proposed development as detailed below. Where appropriate, the construction and operational impacts will also be considered in a cumulative assessment.

### Construction/decommissioning impacts:

- temporary and permanent habitat loss/ alteration/ fragmentation/ drainage associated with the proposed development;
- pollution impacts on watercourses within the site;
- loss of shelter, breeding, or foraging habitat for protected species;
- displacement of deer;
- risk of injury or death to protected species from collisions with increased construction traffic; and
- visual and noise disturbance to protected species associated with construction activities.

### Operational impacts:

- displacement of protected species from shelter, breeding, or foraging habitats around operational wind turbines and other permanent infrastructure, including barrier effects; and
- risks of bats colliding with or suffering barotrauma from proximity to operational wind turbine blades.

8.4.2 A summary of the features and impacts to be considered, and the phases for which they are likely to be scoped in or out for, are presented in **Table 8.4**.

8.4.3 The potential for impacts upon IEFs 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 with reference to construction phase effects.

**Table 8.4 Summary of Features/Matters to be scoped in/out of Assessment**

Features	Scoped in: Construction	Scoped in: Operation	Justification
Protected species (including bats)	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 and Ancient Woodland	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 the results of the desk-based work undertaken to date, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, generally common and widely distributed habitats or species which do not fall within the categories listed in the feature column 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 scoped out or assessed further in the EIA Report.
Designated sites	No	No	Effects on designated sites are scoped out of the assessment as no designated sites are within the site boundary nor considered to have connectivity to the site, as per Section 8.2.6 Designated Sites.
Migratory salmonids and resident fish	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.

## 8.5 Approach to Mitigation

8.5.1 Significant effects on ecological features will be avoided or minimised where possible within the design process. Good practice during construction and operation of the proposed development will be

implemented as standard (and the assessment undertaken on this basis). This would include the following embedded measures that will form part of the proposed development and the assessment within the Ecology Chapter of the EIA Report undertaken on this basis:

- a Species Protection Plan (SPP) would be implemented as part of a Construction Environmental Management Plan (CEMP) or similar during the construction phase to ensure that all reasonable precautions are taken to adhere to the relevant wildlife legislation;
- pre- and during-construction surveys carried out by an Environmental Clerk of Works (ECoW) or suitably qualified ecologist would take place as part of the SPP, and an ECoW present during the construction period; and
- an oBEMP would be developed for the operational phase and agreed with consultees, to mitigate or enhance habitat for IEFs and to provide wider biodiversity benefits.

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

## 8.6 Summary of Scope

- 8.6.1 The EIA Report will provide an assessment of potentially significant construction, operational and decommissioning phase effects upon ecological features, which are identified as important and sensitive to onshore wind farm developments.
- 8.6.2 The assessment will consider impacts of the proposed development alone and in-combination with other relevant developments as appropriate.
- 8.6.3 Baseline conditions will be established through desk study and ecological field surveys, undertaken in accordance with relevant guidance. Potential impacts upon ecological features will be considered throughout the design process and avoided in so far as is possible through layout design.
- 8.6.4 The assessment within the EIA Report will be undertaken in accordance with established approaches for assessment of onshore wind farm developments in Scotland and industry standard guidance, and on the basis of embedded good practice measures. Where unmitigated potentially significant effects are identified, additional mitigation and/or

compensation measures will be included in order to conclude non-significant residual effects.

- 8.6.5 At this time, it is considered that potential impacts upon ecological designated sites can be scoped out of assessment.
- 8.6.6 Opportunities to provide habitat enhancement or otherwise beneficial measures for ecological features as part of the proposed development will also be identified, in consultation with relevant stakeholders where necessary, and detailed within the EIA Report.

## 8.7 Questions for Consultees

Q8.1 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?

Q8.2 Do consultees agree that the methodology and scope of assessment is appropriate?

Q8.3 Do consultees agree with the features and statutory designated sites proposed to be scoped out from further assessment?

Q8.4 Are there any other relevant consultees who should be consulted, or other sources of information that should be considered?

## 9 Ornithology

### 9.1 Introduction

- 9.1.1 This section of the Scoping Report details the approach to baseline ornithological information gathering, the proposed scope of assessment and assessment methodology of potentially significant effects upon Important Ornithological Features (IOFs).
- 9.1.2 Potential impacts upon ornithological features will be considered throughout the design process for the proposed development, and where possible will either be avoided completely through layout design or will be prevented/minimised through the implementation of good practice embedded mitigation measures.
- 9.1.3 The Ornithology Chapter of the EIA Report will detail any measures required to avoid, minimise or offset potentially significant adverse effects on IOFs and outline the opportunities to enhance baseline ornithological conditions, which will be included as part of the proposed development.

### 9.2 Baseline Conditions

- 9.2.1 Baseline ornithological conditions to inform the design and assessment of the proposed development and identification of IOFs will be established through a review of existing ornithological information relevant to the site and ornithological field surveys.
- 9.2.2 Full details of baseline studies, including field survey methodologies and results will be presented within the EIA Report.
- 9.2.3 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 appraisal of the proposed development.

#### Study Area

- 9.2.4 The study area for existing ornithological information will extend out to 20 km from the proposed development for statutory designated sites with ornithological interests, 2 km for species listed on Annex 1 of NatureScot

guidance (SNH, 2018a)<sup>55</sup>, and 6 km for eagle species and which is in accordance with NatureScot guidance (SNH, 2017)<sup>56</sup>.

- 9.2.5 Field survey areas have been defined on the basis of proposed wind turbine layouts applicable at the time of survey and species or species group-specific buffers as set out in NatureScot guidance (SNH, 2017). Survey areas have therefore evolved in response to changes in proposed wind turbine locations and ancillary infrastructure within the site, over the baseline survey period.

### Desk Study

- 9.2.6 The following key sources will be consulted for existing ornithological information within proximity to the proposed development:

- NatureScot’s Sitelink website;
- RSPB Scotland;
- Highland Raptor Study Group (HRSBG); and
- Regional Eagle Conservation Management Plan (RECOMP) monitoring reports and progress updates<sup>57</sup>.

- 9.2.7 Relevant data within the EIAs and operational monitoring documentation for the Aberarder and Dunmaglass Wind Farms, both located to the south-west of the proposed development as shown on **Figure 6.7** in **Appendix A**, will also be included in the baseline description where made available.

### Ornithological Field Surveys

- 9.2.8 Target species for survey and recording have been identified in accordance with NatureScot guidance (SNH, 2017 and 2018a), existing and comprehensive field surveyor knowledge of bird-habitat associations at the locale and preliminary survey visits.

- 9.2.9 The following ornithological field surveys completed to March 2024, and proposed to August 2024:

- Flight activity surveys (2022, 2023 and 2024 breeding seasons, 2022/2023 and 2023/2024 non-breeding seasons, from a total of eight Vantage Points (VPs), and with four VP locations used in any one season;

<sup>55</sup> SNH (2018a). Assessing significance of impacts from onshore wind farms outwith designated areas [Online]. Available at: <https://www.nature.scot/doc/guidance-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected> [Accessed 25 June 2024];

<sup>56</sup> SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. Scottish Natural Heritage (SNH), Guidance.

<sup>57</sup> As made available by the Natural Heritage Zone (NHZ) 10 RECOMP hosted by Natural Research Ltd.

- Scarce<sup>58</sup> breeding bird surveys (2022, 2023 and 2024 breeding seasons);
  - Black grouse surveys (2022, 2023 and 2024 breeding seasons);
  - Breeding bird surveys (2022, 2023 and 2024 breeding seasons); and
  - Winter walkover surveys (2022/2023 and 2023/2024 non-breeding seasons).
- 9.2.10 All field surveys have followed methodologies recommended by NatureScot (SNH, 2017), including species-specific survey methodologies as set out in Hardey *et al.* (2013)<sup>59</sup> and Gilbert *et al.* (1998)<sup>60</sup>, and have been undertaken by suitably competent ornithologists, under Schedule 1 licence as appropriate.
- 9.2.11 VP locations, viewsheds and survey areas are illustrated on **Figures 9.1 - 9.2**.
- 9.2.12 It is clarified that during the first 18 months (i.e. the 2022 and 2023 breeding seasons and 2022/23 non-breeding season) survey areas, as shown in **Figure 9.1**, were based on an original preliminary wind turbine layout.
- 9.2.13 At the end of the 2023 breeding season, survey areas were amended, as shown in **Figure 9.2**, to enable sufficient survey coverage of the updated wind turbine layout.
- 9.2.14 Flight activity surveys were therefore undertaken from VPs 1 to 4 (**Figure 9.1**) over the 2022 and 2023 breeding seasons and 2022/2023 non-breeding season, with all subsequent flight activity surveys undertaken from VPs 5 to 8 (**Figure 9.2**).
- 9.2.15 Most of the proposed scoping layout wind turbine locations not covered by the viewsheds of VPs 1 to 4, as shown in **Figure 9.1**, are within around 500m of the viewsheds covering adjacent similar habitats. It is therefore considered that target species flight activity that has been gathered from VPs 1 to 4 is representative of that occurring in proximity to the proposed wind turbine layout, and which can be adapted for the purposes of the estimation of collision mortality risks.
- 9.2.16 The approach to the estimation of collision mortality risks for ornithological features and justification for such will be detailed within

<sup>58</sup> Scarce breeding birds include those listed on Annex 1 of the EU Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and in the case of the Proposed Development consists of any raptor, diver, duck, grebe and owl species listed on either Annex 1 or Schedule 1 of the aforementioned legislation.

<sup>59</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B., & Thompson, D. (2013). *Raptors: a field guide for surveys and monitoring (3rd edition)*. The Stationery Office, Edinburgh.

<sup>60</sup> Gilbert, G., Gibbons, D. W., & Evans, J. (1998). *Bird Monitoring Methods*. Royal Society for the Protection of Birds (RSPB), Sandy.



the EIA report and be informed by the comparison of flight activity levels and patterns between survey periods. This will adopt a precautionary approach where any uncertainty arises.

### Established Baseline Conditions

- 9.2.17 Baseline ornithological field surveys are currently ongoing through the 2024 breeding season, but once completed will provide two full consecutive years of ornithological field surveys (April 2022 to March 2024) and an additional breeding season (April to August 2024), carried out in accordance with methodologies set out in NatureScot guidance (SNH, 2017).
- 9.2.18 This section therefore provides a summary of baseline ornithological conditions that have been established to March 2024, over the 2022 and 2023 breeding seasons and 2022/23 and 2023/24 non-breeding seasons.

### Designated Sites

- 9.2.19 There are ten statutory designated sites for nature conservation with ornithological qualifying interests located within 20 km of the proposed development wind turbine layout, as summarised in **Table 9.1** and illustrated in **Figure 9.3**.
- 9.2.20 In review of each designation's qualifying interests, location and spatial separation from the proposed development wind turbine layout, there is considered to be no potential for connectivity with these designations.
- 9.2.21 In relation to the Loch Ruthven and Loch Ashie Special Protection Areas (SPAs) and underpinning Ramsar sites and Sites of Special Scientific Interest (SSSIs), 5.26 km to the west of the site, no observations of Slavonian grebes have been recorded over the course of baseline surveys and there are no waterbodies suitable to support breeding Slavonian grebe within at least 1 km of proposed wind turbine locations.
- 9.2.22 It is considered highly unlikely that Slavonian grebes, when moving between Loch Ruthven and Loch Ashie, would take an indirect flight through the site. Similarly it is considered highly unlikely that Slavonian grebes where breeding in potentially suitable habitats to the north, east and south of the proposed development wind turbine layout would fly through the array, over high ground (reaching over 700 m), due to the excessive energetic expenditure that would be required.

**Table 9.1 Ornithological Designated Sites**

Designation	Distance (km)	Qualifying Features
Loch Ruthven SPA	5.26	Slavonian grebe (breeding)
Loch Ruthven Ramsar site	5.26	Slavonian grebe (breeding)
Loch Ruthven SSSI	5.27	Slavonian grebe (breeding) Breeding bird assemblage <sup>61</sup>
Loch Ashie SPA	10.72	Slavonian grebe (passage)
Loch Ashie SSSI	10.72	Slavonian grebe (passage) <sup>62</sup>
Kinveachy Forest SSSI	11.55	Breeding bird assemblage <sup>63</sup>
Monadhliath SSSI	12.27	Dotterel (breeding) Breeding bird assemblage <sup>64</sup>
Kinveachy Forest SPA	12.40	Capercaillie (breeding) Scottish crossbill (breeding)
Balnagrantach SSSI	19.26	Slavonian grebe (breeding)
North Inverness Lochs SPA	19.26	Slavonian grebe (breeding)

### Flight Activity

- 9.2.23 Flight activity surveys completed between April 2022 and March 2024 have recorded flight activity from a total of nine target species comprising: curlew, dunlin, golden eagle, golden plover, merlin, peregrine falcon, pink-footed goose, red kite and white-tailed eagle.
- 9.2.24 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<sup>65</sup> and Band *et al.*, 2007<sup>66</sup>), depending on the distribution of flight activity in relation to the final wind turbine layout, and adopting a precautionary approach where appropriate to do so.
- 9.2.25 Details of target species' flight activity collision rate calculations will be presented within the EIA Report.

### Scarce Breeding Birds

<sup>61</sup> Including little grebe, wigeon, tufted duck, red breasted merganser, oystercatcher, snipe and curlew.

<sup>62</sup> Gathering pre- and post-breeding Slavonian grebes, with highest numbers of grebes occurring in the autumn months when the birds moult and become flightless for a short time.

<sup>63</sup> Including capercaillie, Scottish crossbill and crested tit.

<sup>64</sup> including raptors, dotterel, golden plover, dunlin, ring ouzel, wheatear, stonechat, red grouse, meadow pipit and dipper.

<sup>65</sup> SNH (2000). Windfarms and Birds: Calculating a theoretical collision risk assuming no avoiding action [Online]. Available at: <https://www.nature.scot/doc/wind-farm-impacts-birds-calculating-theoretical-collision-risk-assuming-no-avoiding-action> [Accessed 25 June 2024].

<sup>66</sup> Band, W., Madders, M., & Whitfield, D. P. (2007). Developing field and analytical methods to assess avian collision risk at wind farms. In G. Janss, M. de Lucas, & M. Ferrer (Eds.), *Birds and Wind Farms*. (Quercus, Madrid., pp. 259-275.).

- 9.2.26 Scarce breeding bird surveys have established the presence of breeding golden eagle and merlin within proximity to the proposed development. Observations of osprey, peregrine falcon, short-eared owl and white-tailed eagle have also been made over the course of ornithological field survey visits however, no breeding evidence has been confirmed within 2 km of the proposed development.
- 9.2.27 Consultation with the HRSG will be undertaken to obtain historical context for these species and identify any existing breeding records of additional species within the study area.
- 9.2.28 There are no waterbodies located within 1 km of the proposed development or wider site, which are suitable to support breeding divers. No observations of black or red-throated diver have been recorded to March 2024.

#### **Moorland Breeding Birds**

- 9.2.29 Breeding bird surveys undertaken in 2022 and 2023 established a moorland breeding bird assemblage within survey areas comprising common sandpiper, curlew, dunlin, golden plover, lapwing and snipe.

#### **Black Grouse**

- 9.2.30 Surveys to identify areas of black grouse activity were undertaken in 2022 and 2023. No observations of black grouse have been recorded within 1.5 km of the proposed development. Given the low incidence of woodland and high elevations within the site, habitats are considered largely unsuitable for the species.
- 9.2.31 No observations of capercaillie or signs indicating the species presence have been made over the course of surveys and the species is not thought to be resident locally. Consultation with RSPB will however, be undertaken to obtain any existing records from within the wider study area.

#### **Non-breeding Birds**

- 9.2.32 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, 2018), and the potential for non-breeding communal Schedule 1 raptor roosts within the survey area.
- 9.2.33 No confirmed or potential communal raptor roost locations have been identified within 2 km of the proposed development. Observations of golden eagle, hen harrier, peregrine falcon and red kite were however,

recorded over the course of survey visits, typically individual birds in flight, suggesting some use of habitats within the site by these species over the wintering period.

- 9.2.34 The open upland moorland and forestry habitats within the wind turbine array and wider site do not provide suitable foraging opportunities for migratory waterfowl, and the site is not located within an area of known importance for pink-footed and greylag geese, with reference to Mitchell (2012<sup>67</sup>).

### 9.3 Assessment Methodology

- 9.3.1 The assessment presented within the chapter 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)<sup>68</sup>.

- 9.3.2 The assessment will consider in detail only those impacts upon IOFs 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.

- 9.3.3 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 via a combination of IOF sensitivity and magnitude of impact;
  - outline of additional 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.

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<sup>67</sup> Mitchell, C. (2012). Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge.

<sup>68</sup> CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

- 9.3.4 The approach to assessment will take account of existing guidance and published scientific literature in relation to birds and wind farms, together with professional judgement and experience of wind farm EIA.
- 9.3.5 Impacts upon IOFs will be assessed in relation to the species' relevant reference population, conservation status, range and distribution, based on best available evidence.

### Legislation, Policy and Guidance

- 9.3.6 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)<sup>69</sup>;
- Environmental Impact Assessment Directive 2014/52/EU (the EIA Directive)<sup>70</sup>;
- Directive 2009/147/EC on the Conservation of Wild Birds (the EU Birds Directive)<sup>71</sup>;
- 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')<sup>72</sup>;
- The Wildlife & Countryside Act 1981 (as amended)<sup>73</sup>;
- The Wildlife and Natural Environment (Scotland) Act 2011<sup>74</sup>; and
- The Nature Conservation (Scotland) Act 2004<sup>75</sup>.

#### Policy

<sup>69</sup> The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations) [Online]. Available at: <https://www.legislation.gov.uk/ssi/2017/101/contents> [Accessed 25 June 2024].

<sup>70</sup> Environmental Impact Assessment Directive 2014/52/EU (the EIA Directive) [Online]. Available at: <https://www.legislation.gov.uk/eudr/2014/52/2020-01-31/data.xht?view=snippet&wrap=true> [Accessed 25 June 2024].

<sup>71</sup> Directive 2009/147/EC on the Conservation of Wild Birds (the EU Birds Directive) [Online]. Available at: <https://www.legislation.gov.uk/eudr/2009/147/contents> [Accessed 25 June 2024].

<sup>72</sup> 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') [Online]. Available at: <https://www.legislation.gov.uk/uksi/1994/2716/contents> [Accessed 25 June 2024].

<sup>73</sup> The Wildlife & Countryside Act 1981 (as amended) [Online]. Available at: <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed 25 June 2024].

<sup>74</sup> The Wildlife and Natural Environment (Scotland) Act 2011 [Online]. Available at: <https://www.legislation.gov.uk/asp/2011/6/contents> [Accessed 25 June 2024].

<sup>75</sup> The Nature Conservation (Scotland) Act 2004 [Online]. Available at: <https://www.legislation.gov.uk/asp/2004/6/contents> [Accessed 25 June 2024].

- National Planning Framework 4 (NPF4) (February 2023)<sup>76</sup>;
- Draft Planning Guidance: Biodiversity (November 2023)<sup>77</sup>;
- Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency in Scotland (September 2023)<sup>78</sup>;
- Planning Advice Note 60: Planning for Natural Heritage (January 2000)<sup>79</sup>;
- Planning Advice Note 1/2013-Environmental Impact Assessment (August 2013)<sup>80</sup>;
- Onshore Wind Turbines: Planning Advice (May 2014)<sup>81</sup>;
- THC Highland-wide Local Development Plan (2012)<sup>82</sup> and Supplementary Guidance;
- THC Draft Biodiversity Planning Guidance (November 2023)<sup>83</sup>;
- THC Highland Nature Biodiversity Action Plan 2021-2026 (2020)<sup>84</sup>; and
- The Scottish Biodiversity List (2020)<sup>85</sup>.

## 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);

<sup>76</sup> National Planning Framework 4 (NPF4) (February 2023) [Online]. Available at: <https://www.gov.scot/publications/national-planning-framework-4/> [Accessed 25 June 2024].

<sup>77</sup> Draft Planning Guidance: Biodiversity (November, 2023) [Online]. Available at: <https://www.gov.scot/publications/scottish-government-draft-planning-guidance-biodiversity/> [Accessed 25 June 2024].

<sup>78</sup> Draft Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency in Scotland (December 2022) [Online]. Available at: <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/> [Accessed 25 June 2024].

<sup>79</sup> Planning Advice Note 60: Planning for Natural Heritage (January 2000) [Online]. Available at: <https://www.gov.scot/publications/pan-60-natural-heritage/> [Accessed 25 June 2024].

<sup>80</sup> Planning Advice Note 1/2013-Environmental Impact Assessment (August 2013) [Online]. Available at: <https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/> [Accessed 25 June 2024].

<sup>81</sup> Onshore Wind Turbines: Planning Advice (May 2014) [Online]. Available at: <https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/> [Accessed 25 June 2024].

<sup>82</sup> The Highland Council (THC) The Highland-wide Local Development Plan (HwLDP) (April 2012) [Online]. Available at: [https://www.highland.gov.uk/info/178/development\\_plans/199/highland-wide\\_local\\_development\\_plan](https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan) [Accessed 25 June 2024].

<sup>83</sup> The Highland Council (THC) Draft Biodiversity Planning Guidance (November 2023) [Online]. Available at: [https://www.highland.gov.uk/download/meetings/id/82400/item\\_6\\_draft\\_biodiversity\\_planning\\_guidance](https://www.highland.gov.uk/download/meetings/id/82400/item_6_draft_biodiversity_planning_guidance) [Accessed 25 June 2024].

<sup>84</sup> The Highland Council (THC) Highland Nature Biodiversity Action Plan 2021-2026 (2020) [Online]. Available at: [https://www.highland.gov.uk/downloads/download/2260/highland\\_nature\\_biodiversity\\_action\\_plan\\_2021\\_to\\_2026](https://www.highland.gov.uk/downloads/download/2260/highland_nature_biodiversity_action_plan_2021_to_2026) [Accessed 25 June 2024].

<sup>85</sup> The Scottish Biodiversity List (2020) [Online]. Available at: <https://www.nature.scot/doc/scottish-biodiversity-list> [Accessed 14 June 2024].

- Disturbance distances review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022)<sup>86</sup>;
- Raptors: a field guide to survey and monitoring (Hardey et al., 2013);
- Standing advice for planning consultations - Birds (NatureScot, 2022)<sup>87</sup>;
- General pre-application and scoping advice for onshore wind farms. NatureScot, Inverness (NatureScot, 2024)<sup>88</sup>;
- Calculating a theoretical collision risk assuming no avoiding action (SNH, 2000);
- Assessing connectivity with Special Protection Areas (SNH, 2016a)<sup>89</sup>;
- Environmental Statements and Annexes of environmentally sensitive bird information: Guidance for developers, consultants and consultees (SNH, 2016b)<sup>90</sup>;
- Dealing with construction and birds (SNH, 2016c)<sup>91</sup>;
- 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)<sup>92</sup>;
- Assessing the cumulative impacts of onshore wind farms on birds. Scottish Natural Heritage (SNH, 2018c)<sup>93</sup>;
- Birds of Conservation Concern 5 (Stanbury et al., 2021)<sup>94</sup>; and

<sup>86</sup> Goodship, N. M., & Furness, R. W. (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283 [Online]. Available at: <https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance> [Accessed 25 June 2024].

<sup>87</sup> NatureScot (2022). Standing advice for planning consultations - Birds [Online]. Available at:

<https://www.nature.scot/doc/standing-advice-planning-consultations-birds#:~:text=A%20bird%20survey%20should%20be,to%20a%20protected%20area%20for> [Accessed 25 June 2024].

<sup>88</sup> NatureScot (2024). General pre-application and scoping advice for onshore wind farms [Online]. Available at: <https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms> [Accessed 25 June 2024].

<sup>89</sup> SNH (2016a). Assessing connectivity with Special Protection Areas [Online]. Available at: <https://www.nature.scot/doc/assessing-connectivity-special-protection-areas> [Accessed 25 June 2024];

<sup>90</sup> SNH (2016b). Environmental Statements and Annexes of environmentally sensitive bird information: Guidance for developers, consultants and consultees [Online]. Available at: <https://www.nature.scot/doc/environmental-statements-and-annexes-environmentally-sensitive-bird-information> [Accessed 25 June 2024];

<sup>91</sup> SNH (2016c). Dealing with construction and birds [Online]. Available at: <https://www.nature.scot/doc/dealing-construction-and-birds> [Accessed 25 June 2024];

<sup>92</sup> SNH (2018b). Avoidance rates for the onshore SNH wind farm Collision Risk Model [Online]. Available at: <https://www.nature.scot/doc/wind-farm-impacts-birds-use-avoidance-rates-naturescot-wind-farm-collision-risk-model> [Accessed 25 June 2024];

<sup>93</sup> SNH (2018c). Assessing the cumulative impacts of onshore wind farms on birds. Scottish Natural Heritage [Online]. Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds> [Accessed 25 June 2024].

<sup>94</sup> Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., & Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114, p.723-747.

- Natural heritage zone bird population estimates (Wilson et al., 2015)<sup>95</sup>.

### Consultation

- 9.3.7 Other than consulting Scottish Ministers (via the ECU), consultation prior to submitting the EIA Report to Scottish Ministers will be undertaken with NatureScot. At this stage additional advice has been requested from NatureScot on the scope of baseline ornithological field surveys and survey coverage and on which a response is awaited.

## 9.4 Potential Effects

- 9.4.1 The assessment presented within the chapter will consider the potential for significant effects upon IOFs, during the construction, operation and decommissioning of the proposed development, in the absence of additional mitigation and/or compensation measures, as set out below.

### Construction

- 9.4.2 During construction of the proposed development, in the absence of specific mitigation, it is anticipated that potentially significant effects upon IOFs may arise from:
- nesting and foraging habitat loss, fragmentation or change as a result of the delivery and installation of proposed development; and
  - disturbance to and/or foraging birds, loss of nest sites, eggs and/or dependent young.
- 9.4.3 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.
- 9.4.4 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.
- 9.4.5 Overall construction disturbance would be considered temporary and would occur only when construction activities are taking place.

<sup>95</sup> Wilson, M. W., Austin, G. E., Gillings S., & Wernham, C. (2015). Natural Heritage Zone Bird Population Estimates. SWBSG Commissioned report number SWBSG\_1504. pp72.



Furthermore, construction would be not expected to take place across the whole of the site but phased within small defined working areas.

### Operation

- 9.4.6 The operation of the proposed development, including maintenance activities, has the potential to cause disturbance and displacement of birds from nesting 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.
- 9.4.7 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.
- 9.4.8 In relation to golden eagles, the potential for significant operational habitat loss (displacement) impacts to golden eagles will be considered within the EIA Report. This will include an assessment where appropriate using the Golden Eagle Topographical (GET) model (Fielding *et al.*, 2019)<sup>96</sup>.
- 9.4.9 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 (Band *et al.* 2007) will be used to provide an estimate of collision rates of target species.
- 9.4.10 Full details of the approach to assessment of operational habitat loss to golden eagles and the estimation of collision mortality for target species will be provided within the EIA Report.

### Decommissioning

- 9.4.11 The potential for 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 with reference to construction phase effects.

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<sup>96</sup> Fielding, A. H., Haworth, P. F., Anderson, D., Benn, S., Dennis, R., Weston, E. & Whitfield, D. P. (2019). A simple topographical model to predict Golden Eagle *Aquila chrysaetos* space use during dispersal. *International Journal of Avian Science*, 162(2), p.400-415).

## 9.5 Features/matters to be scoped out of assessment

- 9.5.1 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.
- 9.5.2 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 wind farms. This includes species that do not require surveys to inform the EIA but may require appropriate mitigation to ensure legislative compliance, such as breeding passerine species.
- 9.5.3 As such, 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 would be unlikely to be significantly affected on the basis of established baseline information or avoidance of impact through layout design, it is proposed that these are ‘scoped out’ of the impact assessment process.
- 9.5.4 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 Bird Disturbance Management Plan (BDMP).
- 9.5.5 It is therefore proposed that the following species will be ‘scoped out’ of detailed consideration within the EIA Report since significant effects are 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 of birds whose populations are at some risk either generally or in parts of their range (e.g. green listed Birds of Conservation Concern species, Stanbury *et al.* 2021);
  - 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;

- All wildfowl, due to the very low incidence of flight activity, unsuitability of habitats within the site for the species and absence of connectivity with designated sites;
- Schedule 1/Annex 1 raptors and owls species, that are not established to breed or communally roost within proximity to the proposed development and for which any predicted collision mortality rates are not likely to be significant at any population scale;
- Black grouse, due to the absence of species presence recorded during baseline ornithological surveys and low suitability of habitats within proximity to the proposed development;
- Red-throated and black-throated diver due to the absence of potential breeding sites recorded within 1km of the proposed development and absence of established flight corridors through the site; and
- Slavonian grebe, due to the absence of potential breeding sites recorded within 1km of the proposed development, absence of established flight corridors through the site.

9.5.6 On the basis of location and spatial separation from the proposed development, there is considered to be no potential for connectivity with any ornithological designated site. The potential for likely significant effects upon the following designations and their underpinning Ramsar sites and SSSIs, will therefore be scoped out of consideration within the EIA Report:

- Loch Ruthven SPA;
- Loch Ashie SPA;
- Kinveachy Forest SPA; and
- North Inverness Lochs SPA.

9.5.7 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, 2021<sup>97</sup> and 2022<sup>98</sup>). Estimated collision mortality risks to golden eagle will be calculated using the NatureScot collision risk model for the proposed development and presented within the EIA Report. However, on

<sup>97</sup> Fielding, A. H., Anderson, D., Benn, S., Dennis, R., Geary, M., Weston, E. & Whitfield, P. (2021). Non-territorial GPS-tagged golden eagles *Aquila chrysaetos* at two Scottish wind farms: Avoidance influenced by preferred habitat distribution, wind speed and blade motion status (PLoS ONE, 16(8):e0254159). Available at: <https://doi.org/10.1371/journal.pone.0254159>.

<sup>98</sup> Fielding, A. H., Anderson, D., Benn, S., Dennis, R., Geary, M., Weston, E. & Whitfield, D. P. (2022). Responses of dispersing GPS-tagged Golden Eagles (*Aquila chrysaetos*) to multiple wind farms across Scotland. *Ibis*, 164(1), p.102-117.

the basis of the species' evident avoidance of operational wind farms in Scotland and the rarity of reported collisions, the potential for the proposed development alone or to cumulatively contribute to significant cumulative collision mortality risks to golden eagle at a population level is considered highly unlikely and will not be considered within the EIA Report.

- 9.5.8 Baseline studies have also not identified the importance of the site for species susceptible to elevated risks to collisions with lit wind turbines and as such impacts upon ornithological features relating to wind turbine, or any other infrastructure lighting where this is proposed, will not be assessed within the EIA Report.

## 9.6 Cumulative Effects

- 9.6.1 The assessment within the chapter will include a cumulative impact assessment, in accordance with NatureScot guidance (SNH, 2018c) concerning:
- operational collision mortality risks; and
  - operational displacement.
- 9.6.2 The cumulative impact assessment will consider the potential for cumulative effects on IOFs forming part of wider countryside populations at the regional Natural Heritage Zone (NHZ) 10 'Central Highlands' scale, in accordance with NatureScot guidance (SNH, 2018c), where sufficient information is available.
- 9.6.3 Where an alternative scale is considered more appropriate for an individual species or species-group this will be set out and justified within the EIA Report.
- 9.6.4 The cumulative assessment will include consideration of:
- 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.
- 9.6.5 To inform the assessment, NatureScot will be consulted for the most up to date cumulative assessment of operational collision mortality risks and species displacements for identified IOFs within NHZ 10.

## 9.7 Approach to Mitigation

- 9.7.1 The potential for significant effects on ornithological features during the construction, operational and decommissioning of the proposed development will be avoided/minimised where possible during the design process, based on the locations of known nest, roost and lek sites (where identified), key foraging areas, and likely sensitivities of species identified and the adoption of suitable bird disturbance distances, as set out in Goodship and Furness (2022).
- 9.7.2 Good practice (SNH 2016c) during construction/decommissioning and operation of the proposed development will also be implemented, and the assessment within the chapter undertaken on this basis.
- 9.7.3 This will include the following:
- A Bird Disturbance Management Plan (BDMP) would be implemented as part of a CEMP or similar during the construction phase, to ensure that all reasonable precautions are taken to enable legislative compliance with regards the protection afforded to wild birds and to avoid or where otherwise minimise disturbance to lekking black grouse (if identified to be present);
  - Pre- and during- construction/decommissioning surveys carried out by an ECoW or suitably qualified ornithologist would take place as part of the BDMP; and,
  - An oBEMP will be developed for the operational phase of the proposed development and agreed in consultation with relevant consultees, to restore, mitigate and/or enhance habitats for important ornithological features within the site and to provide wider biodiversity improvements.
- 9.7.4 Where unmitigated potentially significant effects on IOFs are identified, additional mitigation and/or compensation measures to prevent, reduce and where possible offset these adverse effects will be proposed, in order to conclude a non-significant residual effect.

## 9.8 Summary of Scope

- 9.8.1 The EIA Report will provide an assessment of potentially significant construction, operational and decommissioning phase effects upon ornithological features, which are identified as important and sensitive to onshore wind farm developments.

- 9.8.2 The assessment will consider impacts of the proposed development alone and in-combination with other relevant projects as appropriate.
- 9.8.3 Baseline conditions will be established through desk study and ornithological field surveys, undertaken in accordance with NatureScot guidance (SNH, 2017). Potential impacts upon ornithological features will be considered throughout the design process and avoided in so far as is possible through layout design.
- 9.8.4 The assessment within the EIA Report will be undertaken in accordance with established approaches for assessment of onshore wind farm developments in Scotland and industry standard guidance, and on the basis of embedded good practice measures. Where unmitigated potentially significant effects are identified, additional mitigation and/or compensation measures will be included in order to conclude non-significant residual effects.
- 9.8.5 At this time, it is considered that potential impacts upon some ornithological features including passerine species, black grouse, breeding red-throated and black-throated diver, Slavonian grebe and ornithological designated sites can be scoped out of assessment, together with collision mortality risks to golden eagle.
- 9.8.6 Opportunities to provide habitat enhancement or otherwise beneficial measures for ornithological features as part of the proposed development will also be identified, in consultation with relevant stakeholders where necessary, and detailed within the EIA Report.

## 9.9 Questions for Consultees

Q9.1 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?

Q9.2 Do Consultees agree with those features/matters that will be scoped out of assessment in respect to ornithology (and the justification provided)?

Q9.3 Do Consultees consider that cumulative effects should be assessed for any individual species or species-groups at alternative population scales to that of the relevant NHZ?

Q9.4 Are there any specific non-wind farm developments that consultees believe should be considered in the cumulative assessment?

## 10 Geology, Hydrology and Hydrogeology

### 10.1 Introduction

10.1.1 This section of the Scoping Report considers the potential effects of the proposed development with respect to geology, hydrology and hydrogeology. The section should be read in conjunction with the relevant parts of section 8, where common receptors have been considered and where there is an overlap or relationship between the assessment of effects.

### 10.2 Baseline Conditions

#### Data Sources

10.2.1 The appraisal of existing (baseline) conditions for the purposes of this section has involved the collection and interpretation of a range of data and information from published material, plus pre-application consultations relating to the local and wider hydrological environment with statutory bodies, principally SEPA, NatureScot and THC. The assessment will be informed by the data sources listed in **Table 10.1**.

**Table 10.1: Sources of Desk Study Information for Geology, Hydrology and Hydrogeology**

Topic	Sources of Information
Topography	1:25,000 Ordnance Survey (OS) Mapping 1:50,000 OS Mapping
Surface Water Hydrology	1:10,000 OS Raster Data 1:25,000 OS Raster Data 1:50,000 OS Raster Data Flood Estimation Handbook Web Service <a href="https://fehweb.ceh.ac.uk/Map">https://fehweb.ceh.ac.uk/Map</a>
Private Water Supplies	The Highland Council Private Water Supply Mapping <a href="#">Highland Council Open Map Data (arcgis.com)</a>
Flood Risk	SEPA Flood Maps <a href="#">Flood Risk Management Maps (sepa.org.uk)</a>
Water Quality	SEPA River Classifications, <a href="https://map.environment.gov.scot/sewebmap/">https://map.environment.gov.scot/sewebmap/</a>
Soils and Peat	The James Hutton Institute, National Soil Map of Scotland and NSIS, <a href="#">Map   Scotland's environment web</a> Scottish Natural Heritage, Carbon and Peatland 2016 map, <a href="https://map.environment.gov.scot/sewebmap/">https://map.environment.gov.scot/sewebmap/</a>

Topic	Sources of Information
Solid and Superficial Geology	British Geological Survey (BGS), 1:50,000 Superficial and Bedrock Geology data, <a href="#">BGS Geology Viewer (BETA)</a>
Hydrogeology	British Geological Survey, Aquifer Classification, <a href="#">Map 1 Scotland's environment web</a> BGS Hydrogeology Map of the UK, <a href="#">GeolIndex - British Geological Survey (bgs.ac.uk)</a>
Designated Conservation Sites	NatureScot <a href="https://sitelink.nature.scot/map">https://sitelink.nature.scot/map</a> Magic <a href="https://magic.defra.gov.uk/">https://magic.defra.gov.uk/</a>

## Study Area

10.2.2 Desk study data for this section has been gathered with respect to a defined study area. The study area is focused on the site boundary with a 2 km buffer. The wind turbine envelope refers to the area covered by the proposed wind turbine locations as described in section 4.3. The proposed access route refers to the potential access option from the junction with the A9 to the wind turbine envelope.

## Current baseline

10.2.3 OS Mapping indicates that the wind turbine envelope is dominated by open moorland in an upland environment and areas of marshland. Carn na Saobhaidh (714 m Above Ordnance Datum (AOD)), Carn an Rathaid Dhuibh (674 m AOD) and Carn a' Chùil (737 m AOD) represent topographical high points within the study area. The proposed access route undulates through areas of commercial forestry in the north and south as well as an area of open moorland in the north-east. The majority of proposed access route follows existing tracks that are currently used for estate activities and for access to two operational wind farms. Therefore, along most of the proposed access route no construction works are proposed.

10.2.4 The site comprises upland catchments, characterised by steeply incised V-shaped valleys with high rates of discharge. In the headwater reaches there are also several minor areas of flatter moorland on catchment interfluvies. Most of the wind turbine envelope lies within the catchment of the River Findhorn, however a small area, to the north, also lies within the River Nairn catchment. Both rivers flow towards the north, eventually discharging into the Moray Firth.

10.2.5 The River Findhorn catchment is located to the south and east of the wind turbine envelope and consists of the Kyllachy Burn and Glen Mazeran Burn sub-catchments. Within the site boundary the Kyllachy Burn sub-



catchment consists of the Allt Tarsuin which confluences with multiple watercourses (including the Allt a Mharcaidh) to become the Kyllachy Burn before discharging into the Findhorn River at E275912, N824271. The Glen Mazeran Burn sub-catchment is located to the south of the wind turbine envelope and is formed of multiple tributaries which confluence to become the Glen Mazeran Burn before discharging into the River Findhorn at E274992 N822882. The majority of the wind turbine envelope is located within the Glen Mazaren Burn sub-catchment.

- 10.2.6 The Kyllachy Burn (ID:23013), the Glen Mazeran Burn (ID: 23013) and the River Findhorn (ID:23014/23012) Water Framework Directive (WFD) surface waterbodies are classified under SEPA’s River Basin Management Directive (RBMP)<sup>99</sup> as of Good overall status.
- 10.2.7 A small northern section of the proposed access route is also located within the River Findhorn catchment. Within this catchment, the proposed development is limited to existing tracks only, and no construction works are proposed. The Allt na Slanaich discharges into the Moy Burn (E276209, N834979) and then into Loch Moy ~2 km from the site. Under SEPA’s RBMP the WFD surface waterbody status for the Moy Burn (ID:23009) is classified as Good and the status of Loch Moy (ID: 100160) is classified as High.
- 10.2.8 The River Nairn catchment is located to the north of the wind turbine envelope and consists of Allt Dearg and River Brin sub-catchments. The Allt Dearg becomes the Allt Mor which forms the headwaters of the River Nairn. The River Brin sub-catchment is formed of three tributaries which confluence to form the River Brin, before discharging into the River Nairn at E266111 N828882.
- 10.2.9 The River Nairn (ID:20306) WFD surface waterbody status is classified under SEPA’s RBMP as of Poor overall status due to physical modifications to beds, banks and shores and due to diffuse rural pollution sources. This designation extends to the headwaters of the Allt Dearg. The Allt na Beinne (ID: 20315) WFD surface waterbody status is classified under SEPA’s RBMP as of Moderate overall status due to water quality issues of an unknown source.
- 10.2.10 The central section of the proposed access is located within the River Farnack and the Allt na Fuar-ghlaic sub-catchments of the wider River Nairn catchment. Within this catchment, the proposed development infrastructure is limited to existing tracks only, and no construction works

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<sup>99</sup> SEPA (2021) SEPA River Classifications. Available at: <https://map.environment.gov.scot/sewebmap/>

are proposed. Under SEPA's RBMP the WFD surface waterbody status the River Farnack (ID:201312) is classified as Moderate due to water modifications to the water body as part of a hydroelectricity scheme development and the status of Allt na Fuar-ghlaic (ID: 20311) is classified as Moderate due to water quality issues of an unknown source.

- 10.2.11 Watercourses within the site are typical of upland catchments with channels often narrow and incised into the superficial geology with riparian corridors. Channel bedloads are likely to include bedrock, sand and gravels, peat and vegetation.
- 10.2.12 According to the National River Flow Archive (NRFA)<sup>100</sup> there is a hydrometric flow gauge on the River Findhorn at Shenachie (Station Ref. 7001; E282500 N833500) situated ~15 km north-east of the site. The watercourse at the gauging station is a wide high-volume river meandering through lowland farming areas, differing from the upland low-volume watercourses within the site. A review of the long-term flow archive for this gauging station (1960-2022) indicates a mean annual flow of 13.98 m<sup>3</sup>/s and a Q10 flow (the flow which was equalled or exceeded for 10% of the specified term) of 31.77 m<sup>3</sup>/s. Flow is generally highest during the winter months (December to March) and lower in the summer months (June to September). It is noted that the gauging station catchment is responsive to rainfall with minimal storage and the Findhorn River is liable to extremely rapid rises in level.
- 10.2.13 There is also a hydrometric flow gauge on the River Nairn at Balnafoich (Station Ref. 7008; E268500 N835100) situated ~10 km of the site. A review of the long-term flow archive for this gauging station (1993-2022) indicates a mean annual flow of 2.64 m<sup>3</sup>/s and a Q10 flow of 6.21 m<sup>3</sup>/s. Flow is generally highest during the winter months (December to March) and lower in the summer months (June to September).
- 10.2.14 Flow within the watercourses of the site would be considered in more detail within the EIA Report to ensure the appropriate design of drainage and watercourse crossings.
- 10.2.15 The Met Office<sup>101</sup> rain gauge located in Inverness, approximately 18 km north of the site, has an average annual rainfall of 1249.67 mm (1991 to 2020). The site is located further west and at a higher elevation compared to Inverness therefore greater precipitation levels would be expected.

<sup>100</sup> NRFA (2016). 7001 - Station info. Available at: <https://nrfa.ceh.ac.uk/data/search>

<sup>101</sup> Met Office (2020) UK Climate Averages. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gfhyz9j>

- 10.2.16 A review of the Scotland’s environment website<sup>102</sup> indicates the site is located within a Drinking Water Protected Area (DWPA) (surface water). The DWPA is located within the Glen Mazeran Burn (ID: 23015) sub-catchment. DWPA are protected under Article 7 of the WFD. Formal consultation will be carried out with Scottish Water through Scoping to confirm the details of the DWPA and prior to EIA Report submission to agree measures to safeguard the DWPA.
- 10.2.17 Review of the THC Private Water Supply (PWS) Map<sup>103</sup> indicates that there are PWS located within the site which are downgradient of the proposed development. At the EIA stage further consultation with THC will be undertaken to confirm locations of any of properties that utilise a PWS. If required, further consultation with PWS owners will be undertaken.
- 10.2.18 Review of Scotland’s Environment Map<sup>104</sup> indicates that there are (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR) authorised activities within the site as well as adjacent to the site. At the EIA stage further consultation with SEPA will be undertaken to confirm the presence of CAR authorisations within the study area.
- 10.2.19 Flood information provided by SEPA<sup>105</sup> indicates that the Allt Mor, the River Brin, the Allt Tarsuin, the Glen Mazeran Burn, the Kyllachy Burn, the Allt a’ Mharcaidh and the River Farnack are at risk of fluvial flooding, generally constrained to the riparian areas and the valley basin which include areas of High (10% annual exceedance probability [AEP]) and Medium (0.5% AEP) risk.
- 10.2.20 There are also small, isolated pockets of pluvial (surface water) flooding that are at High and Medium risk. These are constrained to small hollows on flatter areas in the upper watershed, and man-made furrows and ditches in the commercial forestry.
- 10.2.21 An assessment of flood risk will be undertaken as part of the EIA Report and would consider all types of flooding. The assessment will be carried out in accordance with NPF4<sup>106</sup>.

<sup>102</sup> Scotland’s environment (2013) Drinking Water Protected Areas. Available at <https://map.environment.gov.scot/sewebmap/>

<sup>103</sup> The Highland Council (2024) The Highland Council Private Water Supply Map. Available at: <https://map-highland.opendata.arcgis.com/datasets/ded172bbade24650bb2c1baec5e0d318/explore>

<sup>104</sup> Scotland’s environment (2018) SEPA Authorised Sites - CAR. Available at [Map | Scotland's environment web](#)

<sup>105</sup> SEPA (2022) Flood Extent Map. Available at: <https://map.sepa.org.uk/floodmap/map.htm>

<sup>106</sup> Scottish Government (2023). National Planning Framework 4. Available at: <https://www.gov.scot/publications/national-planning-framework-4/>

- 10.2.22 According to the British Geological Survey (BGS)<sup>107</sup> bedrock geology map, the west of the site is underlain by rocks of the Grampian Group of the Dalradian Supergroup which are characterised by psammite with subsidiary semipelite to pelite units. The north of the site is underlain by rocks of the Moine Supergroup which comprise gneissose psammite and semipelite. The eastern and southern areas of the site are underlain by unnamed igneous intrusions of felsic rocks. There are inferred faults of unknown displacement, generally striking north-east to south-west.
- 10.2.23 Peat superficial deposits predominate within the site and are indicated throughout the central part of the site, on the flatter upland sections and along parts of the proposed access route. Superficial deposits are indicated as absent in a large section towards the west of the site and a small section in the east. To the east of the site and along parts of the proposed access route, till (diamicton) deposits are also indicated.
- 10.2.24 Soil coverage of the site is mostly that of organic soils, specifically blanket peat deposits, which are located throughout the central area of the site. There are also smaller areas of peaty podzols, peaty gleys and alluvial soils constrained to the edges of the site.
- 10.2.25 The Hydrogeology Maps of the United Kingdom (UK)<sup>108</sup> indicates that all the bedrock underlying the site is classified as a low productivity aquifer where small amounts of groundwater may be present in the near surface weathered zone and in secondary fractures.
- 10.2.26 The Strathnairn, Speyside and Cairngorms (ID: 150709), WFD groundwater body associated with the bedrock in this area is classified as having Good overall status<sup>102</sup>.
- 10.2.27 The Loch Ruthven Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) is situated ~1.5 km to the east of the site, the Creag nan Clag SSSI is situated ~3km east of the site and the Littlemill Fluvioglacial Landforms SSSI is situated 900 m to the north of the site<sup>109</sup>. Loch Ruthven and Crag nan Glag sites are located within different sub-catchments of the River Nairn, therefore they are not hydrologically connected with the site. The Little Fluvioglacial Landforms SSSI is located within the Allt na Fuar-ghlaic sub-catchment of the River Nairn and is therefore hydrologically connected to the site. The Little Fluvioglacial

<sup>107</sup> BGS (2024). 1:50,000 Superficial and Bedrock Geology data. Available at: [https://geologyviewer.bgs.ac.uk/?\\_ga=2.246371460.1470317527.1697015876-1615914911.1697015876](https://geologyviewer.bgs.ac.uk/?_ga=2.246371460.1470317527.1697015876-1615914911.1697015876)

<sup>108</sup> BGS (2020). Hydrogeology Map of the UK. Available at: <https://mapapps2.bgs.ac.uk/geoindex/home.html?layer=BGSHydroMap>

<sup>109</sup> NatureScot (2024). Designated Sites. Available at: <https://sitelink.nature.scot/map>

Landforms SSSI is designated as it has an excellent collection of glaciofluvial landforms, which were produced by meltwaters of the last Scottish ice sheet. The management objectives at the SSSI are to avoid further quarrying, avoid clearance of boulders and exclude grazing of livestock at certain landforms.

- 10.2.28 The Carbon and Peatland 2016 Map<sup>110</sup> indicates that the majority of the site is underlain by Class 1 peatland which is designated as nationally important and likely to be of high conservation value. There are also smaller areas of Class 2 (nationally important with high conservation or restoration value), Class 3 (not priority peatland habitat but occasional peatland habitats can be found), Class 4 (unlikely to be associated with peatland habitats or carbon-rich soil), Class 5 (No peatland habitat recorded) and Class 0 (Mineral soil) Peatland. Further assessment will be undertaken to establish peatland depth and condition so that the layout design of the proposed development takes into account areas of peat and associated sensitive habitats.
- 10.2.29 Given the presence of peat, peaty podzols and peaty gleys within the site, there is a high likelihood that groundwater dependent terrestrial ecosystems (GWDTEs) are also present. These would be identified by ecology surveys undertaken as part of the EIA Report. Further assessment will be undertaken to define the groundwater dependence of these habitats in the Geology, Hydrology and Hydrogeology Chapter of the EIA Report, so that the layout design takes account of the locations of the most sensitive habitats and either avoids them or prescribes suitable mitigation reduce any potential impacts.

### **Future Baseline**

- 10.2.30 Given the nature of the terrain and distance from any major urban areas, any future land use change from its current rural nature, with commercial forestry and upland moorland prevalent in the area, is unlikely over the lifespan of the site. There are no land use allocations in the THC Local Development Plan<sup>111</sup> that would suggest major changes in land uses are likely which could affect matters assessed in this chapter. The potential impacts of other developments upon geology, hydrology, and hydrogeology would be considered in a cumulative assessment.

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<sup>110</sup> Scottish Government (2016) Carbon and Peatland 2016 Map. Available at: [Scotland's Soils - soil maps \(environment.gov.scot\)](https://www.scotland.gov.uk/Information/Statistics/149476)

<sup>111</sup> The Highland Council (2012). The Highland Wide Local Development Plan. Accessed at: [https://www.highland.gov.uk/info/178/development\\_plans/199/highland-wide\\_local\\_development\\_plan](https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan)

10.2.31 The conditions at the site in the absence of the proposed development would be affected by the likely influence of climate change in the future, which could affect the amount and intensity of rainfall, and temperature and evapotranspiration. The UK Climate Projections 2018 (UKCP18) produced by the Meteorological Office Hadley Centre provide information regarding the potential future climate in Scotland. Representative Concentration Pathway (RCP) 8.5 reflects a high emissions scenario and is considered a possible, but conservative, emission scenario suitable for evaluating the climate resilience of long-lifetime projects. The central estimate (50<sup>th</sup> percentile) under the RCP8.5 scenario predicts an increase in annual mean temperature of 1.5°C by the end of the 2050s. The RCP8.5 scenario also has a central estimate of an 8% decrease in summer precipitation, with an increase of 12% in winter precipitation, by the end of the 2050s. This could change the hydrological characteristics of the site and wider catchment areas over time.

## 10.3 Assessment Methodology

### Legislation, Policy and Guidance

10.3.1 The chapter will be carried out with reference to applicable legislative, policy and guidance documents. These are listed in the following text.

#### International Legislation and Policy

10.3.2 The assessment will take into account the requirements of the WFD (2000/60/EC). The requirements of various European Union (EU) Directives such as the WFD (2000/60/EC), the European Liability Directive (2004/35/EEC) and the Groundwater Daughter Directive (2006/118/EEC) have been transposed into domestic legislation by the Environment (EU Exit) (Scotland) (Amendment etc.) Regulations 2019. Previously the WFD, and now the Environment (EU Exit) (Scotland) (Amendment etc.) Regulations 2019, and supporting domestic legislation establish a legal framework for the protection, improvement and sustainable use of surface waters, transitional waters, coastal waters and groundwater resources. The WFD aims to protect and enhance the quality of surface freshwater (including lakes, rivers and streams), groundwater, GWDTE, estuaries and coastal waters. The key objectives of the WFD relevant to the assessment are:

- To prevent deterioration and enhance aquatic ecosystems; and
- To establish a framework for the protection of surface freshwater and groundwater.

10.3.3 The WFD resulted in The Water Environment and Water Services (Scotland) (WEWS) Act 2003, which gave Scottish Ministers powers to introduce regulatory controls (Section 20 of WEWS) over water activities in order to protect, improve and promote sustainable use of Scotland's water environment. The CAR regulatory controls have made it an offence to undertake certain activities (as listed in Schedule 2) without a CAR authorisation.

#### **National & Regional Legislation and Policy**

10.3.4 The assessment will take into account the following legislation and policy:

- Environment Protection Act 1990;
- The Water Environment and Water Services (Scotland) Act 2003;
- Private Water Supplies (Scotland) Regulations 2006;
- Flood Risk Management (Scotland) Act 2009;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- Waste Management Licensing (Scotland) Regulations 2011;
- Pollution Prevention and Control (Scotland) Regulations 2012;
- Highland-wide Local Development Plan 2012;
- Public Water Supplies (Scotland) Regulations 2014;
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017;
- Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Land Use Planning System SEPA Guidance Note 4 (LUPS-GU4) 2017: Planning Guidance on Onshore Windfarm Developments;
- LUPS SEPA Guidance Note 31 (LUPS-GU31) 2017: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems; and
- National Planning Framework 4 (NPF4) 2023;
- Scottish Environment Protection Agency (SEPA) Policies:
  - No. 19 Groundwater Protection Policy for Scotland;
  - No. 22 Flood Risk and Water Management Strategy;
  - No. 41 Development at Risk of Flooding: Advice and Consultation;
  - No. 54 Land Protection Policy; and
  - No. 61 Control of Priority and Dangerous Substances and Specific Pollutants in the Water Environment.

#### **National & Regional Legislation and Policy**

### 10.3.5 Following text sets out other key guidance and best practice documentation relevant to the EIA.

- Scottish Government Planning Advice Notes (PAN's)
  - PAN 50: Controlling the Environmental Effects of Surface Mineral Workings;
  - PAN 51 Planning, Environmental Protection and Regulation;
  - PAN 1/2013 Environmental Impact Assessment;
  - PAN 61 Planning and Sustainable Urban Drainage Systems; and
  - PAN 79 Water and Drainage.
- SEPA Guidance for Pollution Prevention (GPP's)
  - GPP 1: Understanding your Environmental Responsibilities - Good Environmental practices;
  - GPP 2: Above Ground Oil Storage Tanks;
  - GPP 4 Treatment and Disposal of Wastewater Where there is no Connection to the Public Foul Sewer;
  - GPP 5: Works and maintenance in or near water;
  - GPP 6 Working at Construction and Demolition Sites;
  - GPP 8: Safe Storage and Disposal of Used Oils;
  - GPP 13: Vehicle Washing and Cleaning;
  - GPP 21: Pollution Incident Response Planning;
  - GPP 22: Dealing with Spills; and
  - GPP 26 Safe Storage - Drums and Intermediate Bulk Containers.
- SEPA Position Statements (Published)
  - WAT-PS-06-02 Culverting of Watercourses;
  - WAT-PS-07-02 Bank Protection; and
  - WAT SG-78 Sediment Management Authorisation.
- Construction Industry Research and Information Association (CIRIA)
  - CIRIA C532 Control of Water Pollution from Construction Sites;
  - CIRIA C648 Control of Water Pollution from Linear Construction Projects;
  - CIRIA C692 Environmental Good Practice on Site (third edition);
  - CIRIA C753 The Sustainable Urban Drainage System Manual; and
  - CIRIA C786 Culvert, Screen and Outfall Manual.
- Other Guidelines
  - Scottish Renewables Joint Publication, (2019) Good Practice During Wind Farm Construction Version 4;



- Scottish Renewables, Joint Publication (2012), Development of Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste;
- SEPA, The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), A Practical Guide, Version 9, March 2022;
- River Crossings and Migratory Fish: Design Guidance, A Consultation Paper, The Scottish Executive;
- WAT-SG-23: SEPA (2008), Engineering in the Water Environment, Good Practice Guide - Bank Protection Rivers and Lochs, First Edition;
- WAT-SG-25: SEPA (2010), Engineering in the Water Environment, Good Practice Guide, River Crossings, Second Edition;
- WAT-SG-26: SEPA (2010), Engineering in the Water Environment, Good Practice Guide, Sediment Management, First Edition;
- WAT-SG-31: SEPA, (2006) Special Requirements for Civil Engineering Contracts for the Prevention of Pollution, Version 2;
- WAT-SG-75: SEPA, (2018), Sector Specific Guidance: Construction Sites, Version 1 & Supporting guidance (WAT-SG-75) Water Run-Off from Construction Sites September 2021; and
- WAT-SG-78: SEPA (2012), Sediment Management Authorisation, Version 1.

### Approach to EIA

10.3.6 The chapter will provide an assessment of the likely significant effects of the proposed development on the geological, hydrological and hydrogeological environment. The specific objectives of the chapter are to:

- Describe the assessment methodology and significance criteria used in completing the impact assessment;
- Describe the current baseline environment;
- Describe the future baseline environment in the absence of the proposed development;
- Describe the potential impacts, including direct, indirect, cumulative and transboundary impacts;
- Describe the mitigation measures proposed to address any likely significant adverse effects;

- Assessment of likely significant effects on geology, hydrology and hydrogeology from the construction, operation and decommissioning of the proposed development; and
- Assess the residual effects remaining following the implementation of mitigation measures.

10.3.7 It is anticipated that the greatest impacts of the proposed development on the geological, hydrological, and hydrogeological environment will occur during the construction phase, with effects reduced during the operational and decommissioning phases. Taking this into account the chapter will address the following issues for all phases of the proposed development:

- Changes to existing drainage patterns;
- Likely significant effects on baseflow;
- Likely significant effects on run-off rates;
- Likely significant effects on erosion and sedimentation;
- Likely significant effects on groundwater levels;
- Likely significant effects on water resources;
- Likely significant effects on impediments to flow;
- Flood risk;
- Pollution risk;
- Likely significant effects on hydrological integrity of peat bodies; and
- Likely significant effects on groundwater and surface water quality.

10.3.8 The chapter will also include the following:

- Detailed desk studies and site visits to establish baseline conditions of the hydrological study area and, where necessary, carry out detailed site investigations.
- Evaluation of the impacts of the proposed development on the current baseline environment;
- Evaluation of the future baseline environment in the absence of the proposed development;
- Demonstrating how the embedded good practice measures help to avoid and mitigate against any identified adverse likely significant effects resulting from the proposed development;
- Assessment of the likely significant environmental effects with consideration of the potential embedded mitigation measures, taking account of the sensitivity of the baseline features, the potential magnitude of these impacts and the probability of these impacts occurring; and

- The residual significance of the environmental likely significant effects following the consideration of additional mitigation measures.

### Consultation

10.3.9 It has been identified that the main consultees in respect of the geology, hydrology and hydrogeology EIA topic include SEPA, Marine Scotland Science (MSS), THC, Scottish Water, NatureScot and the River Nairn and the River Findhorn District Salmon Fishery Boards.

10.3.10 Upon the completion and submission of the Scoping Report, views and feedback would be sought from all relevant parties and organisations including but not limited to those listed above. All consultation would be considered when undertaking the chapter, including in identifying appropriate mitigation.

## 10.4 Approach to Mitigation

10.4.1 In the assessment of likely significant effects presented in the chapter account would be taken of ‘embedded’ mitigation measures i.e. those mitigation measures that are inherent to the proposed development. These measures include all mitigation usually assumed to be in place during construction and operation and that are generally regarded as industry standard or Best Practice. With respect to geology, hydrology and hydrogeology these include, but are not limited to, the following:

- Avoidance of steep gradients, deep peat and flood zones when establishing the footprint of the proposed development;
- Application of a 50 m buffer zone applied to the entire 1:50,000 OS mapping watercourse network;
- Application of 100 m and 250 m SEPA (LUPS-GU31) buffers relevant to abstractions, PWSs and GWDTEs;
- Use of micro-siting if unforeseen ground conditions are encountered;
- Adherence to the conditions of the required SEPA issued Construction Runoff Permit (CRP);
- Adoption of sensitive drainage design, with all drainage measures set out in a Water Management Plan (WMP) that would accompany a CEMP;
- Adherence to Best Practice guidance and SEPA CAR authorisation or General Binding Rules with respect to the crossing of watercourses;
- Deeper excavations would be designed so that they can freely drain by gravity where practicable and incorporate perimeter cut-off drains. Any required dewatering and associated discharge would be

undertaken in accordance with Best Practice and the CEMP, and abstractions greater than 10 m<sup>3</sup>/d would require CAR Registration, while over 50 m<sup>3</sup>/d would require a CAR Licence;

- Measures based on Best Practice guidelines from SEPA would be adopted during construction to prevent pollution, with all contractors aware of a pre-planned pollution incident response procedure (PIRP);
- Fuel would be stored in a suitably sized bunded area or self-bunded above-ground storage tank (AST), and maintenance and refuelling of machinery would be undertaken offsite or within designated areas of temporary hardstand; and
- A CEMP would be produced prior to the commencement of construction activities that would follow Best Practice guidance, as well as incorporating specific recommendations made in the EIA Report. No works would be undertaken unless agreed in the CEMP.

## 10.5 Scoping of Impacts

### Potential Receptors

10.5.1 From consideration of the baseline environment and the proposed development, receptors that could experience likely significant effects and that are therefore proposed to be taken forward for further consideration in the chapter are presented in Table 10.2.

**Table 10.2: Potential Receptors**

Receptor	Reason
Surface Water Hydrology	An assessment of the likely significant effects will be undertaken to consider the potential impacts of the development on water quality, flood risk and potential pollution following confirmation of the proposed development design.
Flood Risk	The flood risk is generally constrained to riparian corridors therefore with the correct mitigation flood risk within and downstream of the site is highly unlikely to be increased as a result of the proposed development. Therefore, flood risk would be addressed within the chapter with no requirement for a standalone Flood Risk Assessment (FRA).
Water Quality	An appropriate level of assessment will need to be considered to understand the potential impacts of the proposed development on water quality following confirmation of the layout design.
Soils and Peat	As highlighted above, peat deposits are anticipated within the site. It is proposed that the entire site would be probed on a 100m grid (phase 1) to determine peat depths which will aid the layout design of the proposed development. Then, a phase 2 detailed peat survey of proposed development would be undertaken. An outline Peat Management Plan (PMP) and a Peat Landslide Risk Assessment (PLHRA) would be prepared and would be included as technical appendices of the chapter.

Receptor	Reason
Solid and Superficial Geology	Review of the local geology information will be undertaken. The geology will also be considered in relation to Geological Conservation Review (GCR) sites and in the GWDTE assessment.
Hydrogeology	Assessment will be required to confirm the presence of GWDTE based habitat and hydrogeological information.
Water Resources	PWS, Scottish Water assets and CAR licenced activities will be identified within the Study Area and assessment made of potential effects of the proposed development and subsequent mitigation requirements. Depending on the results of the consultation process, a discrete PWS Risk Assessment technical appendix may be required.
Water conditions support conservation sites	Conservation sites and their potential hydrological connectivity with the proposed development will be considered within the chapter.
GWDTEs	Assessment will be required to identify GWDTEs. Further assessment may be required to assess true groundwater dependence of habitats and, if necessary, outline mitigation measures required to reduce potential impacts.

## Potential Impacts

10.5.2 The potentially significant geological, hydrological and hydrogeological impacts that could give rise to likely significant effects and that would therefore be taken forward for assessment are summarised in **Table 10.3**.

**Table 10.3: Geological, Hydrological and Hydrogeological Impacts that could lead to Likely Significant Effects**

Activity	Effects	Receptors
Construction phase: Land preparation (earthworks and excavation of the wind turbine foundations and any borrow pits)	Ground disturbance leads to sediment loading and pollution of watercourses. Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works. Excavation and fill leads to disruption of surface and near-surface flow paths and changes to the drainage regime, most typically increased runoff and flood risk. Dewatering interception of groundwater leading to a loss of water resource and disruption of groundwater support (baseflow) to watercourses. Erosion of peat / carbon rich soil including localised drying of the peat and resultant oxidation.	Surface water hydrology. Water quality. Soils and peat. Hydrogeology. Water resources. Water conditions supporting conservation sites. GWDTEs.
Construction phase: Soil compaction and temporary compounds	Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works. Reduced infiltration capacity results in increased runoff and flood risk, and reduced recharge to groundwater, leading to loss of water resource and disruption of baseflow	Surface water hydrology. Flood risk. Water quality. Soils and peat. Hydrogeology. Water resources.

Activity	Effects	Receptors
	<p>to watercourses and groundwater supply to GWDTEs.</p> <p>Ground disturbance and destruction of geological (including peat) structures.</p>	<p>Water conditions supporting conservation sites.</p> <p>GWDTEs.</p>
<p>Construction phase: Land clearance</p>	<p>Land clearance and ground disturbance leads to sediment loading and pollution of watercourses.</p> <p>Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works.</p> <p>Land clearance leads to disruption of surface and near-surface flow paths and changes to the drainage regime, most typically increased runoff and flood risk.</p> <p>Land clearance leads to breakdown of peat structure and disturbance of peat hydrology.</p>	<p>Surface water hydrology.</p> <p>Flood risk.</p> <p>Water quality.</p> <p>Soils and peat.</p> <p>Hydrogeology.</p> <p>Water resources.</p> <p>Water conditions supporting conservation sites.</p> <p>GWDTEs.</p>
<p>Construction Phase: Material stockpiling / removal (quarrying)</p>	<p>Ground disturbance leads to sediment loading and pollution of watercourses.</p> <p>Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works.</p> <p>Excavation and fill leads to disruption of surface and near-surface flow paths and changes to the drainage regime, most typically increased runoff and flood risk.</p> <p>Excavation leads to breakdown of peat structure and disturbance of peat hydrology</p> <p>Dewatering interception of groundwater leading to a loss of water resource and disruption of groundwater support (baseflow) to watercourses.</p>	<p>Surface water hydrology.</p> <p>Flood risk.</p> <p>Water quality.</p> <p>Soils and peat.</p> <p>Hydrogeology.</p> <p>Water resources.</p> <p>Water conditions supporting conservation sites.</p> <p>GWDTEs.</p>
<p>Construction phase: Watercourse crossings</p>	<p>Bank and bed disturbance leads to sediment loading, changes in morphology and pollution of watercourses.</p> <p>Contamination of watercourses due to accidental release of pollutants during works.</p>	<p>Surface water hydrology.</p> <p>Flood risk.</p> <p>Water quality.</p> <p>Water resources.</p> <p>Water conditions supporting conservation sites.</p>
<p>Construction Phase: Access track and crane hardstand</p>	<p>Ground disturbance leads to sediment loading and pollution of watercourses.</p> <p>Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works.</p> <p>Access track and crane hardstand construction leads to disruption of surface and near-surface flow paths and changes to the drainage regime, most typically increased runoff and flood risk.</p> <p>Ground disturbance and destruction of geological (including peat) structures.</p>	<p>Surface water hydrology.</p> <p>Flood risk.</p> <p>Water quality.</p> <p>Soils and peat.</p> <p>Hydrogeology.</p> <p>Water resources.</p> <p>Water conditions supporting conservation sites.</p> <p>GWDTEs.</p>

Activity	Effects	Receptors
Construction phase: Substation & BESS compounds	<p>Ground disturbance leads to sediment loading and pollution of watercourses.</p> <p>Contamination of soils, surface waters and groundwater due to accidental release of pollutants during works.</p> <p>Substation &amp; BESS compound construction leads to disruption of surface and near-surface flow paths and changes to the drainage regime, most typically increased runoff and flood risk.</p> <p>Excavation leads to breakdown of peat structure and disturbance of peat hydrology.</p>	<p>Surface water hydrology.</p> <p>Flood risk.</p> <p>Water quality.</p> <p>Soils and peat.</p> <p>Hydrogeology.</p> <p>Water resources.</p> <p>Water conditions supporting conservation sites.</p> <p>GWDTes.</p>
Operational phase: Operational facilities and activities	<p>Exposed ground leads to continued sediment loading and pollution of watercourses.</p> <p>Contamination of soils, surface waters and groundwater due to accidental release of pollutants during maintenance activities.</p> <p>Contamination of soils, surface waters and groundwater due to substation chemical leaks and concrete leaching.</p>	<p>Surface water hydrology.</p> <p>Water quality.</p> <p>Soils and peat.</p> <p>Hydrogeology.</p> <p>Water resources.</p> <p>GWDTes.</p>

10.5.3 Impacts during the decommissioning phase would likely be similar to those during the construction phase but would depend on the exact nature of the decommissioning activities that take place. However, it is likely that the ground disturbance would be much less. Mitigation similar to that implemented during the construction and operational phases (updated to reflect changes in legislation / guidance) would also help ensure that the significance of such impacts is reduced, and it is therefore currently proposed that consideration of decommissioning effects would be discussed within the chapter alongside the construction effects.

## 10.6 Cumulative Effects

10.6.1 Cumulative effects on geology, hydrology and hydrogeology from the construction and operation of the proposed development and its relation to other, nearby wind farms and large-scale developments (existing, consented but not yet built and proposed (at application stage) would also be considered in detail within the chapter. This assessment would typically be based on a zone of influence extending 10 km beyond the proposed development.

10.6.2 The potential cumulative effects from the proposed development identified by other environmental disciplines would also be considered if such identified cumulative effects could potentially impact geology, hydrology and hydrogeology.

10.6.3 Monitoring and further mitigation would be recommended as appropriate to reduce cumulative impacts to an acceptable level.

## 10.7 Summary of Scope

10.7.1 A scope of assessment has been proposed which is considered to be commensurate with the nature and scale of the proposed development. A full assessment of the potential geological, hydrological and hydrogeological effects will be undertaken and mitigation will be proposed where required.

## 10.8 Questions for Consultees

10.8.1 The questions provided below are posed to consultees to focus responses to the geology, hydrology and hydrogeology scoping exercise, which will ultimately inform the Scoping Opinion:

- Do consultees agree with the proposed scope of the Geology, Hydrology and Hydrogeology assessment, as summarised in **Table 10.2**?
- Are consultees aware of any PWS within the study area?
- Do consultees accept the integration of a FRA within the Geology, Hydrology and Hydrogeology Chapter?



# 11 Traffic and Transport

## 11.1 Introduction

11.1.1 This section sets out the proposed approach to the assessment of potential environmental effects associated with increased road traffic during the construction of the proposed development, including identification of possible measures to minimise disruption to the local and strategic road network.

## 11.2 Baseline Conditions

11.2.1 The proposed development is located in a relatively rural part of the Scottish Highlands however, construction and abnormal load access can be achieved directly from the A9 trunk road (T) corridor lying to the north and east of the proposed development. The A9(T) runs between Stirling and Scrabster in the north of Scotland and passes through both Perth and Inverness. It is the main north-south link through the Scottish Highlands carrying a significant level of traffic on a daily basis.

11.2.2 The A9(T) will be the key strategic route for the importation of construction materials that will be required to construct the proposed development. It provides excellent linkage to the central belt of Scotland as well as a link to the key settlements of Inverness and Perth where materials and staff are likely to be drawn from.

11.2.3 The site can be accessed from an existing junction between the A9 and General Wade's Military Road. General Wade's Military Road is a private track which extends in a south-west direction from the A9 and meets a network of private tracks that extend towards to the turbine locations. Two new sections of track will be constructed between the existing private tracks to enable abnormal loads to get to the wind turbine locations, west of the Aonach Odhar summit. All abnormal loads will utilise this route and a proportion of general construction traffic will also utilise this access route. In addition to this option, general construction traffic has a second option available which is to exit the A9 at Tomatin and then access the site via the C1121 and U1116 roads. Access into the site would be taken from the U1116 to the north-west of Garbole.

- 11.2.4 Abnormal loads carrying wind turbine components are likely to be transported from Port of Inverness to site by road. The route would involve abnormal loads travelling along Stadium Road from the Port to join the A9(T) at the Longman Roundabout. The abnormal loads would then route south-east on the A9(T) until the junction with General Wade’s Military Road. At the junction, the abnormal loads would turn right onto General Wade’s Military Road and would proceed in a south-west direction into the site via the network of private tracks, through the operational Farr Wind Farm and Glen Kyllachy Wind Farms. Abnormal loads would then proceed south-east of Glen Kyllachy Wind Farm to a new section of access track to meet and cross over the U1116 (Farr - Garbole Road), continuing along private tracks towards Kyllachy Burn. Another new section of access track will be required to cross over Kyllachy Burn and meet another private track allowing the ascent of Aonach Odhar and towards the wind turbine envelope. An abnormal loads assessment will be submitted as a technical appendix to the Traffic and Transport Chapter.
- 11.2.5 The chapter will provide a detailed description of each road link within the study area, as defined below.

## 11.3 Assessment Methodology

### Policy and Guidance

- 11.3.1 Assessment of effects in relation to traffic and transport will be undertaken in line with current guidance and best practice. The following legislation, guidance and published data sources will be used to inform the assessment including:
- National Planning Framework 4 (NPF4, Scottish Government 2023);
  - Transport Assessment Guidance (Scottish Government, 2012);
  - Institute of Environmental Management and Assessment (IEMA) publication - “Environmental Assessment of Traffic and Movement”, 2023 (“the IEMA Guidelines”);
  - Department for Transport (DfT) publication “Design Manual for Roads and Bridges” (DMRB, DfT 2013); and
  - Planning Advice Notice (PAN) 75 - “Planning for Transport” (Scottish Government 2005).

### Study Area

- 11.3.2 The study area for the assessment of traffic and associated environmental effects will consider receptors along the A9(T) corridor both north and

south of the junction with General Wade’s Military Road which lies just to the west of Moy. In addition the C1121 road between Garbole and Tomatin will be included in the study area along with the U1116 Road which will be used by general construction traffic.

### Assessment of Effects

- 11.3.3 The effect of the increase in construction vehicle traffic movements will be quantified through comparison of existing traffic flows and vehicle composition (baseline data) with the flows predicted as a result of the construction of the proposed development. Consideration of the potential effect on other road users will also be undertaken where road links are affected by construction traffic.
- 11.3.4 The IEMA guidelines set out a list of environmental effects which should be assessed for significance in relation to the transport resource (if the identified thresholds are exceeded, i.e. ‘Rule 1’ or ‘Rule 2’ described below), as follows:
- Severance of communities;
  - Road vehicle driver and passenger delay;
  - Non-motorised user delay / Non-motorised amenity;
  - Fear and intimidation on and by road users;
  - Road user and pedestrian safety; and
  - Hazardous/large loads.
- 11.3.5 The assessment will explore whether effects on these are likely to be significant based upon two tests contained within IEMA Guidelines. The guidelines suggest that, in order to determine the scale and extent of the assessment and the level of impact that the development will have on the surrounding road network, the following two ‘rules’ should be applied:
- Rule 1 - Include road links where flows are predicted to increase by more than 30% or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30%; and
  - Rule 2 - Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.
- 11.3.6 These rules will be used as a screening exercise to determine whether a detailed assessment of effects on the routes within the study area is necessary. Where a detailed assessment is required, sensitivity and magnitude criteria will be used in order to determine the significance of effects.

### Data Collection

- 11.3.7 The scope of survey works relating to traffic and transport is likely to include the desk-based collation of publicly available traffic count data for the A9(T). Count data will be sourced from the Transport Scotland database. Should data not be available then new automatic traffic counter (ATC) surveys would be commissioned. The location of the count points would be agreed with Transport Scotland in advance of any surveys. New traffic counts will be undertaken on the C1121 road between Garbole and Tomatin and on the U1116 between Garbole and the site access point to the northwest.
- 11.3.8 Accident data will also be obtained for the last five years along the trunk road links within the study area directly from Transport Scotland. Any accident data for the local road network would be sourced from the Crashmap database.

### Consultation

- 11.3.9 Consultation will be undertaken with both Transport Scotland and THC in relation to the strategic and local road networks respectively.

## 11.4 Potential Effects

### Potential Impacts Scoped In

- 11.4.1 The main potential effects of the proposed development are associated with increased traffic flows, or changes to the traffic composition, as a result of traffic movements during construction. These traffic effects may arise during the construction phase, particularly when the wind turbines are being delivered and erected, as this will require the transportation of abnormal loads (blades, towers and nacelles). The greatest volume of construction traffic will likely be experienced over the first few months of the construction period as materials are delivered for access tracks and site establishment. There will be potential impacts on existing road users, residents adjacent to the roads used to access the site and users of public rights of way and core paths that either run adjacent to or dissect access routes.

### Issues Scoped Out

- 11.4.2 On the basis of the detailed desktop study, the professional judgement of the EIA team and experience from other relevant projects and policy guidance, the following effects will be scoped out of the traffic and transport assessment:

### Operational Stage

- 11.4.3 Once the proposed development is operational, the amount of traffic associated with a wind farm is minimal, relating to maintenance of the wind turbines only. It is estimated that on average there will be just a small number of 4x4s accessing the site on an infrequent basis. Therefore, the effect of vehicle movements during the operational phase will be negligible. In respect of traffic and transport, the operational phase of the proposed development will therefore not be assessed in this chapter.

### Decommissioning Stage

- 11.4.4 Consent for the proposed development is sought for 50 years, after which the wind farm will be decommissioned unless a further application is submitted for an operational extension. Traffic associated with the decommissioning stage is anticipated to be significantly less than that generated during construction therefore the construction phase is considered the worst-case assessment to review the impact on the study area. Given the timescales involved and the likelihood for changes to the baseline situation during this period, the traffic and transport effects of wind farm decommissioning will not be assessed in this chapter, although a commitment to reviewing the impact of this phase will be made immediately prior to decommissioning works proceeding.

## 11.5 Cumulative Effects

- 11.5.1 The potential for cumulative effects will be considered with other wind farms (and other developments) which are proposed to use the same public roads as the proposed development during construction. Where the potential for cumulative effects is identified, an assessment of effects will be undertaken.

## 11.6 Approach to Mitigation

- 11.6.1 Where required, the chapter will detail mitigation measures in order to mitigate any potentially significant environmental effects associated with increased traffic arising as a result of the proposed development. An updated assessment would be provided to identify any resultant effects. The mitigation itself is likely to take the form of a Construction Traffic Management Plan (CTMP) which would seek to minimise construction traffic and associated environmental effects. The CTMP would also look to identify measures to accommodate walkers and cyclists who may be using General Wade's Military Road and the other private tracks across the site.

## 11.7 Summary of Scope

- 11.7.1 A scope of assessment has been proposed which is considered to be commensurate with the nature and scale of the proposed development. A full assessment of the potential environmental effects associated with increased traffic will be undertaken and mitigation will be proposed where required.

## 11.8 Questions for Consultees

Q11.1 Do consultees agree with scoping out operational and decommissioning effects in respect of traffic and transport?

Q11.2 Do consultees agree that the routes to be assessed within the study area are appropriate?

Q11.3 Are consultees of any issues with the proposed abnormal load route?

Q11.4 Are consultees aware of any developments which should be considered in terms of the cumulative assessment of traffic and transport effects?

## 12 Acoustics

### 12.1 Introduction

12.1.1 This section sets out the proposed approach to the assessment of potential effects resulting from the construction and operation of the proposed development in relation to sound immissions.

### 12.2 Baseline Conditions

12.2.1 The acoustic environment around the site is expected to be typical of a rural area and consists of sounds generated by wind, watercourses, farm machinery, birds, distant traffic and occasional overflying aircraft.

12.2.2 After a preliminary assessment, representative residential properties near the proposed development would undergo background sound measurements if deemed necessary. If required, the survey locations would be selected in consultation with the environmental health department of THC, subject to permission being granted by the residents.

### 12.3 Assessment Methodology

12.3.1 Operational acoustic impact will be assessed in accordance with ETSU-R-97<sup>112</sup>, and the Good Practice Guide to its application issued by the Institute of Acoustics<sup>113</sup>. This is consistent with Planning Advice Note 1/2011: Planning and Noise<sup>114</sup> and the further guidance provided in the web-based planning advice on renewable technologies for onshore wind turbines<sup>115</sup>.

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

12.3.3 Operational sound immissions from the associated BESS and substation will be assessed in line with BS 4142:2014+A1:2019 Methods for assessing and rating industrial and commercial sound<sup>116</sup>.

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<sup>112</sup> The Department of Trade and Industry (1997). ETSU-R-97: The assessment and rating of noise from wind farms.

<sup>113</sup> Institute of Acoustics (2013). A good practice guide to the application of ETSU-R-97 for the assessment and rating of wind turbine noise.

<sup>114</sup> Scottish Government (2011). Planning Advice Note 1/2011: Planning and Noise. Scottish Government.

<sup>115</sup> Scottish Government (2014). Onshore wind turbines: planning advice.

<sup>116</sup> British Standards Institute (2019). BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.

- 12.3.4 Construction sound immissions will be discussed with reference to the procedures within BS 5228-1:2009+A1:2014<sup>117</sup>. 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<sup>118</sup>.
- 12.3.5 If blasting is required at potential borrow pits located at the proposed development, the expected sound and vibration levels will be discussed with reference to BS 5228-2:2009+A1:2014<sup>119</sup>, BS 6472-2:2008<sup>120</sup> and ‘*best practicable means*’ in this regard.
- 12.3.6 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.
- 12.3.7 The acoustic assessment will include the nearest properties to the proposed development. Any properties that are in planning or consented will be considered alongside those already existing.
- 12.3.8 The assessment will consider the potential effects associated with construction and operation of the proposed development as detailed below.
- 12.3.9 A discussion of the potential effects due to construction sound, including sound associated with vehicle movements, 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.
- 12.3.10 An assessment of potential effects of sound due to operation of the proposed development 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.
- 12.3.11 It is not proposed to carry out an assessment of the potential effects of sound from operation of the proposed development at specific frequencies, e.g. low frequency sound, or the potential effects of other sound and vibration characteristics due to operation, such as amplitude modulation and vibration. However, a generalised discussion of these

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<sup>117</sup> Code of practice for noise and vibration control on construction and open sites - Part 1: Noise’, British Standards Institution, BS 5228-1:2009+A1:2014.

<sup>118</sup> Scottish Government (2011). Appendix 1: Legislative Background, Technical Standards and Codes of Practice.

<sup>119</sup> Code of practice for noise and vibration control on construction and open sites - Part 2: Vibration’, British Standards Institution, BS 5228-2:2009+A1:2014.

<sup>120</sup> British Standards Institution (2008). BS 6472-2:2008 Guide to evaluation of human exposure to vibration in buildings - Part 2: Blast induced vibration.



topics, in relation to current guidance and research, with reference to the proposed development will be provided.

- 12.3.12 An assessment of potential effects of sound due to the operation of the BESS and associated with the proposed development will be undertaken at the nearest properties. The operational sound assessment will be carried out on the basis of the broadband sound pressure levels with any relevant penalties applied for certain acoustic features, as per BS 4142:2014+A1:2019.

## 12.4 Potential Effects

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

## 12.5 Cumulative Effects

- 12.5.1 A cumulative assessment will consider any neighbouring wind farms 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 will be considered along with those that are already operational or consented.

## 12.6 Approach to Mitigation

- 12.6.1 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 Stationary Office, 1974)<sup>121</sup>. If additional mitigation measures are required, this will include a reduction in construction activities or traffic during certain periods, where considered appropriate.
- 12.6.2 The potential effects of sound due to operation of the proposed development will be considered in the design process via the application of nominal buffers to neighbouring properties within which wind turbines will not be placed.

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<sup>121</sup> Her Majesty’s Stationary Office (1974). Control of Pollution Act.

- 12.6.3 If baseline sound monitoring is required, results will also inform the layout design of the proposed development, with greater separation distances potentially being required for properties with relatively low background sound levels and corresponding derived acoustic limits.
- 12.6.4 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.
- 12.6.5 The potential operational acoustic impacts from the BESS associated with the proposed development will be considered in the design process by incorporating appropriate buffers between the BESS compound and neighbouring properties. Additional mitigation such as sound barriers will be proposed if deemed necessary to meet the required acoustic limits in accordance with BS 4142:2014+A1:2019.

## 12.7 Summary of Scope

- 12.7.1 Potential impacts relating to the construction and operation of the proposed development will be discussed and assessed as part of the EIA Report supporting the planning application.
- 12.7.2 The nearest planned, consented or existing properties are scoped into the assessment.
- 12.7.3 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.

## 12.8 Questions for Consultees

Q12.1 Do the consultees agree with the proposed assessment methodology?

Q12.2 Do the consultees agree with the proposed scope of the assessment?

## 13 Socio-economics

### 13.1 Introduction

- 13.1.1 BiGGAR Economics has been commissioned to undertake a socio-economic assessment of the proposed development. Socio-economic 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 out of the EIA Report.
- 13.1.2 Nevertheless, it is recognised that socio-economic issues will be of interest to stakeholders, so a separate report on socio-economics will be provided and submitted alongside the EIA Report. This will include direct effects such as employment generation and any indirect or induced effects from the proposed development and also consideration of local tourism activity.
- 13.1.3 The report will also consider whether the proposed development maximises net economic benefit, in the context of Policy 11c of NPF4.
- 13.1.4 This section describes what will be considered in the Socio-Economic Report and the approach that will be taken.

### 13.2 Baseline Conditions

- 13.2.1 The study areas of the assessment will be selected to meet the interests of key stakeholders and will be made of predefined geographies. The baseline assessment will include a description of the current socio-economic baseline within the local area. This will include a summary of the economic performance data and a description of the relevant tourism assets that will be covered in the assessment.
- 13.2.2 The baseline description will cover and compare the study areas of:
- Highland (The Highland Council area); and
  - Scotland.
- 13.2.3 In 2022, Highland had a population of 238,100, accounting for 4.3% of the total population in Scotland (5,479,900). The share of the working age population in Highland was 61%, slightly below the average accounted for by working age people across Scotland (64%).
- 13.2.4 From 2022 to 2043, the population of Highland is projected to decrease by 2%. Over the same period, Scotland's population is projected to grow by 2%.

- 13.2.5 The proportion of the population that is economically active is higher in Highland (78.8 %) than Scotland as a whole (77.9%), while the unemployment rate in Highland is 2.7% compared to 3.4% nationally.
- 13.2.6 The main sectors of employment are human, health and social work activities (accounting for 15.3% of employment in Highland, compared to 15.1% nationally) and wholesale and retail trade (13.4% across Highland, compared to the national average of 12.8%). The share of employment in construction in Highland is 6.7%, higher than the Scottish average (5.6%).
- 13.2.7 In Highland, around 13% of employment is in the sustainable tourism sector, compared to the Scottish average of 10%. This indicates the importance of tourism in the area surrounding the proposed development.
- 13.2.8 In 2019, there were 12 million day-visitors in Highland (compared to 145 million in Scotland as a whole) and about 2 million domestic overnight visitors (compared to 12.4 million nationally). In the same year, the domestic visitor spend in Highland was £413 million, accounting for 8% of the total domestic visitor spend in Scotland as a whole (£5.2).
- 13.2.9 The socio-economic and strategic baseline will be expanded on in the standalone report through a review of publicly available data sources. This will 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.

### 13.3 Assessment Methodology

- 13.3.1 It is anticipated that the contents of the report will include:
- introduction;
  - socio-economic strategic context;
  - baseline socio-economic context;
  - socio-economic assessment;
  - tourism impact assessment;

- proposed measures and actions to maximise local economic and community impacts; and
  - summary of findings and conclusion.
- 13.3.2 This will primarily be a desk-based study with consultation undertaken by the applicant with the local community to further inform the baseline and inform any opportunities from the proposed development which arise therein.
- 13.3.3 The assessment of socio-economic impacts will focus on the level of activity/employment supported during the construction and operation phases. The assessment will be undertaken for the study areas of Highland and Scotland.
- 13.3.4 Government and industry reports will be used to determine the expected capital and operational expenditure associated with the proposed development, as well as the breakdown of expenditure by different contracts (e.g. wind turbines, balance of plant). An assumption will then be made based on the share of each type of contract that can be secured regionally and nationally. This increase in turnover will then be used to estimate the economic impact associated with the proposed development.
- 13.3.5 It is anticipated that the socio-economic effects will be negligible in EIA terms and therefore, an approach based on sensitivity, magnitude and significance will not be taken in the socio-economic assessment report. Instead, the assessment will focus on evaluating whether the proposed development meets the specific requirements outlined in NPF4 Policy 11(c) concerning net economic impact.

### Legislation, Policy and Guidance

- 13.3.6 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. The proposed method has however been based on established best practice, including that used in the UK Government and industry reports on the sector. In particular, this 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, as well as more recent industry data on the onshore wind sector and its supply chain.

- 13.3.7 It is also important that the socio-economic assessment takes account of the relevant local and national policy objectives. The most relevant objectives for this are expected to be included 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.
- 13.3.8 It is also essential to take into consideration for the assessment the NPF4, the national spatial strategy for Scotland. The document considers:
- Scotland's spatial principles;
  - National planning policy;
  - National developments; and
  - Regional priorities.
- 13.3.9 In the context of energy generation, Policy 11 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 analysis will reach the conclusion on whether the proposed development maximises the net economic impact in the context of this NPF4 Policy 11(c).
- 13.3.10 Paragraph (d) of Policy 11 sets out a number of impacts that should be addressed during design and mitigation. That list does not include tourism. Whilst NPF4 includes no requirement to consider tourism when considering net economic impact or in the design and mitigation process, relevant employment statistics show that in Highland the employment in the sustainable tourism sector accounts for a higher percentage of total employment in the area (13%) compared to Scotland as a whole (10%). This indicates the importance of tourism in the local area surrounding the proposed development and it is recognised that local stakeholders may be interested in the potential impact. Thus, a tourism assessment will be included in the Socio-Economic Report.

## 13.4 Potential Effects

- 13.4.1 The effects that will be considered in this assessment will include the potential socio-economic effects associated with the proposed development.
- 13.4.2 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 development, construction and decommissioning phases;
  - 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;
  - 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; and
  - potential effects on other sectors of the economy, including tourism, either temporary during the construction and decommissioning phases or permanent effects.

## 13.5 Cumulative Effects

- 13.5.1 The analysis will set out any impacts associated with the presence of other onshore wind developments in the local area and region.
- 13.5.2 There will be cumulative beneficial effects on socio-economics if the proposed development supports the development of a local supply chain, which other wind farm developments in the area may benefit from. This would benefit local businesses and increase the economic impact in Highland and Scotland.
- 13.5.3 As with the construction effects, the presence of an onshore wind cluster around the proposed development will create an opportunity for diversification and investment within local companies to support the operational phase of onshore wind projects. This would have the potential to increase the magnitude of beneficial economic effects considered in

the assessment, including community benefit funding to support economic development and the investment priorities of local communities.

- 13.5.4 There are not expected to be any significant effects on tourism and recreation assets, and it is therefore not expected that there would be any significant cumulative effects on tourism and recreation.

## 13.6 Approach to Mitigation

- 13.6.1 Proposed mitigation measures will depend on the findings of the assessment. Proposed measures that will be adopted to enhance the socio-economic impacts 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.

- 13.6.2 Other measures will be identified as part of the socio-economic assessment.

## 13.7 Summary of Scope

- 13.7.1 BiGGAR Economics has been commissioned to undertake a socio-economic assessment of the proposed development in a standalone report, which will be submitted alongside the EIA Report.

- 13.7.2 The objectives of this study are to:

- quantify the potential economic impacts of the proposed development for the local and national economies;
- assess the potential for any effects on the local economy such as changes to tourism activity as a result of the proposed development; and
- outline the potential for the local community to benefit from the proposed development.

## 13.8 Questions for Consultees

Q13.1 Do you agree that the scope of the proposed assessment is appropriate?

Q13.2 Are there specific socio-economic effects that should be considered?



## 14 Other Considerations

### 14.1 Introduction

14.1.1 A single chapter will be prepared to draw together the implications of the proposed development on other facets of the environment that have been scoped out of the EIA process, or to signpost readers to where they are dealt with within technical chapters of the EIA Report. It is anticipated that this chapter would include discussion on the following issues:

- Existing Infrastructure, Telecommunications and Broadcast Services;
- Aviation and Radar;
- Climate and Carbon Balance;
- Ice Throw;
- Shadow Flicker;
- Air Quality;
- Population and Human Health;
- Waste and Environmental Management; and
- Major Accidents and Disasters.

### 14.2 Existing Infrastructure, Telecommunications and Broadcast Services

#### Infrastructure

14.2.1 A range of investigations will be undertaken to establish the presence of existing infrastructure associated with utilities such as water, gas, electricity and telecommunication links to establish either the absence of effects or to identify appropriate mitigation to overcome any effects. These matters would be addressed through consultation with the relevant system operators.

#### Television and Radio

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

14.2.3 The proposed development is located in an area which is served by a digital transmitter and, therefore, television reception is unlikely to be affected by the development of the wind farm as digital signals are rarely affected. In the unlikely event that television signals are affected by the

proposed development, mitigation measures will be considered by the applicant.

- 14.2.4 Satellite television is not generally affected by new structures unless the structure blocks the line-of-sight between a dish antenna and the satellite in the sky. With satellite signals received from a high elevation, disruption to signals is usually limited to cases where a tall structure is erected very close to a receiver (Ofcom, 2009).
- 14.2.5 Given the separation distance to the nearest house from the proposed wind turbine locations is approximately 2.5 km, it is considered highly unlikely that the proposed development would impact on satellite television.
- 14.2.6 Television reception is, therefore, scoped out from further assessment in the EIA Report.
- 14.2.7 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.
- 14.2.8 It is therefore proposed that an assessment of potential effects on broadcast radio is scoped out of the EIA.

### Telecommunications

- 14.2.9 Wind turbines have the capability of affecting electromagnetic transmissions by physically blocking or dispersing the transmission/signal. This means that telecommunications and/or broadcast signals could experience interference.
- 14.2.10 Consultation will be undertaken with relevant stakeholders and consultees with respect to telecommunications.

### Fixed Links

- 14.2.11 Ofcom is responsible for the licensing of two-way radio transmitters. It holds a register of most fixed links and will therefore be consulted in order 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. The outcome of this consultation process, including any mitigation actions taken, will be detailed in the EIA Report.

## 14.3 Aviation and Radar

### Introduction

- 14.3.1 The chapter 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 will be undertaken once the locations of the wind turbines have been finalised with appropriate interested parties. The chapter 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 aviation interests in the area that could potentially be affected by the proposed development (see Plate 2.1). Initial assessments indicate that operations at Inverness Airport, situated approximately 29.2 km from the proposed development, may be impacted. It is also likely there will be an impact on the Inverness Airport Instrument Flight Procedures. The proposed development may also impact the RAF Lossiemouth primary radar, situated approximately 68.6 km from the proposed development.
- 14.3.5 Consultation will be undertaken with civil and military aviation stakeholders to agree if mitigation measures are necessary.



Plate 2.1: Potential aviation impacts, receptor locations (reproduced under licence from NATS (Services) Ltd © Copyright 2024 NATS (Services) Ltd. All rights reserved)

### Mitigation

14.3.6 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 Civil Aviation Authority (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.

## 14.4 Climate and Carbon Balance

14.4.1 As a mature technology, onshore wind, and associated solar, development has a continuing and important role to play, as confirmed by national

planning and energy policy and most recently in NPF4 and in the new Onshore Wind Policy Statement<sup>122</sup>.

- 14.4.2 Scotland's overarching statutory target is to achieve a 100% reduction in greenhouse gas emissions to net-zero by 2045, with interim targets of 75% by 2030 and 90% by 2040, now provided for in the Climate Change (Scotland) Act 2009 as amended by the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019 ("2009 Act") which came into force in March 2020. It is noted that, although the Scottish Government has announced that it proposes to remove the interim 2030 target, no legislation is currently in place to action its removal.
- 14.4.3 The Climate Impact Assessment will be undertaken in accordance with Schedule IV of the EIA Regulations<sup>123</sup> which transpose the EIA Directive into Scottish law and states that:
- *“(4) A description of the factors specified in Article 3(1) likely to be significantly affected by the project, including climate (for example greenhouse gas emissions, impacts relevant to adaptation).*
  - *(5) A description of the likely significant effects of the project on the environment resulting from, inter alia.”*
- 14.4.4 Current best practice recommends that the EIA Report includes undertaking a Carbon Balance Assessment (CBA) which assesses effects with reference to the magnitude of emissions released by the development and the period of time it takes to payback for those carbon emissions, the context of those emissions (e.g. national, regional and local emissions reduction targets) and professional judgement. This assessment will be based on the information regarding the scale and nature of the proposed development. Where data is unavailable, worst-case reasonable assumptions will be used.
- 14.4.5 A CBA employs the Scottish Government's Carbon Calculator Tool<sup>123</sup> and quantifies the CO<sub>2</sub> emissions savings over the life of the proposed development against the release of CO<sub>2</sub> from other energy generation methods as a result of implementing the proposed development. It also reports on the time it takes to pay back any carbon debt and the potential effects of the proposed development on climate change in terms of carbon savings achieved.

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<sup>122</sup> The Scottish Government (2022) Onshore wind: policy statement. [Online] Available at: <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/>. Accessed on 20/06/2024.

<sup>123</sup> The Scottish Government (2008) Carbon Calculator Tool [Online] Available at: <https://informatics.sepa.org.uk/CarbonCalculator/index.jsp>. Accessed 20/06/2024.

- 14.4.6 Natural Power will prepare a report for the CBA explaining all the inputs into the tool and justifying the values presented. Therefore, when the assessment is reviewed by consultees, assumptions, inputs and outputs are all clear and self-explanatory, which has resulted in minimal comments, if any, from consultees for previous projects. This will be presented as a technical appendix to the EIA Report.
- 14.4.7 The technical appendix will give an indication of the proposed development's impact on the existing peat on site and to assess the potential effects in terms of CO<sub>2</sub> emissions against the total potential carbon savings attributed to the proposed development.
- 14.4.8 Natural Power will carry out a CBA as per industry best practice, using the most recent version of the tool that is available at the time from the Scottish Government's website. A CBA would involve a four-step process as follows:

**Step 1: Data gathering and provision of information**

- 14.4.9 This step includes providing the applicant and experts involved in the proposed development with a list of information and data requirements that will be needed to complete the analysis. This will include requests for data from peat assessments, ecological survey work, hydrological survey work and infrastructure dimensions and construction techniques. Costs have also been included for lab analysis, required to assess the dry soil bulk density and carbon content values of peat for input into the Carbon Calculator Tool.

**Step 2: Review of current progress and gap analysis**

- 14.4.10 This step includes a review of the data and information gathered from external and in-house specialists to identify any gaps. Assessment of peat depth data for individual pieces of infrastructure which will be presented in an Excel spreadsheet so that average (and minimum and maximum) values for peat depths can be easily calculated.

**Step 3: Completion of carbon balance assessment and accompanying report**

- 14.4.11 Following the completion of any further survey work and provision of any additional information identified in the gap analysis, the CBA may be completed. In order to prevent revisiting the analysis it is advisable that this step is completed following the design freeze, assuming that only one iteration of the tool is required.

14.4.12 Natural Power will present the findings of the carbon calculator in the form of a report that can be presented within an appendix of the EIAR and will be made available for review by the client.

#### Step 4: Review

14.4.13 Once the report has been reviewed, feedback and comments can be incorporated into the final output. It is not expected for there to be any requirement for the CBA to be amended post-submission following any further update of the Carbon Calculator that may occur.

## 14.5 Ice Throw

14.5.1 Ice throw is where ice formation on wind turbine blades is thrown onto the ground below during operation. Its impact on a receiving body is potentially hazardous. Ice throw may occur during the operational phase of the proposed development given the climatic conditions of the site (as can be seen in the Wice Atlas icing Map<sup>124</sup> (2023), which shows icing levels across regions of the country).

14.5.2 As per SNH 2019<sup>125</sup> *“Wind turbines have a risk of ice throw and warning signs at access points should highlight this issue. These should advise the public not to stand close below towers, and to take care when nearby and in-line with wind turbine blades, under icy conditions.”*

14.5.3 Accordingly, signage will be recommended. Further mitigation may be implemented if found to be required. This would be bespoke to the situation and risk.

14.5.4 It is therefore proposed that ice throw is scoped out of the EIA.

## 14.6 Shadow Flicker

14.6.1 Shadow flicker occurs when a certain combination of conditions prevail at a certain location, time of day and year. It firstly requires the sun to be at a certain level in the sky. The sun then shines onto a window of a residential property from behind the wind turbine rotor. As the wind turbine blades rotate it causes the shadow of the wind turbine to flick on and off. This may have an adverse effect on residents in affected properties. If shadow flicker cannot be avoided through design, technical

<sup>124</sup> <http://virtual.vtt.fi/virtual/wiceatla/>

<sup>125</sup> <https://www.nature.scot/doc/guidance-good-practice-during-wind-farm-construction>

mitigation solutions are available, such as shutting down wind turbines when certain conditions prevail.

- 14.6.2 Generally in the UK, significant shadow flicker is only likely to occur within a distance of ten times the rotor diameter (of a wind turbine), from an existing property and within 130 degrees either side of north. However, due to the location of the proposed development, The Highland Council require a shadow flicker assessment to be carried out for properties located within 11 times the rotor diameter.
- 14.6.3 The rotor diameter of the proposed wind turbines would be up to 162 m; so the potential area in which shadow flicker could occur would be up to 1,782 m from the proposed wind turbine locations. The closest property to the current wind turbine layout is approximately 2,500 m. Once the final wind turbine layout and parameters are fixed, the locations of properties in proximity to the proposed development will be verified and if any are situated within 11 rotor diameters from the proposed wind turbine positions, a shadow flicker model will be run to predict potential levels of effect. Shadow flicker is considered as an environmental constraint during the design process.

## 14.7 Air Quality

- 14.7.1 Given the relatively remote location of the site, the generation of dust during construction activity is unlikely to have a direct impact on any human receptors and will be controlled by means of best practice to be described in the EIA Report.
- 14.7.2 Consideration will be given within the Ecology and Geology, Hydrology & Hydrogeology Chapters to the potential impacts that dust generation could have on any identified sensitive ecological or hydrological receptors. If required, detailed mitigation measures will be proposed within these chapters.

## 14.8 Population and Human Health

- 14.8.1 The potential effects on population and human health arising from the proposed development would be considered in the context of the other factors identified in Schedule 4(4) of the 2017 EIA Regulations, given that any environmentally related health issues (both beneficial and adverse) are likely to result from, for example, exposure to traffic, changes in living conditions resulting from noise and increased employment opportunities.



14.8.2 It is therefore proposed that population and human health effects of the proposed development are incorporated within the relevant chapters of the EIA Report, as appropriate, under each of the other topic headings e.g. noise or socio-economic effects. Where no significant effects are likely these are scoped out of the assessment.

## 14.9 Waste and Environmental Management

14.9.1 The applicant is committed to pollution prevention and environmental protection. As such an environmental management strategy to minimise environmental effects of the proposed development will be developed as part of the Outline CEMP.

14.9.2 An Outline Peat Management Plan (PMP) will be prepared as a supporting technical appendix in line with the SEPA Regulatory Position Statement: Developments on Peat (2012). If significant peat deposits are proven, a Peat Landslide Hazard and Risk Assessment will be completed using the site survey data and slope analysis (using DTM data), highlighting areas that may be impacted by a peat slide so that appropriate mitigation measures and can be identified.

14.9.3 If granted Section 36 consent, it is anticipated that a site-specific Waste Management Plan which addresses storage and final disposal of surplus material will be required by planning condition. All potential waste streams will be identified and what construction practices can be incorporated into the development to minimise the use of raw materials and maximise the use of secondary aggregates.

## 14.10 Major Accidents and Disasters

14.10.1 The scope for the EIA to consider major accidents and disasters has been initially considered in

- 14.10.2 **Table 14.1.** Major accidents or disasters have been scoped in where they represent a risk to the proposed development, either from the proposed location or the proposed development itself. A high risk is considered to be where there is reasonable likelihood of the accident or disaster occurring, or where the effect of the accident or disaster would lead to the requirement for mitigation which is beyond the usual scope of construction or operational activities.
- 14.10.3 Where an accident or disaster is scoped in, the EIA Report chapter(s) identified would consider the matter in more detail. This further detail may show that no further assessment is needed, or it may lead onto an appropriate level of assessment and/or identification of mitigation.

**Table 14.1: Major Accidents and Disasters**

Major Accident or Disaster	Risk due to location	Risk due to proposed development	Scoped in/out due to risk	Rationale	EIA Report Chapter(s)
Biological hazards: epidemics	Very Low	Very Low	Out	The probability of epidemics which would affect the construction or operation of the proposed development is considered to be very low.	n/a
Biological hazards: animal and insect infestation	Very Low	Very Low	Out	The probability of animal and insect infestations which would affect the construction or operation of the proposed development is considered to be very low.	n/a
Earthquakes	No	No	Out	Any earthquakes in the vicinity of the proposed development would be of a very small magnitude and the design of wind turbine foundations etc. is adequate to withstand such low magnitude events.	n/a
Tsunamis	No	No	Out	The general location of the proposed development and its distance from the coast means there is no risk of these phenomena affecting the proposed development.	n/a
Volcanic eruptions	No	No	Out	There are no active volcanos in the vicinity.	n/a
Famine / food insecurity	Negligible	Very Low	Out	The probability of famine/food insecurity which would affect the construction or operation of the proposed development is considered to be Negligible.	n/a

Major Accident or Disaster	Risk due to location	Risk due to proposed development	Scoped in/out due to risk	Rationale	EIA Report Chapter(s)
Displaced populations	Negligible	Very Low	Out	No population displacement.	n/a
Landslide/subsidence	Low	Low	In	A peatslide risk assessment would be undertaken if peat is identified on the site.	Outline Peat Management Plan, Carbon Balance Assessment
Severe Weather; storms	Medium	No	Out	Wind turbines are equipped with lightning conductors and automatically shut down when wind speeds are at a level which could damage components.	n/a
Severe weather; droughts	Very low	No	Out	Wind turbines would be unaffected by drought conditions.	n/a
Severe weather; extreme temperatures	Low	Very low	Out	Location leads to relatively low icing risk, remote location, wind turbine sensors, mitigation as follows: <ul style="list-style-type: none"> <li>• Service crews will be trained regarding the potential for ice throw;</li> <li>• Ice risk conditions will be monitored by the wind farm operator; and</li> <li>• Public notices will be displayed at access points alerting members of the public and staff accessing the site of the possible risk of ice throw under certain weather conditions.</li> </ul>	n/a
Floods	Low	Very Low	In	Damage to wind turbines or infrastructure from flooding, or increased flood risk elsewhere.	Design Evolution and Geology, Hydrology & Hydrogeology
Terrorist Incidents	No	No	Out	n/a	n/a

Major Accident or Disaster	Risk due to location	Risk due to proposed development	Scoped in/out due to risk	Rationale	EIA Report Chapter(s)
Cyber attacks	No	No	Out	n/a	n/a
Disruptive industrial activities	No	No	Out	n/a	n/a
Public disorder	No	No	Out	n/a	n/a
Wildfires	No	No	Out	n/a	n/a
Poor Air Quality events	No	No	Out	n/a	n/a
Transport accidents	No	Yes	In - abnormal loads and increase in traffic from construction.	Abnormal loads or an increase in traffic could lead to an increased risk of accidents. Public road network may be unsuitable for such traffic, further increasing risk.	Design Evolution and Traffic & Transport.
Industrial accidents	No	Yes	In - from construction and maintenance	Manual labour, working at height, working with high voltages and use of specialist plant all bring risk of industrial accidents. All relevant health and safety legislation and industry best practice followed.	Design Evolution and Proposed Development Description.
Urban Fires	No	No	Out	n/a	n/a

## 14.11 Matters Scoped Out

14.11.1 As discussed in Sections **Error! Reference source not found.**, **Error! Reference source not found.**, and **Error! Reference source not found.**, television reception, broadcast radio, ice throw and air quality assessment are proposed to be scoped out of the EIA. Section **Error! Reference source not found.** proposes to scope out the major accident and disasters not considered to be high risk as a result of the location of the proposed development or the nature of the works.

## 14.12 Questions for Consultees

Q14.1 Do consultees agree with the approach to aviation and radar interests proposed?

Q14.2 Do you agree with the proposed approach to scope out an assessment of potential effects on major accidents and/or disasters?

Q14.4. Do you agree with the proposed approach to scope out an assessment of potential effects on air quality?

Q14.6. Do you agree with the proposed approach to scope out an assessment of potential effects on television reception and broadcast radio?

Q14.7. Do you agree with the proposed approach to scope out an assessment of potential effects on ice throw?

## 15 Summary

### 15.1 Summary and Conclusions

- 15.1.1 This Scoping Report has been prepared by SLR on behalf of RES as the applicant. This Scoping Report sets out the proposed scope of the EIA, the findings of which will be presented in the EIA Report for the proposed development.
- 15.1.2 The EIA, which this Scoping Report will inform, relates to a forthcoming application under Section 36 of the Electricity Act 1989 (as amended) to construct and operate a wind farm, on land located in the Monadhliath Mountains, to be known as Carn na Saobhaidh Wind Farm.
- 15.1.3 The purpose of this Scoping Report is to serve as a formal request to Scottish Ministers to provide a Scoping Opinion under Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The views of consultees on the proposed EIA and the content of the EIA Report are requested to inform the Scoping Opinion.
- 15.1.4 Should any further information be required the applicant would be happy to provide further information and / or discuss any further requirements.
- 15.1.5 RES is an experienced wind farm developer and seeks to work closely with consultees on the proposed development to agree suitable solutions to site issues.

### 15.2 Responding to this Scoping Report

- 15.2.1 Consultees responses to this Scoping Report should be directed to the Energy Consent Unit, who will administer the Scoping Opinion on behalf of Scottish Ministers.
- 15.2.2 The Energy Consents Unit can be contacted via email at: [Econsents\\_Admin@gov.scot](mailto:Econsents_Admin@gov.scot).
- 15.2.3 The applicant will welcome such responses to inform the scope of the EIA to be undertaken for the proposed development and further consultation to be undertaken with each consultee as the EIA progresses.

## Appendix A Figures



Figure Number	Title
Figure 1.1	Site Location Plan
Figure 4.1	Proposed Development
Figure 6.1	Study Area and Site Location
Figure 6.2	Landscape Character
Figure 6.3	Landscape Designations
Figure 6.4	Wild Land Areas
Figure 6.5	Visual Receptors
Figure 6.6	Visual Receptors - 20 km Study Area
Figure 6.7	Cumulative Wind Farms
Figure 6.8	Blade Tip ZTV with Landscape Designations and Viewpoints
Figure 6.9	Hub Heights
Figure 7.1	Cultural Heritage Designations
Figure 8.1	Ecological Designated Sites, Ancient Woodland and Peatland within 5 km
Figure 9.1	Ornithological Survey Areas (April 2022 - August 2023)
Figure 9.2	Ornithological Survey Areas (September 2023 onwards)
Figure 9.3	Ornithological Designated Sites within 20 km

## Appendix B Consultee List

Consultee Name	
Statutory Consultees	The Highland Council
	Historic Environment Scotland
	NatureScot
	SEPA
Internal Scottish Government Advisors	Transport Scotland
	Scottish Forestry
Non-Statutory Consultees	Aberdeen Airport
	British Horse Society
	BT
	Cairngorms National Park Authority
	Civil Aviation Authority
	Crown Estate Scotland
	Defence Infrastructure Organisation
	Fisheries Management Scotland
	Findhorn, Nairn and Lossie Fisheries Trust
	Highlands and Islands Airports Limited (HIAL)
	John Muir Trust
	Joint Radio Company
	Moray Council
	Mountaineering Scotland
	NATS Safeguarding
	RSPB Scotland
	Scottish Rights of Way and Access Society (Scotways)
	Scottish Water
	Scottish Wildlife Trust
	Scottish Wild Land Group
Visit Scotland	
Woodland Trust	
Other Interested Parties	Strathnairn Community Council
	Strathdearn Community Council
	Stratherrick and Foyers Community Council

## Appendix C Cultural Heritage Appraisal

**Table 6: Scheduled Monuments**

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
SM11541	Mains of Aberarder, fort 270m S of	Prehistoric domestic and defensive: fort	9	4.7	South-east	This asset has been scoped in for further assessment due to its location within the site boundary.
SM11542	Mains of Aberarder, hut circle 1145m ESE of	Prehistoric domestic and defensive: hut circle, roundhouse	0	3.8	South-east	This asset has been scoped in for further assessment due to its location within the site boundary.
SM11468	Dhualow, cairn 195m E of	Prehistoric ritual and funerary: cairn (type uncertain)	0	3.8	South-east	<p>This asset is comprised of the remains of a burial cairn, likely dating to the Bronze Age. Its location on the lower-lying boggy land suggests that it might have a marginal position, marking a routeway or an edge of a territory. It is positioned within the valley of the River Nairn, which runs c.0.34km to its north-east, with the cairn being highly visible to anyone travelling along it. This suggests that views from the asset towards the watercourse, and towards the asset when approaching along the river or its valley from the north-east or south-west would have been key to its significance.</p> <p>Currently, no wind turbines are predicted to be visible from the asset itself in views towards the proposed development in the south-east. It is therefore scoped out of further assessment.</p>
SM11433	West Croachy House, cairns 1000m ESE of	Prehistoric domestic and defensive: field clearance cairn,	20	3.2	South-east	This asset has been scoped in for further assessment.

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
		cairnfield, Prehistoric ritual and funerary: cairn (type uncertain); mound (ritual or funerary rather than defensive or domestic)				
SM11826	Ruthven, hut circles, field systems and burnt mounds 1200m S of	Prehistoric domestic and defensive: burnt mound; field or field system; hut circle, roundhouse	21	6.9	South-east	<p>This asset is comprised of the remains of at least seven hut circles or domestic roundhouses, now surviving as low circular, turf-covered stone banks as well as their associated field systems and two burnt mounds. The aspects of this asset's setting from which it derives its significance are primarily related to the use of the surrounding land for agricultural practices. The asset also lies close to the River Forigaig, c.74m to the east, which would have provided the inhabitants with a source of water, as well as views over this watercourse as it flows from the southeast to the north-west. The location of the asset also provides views over Loch Ruthven, c.1km to the north. These views contribute to the asset's setting, as they would have allowed the inhabitants to control access to these resources and monitor any approaching travel via the watercourse. Whilst there will be visibility of the wind turbines, they are not predicted to impact the understanding of its relationship to the immediate rural and agricultural setting, or the watercourses. Visibility of the wind turbines would therefore</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						not detract from the ability to appreciate, understand or experience the asset. Thus, the asset is excluded from further assessment.
SM4501	Tom Buidhe, enclosure 480m NNE of Ruthven	Secular: enclosure	0	7.7	South-east	Due to this asset falling outwith the ZTV it has been scoped out of further assessment.
SM11476	Ruthven, crannog 610m NNE of	Prehistoric domestic and defensive: crannog, Secular: crannog (with post-prehistoric use)	0	7.8	South-east	Due to this asset falling outwith the ZTV it has been scoped out of further assessment.
SM11495	Brin Nursery, barrow cemetery 70m NNW of	Prehistoric ritual and funerary: barrow; cairn (type uncertain); mound (ritual or funerary rather than defensive or domestic)	21	4.8	South-east	<p>This asset is comprised of a prehistoric cemetery of at least five barrows, possibly of Pictish origin. It lies in the valley of the River Nairn, which runs c.92m to its west, with the River Brin running c.144m to its south-west. The asset is also close to Creagan an Tuirc fort (SM11493) which lies c.0.28km to the north-east. The asset's location at the confluence of two watercourses is likely to be key to the significance of its setting, with a high proportion of burials from the Pictish period being located near a watercourse, suggesting a strong relationship between burial practices/beliefs and water.</p> <p>Intervisibility between SM11493 and the asset is also likely to contribute to its significance, as</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>these assets may be contemporary in nature and therefore have shared a relationship during their use.</p> <p>Though the ZTV predicts that up to 21 wind turbines of the proposed development would be visible in views from the asset to the south-east, the wind turbines would not feature in views towards the west towards the River Nairn and would only be peripheral in key views towards the River Brin in the south-west and the fort in the north-east.</p> <p>In addition, much of the asset's setting with relation to its immediate surroundings has been eroded, as part of the cemetery is likely overlain by Brin Nursery to its southeast, with the modern road B851 running c.57m to its west, as well as the modern farm/campsite Mains of Elichity lying just on the western side of this routeway. The area that the asset occupies has also previously contained a quarry, as well as having had a trackway run through it, as evidenced by the 1<sup>st</sup> Edition OS map of the area. Although a large number of wind turbines are predicted to be visible, many of these are likely to be screened by the presence of Brin Nursery., which lies directly between a large section of the scheduled area and the proposed development. The proposed development is therefore likely only to be present in peripheral views between the asset and the watercourse to the south-west, if at all, and would be a minor distraction at most in these views. The proposed development is, therefore, unlikely to</p>



Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						impact the ability to appreciate, understand or experience the asset. The asset is therefore scoped out of further assessment.
SM11493	Creagan an Tuirc, fort	Prehistoric domestic and defensive: fort	23	4.8	South-east	<p>This asset comprises a late prehistoric fort, occupying the summit of the isolated hill Creagan an Tuirc. The primary aspect of its setting that contributes to its significance is its elevated position in the landscape, which would have provided its inhabitants with wide-ranging views over the Strathnairn valley, which runs from south-west to north-east, as well as being positions at the confluence of the River Nairn and the River Brin, which lies c.0.5km to the west of the asset . These views would have allowed its inhabitants to control and monitor movement through the valley and along the river Nairn from a defensive position. Another key aspect of this asset’s setting is the approach to the fort, which is suggested to be from the south-west due to the placement of the entrance, allowing further views across the river valley. Though the proposed development would be visible in views from the asset to the south-east, the wind turbines would only be peripheral to key defensive views along the River Nairn and its valley towards the south-west and north-east. The proposed development is therefore not considered to impact the ability to appreciate, understand or experience the asset and, as such, this asset is scoped out of further assessment.</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
SM4532	Ceapmaol, settlement 300m ENE of	Prehistoric domestic and defensive: field clearance cairn, cairnfield; field or field system; hut circle, roundhouse; settlement	6	8.7	East	<p>This asset is comprised of 4 round houses forming a settlement alongside clearance cairns, field dykes and lynchets on a gentle hill overlooking the Féith Ghlas burn to the east. This watercourse flows through the Strathnairn valley before feeding into Loch Mhor.</p> <p>The asset occupies a strategic position in a small valley, nestled between higher-lying ground to the north-west, north-east and south-east which provide it with natural defences. Its position above the watercourse further allows it to monitor and control access to and from the loch along the burn, forming part of the setting from which it draws its significance. The positioning of the settlement within the valley draws the focus of the asset's primary views to the north-east up the burn and to the south-west towards the loch with the hills along the valley creating a barrier to long-distance outwards views.</p> <p>As an asset with agricultural features, it also derives part of its significance of setting from the use of the surrounding land for agricultural practices. The asset also shares intervisibility with a possibly contemporary asset (SM11500) of a similar nature c.0.53km to the north-east, on the other side of the Féith Ghlas burn, placing it within a wider archaeological landscape of settlements with both defensive and agricultural functions within the valley and contributing to its setting.</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>Six of the wind turbines of the proposed development are anticipated to be present in views from the asset to the north-east and would feature in peripheral views between the asset and SM11500. However, due to the distance between the asset and the turbines, this would be a minor distraction at most and the proposed development would not feature in other key aspects of the asset's setting, namely those along the valley and towards Loch Mhor.</p> <p>As such the proposed development is not considered to detract from the ability to appreciate, understand or enjoy the asset. Thus, the asset is excluded from further assessment.</p>
SM11551	West Town, ring cairn 240m SW of	Prehistoric ritual and funerary: ring cairn	6	9.8	South-east	<p>This asset is a Clava-type ring cairn, positioned on a knoll among improved pasture on a gentle slope overlooking Loch Duntelchaig. The asset does not occupy a prominent position within the surrounding landscape, and as is typical of this type of cairn, lies in a valley, oriented south-west to north-east, near water. Clava cairns are found primarily in the Nairn and Spey valleys, with some also present on the shores of the Moray Firth, the Ness valley, Glen Urquhart and stream valleys leading into the River Beauly, all of which follow a south-west to north-east pattern of orientation. Research into the siting of this type of cairn suggests that, unlike many other types of cairns, Clava cairns are often situated within low-lying landscapes rather than in prominent locations, with many found in</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>level areas or natural hollows<sup>126</sup>. Their south or south-west orientation is also suggested to relate to movements of the sun and moon across the southern sky, indicating that their positioning within river valleys sharing this orientation is purposeful and contributes strongly to their significance of setting. In the context of this particular asset, views towards the south-west draw the eye towards Loch Dun Seilcheig and further down the valley that contains it, suggesting that these views over the water and the valley are key to its setting.</p> <p>Clava type cairns are also often found in close proximity to areas with evidence of or that are highly suited to settlement. This asset lies just c. 0.23km to the north-east of hut circles (SM11813), which may be contemporary and therefore share a relationship with the cairn, forming a part of its setting. The listing entry for this asset also describes monuments of this type as occupying a dominant position in relation to the immediate location only, which suggests that the nearby loch and hut circles form important aspects of its significance of setting.</p> <p>The primary aspect of this asset's setting from which it derives its significance are therefore</p>

<sup>126</sup> Bradley, R. (2000). The Good Stones: A New Investigation of the Clava Cairns. Edinburgh: Society of Antiquaries of Scotland

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>views along the valley it occupies (from south-west to north-east), reflected in its south-west orientation. The secondary aspects of its setting comprise its proximity to a secondary associated asset, as well as the loch. Views in other directions are unlikely to form an important part of its setting.</p> <p>Although there is potential for up to six of the proposed turbines to be visible, they are likely to be peripheral at most in key views to the north-east and south-west and considering the distance of c.9.8km between the asset and the proposed development, would form a minor distraction at best and would not impede the ability to understand, appreciate and experience the asset. This asset is therefore scoped out of further assessment.</p>
SM11813	West Town, five hut circles 480m WSW of	Prehistoric domestic and defensive: hut circle, roundhouse	12	9.9	South-east	<p>The asset is comprised of a series of five prehistoric hut circles. The asset's setting is the rural landscape, which would have been used for prehistoric agricultural practices. The asset is located on a ridge overlooking Loch Dunterchaig to the east/south-east, which would have provided it with good access to fresh water and sunlight for the cultivation of crops and keeping livestock. Whilst there will be visibility of the turbines, they are not predicted to impact the understanding of the immediate rural and agricultural setting, being a minor distraction at best from views within the valley and over the loch. This minor distraction would not impede the ability to appreciate, understand and experience the</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						asset. Thus, the asset is scoped out from further assessment.
SM11556	Milton of Farr, cupmarks 110m SE of	Prehistoric ritual and funerary: cupmarks or cup-and-ring marks and similar rock art	20	8.0	South	<p>The asset comprises a large cup-marked boulder, possibly Neolithic or Bronze Age in date. At least 30 cup marks are visible on its surface, up to 90mm in diameter. The asset therefore may hold archaeological significance relating to its carvings.</p> <p>The asset lies within improved pastureland, gently sloping to the north near the edge of a woodland, at an elevation of 200 meters above sea level, between the rivers Nairn and Farnack, with Allt Dubhach 0.1km to its east. Cup-marked boulders are often found along or overlooking watercourses, following natural pathways through the landscape, indicating that the focus of the boulder is associated with movement along the watercourses around it.</p> <p>The asset may also have shared a relationship with a potentially contemporary chambered cairn (SM11548), located c.0.68km to the north-west, though any intervisibility they may have shared has now been obscured by modern development. If related, the visual connection between these two assets may have formed a primary part of their significance of setting.</p> <p>The asset's relationship with the watercourses to its east and west are also likely to have formed an important aspect of setting that contribute to its significance. Although the ZTV indicates that up to 20 wind turbines of the proposed development would be visible to the</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>south of the asset, there would be no visibility of the wind turbines in views north along the watercourses, or when approaching the asset from the south along the burns.</p> <p>Furthermore, their distance of c.8km from the asset means that they would not feature prominently in the landscape even in views along the watercourses towards the south, and as such would form a minor distraction from views when approaching along the watercourses to the south. As such, the proposed development is not considered to impede the ability to appreciate, understand and experience the asset. Thus, the asset is scoped out from further assessment.</p>
SM11431	Ballachar, settlement, hut circles and field systems 275m NNW of	Prehistoric domestic and defensive: field or field system; hut circle, roundhouse, Secular: field system; settlement, including deserted and depopulated and townships	16	7.1	South-east	<p>This asset comprises two prehistoric hut circles, nineteen rectilinear and sub-rectangular structures, likely forming a township of medieval or later date, several clearance cairns and a series of lynchets and dykes, including a head dyke, all sitting on a slight spur towards the upper reaches of a wide valley, overlooking Loch Ruthven to the south. The site shows evidence of continued use from the prehistoric to post-medieval period.</p> <p>The main aspects of setting from which it derives its significance is the use of the land for agricultural and domestic practices, with its proximity to the loch being of importance as a source of water for crops and livestock, whilst its positioning on a south-facing slope would</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>have provided it with adequate sunlight for cultivation.</p> <p>The listing entry for this asset also suggests it may have had a defensive purpose. Its location on a spur above Loch Ruthven would have allowed its inhabitants to monitor access to the loch, as well as travel along its banks. On the other side of the loch, c.1.4km to the south-west, lies a medieval fortified settlement (SM4501) as well as a crannog (SM11476) which share a visual and potentially a temporal connection to this asset. The relationship between these assets may have contributed to its defensive setting, either monitoring and controlling the loch and its surrounding area together or against one another.</p> <p>An asset of a similar nature is found c.0.6km to the west (SM11436) and may have also shared a relationship with this asset, forming part of its setting.</p> <p>Whilst 16 wind turbines are anticipated to be visible from the asset, they are anticipated to be peripheral in views to the south over the loch and to the south-west towards SM4501 and SM11476. The immediate agricultural setting around the asset would remain intact. Key views between this asset and those on the southern shores of the loch, and between the asset and the surrounding agricultural land would therefore not be impacted. As such, the proposed development would be a minor distraction in views and would not affect the ability to appreciate, understand and</p>



Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						experience the asset and its connection to its setting. It is excluded from further assessment.
SM11436	Dalcrombie, hut circles, settlement & field system 300m NNW of	Prehistoric domestic and defensive: field clearance cairn, cairnfield; field or field system; hut circle, roundhouse, Secular: settlement, including deserted and depopulated and townships	24	8.0	South-east	<p>The asset includes two prehistoric hut circles, five rectangular structures that form a post-medieval, pre-clearance/improvement township, numerous clearance cairns, and a series of dykes. These features are situated on a gently rising shelf of land in the upper reaches of a broad valley overlooking Loch Ruthven. Similar to SM11431, which lies c.0.6km to the east, this asset shows evidence of continued use from the prehistoric to post-medieval period. The significance of the asset's setting mainly derives from its agricultural and domestic use of the land, with its proximity to the loch providing essential water for crops and livestock, and the southern-facing slope ensuring sufficient sunlight for the cultivation of crops.</p> <p>Approximately 1.2km and 1.3km to the south-west, respectively, on the other side of the loch, there is a crannog (SM11476) and a medieval fortified settlement (SM4501), which may share both visual and temporal connections to this asset. Along with SM11431, these assets could have contributed to a defensive network, either collaboratively controlling the loch and its surroundings or in opposition.</p> <p>Although 24 wind turbines are expected to be visible from the area, they are anticipated to</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>appear on the periphery of views to the south over Loch Ruthven, as they are located to the southeast. Key views south towards the loch and towards SM11476 and SM401, as well as over the agricultural land would not be impacted. As such, the proposed development would be a minor distraction in views and would not affect the ability to appreciate, understand and experience the asset and its connection to its setting. It is excluded from further assessment.</p>
SM11434	Shenval, settlement	Secular: settlement, including deserted and depopulated and townships	25	5.2	South-east	<p>The primary aspects of the asset's setting that contribute to its significance include its location on fertile agricultural land as a domestic agricultural dwelling, and its proximity to the River Nairn c.0.4km to the south, which would have allowed its inhabitants to monitor travel along the river. Additionally, its position close to the river likely facilitated access to trade routes along the watercourse or the valley itself, with the south-facing slope providing an ideal orientation for sunlight for crops. Given the asset's agricultural nature, long-distance views are unlikely to be the focus of the asset. Although the development would be visible to the south-east, it would be a minor distraction at most in views of the immediate landscape and the River Nairn due to its distance and orientation.</p> <p>These peripheral views of the proposed development would not impact the ability to understand, appreciate, and experience the</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						asset. Therefore, it is excluded from further assessment.
SM11548	Stonehenge House, chambered cairn 20m WNW of	Prehistoric ritual and funerary: chambered cairn	21	8.7	South	This asset is comprised of a Clava-type cairn, located within the back garden of a private residence, surrounded by the town of Farr. As is typical of this type of cairn, it lies in a valley oriented from south-west to north-east, near a water source. Clava cairns are predominantly found in the Nairn and Spey valleys, with additional sites along the shores of the Moray Firth, the Ness Valley, Glen Urquhart, and stream valleys leading to the River Beaulie, all sharing a south-west-to-north-east alignment. Research indicates that, unlike many other cairn types, Clava cairns are often located in low-lying landscapes rather than on elevated ground, frequently situated in level areas or natural hollows (Bradley, 2017). Their south or south-west orientation is thought to be linked to the movements of the sun and moon across the southern sky, suggesting that their deliberate placement in similarly oriented river valleys significantly enhances their contextual significance. The asset's setting originally would have been formed from its positioning within the south-west to north-east oriented valley, as well as its proximity to the River Farnack to the east and the River Nairn to the west. A possible contemporary cupmarked stone (SM11556) is located c.0.67km to the south of the asset, as well as a second cairn of a similar nature located c.0.47km to the north-west of the asset, both of which may also have shared a

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>relationship with the cairn and contributed to its setting.</p> <p>The setting of this asset has, however, been greatly eroded from its original state. There is no longer any visibility out from the asset to any of the watercourses or possible related assets due to the built environment of Farr, which encompasses it. There are also no views towards the cairn from any third viewpoints.</p> <p>Though the bare-earth ZTV predicts visibility of 21 wind turbines from the asset, the surrounding modern developments are likely to screen most, if not all, of the proposed development from view. The aspects of this asset's setting which contribute to its significance are eroded to such an extent by the surrounding modern dwelling that any visibility of the proposed development is unlikely to affect the ability to appreciate, understand and experience the asset. It is therefore scoped out of further assessment.</p>
SM11550	Milton of Tordarroch, fort 800m S of	Prehistoric domestic and defensive: fort (includes hill fort and promontory fort); hut circle, roundhouse, Secular: shieling	8	7.6	South-east	<p>This asset comprises the remains of a fort, likely of an Iron Age date, occupying a north-facing rocky outcrop, providing extensive views north-east over the Strathnairn valley. This north-facing, elevated position provides the key aspects of the significance of the asset's setting, as they would have allowed its occupants to monitor and control movement along the River Nairn and its valley as well as providing natural defences and protection.</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>Another aspect that contributes to the setting of the asset is the approach to the fort from the south-east and north, along the river valley, providing views over the landscape to the north-west.</p> <p>A second fort (SM11493) is located within the same valley, c.2.8km south of the asset. As both assets are suggested to have been in use during the Iron Age and may have shared intervisibility, the forts could have been part of a defensive network, working together to control the watercourse and its valley, or acting in opposition to each other and demarcating territory boundaries. This wider defensive landscape contributes to the significance of the assets' setting.</p> <p>Though the ZTV predicts that eight wind turbines would be visible from the asset towards the south-east, they would not be present in key views along the River Nairn and its valley, including in views of the approach, featuring only peripherally and forming a minor distraction at most. They would also only feature peripherally in views towards the possibly related asset SM11493 in the south. As the key views to and from the asset would not be impacted by the proposed development, the ability to appreciate, understand and experience the asset would remain intact. It is therefore scoped out of further assessment.</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
SM11558	Tordarroch, cupmarks 220m NE of	Prehistoric ritual and funerary: cupmarks or cup-and-ring marks and similar rock art	24	9.2	South	<p>This asset consists of two large boulders adorned with cupmarks, prehistoric symbols dating back 3,500 to 5,000 years. Positioned 11 meters apart on a rocky knoll, the boulders are surrounded by cultivated pastureland on the valley floor of upper Strathnairn, at an elevation of 195 meters AOD. The aspects of the asset's setting that contribute to its significance are its heightened position from the valley floor, which allows it intervisibility with SM11559, a ring cairn situated c.0.14km to the south-east, as well as views over the River Nairn valley, which runs from south-west to north-east. Its positioning on a knoll would have provided views from the asset along the watercourses as well as visibility of the asset in approaches along the river, providing a key aspect of its setting.</p> <p>In this area of Scotland, cupmarked boulders are usually found in relation to Clava cairns, such as SM11559, so this association is likely of key importance.</p> <p>Although the ZTV indicates that up to 24 wind turbines of the proposed development would be visible to the south of the asset, it would not be present in views when approaching along the river from the south-west and their distance and orientation from the asset means that they would form a minor distraction at most in views</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>when approaching from the north and in views towards the southeast towards SM11559.</p> <p>The proposed development would therefore not impact the ability to appreciate, understand or experience the asset. This asset has therefore been excluded from further assessment.</p>
SM11559	Tordarroch, ring cairn 250m E of	Prehistoric ritual and funerary: cupmarks or cup-and-ring marks and similar rock art; ring cairn	24	9.0	South	<p>This asset consists of the remains of an Early Bronze Age Clava-type ring cairn, situated in improved pastureland on a plateau, approximately 195 meters aOD.</p> <p>Similar to other Clava-type cairns, it lies in a valley oriented from south-west to north-east, near a water source. Clava cairns are primarily found in the Nairn and Spey valleys, with additional sites along the shores of the Moray Firth, the Ness Valley, Glen Urquhart, and stream valleys leading to the River Beauly, all sharing a south-west-to-north-east alignment. Research indicates that, unlike many other cairn types, Clava cairns are often located in low-lying landscapes rather than on elevated ground, frequently situated in level areas or natural hollows. Their south or south-west orientation is believed to be connected to the movements of the sun and moon across the southern sky, suggesting that their deliberate placement in similarly oriented river valleys significantly enhances their contextual significance. The asset's original setting would have been characterized by its positioning</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>within the south-west to north-east oriented valley and its proximity to the river.</p> <p>The asset's elevated position above the valley floor contributes to its significance, offering clear visibility over the River Nairn as it runs south-west to north-east. The asset also has intervisibility with SM11558, a set of two cupmarked stones located approximately 0.14 km to the north-west.</p> <p>While the ZTV suggests that up to 24 wind turbines from the proposed development could be visible to the south, the wind turbines would not be present in key views over the River Nairn or towards SM1158, and their distance from the asset (c.9.0 km) means they would only cause a minor distraction in other, peripheral, views. They would therefore not impact the ability to appreciate, understand or experience the asset. This asset has therefore been excluded from further assessment.</p>
SM11613	Tullich, settlements 760m NNE of	Secular: field system; kiln; settlement, including deserted and depopulated and townships	27	6.0	South-east	<p>This asset comprises the remains of two pre-improvement townships located on a south-west facing slope, overlooking Loch a' Choire to the west and Loch Ruthven to the south-west. The asset's significance largely stems from its agricultural and domestic use of the land. The nearby lochs serve as a crucial water source for crops and livestock, while the south-facing slope provides ample sunlight for crop cultivation</p>



Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>Given the agricultural nature of the asset, long-distance views are unlikely to be its primary focus. While the proposed development to the southeast would be visible, it would be at most a minor distraction in views of the immediate landscape and over the lochs that form an additional factor in its setting.</p> <p>As such the proposed development would not impact the ability to appreciate, understand or experience the asset and it is therefore scoped out of further assessment.</p>
SM11814	Banchor, cairn 315m SE of	Prehistoric ritual and funerary: cairn	10	6.3	West	This asset has been scoped in for further assessment.
SM11815	Dalarossie Cottage, cairn 375m SSE of	Prehistoric ritual and funerary: ring cairn; saucer barrow	10	6.5	West	This asset has been scoped in for further assessment.
SM11710	Torness Cottage, two hut circles 300m SSW of	Prehistoric domestic and defensive: hut circle, roundhouse	4	9.5	South-east	The asset comprises the remains of two potentially late prehistoric hut circles visible as upstanding walls located in a forest clearing on a north-facing slope, with the River Farigaig running c.0.27km to its north-east. The asset's setting contributes to its significance, with the asset likely utilising the orientation of the landscape and proximity to water for agricultural purposes, as well the using the view

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						<p>over the watercourse to monitor travel along it. A small number of wind turbines are predicted to be present in views from the asset to the south-east, however, views in this direction are not considered to be key to the setting of the asset and would therefore only present a minor distraction in peripheral views at most. The proposed development is therefore not predicted to impact the ability to appreciate, understand and experience the asset. The asset is therefore scoped out of further assessment.</p>
SM11540	Leadclune, cairn 1115m E of, Creag Innis an Daimh Dhuibh	Prehistoric ritual and funerary: cairn	26	9.4	South-east	<p>This asset is comprised of the remains of a cairn, likely to be of Bronze Age date, measuring 15m by 13.5m and standing around 1.2m high. The asset lies at c.300m AOD, on a slope overlooking the Féith Ghlas burn to the east and the River Farigaig to the west. The visibility of the watercourses provided by its elevated position, as well as the visibility of the asset itself in approaches along the watercourses and their valleys form the key aspect of its significance of setting, given that cairns often act as markers within the landscape.</p> <p>The asset is also part of a wider prehistoric landscape, with a high number of hut circles, including SM11500 and SM11710, focused along the watercourse and providing a secondary aspect of its setting.</p> <p>Although 26 wind turbines of the proposed development are currently predicted to be visible from the asset, they would not feature in</p>

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						views from the asset to the River Farigaig and its valley to the west, or vice versa, with this key aspect of its setting remaining fully intact. Views to the north-east over the Féith Ghlas burn would also remain unaffected, as would views of the asset when approaching along the watercourse from this direction. The proposed development would be visible in peripheral views towards the south over this watercourse, and towards the hut circles on its eastern banks, however, due to the distance between the asset and the proposed development, they would not dominate these views and would be a minor distraction at most. The proposed development is therefore not predicted to impact the ability to appreciate, understand and experience the asset. The asset is therefore scoped out of further assessment.
SM11500	Druimantorran, hut circles and field system 1525m NE and 1460m ENE of	Prehistoric domestic and defensive: field or field system; hut circle, roundhouse	22	8.3	East	The asset consists of the remains of four hut circles, which are the foundations of roundhouse walls likely dating back to the Late Bronze Age or Iron Age. These remains include associated field boundaries, a gateway, and field clearance cairns. They are situated on gently sloping, relatively well-drained ground on a south-west facing slope overlooking the Féith Ghlas burn, at an elevation between 260 m and 280 m above sea level. It likely leverages the landscape's orientation and proximity to water for agricultural purposes and uses the view over the watercourse to monitor travel and access, with the view over the watercourse, therefore, forming the primary aspect of its

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						setting. While up to 22 wind turbines are expected to be visible from the asset to the southeast, these views are not considered to contribute to the asset's setting and would only cause a minor distraction in peripheral views at most. Therefore, the proposed development is not expected to affect the ability to appreciate, understand, and experience the asset and this asset has been excluded from further assessment.
SM11739	Woodend, cairn 760m NW of	Prehistoric ritual and funerary: cairn (type uncertain); cist	0	9.2	South-west	Due to this asset falling outwith the ZTV it has been scoped out of further assessment.
SM11549	Depopulated township, 400m SE of Balloan	Secular: settlement, including deserted and depopulated and townships	25	8.1	South	The asset concerns the depopulated post-medieval township of Cnoc Firikin, located to the south of the River Nairn, above the floodplain at approximately 215m AOD. The main parts of the asset's setting which contribute to its significance are its placement on fertile agricultural land, as a domestic agricultural dwelling, as well as access to the watercourse to the north, which would have allowed its inhabitants to monitor travel along the river. It is also possible that its position next to the river was used to access trade routes along the watercourse, or along the valley itself. Due to the asset's agricultural nature, long-distance views are unlikely to be significant to the asset's setting. The proposed development, located to the south, would not be present in views between the asset and the

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						river. Whilst the development would be present in views to the south, due to the distance between the proposed development and the asset it would be a minor distraction at most and would not impede the ability to understand, appreciate and experience the asset. It is therefore scoped out of further assessment.
SM4538	Farraline, enclosure 780m NE of	Prehistoric ritual and funerary: enclosed cremation cemetery; enclosure	0	9.5	East	Due to this asset falling outwith the ZTV it has been scoped out of further assessment.
SM11544	Glen Nairn, hut circle 270m ENE of	Prehistoric domestic and defensive: hut circle, roundhouse	25	6.7	South	This asset concerns a single hut circle considered to date to the Bronze Age or Iron Age. It lies within gently undulating moorland near Lochan Dubh, c.0.18km to the south-west and overlooking the River Nairn, c.0.27km to the east. As a domestic agricultural dwelling, ready access to the agricultural land around this asset provides the primary contribution to its setting. The view over the watercourse from its elevated position would have allowed its inhabitants to control and monitor travel along the watercourse, with views to the north, east and south-east along the river forming a secondary aspect of the asset's setting that contributes to its significance. Though up to 25 wind turbines are predicted to be visible to the south of the asset, they would not be present in the views that contribute to the asset's setting,

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to nearest Wind Turbine	Direction to the nearest Wind Turbine	Appraisal
						appearing only in the periphery in views to the east and south-east over the River Nairn, with its setting within the agricultural landscape that forms its primary setting remaining intact. The proposed development would therefore form a minor distraction at most and would not impact the ability to appreciate, understand or experience the asset. The asset is therefore scoped out of further assessment.
SM11490	Loch Ruthven, crannog 490m SSW of Tullich	Prehistoric domestic and defensive: crannog	0	7.8	Southeast	Due to this asset falling outwith the ZTV it has been scoped out of further assessment.

Table 7: Listed Buildings

Designation Reference	Designation Title	Category	Wind Turbine Visibility	Distance to Nearest Wind Turbine	Direction to the Nearest Wind Turbine	Appraisal
LB1684	Flichity House	B	15	4.2	South	<p>This asset is comprised of a large asymmetrical baronial house with a tall square tower. Though the building was largely remodelled by William Macbeth in 1907 for Sir William Beardmore, Baron Invernairn of Strathnairn, an earlier house stood here from at least 1871. The main aspects of this asset's setting that contribute to its significance are its surrounding estate, comprised of woodlands, lawns, a walled garden, kennels and an Atholl Steel House. The approach to the house is through the surrounding woodland, either from the south-west or the north, with the drive at the front of the house running from north to south. The key view over the estate from the house itself is primarily considered to be toward the east-south-east, over the lawn and towards the surrounding woodland. Though 15 wind turbines of the proposed development are predicted to be visible in views south from the asset, they would be peripheral at most in key views when looking over the estate and as such would form a minor distraction at most. The wind turbines would feature in views along the drive from north based on the bare-earth ZTV but would only form a minor distraction from the ability to appreciate the asset in the original setting of its estate. As such, views of the proposed development are not predicted to impede the ability to understand, appreciate and experience the asset. It is therefore scoped out of further assessment.</p>

LB1698	Croachy, Tomintoul House	B	3	4.3	Southeast	<p>This asset comprises a house designed by Elgin architect William Robertson, constructed in 1841. The main entrance to the house is at the north-east, with primary views being in this direction towards the River Nairn and its valley. Though the building primarily derives its significance from its architectural value, it may have been constructed to allow the inhabitants views over the river and its valley for aesthetic purposes, with views towards the north-east, north-west and south-west forming its primary setting, as the higher lying land around the valley focuses views in these directions. The approach to the house appears to have originally been from the north-west, based on the 1<sup>st</sup>-edition OS map. As the proposed development is predicted to be visible to the south-east of the asset, three of the wind turbines would be present in the backdrop of these views based on the ZTV. However, analysis of modern aerial imagery shows that this entrance appears to have been removed, with access now being from the north-east. As such the original setting of the approach to the house is no longer extant and therefore would not be impacted by the visibility of the wind turbines.</p> <p>As such, the proposed development is not predicted to impact the ability to appreciate, understand or experience the asset, and the asset is therefore scoped out of further assessment.</p>
LB42470	Bridgend Farmhouse, Farm Buildings And Byre	B	0			<p>Due to this asset falling outwith the ZTV it has been scoped out of further assessment.</p>