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SCOPING REPORT

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GLOSSARY AND ABBREVIATIONS

Abbreviation/Terminology	Expanded Term/Possible Variables
the Applicant	Client/developer (Craig Watch Wind Farm Limited, a company wholly owned by Statkraft UK Ltd).
the Proposed Development	The scheme, the development, the proposal, the development proposal, the proposed development scheme, the wind farm, the proposed wind farm ...etc. (Craig Watch Wind Farm).
the Site	The project site, the site, development area, developable area, red line boundary, the proposed wind farm site.
the EIA Regulations	Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, as amended.
Scoped in	Included in the proposed scope of the EIA
Scoped out	Excluded in the proposed scope of the EIA
ALDP	Aberdeenshire Local Development Plan
AC	Aberdeenshire Council
ACAS	Aberdeenshire Council Archaeology Service
AM	Amplitude Modulation
ATC	Automatic Traffic Count
A-weighting	A frequency weighting designed to correlate measured sound levels with subjective human response. The human ear is frequency selective and our ears are most sensitive between 500 Hz to 6 kHz, particularly when compared with lower and higher frequencies. The A-weighting applies a frequency correction which reduces the effect of these low and high frequencies on the overall measured level in order to account for the subjective human response at these frequencies.
BEIS	Business, Energy & Industrial Strategy, formerly The Department of Energy & Climate Change
BERR	Business, Enterprise and Regulatory Reform
BGS	British Geological Survey
BoCC	Birds of Conservation Concern
BS	British Standard
CAA	Civil Aviation Authority
CAR	Controlled Activities Regulations
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecological and Environmental Management
CIfA	Chartered Institute for Archaeologists
CoPA	The Control of Pollution Act
CRM	Collision Risk Modelling
dB	Decibel
DfT	Department for Transport

Abbreviation/Terminology	Expanded Term/Possible Variables
DSFB	Deveron District Salmon Fishery Board
DTI	Department of Trade and Industry
DTM	Digital Terrain Modelling
DWQR	Scottish Drinking Water Quality Regulator
EC	European Commission
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	the Environmental Protection Act
ES	Environmental Statement
FIA	Forest Impact Assessment
FREDS	Forum for Renewables Development Scotland
FWPM	Fresh Water Pearl Mussel
GDL	Gardens and Designed Landscapes
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPG	Good Practice Guide
GPP	Guidance for Pollution Prevention
GWDTE	Groundwater Dependant Terrestrial Ecosystems
Ha	Hectare
HEPS	Historic Environment Policy for Scotland
HER	Historic Environment Record
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HLAMap	Historic Land-Use Assessment Data for Scotland
HMP	Habitat Management Plan
HRA	Habitat Regulations Appraisal
HSE	Nuclear Safety Directorate
IEA	Institute of Environmental Assessment
IOA	Institute of Acoustics
Km	Kilometres
LA90	The A-weighted noise level exceeded for 90% of the time, often used to describe background or wind turbine noise as it excludes transient noises that affect the LAeq.
LBAP	Local Biodiversity Action Plan
LCT	Landscape Character Type
LDP	Local Development Plan
LFA	Low Flying Area

Abbreviation/Terminology	Expanded Term/Possible Variables
LUPS	Land Use Planning Guidance
LVIA	Landscape and Visual Assessment
M	Metres
MBBS	Moorland Breeding Bird Survey
MC	Moray Council
MLDP	Moray Local Development Plan
MoD	Ministry of Defence
MW	Megawatts
MWLCS	Moray Wind Energy Landscape Capacity Study
NCAP	National Collection of Aerial Photography
NCN	National Cycle Network
NERL	NATS En Route
NESBiP	North East Scotland Biodiversity Partnership
NESBReC	North East Scotland Biological Records Centre
NESRSG	North East of Scotland Raptor Study Group
NHZ	Natural Heritage Zone
NNR	National Nature Reserve
NP	National Park
NPF	National Planning Policy Framework
NRHE	National Record for the Historic Environment
NS	NatureScot
NSA	National Scenic Area
NVC	National Vegetation Classification
OWENSG	Onshore Wind Energy Non-Statutory Guidance
PPG	Pollution Prevention Guidelines
PPP	Pollution Prevention Plan
PPS18	Planning Policy Statement 18
PWS	Private Water Supply
RRH	Remote Radar Head
RSA	Regional Scenic Areas
RSG	Raptor Study Group
RSPB	Royal Society for the Protection of Birds
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
Scotways	Scottish Rights of Way and Access Society

Abbreviation/Terminology	Expanded Term/Possible Variables
SEPA	Scottish Environment Protection Agency
SG	Supplementary Guidance
SLA	Special Landscape Area
SLCAWE	Strategic Landscape Capacity Assessment for Wind Energy
SLVIA	Seascape, Landscape and Visual Impact Assessment
SM	Scheduled Monument
SNH	Scottish National Heritage
SPA	Special Protection Area
SPAD	Scottish Palaeoecological Archive Database
SPP	Scottish Planning Policy
SSSI	Site of Special Scientific Interest
SWA	Scottish Wildcat Action
SWLG	Scottish Wild Land Group
TA	Technical Appendices
TA	Transport Assessment (as referred to in Section 3.7, Traffic and Transport)
UK-BAP	United Kingdom Biodiversity Action Plan
UKFS	United Kingdom Forestry Standard
VP	Vantage Point
WFD	Water Framework Directive
WLA	Wild Land Area
WTAMR	Wind Farm Turbine AM Review
ZTV	Zone of Theoretical Visibility

1. INTRODUCTION

This report is provided to support a request to the Scottish Ministers for a Scoping Opinion under the terms of Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, as amended ('the EIA regulations').

1.1 Background

Craig Watch Wind Farm Limited (a company wholly owned by Statkraft UK Ltd) proposes to construct and operate a wind farm located on land approximately 8 km southeast of Dufftown, Moray in Scotland ('the Site'). The Site straddles the council boundaries of Aberdeenshire and Moray. The proposed wind farm would be known as Craig Watch Wind Farm and is hereafter referred to as 'the Proposed Development'. The site location is presented on Figure 1.1 (Appendix A) and the context of the Proposed Development in relation to adjacent wind farm developments is shown in Figure 1.2 (Appendix A).

This report has been prepared by Ramboll UK Limited by competent experts in Environmental Impact Assessment (EIA) with input from technical specialists on the relevant environmental topics.

The scoping layout is presented on Figure 1.3 (Appendix A) and shows the Site is currently proposing to accommodate up to 18 wind turbine generators with a maximum tip height of 200 m and with a generation capacity of >50 MW. The layout of the Proposed Development will evolve as site survey information is gathered in relation to environmental and technical constraints, and it will also respond to stakeholder consultation feedback from the scoping process. Following on from developing the turbine layout, the layout for ancillary infrastructure will be developed. Ancillary infrastructure will include a substation, external transformers, new access tracks and site entrance, temporary construction compound, crane hardstandings, a permanent meteorological mast and potentially, energy storage technologies.

1.2 Consenting Regime

It is anticipated that the Proposed Development would have an installed capacity of >50 MW. Therefore, at this stage, it is assumed that an application for consent would be made to the Scottish Ministers under section 36 of the Electricity Act 1989. The Applicant would also seek deemed planning permission under section 57 of the Town and Country Planning (Scotland) Act 1997.

The Proposed Development is of a type listed in Schedule 2 of the EIA regulations (item (1) "a generating station"). On the basis that "*the development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location*" an EIA is required. In this case, the Applicant has volunteered to undertake an EIA rather than request a formal screening opinion.

1.3 Objectives

The specific objectives of this report are to:

- seek agreement on the likely significant effects associated with the Proposed Development, and confirm that all likely significant effects have been correctly included in the proposed scope of the EIA ('scoped in');
- seek agreement where non-significant effects have been excluded ('scoped out'); and
- invite comment on the proposed approach to baseline data collection, prediction of environmental effects and the assessment of significance.

Unless consultees specifically request otherwise, all responses will be collated and presented as a technical appendix to the EIA Report (EIAR), as a record of the results of the scoping exercise.

The scoping report will be provided to the consultees listed in Appendix B.

1.4 The Applicant

Craig Watch Wind Farm Limited (the Applicant), is wholly owned by Statkraft UK Ltd. For further information about Statkraft in the UK visit <https://www.statkraft.co.uk/>.

Statkraft is Europe's largest renewable energy generator and is committed to building out at least 600 megawatts (MW) of onshore wind and solar development in the UK over the next five years. In the UK, Statkraft operates four onshore wind farms with a combined capacity of 178 MW and is currently constructing two onshore wind farms in Scotland (Windy Rig and Twentysilling Hill). The Scotland team is based in offices in Glasgow.

1.5 Programme

The proposed Craig Watch Wind Farm has an estimated grid connection date of 2025. In order to develop in line with the 2025 connection date, the Applicant intends to submit an application for consent in Q3 2021.

The Applicant acknowledges the exceptional circumstances related to the Covid-19 pandemic. In this regard, some aspects of the scope of the EIA may need to be varied as the project progresses to respond to potential constraints on normal working practices imposed as a result of the pandemic. All relevant assumptions made and limitations inherent to the EIA will be recorded with a view to demonstrating that the resulting EIA Report will provide a robust basis upon which the competent authorities can make a planning determination.

1.6 Structure of this Report

The remainder of this report is structured as follows:

- Section 2 provides a brief description of the nature and purpose of the development, typical construction activities and decommissioning proposals.
- Section 3 describes the baseline environment conditions, the likely significant environmental effects identified and proposed method for further data collection and evaluation of effects.
- Section 4 describes the effects that are considered not to be significant, and proposes that these be excluded from the EIA, providing a rationale in each case.
- Section 5 provides information on the process for making representations on the scoping report.

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Selection

The Site for the Proposed Development is considered by the Applicant to be suitable for wind farm development for the following reasons:

- The Site is situated amidst a cluster of wind farm developments, including Clashindarroch Wind Farm to the southeast of the Site and Dorenell Wind Farm to the southwest of the Site.
- The Site has no potential for significant direct effects on geographic areas protected under national or international statutory designations for nature conservation for the following:
 - Special Area of Conservation (SAC);
 - Ramsar sites;
 - National Nature Reserve (NNR); and
 - National Scenic Areas (NSA).
- The Site is not located in an area subject to landscape designation. The Site abuts a small part of the Ben Rinnes Special Landscape Area (SLA), however the nearest turbine to this designation is located approximately 4 km to the east. There are no other landscape designations within 10 km of the Site.
- The Site has suitable access for both construction traffic and abnormal indivisible loads.
- The Site has high anticipated wind speeds based on desktop analysis.

2.2 Policy Considerations

2.2.1 Project Need and the Renewable Energy Policy Framework

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

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

The Proposed Development would clearly make a contribution to the attainment of renewable energy generation and greenhouse gas reduction targets at both the Scottish and UK levels and the quantification of this contribution will be described in the EIAR. The description of the renewable energy policy framework will also refer to the Scottish Government's Climate Change Plan, Energy Strategy and Onshore Wind Policy Statement and the Proposed Development will be considered in terms of the Scottish Government's declared 'climate emergency' and the legally binding 2045 net zero greenhouse gas reduction target.

2.2.2 National Planning Policy and Guidance

The EIAR will provide a reference to various national planning policy and guidance documents including:

- The National Planning Policy Framework 3 (NPF3¹) and the emerging NPF4²;
- Scottish Planning Policy³ (SPP), noting that NPF4 will, in effect, replace NPF3 and the SPP;
- Scottish Government web-based Renewables Guidance⁴;
- The Scottish Climate Change Plan⁵, taking account of updates that may emerge in 2021; and
- Scottish Government policy and good practice guidance on community benefit funding and community shared ownership.

2.2.3 Local Development Plan

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

The statutory development plan for the Site comprises the following:

- Moray Local Development Plan⁶ (MLDP) (adopted July 2020);
- Aberdeen City and Shire Strategic Development Plan⁷ (SDP) (approved March 2014) and;
- Aberdeenshire Local Development Plan⁸ (ALDP) (adopted April 2017) and associated Supplementary Guidance.

Also of relevance will be Aberdeenshire Councils Planning Advice on wind energy developments which is provided in the 2005 document 'Use of Wind Energy in Aberdeenshire – Guidance for Developers'⁹, the Strategic Landscape Capacity Assessment for Wind Energy in Aberdeenshire¹⁰ (SLCAWE) prepared by Ironside Farrar for Aberdeenshire Council in 2014 and the Moray Onshore Wind Energy Non-Statutory Guidance (OWENSG) 2020¹¹ (adopted October 2020). The OWENSG is supported by the Moray Wind Energy Landscape Capacity Study 2017¹². The OWENSG has not been adopted by Moray Council as part of the statutory Development Plan. However, a review of the OWENSG is scheduled to take place next year, with public consultation, prior to submissions to Scottish Ministers for adoption as statutory Supplementary Guidance. Once adopted as statutory Supplementary Guidance the OWENSG will form part of the Development Plan.

¹ URL: <https://www.gov.scot/publications/national-planning-framework-3/> (accessed 18.11.20)

² NPF4 was due to be laid in parliament for consultation around September 2020. It is understood that this has been delayed until November 2021

³ URL: <https://www.gov.scot/publications/scottish-planning-policy/pages/2/> (accessed 28.10.2020)

⁴ URL: <https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/> (accessed 28.10.2020)

⁵ URL: <https://www.gov.scot/news/climate-change-plan-update/> (accessed 28.10.2020)

⁶ URL: http://www.moray.gov.uk/moray_standard/page_122817.html (accessed 29.10.2020)

⁷ URL: <http://www.aberdeencityandshire-sdpa.gov.uk/> (accessed 29.10.2020)

⁸ URL: <https://www.aberdeenshire.gov.uk/planning/plans-and-policies/aberdeenshire-local-development-plan-2017/> (accessed 29.10.20)

⁹ URL: https://www.aberdeenshire.gov.uk/media/8108/2005_1winddevelopers06.pdf (accessed 29.10.2020)

¹⁰ URL: <https://www.aberdeenshire.gov.uk/planning/plans-and-policies/the-strategic-landscape-capacity-for-windfarms/> (accessed 29.10.20)

¹¹ URL: http://www.moray.gov.uk/moray_standard/page_80938.html (accessed 29.10.20)

¹² URL: https://www.aberdeenshire.gov.uk/media/8108/2005_1winddevelopers06.pdf (accessed 29.10.2020)

Aberdeenshire Council is currently in the process of preparing the next local development plan for Aberdeenshire. It is expected that the Aberdeenshire Proposed Plan 2020¹³ will be submitted to the Scottish Ministers for examination in late 2020 and that the Aberdeenshire Local Development Plan 2 will be adopted in late 2021.

Table 2.1 identifies those potentially relevant planning policies from the adopted MLDP and ALDP only. The draft policies in the Aberdeenshire Proposed Plan may be amended as the Proposed Plan progresses through consultation and Examination and this will be reflected in the relevant EIAR Chapter at the time of writing. At this stage, it is noted that the draft policies of potential relevance are very similar to the policies in the adopted ALDP.

Reference will also be made to the Aberdeen City and Shire SDP. The Proposed Development will be considered in the context of the overall SDP Vision, as well as various stated objectives relating to sustainable development and climate change, resource use and the economy.

Table 2.1: Adopted relevant Local Development Plan Policies	
Development Plan	Policy Number and Name
Moray Local Development Plan 2020	PP2 Sustainable Economic Growth
	PP3 Infrastructure and Services
	DP1 Development Principles
	DP9 Renewable Energy
	EP1 Natural Heritage Designations
	EP3 Special Landscape Areas and Landscape Character
	EP7 Forestry, Woodlands and Trees
	EP8 Historic Environment
	EP10 Listed Buildings
	EP11 Battlefields, Gardens and Designed Landscapes
	EP12 Management and Enhancement of the Water Environment
	EP14 Pollution, Contamination & Hazards
	EP16 Geodiversity and Soil Resources
Aberdeenshire Local Development Plan 2017	E1 Natural Heritage
	E2 Landscape
	HE1 Protecting Historic Buildings, Sites and Monuments
	HE2 Protecting Historic and Cultural areas
	PR1 Protecting Important Resources
	C2 Renewable Energy
	C3 Carbon Sinks and Stores
C4 Flooding	

¹³ URL: <https://aberdeenshire.gov.uk/planning/plans-and-policies/pldp-2020/proposed-local-development-plan-2020/> (accessed 29.10.2020)

Table 2.1: Adopted relevant Local Development Plan Policies	
Development Plan	Policy Number and Name
	RD1 Providing Suitable Services
	RD2 Developers' Obligations

It should be noted that a Planning Statement will be provided with the application (but separate from the EIAR) which will contain an assessment of the Proposed Development against the relevant policy documents as referred to above.

2.3 Site Description and Context

The 'Site', as defined by the red line boundary on Figure 1.1 (Appendix A) and covers an area of approximately 1121 hectares (ha). The Site is located about 8 km southeast of Dufftown (approximate OS Grid Reference for site centre: NJ 37509 34022).

Wind farms are an existing feature of the surrounding landscape, as illustrated on Figure 1.2 (Appendix A) and shown in Table 2.2 below, Clashindarroch Wind Farm to the southeast of the Site and Dorenell Wind Farm to the southwest of the Site.

Table 2.2: Site Context, Cumulative Wind Farms within 20 km*		
Name	Distance Relative to the Site (km)	Status
Ardoch Farm	12.9 north northwest	Consented
Bailiesward Farm	7.3 northeast	Consented
Cairnborrow	8.3 north northeast	Operational
Cairnmore	14.9 southeast	Operational
Clashindarroch	4.4 southeast	Operational
Clashindarroch II Wind Farm	4.1 east	In Planning
Clashindarroch Extension	2.9 km southeast	Scoping
Dorenell	4.8 southwest	Operational
Dummuie	16.2 east	Operational
Edintore Wind Farm	10.2 north	Operational
Followsters Newmill	18.5 north	Consented
Garbet	Adjacent to the northwestern boundary of the Site	Scoping
Garrelhill Newmill	19.8 north	Consented
Greenmyres Drumblade Huntly	16.7 east	Consented
Hill of Towie	10.0 north northwest	Operational
Hill of Towie II	9.1 north northwest	Consented
Hunthill	18.2 northwest	Consented
Kildrummy Wind Farm	13.2 south southeast	Operational
Midtown of Glass	5.6 north	Consented
Rivestone Kinnoir Huntly	18.3 northeast	Operational
Roths III	19.4 northwest	In Planning

Table 2.2: Site Context, Cumulative Wind Farms within 20 km*		
Name	Distance Relative to the Site (km)	Status
Upper Wheedlemont Farm	12.0 southeast	Operational
Meikleton Of Ardonald	8.6 north northeast	In Planning
* Turbines below 50 m tip height are not included in this table.		

The A941 runs along the Site's southwestern boundary. There is also a minor road stretching along and across the Site's eastern and south-eastern boundary, in the River Deveron valley.

Much of the Site is dominated by semi-mature coniferous plantation woodland, with some underlying marshy grassland and wet heath. Open areas of blanket bog and dry modified bog are located in the southwestern portion of the Site and around the slopes of Craig Watch. A mosaic of wet and dry heath, acid, improved and marshy grassland is located along the south-western and south-eastern corners of the Site. NatureScot's (previously referred to as Scottish Natural Heritage (SNH¹⁴)) revised National Programme of Landscape Character Assessment (2019)¹⁵ identifies the Site as being primarily within the following Landscape Character Types (LCT):

- 32 Farmed and Wooded River Valleys;
- 292 Open Upland; and
- 294 Upland Valleys – Moray and Nairn.

There are some residential properties within the Site's boundary to the southwest and southeast of the proposed turbine locations. Individual properties are located along A941 and the minor road located to the southwest to southeast of the Site respectively.

Two Scheduled Monuments (Auchindoun Castle and fort (SM. 90024) and Battle Stone, Mortlach, (SM350)) lie within 5 km of the Site while a further eleven Scheduled Monuments lie within 5-10 km of the Site.

¹⁴ Please note that SNH has recently changed its name to NatureScot and that documents written under the name of SNH will be referenced with the organisations name at the time of publishing

¹⁵ Based on SNH Landscape Character Assessment 2019, available at <https://data.gov.uk/dataset/cce069c5-8a2b-4932-9fae-4f9023cd9d5b/snh-landscape-character-assessment-2019>

2.4 The Proposed Development

The main elements of the Proposed Development would be as follows:

- up to 18 wind turbines, each up to a maximum tip height of 200 m. Proposed turbine locations illustrated on Figure 1.3 (Appendix A) and the turbine co-ordinates provided in Table 2.3 below;
- permanent foundations supporting each wind turbine;
- associated crane hardstanding at each turbine location;
- a series of new on-site access tracks with associated watercourse crossings;
- underground cable arrays within the Site connecting the turbines to the on-site substation;
- a control building and substation compound;
- temporary construction compound(s) and laydown area(s);
- a permanent anemometer mast including associated foundations and hardstanding; and
- energy storage systems, if included. Such systems are designed to complement renewable energy generation. In terms of appearance, the system would be comparable to the on-site substation.

In addition, the following ancillary works may be necessary:

- forest felling and replanting;
- extraction of rock from borrow pits;
- concrete batching plant;
- off-site public road improvements; and
- temporary anemometer masts for 3-6 months during the construction period for calibration purposes.

Table 2.3: Turbine Co-ordinates		
Turbine Number	Easting	Northing
1	337131	834240
2	337508	833884
3	337799	833511
4	337536	834483
5	337898	834158
6	337893	834796
7	338315	834442
8	338349	834916
9	338756	834670
10	338677	835252
11	339138	835077
12	339014	835584
13	339477	835446
14	339956	835418
15	339169	836030
16	339719	835878
17	339523	836340

Table 2.3: Turbine Co-ordinates		
Turbine Number	Easting	Northing
18	339933	836572

2.4.1 Tree Felling and Replanting

It would be necessary for areas of forestry to be removed to allow the various elements of the Proposed Development to be constructed. Most of the woodland which would be felled to facilitate the Proposed Development is productive conifer woodland. Restocking proposals would be agreed with the forest managers, in consultation with Scottish Forestry.

The Application and EIAR will describe the extent of tree felling, replanting on site and any compensatory replanting proposed. This will include provision of drawings to show how the Proposed Development would interact with the existing forest plans within the Site. The forestry works would be in accordance with the UK Forestry Standard in so far as this is possible.

2.4.2 Site Access

The Proposed Development will be directly accessed via the A941. Further detail on the access will be provided as part of the EIAR.

2.4.3 Grid Connection

A high-level assessment of the proposed grid connection will be provided in the EIAR, although the grid connection will be subject to a separate consent under Section 37 of the Electricity Act 1989. Grid connection options are currently under investigation including overhead lines and underground cable. At this stage it is anticipated that two parallel 33 kV single circuit wood pole overhead lines would be required to provide the grid connection.

2.4.4 Construction

Typical construction activities and work methods will be set out in the EIAR. Information will also be provided on an indicative construction programme, construction traffic generation and construction phasing. The EIAR will also contain details of appropriate environmental management measures, including pollution prevention measures (in line with Scottish Environment Protection Agency (SEPA)'s Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs)), and waste minimisation and management measures.

2.4.5 Operation and Maintenance

The normal operating life of a wind farm would be at least 30 years, although the Applicant does not seek a time-limited consent. A wind farm would be typically visited up to four times a month by a small maintenance crew. There would also be a requirement for maintenance of the access tracks and other ancillary infrastructure.

2.4.6 Decommissioning

Following the period of wind farm operation, either decommissioning of the wind farm would be undertaken, or the Site would be repowered. Where decommissioning is required, this is anticipated to involve the activities listed below:

- Dismantling and removal of the turbines, met masts, site substation and any other above ground infrastructure.

- Removal to at least 1 m below ground level of the turbine and met mast foundation.

Detailed decommissioning proposals would be established and agreed with relevant authorities prior to commencement of decommissioning activities. This would take cognisance of guidance available at the time.

2.4.7 Community Benefits

Statkraft is committed to conducting extensive community consultation and engagement throughout the development process. Online communication such as a project website, email updates and interactive online forums will strengthen traditional methods such as newsletters and printed advertisements. Statkraft will work with local community groups and businesses to seek their ongoing feedback and include them in the design process.

Statkraft is committed to deliver setting up a Community Benefit Fund for the proposed Craig Watch Wind Farm, providing benefits to the value equivalent to £5,000 per installed megawatt per annum, index linked for the operational lifetime of the project. Statkraft is also committed to exploring opportunities for shared ownership with local communities, assessing options to improve local broadband provision, as well as working with local business groups to raise awareness of supply chain opportunities.

2.5 Design and Alternatives

The EIAR will provide a chapter detailing the design process followed and the reasonable alternatives considered in developing the wind farm layout and setting the physical parameters of the proposed turbines.

3. SCOPE OF THE EIA

3.1 Impact Assessments

The EIA regulations (regulation 4(3)) require consideration of the potential likely significant effects on the following factors:

- population and human health;
- biodiversity, and in particular species and habitats protected under Council Directive 92/43/EEC on the conservation of natural habits and wild flora (1) and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (2);
- land, soil, water, air and climate; and
- material assets, cultural heritage and the landscape.

Impact assessment of the above mentioned factors will be provided under the following specialist topic categories:

- landscape and visual amenity;
- cultural heritage;
- ecology;
- ornithology;
- hydrology, hydrogeology and geology;
- traffic and transport;
- noise and vibration;
- aviation and telecommunications;
- socioeconomics;
- forestry;
- shadow flicker; and
- climate change.

The EIAR will report on the likely significant effects, including, where applicable, direct, indirect, cumulative, short, medium and long-term, permanent and temporary, beneficial and adverse effects.

Cumulative effects will be addressed under each topic chapter. Cumulative effects are defined as those effects arising from the addition or combination of the Proposed Development to other proposed developments, or those arising from synergistic effects¹⁶ between factors.

In addition, factual reports will be prepared to provide sufficient environmental information and included as technical appendices to the EIAR: peat depths, peat management, peat slide risk assessment and carbon balance assessment.

¹⁶ A synergistic effect is the result of two or more processes interacting together to produce an effect that is greater than the cumulative effect that those processes produce when used individually

3.2 Landscape and Visual Amenity

3.2.1 Overview

This section has been prepared by Ramboll UK Limited. The purpose of the Landscape and Visual Impact Assessment (LVIA) is to identify, predict and evaluate potential landscape and visual effects arising from the Proposed Development. The elements of the Proposed Development that could impact on the landscape fabric and character of the Site and wider study area include wind turbines; anemometer masts; access tracks; borrow pits and a substation. The vertical scale of the wind turbines and anemometer mast is such that they are likely to be visible from locations outwith the Site and within the surrounding areas. Consequently, there is potential for effects on the visual amenity and landscape character. The LVIA will therefore address impacts on the Site itself and potential impacts of the receptors within the study area.

3.2.2 Study Area

In order to ensure that all significant impacts are assessed, and in line with current guidance, the study area for the LVIA is taken to be 45 km from the outermost turbine.

A preliminary zone of theoretical visibility (ZTV) has been prepared for the 45 km study area to assist in scoping out the various landscape and visual receptors that would not be impacted by the Proposed Development (Appendix A: Figure 3.1).

In this section, all measurements refer to the distance between the receptor and the nearest turbine of the Proposed Development.

3.2.3 Consultation

In addition to this scoping submission, detailed consultations would be undertaken with Moray Council (MC), Aberdeenshire Council (AC), Cairngorms National Park Authority (CNPA) and NatureScot (NS) in respect of the following:

- the LVIA scope and detailed methodology;
- the scope and inclusions for the cumulative assessment component of the LVIA; and
- selection of representative viewpoints for inclusion in the LVIA, including night viewpoints for assessment of aviation lighting.

3.2.4 Approach

The LVIA will address potentially significant effects within a 45 km study area¹⁷ and will contain:

- a description of the methodology utilised in completing the assessment;
- a description of the existing landscape and visual baseline context and cumulative context at the time of completion of the LVIA;
- a description of impact generators associated with the construction and operation of the type of development proposed and their potential effects on receptors;
- a description of siting and design priorities and any mitigation measures proposed to address likely significant effects; and

¹⁷ Radius from outermost turbines at the site

- an assessment of residual landscape and visual effects, including cumulative effects and effects on night views, taking into account the influence of design responses and mitigation measures.

Landscape Impacts

The assessment of landscape impacts will address:

- effects on landscape fabric;
- effects on landscape character types;
- effects on landscape designations and classifications, and
- effects on visual amenity.

In the event that aviation lighting is required for the Proposed Development, the LVIA will address effects on the character of the landscape after dark.

Visual Assessment

The LVIA will address effects on the visual amenity of people at key visual receptors, including:

- residents of settlements and scattered / individual properties;
- key transportation routes;
- users of recreational routes, including strategic trails and cycleways and core paths; and
- key summits and routes used by hill walkers.

Care will be taken to describe the extent of visibility of the Proposed Development, and effects on important connecting / linking views, sequential views, vantage points and prominent focal points. The assessment will also discuss what forms the basis of local visual amenity.

In the event that aviation lighting is required for the Proposed Development, the LVIA will address potential lighting effects on local amenity.

Supporting Assessments and Graphics

The LVIA will be accompanied by a series of Technical Appendices (TAs) that will provide detailed assessment of residual effects on different aspects of the landscape and visual resource, including:

- an assessment of residual effects on landscape character types;
- an assessment of residual effects on designated landscapes and classified landscapes;
- a detailed viewpoint assessment;
- a detailed statistical route analysis; and
- an assessment of effects of aviation lighting on landscape character and visual amenity, including visualisations showing night views from a selected series of representative viewpoints (if required).

The LVIA will also be accompanied by a series of figures and visualisations.

Guidance

The LVIA would be undertaken in accordance with the following guidance and established standards:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA)¹⁸;
- Landscape Character Assessment¹⁹;
- Techniques for Judging Capacity and Sensitivity²⁰;
- Siting and Designing Wind Farms in the Landscape²¹;
- Assessing Effects on Wild Land²²;
- Cumulative Effects of Wind Farms²³;
- Visual representation of development proposals²⁴;
- Photography and Photomontage in Landscape and Visual Assessment²⁵; and
- Guidance on the Visual Representation of Wind Farms²⁶.

Wherever possible, effects will be quantified, however, the nature of landscape and visual assessment requires interpretation by professional judgement.

In order to provide a level of consistency to the assessment, receptor sensitivity, the prediction of magnitude of impact, and assessment of significance of the residual effects will be based on pre-defined criteria based on guidance provided by the Landscape Institute, as refined for the purposes of wind farm assessment and taking account of relevant technical and planning guidance.

3.2.5 Baseline Conditions

The assessment will be undertaken against the existing baseline conditions. This baseline will provide a description of the existing landscape and visual context of the proposed wind farms. This will form the basis upon which to determine the potential effects of the Proposed Development.

Initially, the baseline will be prepared based on:

- aerial photography;
- Ordnance Survey maps;
- digital terrain modelling (DTM) at 50 m and 5 m resolution;
- Google Street Maps; and
- Open source photography.

Field reconnaissance will be undertaken to verify the findings of the desktop study, and the baseline description adjusted as necessary to accurately reflect the conditions on the ground.

¹⁸ Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidance for Landscape and Visual Impact Assessment – Third Edition

¹⁹ The Countryside Agency and SNH (2002) Landscape Character Assessment accessed at: <https://www.nature.scot/landscape-character-assessment-guidance-england-and-scotland>

²⁰ SNH and the Countryside Agency (2002) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity

²¹ SNH (2017) Siting and Designing Wind Farms in the Landscape – Version 3a accessed at: <https://www.nature.scot/siting-and-designing-wind-farms-landscape-version-3a>

²² NatureScot's 2020 Assessing Impacts on Wild Land Areas - Technical Guidance accessed at: <https://www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/wild-land/wild-land-area-descriptions-and-assessment-guidance>

²³ SNH (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments accessed at: <https://www.nature.scot/guidance-assessing-cumulative-impact-onshore-wind-energy-developments>

²⁴ Landscape Institute (2017). Technical Guidance Note 06/19. Visual representation of development proposals accessed at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf

²⁵ Landscape Institute (2011) Advice Note 01/2011: Photography and Photomontage in Landscape and Visual Assessment accessed at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/migrated-legacy/LIPhotographyAdviceNote01-11.pdf>

²⁶ SNH (2017c) Visual Representation of Wind Farms – Guidance – Version 2.2 accessed at: <https://www.nature.scot/visual-representation-wind-farms-guidance>

Location

The Site is located on gently undulating hills within an area typified by forestry and areas of open moorland. Surrounding the hills are low lying glen landscapes characterised by more intensive farming activity. Wind farms are an existing element within the landscape surrounding the site. The Proposed Development is situated amidst a cluster of wind farm developments, including Clashindarroch Wind Farm southeast of the Site, and Dorenell Wind Farm to the southwest of the Site. The emergent pattern of development (existing and consented wind farms) will be examined in the baseline appraisal of the LVIA, along with other proposed developments (i.e. developments subject to a formal planning application, appeal or further planning procedure).

Details of the other wind farms located within 20 km of the outer turbines of the Proposed Development are listed in the preliminary cumulative context in Table 2.2 in Section 2.3 of this Scoping Report and shown on Figure 1.2. For the full LVIA, a search area of up to 60 km would be used to refine the cumulative wind farm study area and cumulative wind farm list. This will be finalised in consultation with MC and AC prior to commencement of the detailed cumulative assessment.

Landscape Character

Figure 3.2 (Appendix A) shows the location and extent of landscape character types²⁷ and the seascape character types²⁸ within the study area.

The Site is located across three LCTs which will be assessed as part of the LVIA:

- 32 Farmed and Wooded River Valleys;
- 292 Open Upland; and
- 294 Upland Valleys – Moray and Nairn.

Those LCTs which are within the ZTV and which will also be assessed within the LVIA include:

- 14 Gently Undulating Coastal Farmland;
- 17 Coastal Agricultural Plain – Aberdeenshire;
- 18 Low Hills and Basins;
- 19 Farmed Rolling Ridges and Hills;
- 20 Undulating Agricultural Heartland;
- 27 Farmed Moorland Edge – Aberdeenshire;
- 28 Outlying Hills and Ridges;
- 32 Farmed and Wooded River Valleys;
- 122 Mountain Massif – Cairngorm;
- 123 Smooth Rounded Hills – Cairngorms;
- 281 Beaches, Dunes and Links;
- 282 Cliffs and Rocky Coast – Moray and Nairn;
- 283 Coastal Forest;
- 284 Coastal Farmlands – Moray and Nairn;
- 288 Upland Farmland;
- 289 Upland Farmed Valleys;
- 290 Upland Moorland and Forestry;

²⁷ Based on SNH's Landscape Character Assessment 2019, available at <https://data.gov.uk/dataset/cce069c5-8a2b-4932-9fae-4f9023cd9d5b/snh-landscape-character-assessment-2019> (Accessed October 2020)

²⁸ Based on SNH's Coastal Character Assessment 2019, available at <https://www.nature.scot/sites/default/files/2018-02/Guidance%20Note%20-%20Coastal%20Character%20Assessment.pdf>

- 291 Open Rolling Upland;
- 292 Open Upland;
- 293 Low Forested Hills; and
- 294 Upland Valleys – Moray and Nairn.

LCTs which have been scoped out of the assessment due to no or minimal visibility include:

Not within ZTV

- 25 Farmed Strath – Aberdeenshire;
- 30 Narrow Winding Farmed Valley;
- 33 Broad Wooded Valley with Estates;
- 125 Rolling Upland – Cairngorm;
- 127 Upland Strath;
- 128 Forested Upland Fringe;
- 129 Broad Glen with Estates;
- 130 Farmed Basin – Cairngorms;
- 131 Upland Basin – Cairngorm; and
- 286 Narrow Wooded Valley – Moray and Nairn.

Minimal ZTV Coverage

- 10 Cliffs and Rocky Coast – Aberdeenshire;
- 23 Farmed Basin – Aberdeenshire;
- 26 Wooded Estates – Aberdeenshire;
- 29 Summits and Plateaux – Aberdeenshire;
- 126 Upland Glen – Cairngorms;
- 132 Undulating Wooded Farmland;
- 133 Farmed Straths and Glens;
- 285 Rolling Farmland and Forests; and
- 287 Broad Farmland Valley.

Further to the detailed assessment of Landscape Character, there will be a further detailed review of local landscape character classifications; as outlined the Moray Wind Energy Landscape Capacity Study²⁹ (MWLCS) and the Strategic Landscape Capacity Assessment for Wind Energy in Aberdeenshire³⁰.

Landscape Designations

Landscape Designations are presented on Figure 3.3 in Appendix A.

The Site is not located in an area subject to landscape designation. The Site abuts a small part of the Ben Rinnes Special Landscape Area (SLA), however the nearest turbine to this designation is located approximately 4 km to the east.

Overall, there are 21 SLAs within the study area. These are detailed further in Table 3.1.

The Cairngorms National Park (NP) is located approximately 13 km southwest of the proposed turbines. The Cairngorm Mountains National Scenic Area (NSA) is located approximately 34 km

²⁹ Carol Anderson Landscape Associates (2017). Moray Wind Energy Landscape Capacity Study accessed at: http://www.moray.gov.uk/moray_standard/page_81378.html

³⁰ Ironside Farrar (2014) Strategic Landscape Capacity Assessment for Wind Energy in Aberdeenshire accessed at: <https://www.aberdeenshire.gov.uk/media/11378/section1introductionascassessmentsmarch2014.pdf>

southwest of the proposed turbines. Two Wild Land Areas (WLA) are also found within the study area. These are:

- 15. Cairngorms WLA, located approximately 30 km southwest of the proposed turbines; and
- 16. Lochnager – Mount Keen, located approximately 39 km south.

In addition to these designated landscapes there are 32 Gardens and Designed Landscapes (GDLs) within the study area (as identified in the Historic Environments Scotland Inventory). The closest GDL is Leith Hall, located approximately 14.5 km southwest of the nearest turbine. The initial ZTV shows that there would be no visibility within the following GDLs and therefore they would not be assessed within the LVIA:

- Leith Hall (14.6 km east of the nearest turbine);
- Kildrummy Castle (19.9 km south southeast of the nearest turbine);
- Gordon Castle (Bog of Gight) (22.4 km north of the nearest turbine);
- Candacraig House (22.8 km south of the nearest turbine);
- Williamston House (24 km east of the nearest turbine);
- Tillypronie (25.3 km south of the nearest turbine);
- Blackhills House (25.8 km north northwest of the nearest turbine);
- Newton House (Aberdeenshire) (26 km east of the nearest turbine);
- Castle Forbes (27 km southeast of the nearest turbine);
- Cullen House (30.2 km north northeast of the nearest turbine);
- Castle Grant (32.4 km southwest of the nearest turbine);
- Pluscarden Abbey (Priory) (32.5 km northwest of the nearest turbine);
- Monymusk (34 km southeast of the nearest turbine);
- Fyvie Castle (35.7 km west of the nearest turbine);
- Duff House (36.3 km northeast of the nearest turbine);
- Cluny Castle (36 km southeast of the nearest turbine);
- Aultmore (37.7 km southwest of the nearest turbine);
- Castle Fraser (38.8 km southeast of the nearest turbine);
- Glen Tanar (38 km south southeast of the nearest turbine);
- Relugas (39.6 km northwest of the nearest turbine);
- Darnaway Castle (40.4 km northwest of the nearest turbine);
- Grant Park and Cluny Hill (40.6 km northwest of the nearest turbine);
- Balmoral Castle (40 km south of the nearest turbine);
- Dunecht House (43 km southeast of the nearest turbine);
- Haddo House (44.7 km east of the nearest turbine);
- Invercauld (44 km south southwest of the nearest turbine); and
- Innes House (The closest GDL with theoretical visibility of the proposed turbines, located approximately 29.7 km north northwest of the nearest turbine).

Table 3.1 provides a list of Landscape Designations and Classifications considered for the LVIA and describes the extent of potential visibility of the Proposed Development and whether it is intended to include each of the designations in the LVIA.

Table 3.1: Landscape Designations and Classifications (within the 45 km LVIA Study Area) to be included in the LVIA

Designation / Landscape Classification	Within ZTV	Approximate Distance & Direction from the Nearest Proposed Turbine	Included in the LVIA
National Park			
Cairngorms	Yes	13 km southwest	Yes Initial ZTVs show some visibility from the Cairngorm NP across high slopes, although this is intermittent and not widespread.
National Scenic Areas			
Cairngorm Mountains	Yes	32.7 km southwest	Yes This NSA has been included in the LVIA due to the theoretical visibility from elevated hillslopes.
Special Landscape Areas			
Moray Council			
Ben Rinn	Yes	Adjacent to the Site boundary (west of site)	Yes
Spey Valley	Yes - marginal	11.6 km northwest	Yes
Pluscarden Valley	Yes	30.5 km northwest	Yes
Findhorn Valley and the Wooded Estates	No	38 km northwest	No – no visibility of the Proposed Development.
Culbin to Burghead Coast	Yes	41.8 km northwest	No – The special qualities of the designated area describe the sensitive coastal edge and the coastal forests which form the immediate hinterland to the coastline. At a distance of over 40 km from the SLA, the Proposed Development would not have any discernible effect upon the setting, or special qualities, of the SLA.
Cluny Hill	No	40.7 km northwest	No – no visibility of the Proposed Development.
Burghead to Lossiemouth Coast	Yes	36.6 km north northwest	No – There is limited visibility of the Proposed Development from within the SLA. The SLA is designated for its richly complex array of other rocky landform features, including the highest cliffs in Moray. At a distance of over 35 km from the SLA, the

Table 3.1: Landscape Designations and Classifications (within the 45 km LVIA Study Area) to be included in the LVIA

Designation / Landscape Classification	Within ZTV	Approximate Distance & Direction from the Nearest Proposed Turbine	Included in the LVIA
			Proposed Development would form a minor feature in long distance views and would not significantly impact upon the character or special qualities of the SLA.
Quarrelwood	Yes	33.4 km north northwest	No – Quarrelwood comprises a mixed woodland sited on a low ridge on the western edge of Elgin. The ZTV indicates visibility across a high proportion of the SLA, however due to the level of dense woodland, which is present within the designated area, there is unlikely to be views of the Proposed Development, and any possible views would be filtered and distant. Any resulting impact on the special qualities of the designation would be negligible.
Spynie	Yes	32.4 km north northwest	No – the ZTV indicates that between 1 and 4 turbines would be theoretically visible from within the SLA, however due to the level of woodland within the designation boundary it is considered unlikely that actual views would be available to the extent where the special qualities of the SLA would be altered.
Lossiemouth to Portgordon Coast	Yes	30 km north	No – The SLA marks a distinct change in the character of the coastal edge from the long, predominantly cobbled, beach characteristic of this SLA, to a rocky and settled coastline in the east. At a distance of over 30 km from the SLA, the Proposed Development would not significantly impact upon the character or special qualities of the SLA.
Lower Spey and Gordon Castle Policies	No	22.6 km north	No – there is very limited visibility of the Proposed Development from within the SLA, due to designation lying within the low-lying Spey Valley. Intermittent visibility is present across the more elevated parts of the SLA however, it is not considered that the Proposed Development would impact upon the special qualities and characteristics of the SLA to an extent where these would change.
Portgordon to Cullen Coast	Yes, although marginal	28 km north	No – The distinctive pattern and character of small settlements and their strong relationship to the rocky coastal edge are one of the key reasons for the SLA designation. The citation notes that the importance of the

Table 3.1: Landscape Designations and Classifications (within the 45 km LVIA Study Area) to be included in the LVIA			
Designation / Landscape Classification	Within ZTV	Approximate Distance & Direction from the Nearest Proposed Turbine	Included in the LVIA
			wider landscape setting to the coast is also recognised by the inclusion of the Cullen House wooded policies and the Bin of Cullen. However, at a distance of over 25 km from the SLA, the Proposed Development would not significantly impact upon the setting of the coastal edge.
Deveron Valley	Yes	16 km northeast	Yes
Aberdeenshire Council			
1. North Aberdeenshire Coast	Yes	33.4 km northeast	No – the SLA is designated for its coastal edge, beaches, cultural connections, elemental qualities, recreational qualities and nature conservation interests due to its location on the north coast of Aberdeenshire. It is considered that the Proposed Development, at a distance of over 30 km from the SLA boundary, would not perceptibly impact upon these qualities.
4. Deveron Valley	Yes	3.7 km northeast	Yes
5. Benachie	Yes	18 km southeast	Yes
6. Upper Don Valley	Yes	18 km southeast	Yes
7. Howe of Cromar	No	27.6 km south southeast	No – no visibility of the Proposed Development.
8. Dee Valley	No	36 km south southeast	No – no visibility of the Proposed Development.
9. Clachnaben + Forest of Birse	No	40.7 km south southeast	No – no visibility of the Proposed Development within the study area.
Highland Council			
Drynachan, Lochindorb and Dava Moors	Yes	25.7 km west	Yes
Gardens and Designed Landscapes			
Innes House	Yes	29.7 km north northwest	No – At a distance of over 29 km from the Proposed Development, and the level of

Table 3.1: Landscape Designations and Classifications (within the 45 km LVIA Study Area) to be included in the LVIA

Designation / Landscape Classification	Within ZTV	Approximate Distance & Direction from the Nearest Proposed Turbine	Included in the LVIA
			woodland surrounding Innes House and gardens it is considered unlikely the Proposed Development would be a notable feature from within the designated area.
Craigievar Castle	Yes	29 km south southeast	No – The ZTV indicates visibility of the Proposed Development from the northern edge of the GDL, however existing woodland cover in this area would screen any actual views to the Proposed Development.
Forglen	Yes	31.4 km northeast	No – At a distance of over 30 km from the Proposed Development, and the level of woodland and other features within the intervening landscape, it is considered unlikely the Proposed Development would be a discernible feature from within the designated area.
Hatton Castle	Yes	36 km west northwest	No – The ZTV indicates visibility of the Proposed Development from the elevated eastern area of the GDL, however existing woodland and forestry cover in this area would screen any actual views to the Proposed Development.
Keith Hall	Yes	40 km southeast	No – At a distance of 40 km from the Proposed Development, the level of woodland, the nature of topography within the GDL (not picked up by the DTM) and existing features within the intervening landscape, it is considered unlikely the Proposed Development would be a discernible feature from within the designated area.
Wild Land Areas			
15. Cairngorms	Yes	30 km south	Yes
16. Lochnager – Mount Keen	Yes	39 km south	Yes

Visual Amenity

The Visual Assessment addresses the impacts on visual amenity, as experienced by people, from key visual receptors within the study area. The baseline will identify visual receptors within areas of potential visibility as indicated by the ZTV. There will be some areas where fewer people are

likely to experience the effects of the Proposed Development and other locations with higher concentrations of people with potential views towards the Proposed Development. The baseline seeks to identify the people within areas of potential visibility whose views may be changed by the Proposed Development. In accordance with the GLVIA, professional judgement is used to identify visual receptors.

Visual Receptors - Transport Routes

There are several key transport routes within the study area that would be subject to potential views of the Proposed Development (Appendix A: Figure 3.4). Those that would be assessed in the LVIA are:

- the A941;
- the A920;
- the A96;
- the A95; and
- a small number of local roads in the vicinity of the site.

In addition to roads, the rail links within the study area will also be considered.

Visual Receptors - Recreational Routes and Summits

Three long distance footpaths run through the study area (Appendix A: Figure 3.4):

- the Speyside Way;
- the Dava Way; and
- the Moray Coast Trail.

At its closest point, the Speyside Way is located approximately 8.7 km northwest of the nearest proposed turbine. Given the location of the footpath within the strath of the Spey River, there is no visibility of the Proposed Development along the full path, with the exception of a 2.5 km stretch on part of a spur path to Dufftown. The ZTV indicates that up to four turbines are theoretically visible, however due to the level of woodland and other vegetation present within the valley it is considered that any views are unlikely. The Speyside Way has therefore been scoped out of the LVIA.

The Dava Way routes between Grantown on Spey and Forres. The ZTV indicates that there would be no visibility of the Proposed Development along this footpath and therefore it has been scoped out of the LVIA.

The Moray Coast Trail routes along the north coast between Forres and Cullen. While the ZTV indicates some visibility of between one and nine turbines, it is proposed to scope the trail out of the LVIA. This is due to views from the path being focussed north, towards the coast; the increased distance between the Proposed Development and the path (approximately 32.5 km); and the level of intervening landscape features such as local undulations in topography not picked up by the ZTV, forestry and woodland, built infrastructure etc, which would screen the Proposed Development in views from the path.

There are also a number of core paths within the study area. Any paths within 10 km of the proposed turbines, which have theoretical visibility of the Proposed Development, will be included in the LVIA.

Important hills in the study area are also shown in Figure 3.4, these include:

- Beinn a Bhuid;

- Ben Avon;
- Bynack More;
- Carn Liath;
- Culardoch;
- Ben Rinnes;
- Borryhabbie Hill;
- Bennachie; and
- The Hills of Cromdale.

The LVIA will consider the impacts on hill walkers, taking into account the experience of the journey along any key walking routes and the approach to (and view from) key summits. This will be undertaken as part of the recreational route's assessment and also as part of the viewpoint assessment (see Table 3.2 below).

Visual Receptors - Settlements.

Within the study area there are numerous towns, villages and scattered settlements. Significant impacts to visual amenity are unlikely to occur beyond 20 km, therefore settlement beyond this has been scoped out.

The only key settlement with theoretical visibility of the Proposed Development is Dufftown. The LVIA will include an assessment of visual effects on this receptor.

A Residential Visual Amenity Assessment (RVAA) will be produced to assess the effects of visual amenity for the properties which are closest to the Proposed Development. A detailed survey of residential properties will be undertaken for dwellings within 2 km of the Proposed Development; however, a precautionary approach will be taken and if any property within 5 km is considered to potentially experience overbearing effects, the RVAA would also include these.

The RVAA would generally be undertaken from publicly accessible locations nearest to properties. A finalised list of dwellings to be included in the RVAA will be drawn up following consultation with Moray Council, Aberdeenshire Council and NatureScot.

If required, a night reconnaissance of key receptor locations will also be undertaken as a basis for the assessment of potential aviation lighting effects.

Preliminary Viewpoints List

In order to inform and verify the findings of the LVIA, a series of representative viewpoints have been selected. These are intended to represent a range of landscape and visual receptors in the study area. These viewpoints also take account of potential cumulative visibility of the Proposed Development with other wind farms within the cumulative study area. These are listed in Table 3.2 below, and their locations are illustrated in Figure 3.5 (Appendix A).

Viewpoints will be finalised and established through field reconnaissance and in consultation with Moray and Aberdeenshire Councils and NatureScot.

Viewpoint Number	Viewpoint Name	Location	Approximate Distance from Nearest Proposed Turbine	Visual Receptors at Location	Landscape Receptors at Location
1	Minor Road, Deveron Valley	341223, 836152	1.3 km east	Road users, local residents	Farmed and Wooded River Valleys LCT
2	Haugh of Glass	342383, 839215	3.6 km north northeast	Road users, local residents	Open Upland LCT
3	Corsemaul Drive, Dufftown	332923, 839928	7.5 km northwest	Settlement	Ben Rinnes SLA Upland Farm Valleys LCT
4	A941 North of Dufftown	331232, 843327	10.8 km northwest	Road users	Upland Farm Valleys LCT
5	Ben Aigan	330991, 848182	14.6 km northwest	Hill walkers	Spey Valley SLA Open Upland LCT
6	Ben Rinnes	325512, 835462	11.6 km west	Hill walkers	Ben Rinnes SLA Open Upland LCT
7	Corryhabbie Hill	328094, 828871	10.5 km southwest	Hill walkers	Ben Rinnes SLA Open Upland LCT
8	Little Geal Charn	329694, 819709	16.1 km south	Hill walkers	Cairngorm National Park Smooth Rounded Hills - Cairngorms LCT
9	The Buck	341200, 823425	10.6 km south	Hill walkers	Open Upland LCT
10	Tap o'Noth	348429, 829303	11.4 km southeast	Hill walkers	Outlying Hills and Ridges LCT
11	Meickle Balloch Hill	347158, 849559	14.8 km northeast	Hill walkers	Farmed Moorland Edge - Aberdeenshire LCT
12	B9016 at Aultmore	340319, 853095	16.5 km north	Road users, settlement	Upland Farmland LCT
13	A920 near Wester Bodilare	341183, 840454	4 km north	Road users, scattered settlement	Deveron Valley SLA (Aberdeenshire) Farmed Moorland Edge - Aberdeenshire LCT
14	Mither Tap View Point	368240, 822407	31 km southwest	Hill walkers	Bennachie SLA (Aberdeenshire) Outlying Hills and Ridges LCT

Viewpoint Number	Viewpoint Name	Location	Approximate Distance from Nearest Proposed Turbine	Visual Receptors at Location	Landscape Receptors at Location
15	Clashmach Hill	349773, 838507	10 km northwest	Hill walkers	(edge of the) Deveron Valley SLA (Aberdeenshire) Outlying Hills and Ridges LCT
16	A941 near Public House	337979, 830512	2.9 km south	Road users, Public House visitors	Upland Valleys – Moray and Nairn LCT
17	Cromdale Hills	313788, 828801	23.9 km southwest	Hill walkers	Cairngorm National Park Smooth Rounded Hills – Cairngorms LCT

3.2.6 Design Development and Mitigation

The LVIA will analyse the siting and design of the Proposed Development, including ancillary elements. This analysis will be undertaken with reference to:

- Moray Council Spatial Framework for Wind Farm Developments³¹
- NatureScot’s Siting and Designing Wind Farms in the Landscape³²; and
- NatureScot’s Spatial Planning for Onshore Wind Turbines³³.

Based on this guidance, the findings of the baseline appraisal, field reconnaissance, and an analysis of potential sources of significant seascape/landscape and visual effects, a series of embedded and design measures will be identified and recorded in the LVIA and incorporated into the relevant EIAR chapter.

A key consideration in the siting and design of the Proposed Development is anticipated to be its position relative to the operational Clashindarroch I and Dorenell Wind Farms, the proposed Garbet, Clashindarroch II and Clashindarroch Extension Wind Farms, and the emergent pattern and clustering of wind energy development within the wider study area.

³¹ Moray Council (2020) Moray Local Development Plan - Moray Onshore Wind Energy Non-Statutory Guidance accessed at: http://www.moray.gov.uk/moray_standard/page_80938.html

³² SNH (2017) Siting and Designing Wind Farms in the Landscape, Version 3.3 accessed at: <https://www.nature.scot/siting-and-designing-wind-farms-landscape-version-3a>

³³ SNH (2015) Spatial Planning for Onshore Wind Turbines – natural heritage considerations, Guidance accessed at: <https://www.nature.scot/sites/default/files/2019-10/Guidance%20-%20Spatial%20Planning%20for%20Onshore%20Wind%20Turbines%20-%20natural%20heritage%20considerations%20-%20June%202015.pdf>

3.2.7 Effects Evaluation

Significance of Landscape and Visual Effects

Table 3.3 illustrates how residual effects will be determined by comparison of the sensitivity of receptors with the magnitude of impacts. In line with the recommendations in the GLVIA the matrix is not used as a prescriptive tool or arithmetically, and the methodology and analysis of potential effects at any particular location must allow for the exercise of professional judgement.

Table 3.3: Residual Effects					
	Magnitude of Change				
Landscape and Visual Sensitivity	Substantial	Moderate	Slight	Negligible	None
High	Major	Major/moderate	Moderate	Moderate/minor	None
Medium	Major/moderate	Moderate	Moderate/minor	Minor	None
Low	Moderate	Moderate/minor	Minor	Minor/none	None

3.3 Cultural Heritage

3.3.1 Overview

This section has been prepared by AOC Archaeology Group. The archaeology and cultural heritage assessment will consider the potential both for direct effects on archaeology and heritage assets within the Site resulting from the construction of the Proposed Development, and for effects upon the settings of key heritage assets within the wider landscape. The assessment will also identify measures that should be taken to mitigate any predicted significant adverse effects.

3.3.2 Study Area

All heritage assets located within a 1 km radius of the Site will be identified to allow for an assessment of direct impact and archaeological potential. All designated heritage assets within 5 km of the Site will be identified to allow for an assessment of the potential impacts upon their settings. Nationally important designated assets within 10 km of the Site, including Scheduled Monuments, Inventory Battlefields and Category A Listed Buildings, will be identified to allow for an assessment of the potential for impacts upon their settings. Assets beyond 10 km, which require assessment in terms of potential impacts upon their settings, will be determined using the ZTV and in consultation with Historic Environment Scotland (HES) and Aberdeenshire Council Archaeology Service (ACAS). There are no Conservation Areas within 5 km of the Site and no Inventory Gardens and Designed Landscapes, or World Heritage Sites located within 10 km of the Site.

The 1 km Study Area is deemed sufficient to establish whether there are any known heritage assets on-site which could be subject to direct effects and also will establish the archaeological and historical character of the surrounding area allowing for an assessment of the potential for hitherto unknown buried archaeological remains to survive on the Site.

The 5 km and 10 km Study Areas are deemed sufficient to identify heritage assets which may be subject to setting effects. Given the types and sensitivities of assets present, the surrounding

topography and the height of the Proposed Development's turbines it is unlikely that significant effects will occur beyond 10 km. However, consideration will be given to assessing impacts beyond 10 km if the ZTV and consultation with HES and ACAS indicate this is necessary.

3.3.3 Consultation

Consultation will be undertaken following receipt of the Scoping Opinion, if required, and may include, but not be limited to, further agreement of scope and method with HES, ACAS and local authority Conservation Officers. Where necessary, cultural heritage visualisations, to support the setting assessment, will be provided and will be agreed with consultees as required.

3.3.4 Approach

A detailed desk-based assessment will be carried out, drawing on existing databases, archive records, historical maps and historical and modern aerial photography. This will identify heritage assets and areas that have archaeological and historic environment potential. The following sources will be consulted:

- Historic Environment Scotland Spatial Data³⁴: for up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and World Heritage Sites.
- National Record for the Historic Environment (NRHE)³⁵ as held by HES: for records relating to known heritage assets and previous archaeological investigations.
- National Collection of Aerial Photography (NCAP)³⁶ as held by HES: for historical vertical aerial photographs.
- Moray Historic Environment Record (HER) and Aberdeenshire HER as held by Aberdeenshire Council Archaeology Service: for a digital database extract in GIS of all assets within 1 km of the Site boundary.
- Relevant bibliographic references to provide background and historic information.
- Map Library of the National Library of Scotland³⁷: for Ordnance Survey maps and other historical map resources.
- Historic Land-Use Assessment Data for Scotland (HLAMap)³⁸: for information on the historic land use character of the Site and the surrounding area.
- Scottish Palaeoecological Archive Database (SPAD)³⁹: for information on sites with palaeoenvironmental and palaeoecological potential.
- Scottish Government, Scottish Remote Sensing Portal⁴⁰: for any LiDAR data covering the Site.

A walkover survey of the Site will be carried out to record the baseline character of assets identified through the desk-based assessment and to identify any others not revealed through the desk-based study, and to record their baseline character, condition and importance.

³⁴ Available at: there is the potential for further investigation to clarify this and the whole settlement sequence

³⁵ Available at: <https://pastmap.org.uk/>

³⁶ Available via subscriptions at: <https://ncap.org.uk/>

³⁷ Available at: <https://maps.nls.uk/>

³⁸ Available at: <https://hlamap.org.uk/>

³⁹ Available at: <https://www.geos.ed.ac.uk/~ajn/spad/>

⁴⁰ Available at: <https://remotesensingdata.gov.scot/data#/list>

Site visits to key heritage assets in the wider study area will be undertaken to assess, with the aid of wireline visualisations, the predicted impact of the Proposed Development on their settings. Site visits will include any assets specifically identified by consultees as requiring assessment and those identified through analysis of the blade tip height ZTV that lie within 10 km of the Site, where it is considered, on the basis of professional judgement, that the impact on their settings could be significant.

3.3.5 Baseline Conditions

The Site

An initial desk-based assessment of existing archive records, historic maps, the Aberdeenshire, and Moray HERs and modern aerial photographic imagery has identified 28 cultural heritage assets that lie within the Site (Figure 3.6 in Appendix A). Eleven of these assets consist of farmsteads, enclosures, buildings, and field systems that relate to post-medieval agricultural occupation of the area. In addition, there is a church, quarry, limekiln, cairns and boundary stones from this time period. Prehistoric occupation is evidenced by assets that include a possible hut circle and cists and is further evidenced by arrowhead findspots.

Wider Landscape

The initial assessment has identified two Scheduled Monuments within 5 km of the Site boundary. A further 11 Scheduled Monuments are situated between 5 km and 10 km of the Site boundary (Appendix A: Figure 3.7).

Those Scheduled Monuments that are closest to the Site are:

- The Scheduled Auchindoun Castle (List No. SM90024), situated 2.3 km to the north of the Site; and
- The Scheduled Battle Stone, Mortlach, a carved symbol stone, (List No. SM350), situated 4 km to the north-northwest of the Site.

The Scheduled hillfort, Tap o'Noth (List No. SM63), which represents an asset type that tends to be of high sensitivity to changes to their setting, is situated 8.8 km to the southeast of the Site.

Most of the Scheduled Monuments within 10 km of the Site relate to remains of cup marked boulders, hut circles, cairns, henges, townships and field systems dating from the prehistoric to the post-medieval periods. However, two Scheduled castles, Balvenie Castle (List No. SM90028) and Caddwell Castle (List No. SM2505) are also located within the Study Area.

The effect of the Proposed Development on the settings of these Scheduled Monuments will be assessed in the EIAR.

There is one Listed Building within 1 km of the Site boundary:

- the late 18th century Blackwater Bridge, a Category C Listed Building (List No. LB2252), situated 578 m to the southwest of the Site.

Two Category A Listed Buildings are situated within 5 km of the Site:

- Beldorney Castle, a 16th century Z-plan tower house (List No. LB9164), situated 2 km east-northeast of the Site;
- Mortlach Parish Church, Watch House and Burial Ground (List No. LB15864), mainly of 19th and 20th century appearance, but incorporating medieval and post-medieval material, situated 3.9 km to the northwest of the Site.

A further two Category A Listed Buildings are located between 5 km and 10 km of the Site. These Category A Listed Buildings are:

- Drummuir Castle, a turreted castellated mansion (List No. LB2296), situated 8 km to the north of the Site; and
- The 16th century tower house at Kininvie House (List No. LB15862), 8.5 km to the northwest of the Site.

Thirteen Category B Listed Buildings and 18 Category C Listed Buildings are situated within 5 km of the Site.

The eastern boundary of the Battle of Glenlivet Battlefield, an Inventory Battlefield, is within 10 km of the Site (Appendix A: Figure 3.7).

3.3.6 Effects Evaluation

In order to ensure the provision of a proportionate EIA that focuses on potentially significant effects, the cultural heritage assessment will focus on the potential for direct effects and, when assessing setting effects will concentrate the detailed assessment on heritage assets of high sensitivity in the wider landscape, the settings of which could be adversely affected by the Proposed Development.

All heritage assets with statutory and non-statutory designations that lie within the 5 km Study Area and nationally important assets that lie within 10 km of the Site and which fall within the Proposed Development's ZTV, along with any beyond 10 km that may be specifically identified by consultees (HES and ACAS), will be included in a tabulated assessment provided as an appendix to the EIAR.

The following guidance will be adhered to when undertaking the assessment:

- Chartered Institute for Archaeologists (CIfA) Code of Conduct⁴¹;
- CIfA Standard and guidance for commissioning work or providing advice on archaeology and the historic environment⁴²;
- CIfA standard and guidance for historic environment desk-based assessment⁴³;
- Historic Environment Scotland Managing Change in the Historic Environment: Setting⁴⁴; and
- Historic Environment Scotland's Environmental Impact Assessment Handbook⁴⁵.

Scope and Methodology

Study Areas have been identified above (in Section 3.3.2). The EIAR chapter will fully describe the baseline historic environment conditions and will assess the potential for direct impacts upon

⁴¹ Chartered Institute for Archaeologists (CIfA) 2014 (updated 2019) Code of Conduct. Available at: <https://www.archaeologists.net/sites/default/files/CodesofConduct.pdf>

⁴² CIfA 2014 Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS&GCommissioning_1.pdf

⁴³ CIfA 2014 Stand and guidance for historic environment desk-based assessment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS&GDBA_2.pdf

⁴⁴ Historic Environment Scotland 2016 (updated 2020). Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=80b7c0a0-584b-4625-b1fd-a60b009c2549>

⁴⁵ Historic Environment Scotland and Scottish Natural Heritage 2018 Environmental Impact Assessment Handbook v5. Available at: <https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf>

known heritage assets within the Site as well as outline the potential for hitherto unknown buried remains to survive on Site, and thus potentially be impacted upon.

The assessment will also consider the identified heritage assets in the area surrounding the Site, which could be subject to potential impacts upon setting, including the potential for cumulative impacts. The EIAR chapter will be supported by a detailed ZTV, which will be used to identify assets intervisible with the Proposed Development and/or where the Proposed Development would appear in key views to and from assets. It is envisaged that visualisations (either wireframes or photomontages) will be produced for some assets to aid in assessment of settings impacts. A series of photomontages will be created to help assess impacts on the settings of Auchindoun Castle (NGR 334941, 837419) and Tap o'Noth (NGR 348521, 839328) (See Appendix A: Figure 3.7 for proposed viewpoint locations). Any other viewpoints required will be agreed with the relevant consultees.

The setting assessment will be undertaken with reference to HES' setting guidance and will aim to establish the current setting of the identified heritage assets, how that setting contributes to the understanding, appreciation and experience of those assets and how the proposed development could impact upon this.

This assessment will establish:

- The significance of heritage assets in question;
- The sensitivity of those assets to changes to their setting;
- The magnitude of impacts; and
- The level of effect and whether that effect is considered significant in EIA terms.

Where direct adverse construction effects or operational setting effects are found, and if appropriate, the assessment will recommend mitigation proposals designed, in line with planning policy and guidance and best practice, to avoid, minimise or offset any such effects.

Cumulative Effects

The assessment of cumulative effects on heritage assets will be based upon consideration of the effects of the Proposed Development on the settings of heritages assets, in addition to the likely effects of other operational/under construction, consented and proposed (at the application and scoping stages) wind farm schemes. Cumulative effects will be considered for all designated assets as identified in the 5 km and 10 km Study Areas.

The assessment will take into account the relative scale (i.e. size and number of turbines) of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the assets. Cumulative wirelines from those assets most likely to experience significant cumulative impacts on their settings will be provided, if appropriate.

The schemes to be included in the cumulative impact assessment will be those identified through the proposed consultations with Aberdeenshire Council, Moray Council and NatureScot (NS) and

will be undertaken according to the guidance in NatureScot's Assessing the Cumulative Impact of Onshore Wind Energy Developments⁴⁶ and HES's Environmental Impact Assessment Handbook⁴⁷.

Potential Significant Effects

Given the known heritage assets on Site and the potential for hitherto unknown assets, the potential for direct impacts during the construction phase will be considered. The location of known heritage assets will be taken into consideration during the iterative design process.

A visit was undertaken to the Scheduled Auchindoun Castle by AOC Archaeology Group on 30th April 2019 to gain an understanding of the asset's baseline setting. Given the proximity of this asset to the Site, it is possible that the Proposed Development could have a significant, adverse effect on its setting. Therefore, consideration will be given to this as part of the iterative design process. Subject to consultation with HES, wirelines and photomontages taken from this asset will be used to inform the assessment which will be presented in the EIAR.

The Scheduled hillfort, Tap o'Noth (List No. SM63), represents an asset type that tends to be of high sensitivity to changes to their setting; it is situated 8.8 km to the southeast of the Site. Subject to consultation with HES, wirelines and photomontages taken from this asset will support the assessment.

It is unlikely that the Proposed Development would have a significant, adverse effect on the settings of Listed Buildings within the Study Area; however, this will be considered in the EIAR.

The eastern boundary of the Battle of Glenlivet Battlefield, an Inventory Battlefield, is within 10 km of the Site (Appendix A: Figure 3.7). As with Listed Buildings, it is unlikely that the Proposed Development would have a significant, adverse effect upon the special qualities or the key landscape characteristics of the battlefield; however, this will be considered within the EIAR.

3.4 Ecology

3.4.1 Overview

This section has been prepared by Avian Ecology and provides a summary of baseline ecological information collected to date, and the proposed approach to assessment in accordance with best practice guidance.

The Ecology Chapter of the EIAR will assess the potential effects of the Proposed Development on important ecological features and will detail proposed mitigation and/or compensation measures required to avoid, minimise, restore or offset adverse effects. It will also outline proposals for ecological enhancement where appropriate, to be further detailed and agreed post consent in consultation with relevant interest parties.

Important ecological features that will be considered within the EIAR will include:

- Relevant statutory designated sites, and their cited qualifying interests, such as Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs) and National Nature Reserves (NNRs);

⁴⁶ Scottish Natural Heritage 2012 Guidance-Assessing the cumulative impact of onshore wind energy developments. Available at: <https://www.nature.scot/guidance-assessing-cumulative-impact-onshore-wind-energy-developments>

⁴⁷ Historic Environment Scotland and Scottish Natural Heritage 2018 Environmental Impact Assessment Handbook v5. Available at: <https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf>

- Internationally or nationally important habitats (e.g. habitats listed on Annex I of European Commission (EC) Habitats Directive⁴⁸), habitats of principal importance for biodiversity conservation in Scotland (Scottish Biodiversity List⁴⁹); and
- Populations of ecological species listed on Annex IV of the EC Habitats Directive or Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), or scarce, or a priority for conservation under the UK BAP and/or Scottish Biodiversity List (SBL).

Relevant Policy and Legislation

The following key pieces of legislation and policy will be referred to:

EUROPEAN

- Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (hereafter the 'Habitats Directive')⁵⁰.

NATIONAL

- The Habitat Regulations 1994 (as amended) and The Conservation of Habitats and Species Regulations 2010, as amended in Scotland (hereafter the 'Habitat Regulations')⁵¹;
- The Wildlife and Countryside Act 1981 (as amended)⁵²;
- The Wildlife and Natural Environment (Scotland) Act 2011⁵³;
- The Nature Conservation (Scotland) Act 2004⁵⁴;
- Protection of Badgers Act 1992⁵⁵;
- The National Planning Policy Framework 3 (2014)⁵⁶;
- Scottish Planning Policy (2014)⁵⁷;
- The United Kingdom Biodiversity Action Plan (UK BAP) Priority Species and Habitats (2007)⁵⁸;
- Scottish Biodiversity List (SBL) (2013)⁵⁹; and
- NatureScot (2020) General pre-application and scoping advice for onshore wind farms. Guidance. September 2020⁶⁰.

⁴⁸ Council Directive 1992/43/EEC on the conservation of natural habitats and of wild fauna and flora

⁴⁹ <https://www.nature.scot/scottish-biodiversity-list> [Accessed 28/10/2020]

⁵⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31992L0043> [Accessed 18/11/20]

⁵¹ <https://www.legislation.gov.uk/uksi/1994/2716/contents/made> [Accessed 18/11/20]

⁵² <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed 18/11/20]

⁵³ <https://www.legislation.gov.uk/asp/2011/6/contents/enacted> [Accessed 18/11/20]

⁵⁴ <https://www.legislation.gov.uk/asp/2004/6/contents> [Accessed 18/11/20]

⁵⁵ <https://www.legislation.gov.uk/ukpga/1992/51/contents> [Accessed 18/11/20]

⁵⁶ <https://www.gov.scot/publications/national-planning-framework-3/> [Accessed 18/11/20]

⁵⁷ <https://www.gov.scot/publications/scottish-planning-policy/> [Accessed 18/11/20]

⁵⁸ <https://jncc.gov.uk/our-work/uk-bap-priority-species/> [Accessed 18/11/20]

⁵⁹ <https://www.nature.scot/scottish-biodiversity-list> [Accessed 18/11/20]

⁶⁰ <https://www.nature.scot/general-pre-application-and-scoping-advice-onshore-wind-farms> [Accessed 18/11/20]

LOCAL

- The North East Scotland Biodiversity Partnership (NESBiP)⁶¹ which provides guidance for developers concerning biodiversity in the north-east region of Scotland;
- Moray Local Development Plan 2020 (adopted July 2020) and associated relevant Supplementary Guidance and supporting documents (e.g. 'Moray Forestry and Woodland Strategy' and 'Moray Onshore Wind Energy Non-Statutory Guidance')⁶²; and
- Proposed Aberdeenshire Local Development Plan 2020 (to be adopted 2021) and associated relevant supporting documents (e.g. 'Habitats Regulations Appraisal').

3.4.2 Study Area

Study areas for baseline ecological information gathering have been based upon the Site boundary and have been established in accordance with best practice guidance. Study areas adopted will be updated over the course of the EIA to account for changes in scheme design and where land access permissions allow.

The Study areas for the desk studies were a 2 km, 5 km and 10 km extent from a central grid reference within the Site, respectively for notable and protected species, non-statutory designated sites and notable habitat types, and bat records (including roosts).

3.4.3 Consultation

Prior to the commencement of baseline ecological gathering, preliminary consultation with NatureScot (formerly Scottish Natural Heritage (SNH)) was undertaken in May 2019 to detail the proposed scope for ecological surveys. In consultation, NatureScot (Operations Officer for Moray) confirmed they were satisfied with the proposed approach to baseline ecological surveys (letter dated 16th May 2019). A summary of the consultation is presented in Appendix C.

Full details of consultations undertaken over the course of the EIA will be presented within the EIAR.

3.4.4 Approach

Impact assessment presented within the EIAR for ecological features will be based on current Chartered Institute of Ecological and Environmental Management (CIEEM) guidance (2018)⁶³.

The assessment process will include the following stages:

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

⁶¹ <https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-local-species/> [Accessed 28/10/20]

⁶² http://www.moray.gov.uk/moray_standard/page_133431.html [Accessed 18/11/20]

⁶³ URL: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.1Update.pdf> [Accessed 28/10/2020]

The EIAR will be supported by Technical Appendices and relevant figures, which will provide full details of desk studies, consultations and field surveys undertaken to inform the design and assessment of the Proposed Development.

Ecological data considered sensitive (e.g. that pertaining to the breeding and/or resting places of protected species) will be included within a confidential appendix to the EIAR. This will not be made publicly available but will be issued to NatureScot and Energy Consents Unit (ECU).

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

Determining Importance

The EIAR will only assess in detail impacts upon important ecological features which are likely to be significantly affected by the Proposed Development. A detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts of the Proposed Development will not be undertaken and justification for "scoping out" will be provided.

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

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

The importance of ecological features will be defined in a geographical context from "Local" to "International".

Identification and Characterisation of Impacts

The identification and characterisation of impacts on important ecological features will be undertaken in accordance with the CIEEM guidelines⁶³ with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility, as appropriate.

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

Significant Effects

CIEEM guidelines⁶³ define a 'significant effect' as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general (i.e. the feature could be positively or negatively significantly affected).

CIEEM guidelines⁶³ on ecological impact assessment note that, "*A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures as long as the mitigation hierarchy has been applied effectively as part of the decision-making process.*"

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

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

Cumulative Impacts

The potential for cumulative effects on ecological features with other wind farm proposals will be assessed in accordance with NatureScot's guidance (SNH, 2012)⁶⁴ but will be restricted to those developments located within the same hydrological catchment(s) or within the regular range of mobile species (e.g. bats).

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

The inclusion of additional non-wind farm proposals will also be adopted upon request from NatureScot.

Habitat Regulations Appraisal

The Site is located 0.05 km southeast of the River Spey SAC, which has otter *Lutra lutra* as a qualifying feature, Atlantic salmon *Salmo salar*, sea lamprey *Petromyzon marinus* and freshwater pearl mussel (FWPM) *Margaritifera margaritifera*. Given the proximity of the SAC to the Site, the EIAR will provide sufficient information to allow the competent authority to undertake a Habitats Regulations Appraisal of the Proposed Development in relation to the River Spey SAC.

The Site is considered sufficiently isolated from other designated sites, so effects on other designated sites can be discounted (refer to Appendix A: Figure 3.8 for more details).

Avoidance and Mitigation

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

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

- Land-take: The Proposed Development's infrastructure will be designed to minimise the requirement for land-take and the number of watercourse crossings and woodland felling;
- Watercourse crossings: New watercourse crossings, where required, will be designed in accordance with best practice and enable the free passage of fish and other wildlife;
- Watercourse Buffers: A minimum 50 m buffer between the Proposed Development's infrastructure will be applied around all watercourses in so far as possible having regard to other ecological and non-ecological constraints;

⁶⁴ SNH (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments. Inverness

- Construction Environmental Management Plan (CEMP): A CEMP (or similar) will be in place during the construction, operational and decommissioning phases of the development. The CEMP will include all good practice construction measures, pollution prevention controls and monitoring to be implemented over the course of the development in line with current guidance; and
- Bat Habitat Features: A minimum 50 m buffer (from blade tip) will be applied to watercourses and woodland in so far as is possible.

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

Residual Effects

An assessment to determine the significance of residual ecological effects (those remaining after mitigation measures) will be undertaken.

Compensation

Where significant residual effects still remain compensation will be provided. This could include replacement habitat, or habitat improvements which would offset potentially significant residual effects.

Enhancement

Suitable principles for ecological enhancement to be delivered as part of the Proposed Development will be outlined within the EIAR. The appropriateness and feasibility of principles will be discussed with NatureScot and other relevant consultees over the course of the EIA, with a view to prescriptive enhancement measures being detailed post-consent, within a Habitat Management Plan (HMP). An Outline HMP would be presented in the EIAR.

3.4.5 Baseline Conditions

Baseline ecological conditions to inform the design and assessment of the impacts of the Proposed Development will be established through desk study and field surveys. Full details will be presented within the EIA Report.

A brief summary of findings from desk studies and field surveys completed to date is provided below.

Initial Desk Study

An initial desk study was undertaken in 2019 to inform the proposed approach to baseline information gathering, including the scope for baseline ecological surveys.

The following key sources, applicable at the time, were consulted:

- Sitelink⁶⁵;
- Aerial imagery⁶⁶;

⁶⁵ <https://sitelink.nature.scot/home> [Accessed 18/11/20]

⁶⁶ <https://www.google.com/maps/@53.3303773,-2.632702,12z> [Accessed 18/11/20]

- NatureScot guidance 'General pre-application/scoping advice to developers of onshore wind farms' (NatureScot, 2020⁶⁷);
- Good practice NatureScot guidance on protected species with relation to developments (SNH, 2019⁶⁸); and
- North East Scotland Biological Records Centre (NESBReC) for records of protected and notable species within 2 km (extended to 10 km for bat roosts), and non-statutory sites and notable habitat types within 5 km, of the Site⁶⁹.

In addition, the ecological field team, with considerable experience in the survey of comparable sites in Moray and Aberdeenshire and across Scotland, were also able to advise on the known presence or potential presence of sensitive ecological interests within the Site and wider surrounding area.

Statutory Designated Sites for Nature Conservation

Statutory (international and national) designated sites located within 10 km of the Site are shown in Figure 3.8 and summarised in Table 3.4.

Table 3.4: Statutory Designated Sites for Nature Conservation within 10 km		
Site Name	Approximate distance from the Site (km)	Qualifying Interests
River Spey SAC	0.05 km northwest	<ul style="list-style-type: none"> • Otter <i>Lutra lutra</i>; • Freshwater pearl mussel (FWPM) <i>Margaritifera margaritifera</i>; • Sea lamprey <i>Petromyzon marinus</i>; and • Atlantic salmon <i>Salmo salar</i>.
Craigs of Succoth SSSI	2.44 km east	Upland habitats: <ul style="list-style-type: none"> • Calaminarian grassland and serpentine heath; and • Subalpine flushes.
Hill of Towanreef SAC	5.7 km southeast	Multiple interests, including: <ul style="list-style-type: none"> • Dry heaths; • Blanket bog; and • Alpine and subalpine heaths.
Hill of Towanreef SSSI	5.7 km southeast	Multiple interests, including: <ul style="list-style-type: none"> • Upland plant assemblage; and • Calaminarian grassland and serpentine heath.
Den of Pitlurg SSSI	8.78 km northeast	<ul style="list-style-type: none"> • Upland birch woodland; and • Valley fen.

Non-Statutory Designated Sites for Nature Conservation

The only non-statutory site recorded in the search area is the Aberdeenshire Local Nature Conservation Site, Craigs of Succoth, 2.44 km east of the Site (with ecological interests as summarised in Table 3.4 for the Craigs of Succoth SSSI).

⁶⁷ Available at: <https://www.nature.scot/general-pre-application-and-scoping-advice-onshore-wind-farms> [Accessed 28/10/2020]

⁶⁸ NatureScot Advice, Planning and Development: Protected Animals, available at: <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species> [Accessed 28/10/2020]

⁶⁹ <http://www.nesbrec.org.uk/> [Accessed 18/11/20]

Wildcat Priority Area

The Strathbogie Wildcat Priority Area covers the northern part of the Site. Scottish Wildcat Action were consulted in November 2020 on the records, and range, of wildcat in the area including the Site. A summary of the consultation is provided in Appendix C.

Field Surveys

The scope of ecological field surveys has been determined through a review of Key Sources listed above. The following surveys have therefore been completed to establish baseline ecological conditions and potentially important ecological features within the Site and surrounding area, which may be impacted by the Proposed Development:

- Phase 1 Habitat Survey (June 2020);
- National Vegetation Classification (NVC) Survey (August 2020);
- Ground-level Static Bat Activity Surveys (May – September 2020);
- Terrestrial Mammal Walkovers (June and early October 2020)⁷⁰; and
- Fish Habitat Survey (including FWPM Habitat Survey) (August 2020).

Habitats and Vegetation

Survey to establish baseline terrestrial habitat conditions at the Site and identify vegetation communities of notable importance including potential habitat listed on Annex 1 of the 'Habitats Directive' and as UKBAP Priority Habitats, were undertaken in June and August 2020, with reference to the following guidance documents:

- Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D. and Yeo, M. (2004). An Illustrated Guide to British Upland Vegetation. JNCC, Peterborough;
- JNCC (2010). Handbook for Phase 1 Habitat Survey - a technique for environmental audit. Revised Reprint 2016. JNCC, Peterborough;
- Rodwell, J. S. (2006). National Vegetation Community Users' Handbook. JNCC, Peterborough;
- Rodwell, J. S. (ed.) (1992). British Plant Communities. Volume 3. Grasslands and montane communities. Cambridge University Press, Cambridge;
- Rodwell, J. S. (ed.) (1993). British Plant Communities. Volume 2. Mires and Heaths. Cambridge University Press, Cambridge; and
- Scotland and Northern Ireland Forum for Environmental Research (SNIFFER, 2009) WFD95: A Functional Wetland Typology for Scotland – Field Survey Manual. Version 1.

In summary, much of the Site is dominated by semi-mature coniferous plantation woodland (A1.2.2), with some underlying marshy grassland (B5) and wet heath (D2). Open areas of blanket bog (E1.6.1) and dry modified bog (E1.8) are located in the south-western of the Site and around the slopes of Craig Watch. A mosaic of wet (D2 and D6) and dry heath (D1), acid (B1.1 and B1.2), improved (B4) and marshy grassland (B5) is located along the south-western and south-eastern corners of the Site.

Coniferous plantation was not subject to NVC survey. Where habitats were deemed to potentially support Annex I or Groundwater Dependent Terrestrial Ecosystems (GWDTE) habitats, they were subject to further NVC survey. The following NVC communities were identified on the Site:

- European dry heath H10 H12 H18;

⁷⁰ Including a preliminary ground-level assessment of structures, trees and buildings (within ~200m of the turbine locations) for suitability to support roosting bats.

- Alpine heath H13;
- Active raised bogs and blanket bog M17 M19 M20;
- North Atlantic wet heaths with *Erica tetralix* M15;
- Valley mire M23;
- Mesotrophic grassland MG6 MG9;
- Swamp S4;
- Tall-herb OV25 U16; and
- Acid grassland U4 U5 U6.

Full details of baseline habitats and vegetation conditions will be presented within the EIAR.

Where required, terrestrial habitat and vegetation surveys will be updated prior to assessment in response to changes in scheme design. This will seek to ensure compliance with current NatureScot guidance (NatureScot, 2020) and provision of sufficient information in accordance with Scottish Environment Protection Agency (SEPA) guidance⁷¹, with regards the identification of GWDTE for subsequent hydrological assessment.

Terrestrial Mammals (including bats)

Terrestrial mammal and bat surveys referred to the following guidance documents:

- Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London;
- NatureScot guidance on 'Bats and Onshore Wind Turbines: Survey Assessment and Mitigation' (SNH, 2019⁷²);
- NatureScot (2020) Standing Advice for Planning Consultations - Protected Species: Badger⁷³;
- NatureScot (2020) Standing Advice for Planning Consultations - Protected Species: Otter⁷⁴;
- NatureScot (2020) Standing Advice for Planning Consultations - Protected Species: Pine marten⁷⁵;
- NatureScot (2020) Standing Advice for Planning Consultations - Protected Species: Water vole⁷⁶; and
- NatureScot (2020) Standing Advice for Planning Consultations - Protected Species: Wildcat⁷⁷.

Bat activity surveys to establish the bat species assemblage and the spatial and temporal distribution of activity on the Site were undertaken in 2020, with reference to current NatureScot guidance (SNH, 2019⁷⁸).

A preliminary ground-level assessment of suitable structures, buildings and trees within 200 m plus blade tip (approximately 300 m) of proposed turbine locations for potential to support roosting bats has also been undertaken in accordance with NatureScot guidance (SNH, 2019⁷⁸).

⁷¹ <https://www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf> [Accessed 18/11/20]

⁷² SNH (2019) Bats and onshore wind turbines: survey, assessment and mitigation. Version: January 2019

⁷³ <https://www.nature.scot/sites/default/files/2020-06/Species%20Planning%20Advice%20-%20badger.pdf> [Accessed 29/10/2020]

⁷⁴ <https://www.nature.scot/sites/default/files/2020-06/Species%20Planning%20Advice%20-%20otter.pdf> [Accessed 29/10/2020]

⁷⁵ <https://www.nature.scot/sites/default/files/2020-06/Species%20Planning%20Advice%20-%20pine%20marten.pdf> [Accessed 29/10/2020]

⁷⁶ https://www.nature.scot/sites/default/files/2020-06/Species%20Planning%20Advice%20-%20water%20vole_0.pdf [Accessed 29/10/2020]

⁷⁷ <https://www.nature.scot/sites/default/files/2020-06/Species%20Planning%20Advice%20-%20wildcat.pdf> Accessed [29/10/2020]

⁷⁸ SNH (2019) Bats and onshore wind turbines: survey, assessment and mitigation. Version: January 2019

This was carried out at the same time as the terrestrial mammal surveys in June and October 2020.

Bat activity surveys were completed during the spring (April-May), summer (June-mid-August) and autumn (mid-August-October) activity periods 2020, using a total of 11 automated monitoring stations located within areas of the Site where turbines were most likely to be located. Monitoring stations were positioned at preliminary turbine locations, where known at the time of survey commencement, with the remainder stratified across the Site based on the availability and variation of bat habitat features. This included open habitat areas outwith the dominant woodland habitats of the Site, to provide an indication of how bats may adapt to and use new habitat features created as a result of the Proposed Development (e.g. through felling or key-holing where required), in accordance with current NatureScot guidance (SNH, 2019⁷⁸).

In summary, surveys undertaken during the 2020 spring and summer activity periods has recorded activity characteristic of a narrow range of species:

- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Brown long-eared bat *Plecotus auritus*;
- *Myotis* spp; and
- *Nyctalus* spp.

Note, that autumn bat survey results are currently undergoing analysis.

Full details of baseline survey effort and bat activity levels including Ecobat analysis, will be presented within the EIAR.

Results of the preliminary ground-level assessments of suitable structures, buildings and trees for their potential to support roosting bats within 200 m of turbines (plus blade tip), will also be presented within the EIAR, based on the final scheme layout.

The survey area for the terrestrial mammal surveys was the Site, and surveys were undertaken in accordance with reference to current NatureScot guidance (2020⁶⁰) and good practice industry standard survey methodologies.

Terrestrial mammal walkover surveys conducted in 2020 recorded evidence of water vole *Arvicola amphibius* along watercourses within the Site.

Pine marten *Martes martes* scats were recorded within the plantation woodland within the Site and on-site habitats provide foraging and den building opportunities.

No evidence of otter was observed during survey; however, watercourses may offer a foraging and commuting resource as part of a wider territory.

No evidence of badger *Meles meles* was observed during the survey, but habitats within the Site are considered potentially suitable for badger for foraging and for the establishment of a sett (plantation woodland).

During surveys in October 2020, a cat, which was identified as a potential wildcat *Felis silvestris*/wildcat hybrid was observed in open habitat adjacent to the Site. Consultation with the Scottish Wildcat Action (SWA) is currently underway with regards the species' known presence within the Site and surrounding area and any requirement for further survey to inform the design and assessment of the Proposed Development.

Where required, terrestrial mammal walkover surveys will be updated prior to assessment in response to changes in scheme design. This will seek to ensure compliance with current

NatureScot guidance (NatureScot, 2020⁶⁰) and the requirement for mitigation measures to avoid or reduce potentially adverse impacts upon protected terrestrial mammal species and ensure legislative compliance during the construction of the Proposed Development, including the provision of any Species Protection Plans (SPPs).

Fish Habitat and Freshwater Pearl Mussel Habitat Surveys

A fish habitat assessment of watercourses within the Site was undertaken in August following industry standard guidance (SFCC, 2007⁷⁹), extended to include the suitability of habitats for FWPM in accordance with NatureScot guidance (NatureScot, 2020⁶⁰).

In summary, watercourses within the Site have been assessed as providing low habitat quality for fish species, with no likely spawning habitat for salmonids or spawning and nursery habitat for lamprey. Stretches of watercourses that were considered potentially suitable for fish are limited to providing habitat for juvenile fish.

No watercourses within the Site were assessed as providing suitable habitat for FWPM.

Additional Field Surveys

In accordance with NatureScot guidance (2020⁶⁰) there are some species groups which, providing the implementation of suitable mitigation measures, are unlikely to be subject to significant effects as a result of wind farm developments. As such, they do not require surveys to inform an EIA. This includes invertebrates, reptiles and amphibians.

Surveys for amphibians and reptiles are therefore not proposed. The presence of great crested newt *Triturus cristatus* is considered unlikely and only common reptiles and amphibians are likely to be present. Likely significant effects will not occur with the adoption of standard construction mitigation embedded into the design of the Proposed Development.

Detailed surveys for red squirrel *Sciurus vulgaris* are also not proposed given the large extent of woodland within the Site. Desk study records (from 1998) confirm a red squirrel sighting in the south-east of the Site. It is considered that the incorporation of standard embedded mitigation measures and pre-construction surveys can ensure that red squirrels (if present) are not negatively impacted by the Proposed Development.

3.4.6 Effects Evaluation

The EIAR will consider the potential for significant adverse effects upon important ecological features, which could arise during the construction, operational and decommissioning phases of the Proposed Development.

The assessment process will be informed on the basis of baseline ecological information obtained through desk study and field surveys and through consultation with relevant specialist groups, as required.

Potential impacts upon deer, with reference to current NatureScot guidance (SNH, 2016⁸⁰), will be considered as part of the EIAR.

⁷⁹ Scottish Fisheries Co-ordination Centre (2007) Habitat surveys – Training Course Manual. Revised August 2007

⁸⁰ SNH (2016) Planning for development: what to consider and include in deer assessments and management at development sites. Guidance. Version 2. March 2016

Potential impacts upon GWDTEs, hydrology, peat and forestry will be addressed separately as discussed within Section 3.6 (GWDTEs, hydrology and peat) and Section 3.11 (forestry) of this report.

Construction

During construction of the Proposed Development, in the absence of mitigation, potentially significant adverse effects upon important ecological features to be assessed within the EIAR may arise from:

- habitat loss, fragmentation or change as a result of the delivery and installation of development infrastructure; and
- disturbance, inadvertent killing or injuring of protected or otherwise notable species or inadvertent damage to their breeding sites or resting places.

The potential for indirect impacts upon ecological features as a result of the potential spillage and/or mitigation of pollutants and sediments during the construction phase will be considered, however potentially significant effects will be highly unlikely on the basis of embedded mitigation measures.

There is the potential for new watercourse crossings to be required, which would pass over some of the on-site watercourses. Direct and indirect effects arising from construction works could include pollution or nutrient enrichment or hydrological disruption. Effects would be minimised through the detailed design of any watercourse crossing and the implementation of CEMP and/or Pollution Prevention Plan (PPP).

The River Spey SAC is located 0.05 km northwest of the Site. No direct effects on the SAC are predicted; however, indirect effects may occur and will be assessed in the EIAR. The SAC has otter (a highly mobile species) as a qualifying feature so an assessment of potential effects on otter (and therefore the SAC) will be required in addition to fish and FWPM features. Effects could potentially include pollution or nutrient enrichment or hydrological disruption, arising from construction works. Effects would be minimised through the implementation of CEMP.

There are no anticipated direct impacts on any other designated site for nature conservation.

Operation

During operation of the Proposed Development, in the absence of mitigation, impacts upon ecological features to be addressed within the EIAR may arise from:

- disturbance to protected or otherwise notable species as a result of operational activities such as vehicular traffic and maintenance works;
- habitat loss or change, inadvertent killing or injuring of protected or otherwise notable species resulting from the potential spillage of pollutants; and
- interaction of bats with operational turbine blades leading to mortality due to collision or barotrauma.

Decommissioning

Potential impacts associated with the decommissioning phase are likely to be similar to those identified for the construction phase and will not be discussed exclusively within the EIAR.

3.4.7 Issues Scoped Out of the Assessment

The above scope is based on the requirement for the EIA to consider likely significant effects of the Proposed Development. Effects that are not likely to be significant do not require assessing under the EIA regulations. CIEEM (2018⁶³) guidance further allows features to be scoped out if they are not considered as 'important'.

On review of desk study and field survey information gathered to date, the following ecological features can be scoped out of detailed assessment:

- Based on the distances from the Site, and the features for which they are designated, there is considered to be no connectivity and therefore no likely significant effects between the Site and statutory designated sites (with the exception of the River Spey SAC) with ecological qualifying features listed in Table 3.4.
- Effects on habitats and species (excluding bats) during operation can also be scoped out. No further damage is anticipated to habitats during operation, and maintenance visits will be rare and unlikely to result in disturbance to protected species.
- FWPM is scoped out as the watercourses on-site are not suitable and the species is considered to be absent. As such, FWPM will not be considered in detail within the EIAR but will be considered in relation to the Habitats Regulations Appraisal process.

3.5 Ornithology

3.5.1 Overview

This section has been prepared by Avian Ecology and provides a summary of baseline ornithological information collected to date, and the proposed approach to inform the EIA of the Proposed Development. An overview of potential impacts to be addressed within the EIAR is also provided.

The receptors that will be the focus of the ornithological assessment will include:

- relevant statutory designated sites, and their cited qualifying interests, such as Sites of Special Scientific Interest (SSSIs) and Special Protection Areas (SPAs); and
- populations of avian species listed on Annex IV of the EC Habitats Directive, or Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), or scarce, or a priority for conservation under the UK BAP.

Relevant Policy and Legislation

The following key pieces of legislation and policy will be referred to:

EUROPEAN

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)⁸¹; and
- Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (codified version of Directive 79/409/EEC as amended) (Birds Directive)⁸².

⁶¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31992L0043> [Accessed 18/11/20]

⁶² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147> [Accessed 18/11/20]

NATIONAL

- The Habitat Regulations 1994 (as amended) and The Conservation of Habitats and Species Regulations 2010, as amended in Scotland (hereafter referred to as the 'Habitat Regulations')⁸³;
- The Wildlife and Countryside Act 1981 (as amended)⁸⁴;
- The Wildlife and Natural Environment (Scotland) Act 2011⁸⁵;
- The Nature Conservation (Scotland) Act 2004⁸⁶;
- The National Planning Policy Framework 3 (2014)⁸⁷;
- Scottish Planning Policy (2014)⁸⁸;
- The United Kingdom Biodiversity Action Plan (UK BAP) Priority Species and Habitats (2007)⁸⁹; and
- Scottish Biodiversity List (SBL) (2013)⁹⁰.

LOCAL

- The North East Scotland Biodiversity Partnership (NESBiP)⁹¹ which provides guidance for developers concerning biodiversity in the north-east region of Scotland;
- Proposed Aberdeenshire Local Development Plan 2020 (to be adopted 2021) and associated relevant supporting documents (e.g. 'Habitats Regulations Appraisal'); and
- Moray Local Development Plan 2020 (adopted July 2020) and associated relevant Supplementary Guidance and supporting documents ('Moray Onshore Wind Energy Non-Statutory Guidance').

3.5.2 Study Area

Study areas for baseline information gathering were based upon the Site boundary, extended to record flight activity, nest, roost and display sites for target species in accordance with NatureScot guidance (SNH, 2018⁹²). Study areas adopted will be updated over the course of the EIA to account for any changes in scheme design.

The Study areas for the desk studies were out to 10 km from a central grid reference within the Site for eagle records, and typically out to 6 km from the central grid reference for other notable and protected ornithological species).

⁸³ <https://www.legislation.gov.uk/uksi/1994/2716/contents/made> [Accessed 18/11/20]

⁸⁴ <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed 18/11/20]

⁸⁵ <https://www.legislation.gov.uk/asp/2011/6/contents/enacted> [Accessed 18/11/20]

⁸⁶ <https://www.legislation.gov.uk/asp/2004/6/contents> [Accessed 18/11/20]

⁸⁷ <https://www.gov.scot/publications/national-planning-framework-3/> [Accessed 18/11/20]

⁸⁸ <https://www.gov.scot/publications/scottish-planning-policy/> [Accessed 18/11/20]

⁸⁹ <https://jncc.gov.uk/our-work/uk-bap-priority-species/> [Accessed 18/11/20]

⁹⁰ <https://www.nature.scot/scottish-biodiversity-list> [Accessed 18/11/20]

⁹¹ <https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-local-species/> [Accessed 28/10/20]

⁹² Assessing significance of impacts from onshore wind farms outwith designated areas. Guidance. Version 2 –February 2018

3.5.3 Consultation

Prior to scoping, preliminary consultation with NatureScot was undertaken in May 2019 (formerly SNH) to discuss the scope for ornithology surveys. A summary of the consultation is presented below and included in Appendix C.

NatureScot (Operations Officer for Moray) confirmed approval with the proposed ornithology survey scope in an email dated 16th May 2019 and confirmed that the main ornithological consideration for the Proposed Development would be the common gull *Larus canus* colony on the Tips of Corsemaul and Tom Mor Special Protection Area (SPA), illustrated in Appendix A: Figure 3.9a.

NatureScot was consulted again in August 2019 to inform them of an enforced change to the location of one of the Vantage Points (VP) used for the VP Flight Activity Surveys due to access restrictions. NatureScot, in an email dated 27th August 2019, acknowledged the amendment and stated that there was no fundamental issue, as long as the amendment is acknowledged within the EIAR, which will be done.

NatureScot was further consulted in April 2020 as to whether further ornithological surveys would be required and, if so, that a reduced number of VPs could be used as the extent of the Site was reduced. NatureScot, in an email dated 4th May 2020 confirmed that a full second year of ornithology surveys would not be required and instead only a second breeding bird season of surveys should be carried out. NatureScot also acknowledged the reduction in the extent of the Site and the accordingly reduced number of VPs proposed, which covered the Site sufficiently.

3.5.4 Approach

Impact assessment presented within the EIAR will be undertaken in accordance with NatureScot guidance (SNH, 2018)⁹³ and based on CIEEM guidance (2018)⁹⁴.

The assessment process will include the following stages:

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

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

The EIAR will provide a detailed description of the existing baseline ornithological features of the study area, along with the assessment of the potential impacts of the Proposed Development on the identified important ornithological features.

⁹³ SNH (2018). Assessing Significance of Impacts from Onshore Wind Farms outwith Designated Sites. SNH, Inverness

⁹⁴ <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.1.pdf> Accessed [29/10/2020]

Determining Importance

The EIAR will only assess in detail impacts upon important ornithological features which are likely to be significantly affected by the Proposed Development. A detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts will not be undertaken and justification for “scoping out” will be provided.

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

Important ornithological features will broadly include:

- species listed on Annex 1 of the Birds Directive;
- species listed on Schedule 1 of the Wildlife and Countryside Act; and
- ‘Priority bird species for assessment when considering the development of onshore wind farms in Scotland’ as listed on Annex 1 of NatureScot guidance (SNH, 2018⁹³).

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

The importance of ornithological features will be defined in a geographical context from “Local” to “International”.

Identification and Characterisation of Impacts

The identification and characterisation of impacts on important ornithological features will be undertaken in accordance with the CIEEM guidelines⁶³ with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility, as appropriate.

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

Significant Effects

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

The assessments of effects will be undertaken taking into consideration collated field survey information and information available from the desk study. Bird flight activity data will be collated and analysed to assess the potential risk to individual species of conservation concern from collision mortality, following the method described by Band *et al.* (2007⁹⁵).

⁹⁵ Band, W., M. Madders, and D. P. Whitfield. 2007. Developing field and analytical methods to assess avian collision risk at wind farms. Pages 259–275 in M. de Lucas, G. F. E. Janss, and M. Ferrer, editors. *Birds and wind farms: risk assessment and mitigation*. Quercus, Madrid, Spain

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

Cumulative Impacts

Cumulative impacts will be assessed with reference to NatureScot guidance (SNH, 2012⁹⁶ and 2018b⁹⁷) for all ornithological features subject to a detailed assessment. The potential for significant cumulative effects due to habitat loss, disturbance/displacement and collision risk mortality will be assessed. The assessment will be based on the consideration of residual effects i.e. assuming that proposed mitigation and compensation measures (where relevant) are implemented.

The cumulative assessment will include consideration of:

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

With regard to the spatial extent of the cumulative assessment, NatureScot guidance (SNH, 2012⁹⁶ and 2018b⁹⁸) stipulates that cumulative effects should typically be assessed at the relevant Regional Natural Heritage Zone (NHZ) scale, unless there is a reasonable alternative. The Proposed Development is located within the North East Coastal Plain NHZ (Wilson *et al.*, 2015⁹⁹). It is therefore proposed that where the availability of relevant information is sufficient enough to allow for a meaningful cumulative assessment at the North East Coastal Plain NHZ scale to be undertaken, this will be done.

NatureScot guidance (SNH, 2012⁹⁶) does however recognise that access to relevant data for other developments may be limited and therefore a meaningful assessment of cumulative effects of such developments is not always possible. As such, an alternative approach is primarily proposed, whereby the core foraging range for each species requiring consideration will be used to determine the spatial extent of the cumulative assessment, adopting a precautionary approach as necessary.

Core foraging ranges will be primarily taken from NatureScot guidance on 'Assessing Connectivity with Special Protection Areas (SPAs)' (SNH, 2016¹⁰⁰).

Habitat Regulations Appraisal

The Site is located 1.28 km from the Tips of Corsemaul and Tom Mor SPA, which has breeding common gull as its sole qualifying feature (Appendix 1: Figure 3.9a). The EIAR will therefore provide sufficient information to allow the competent authority to undertake a Habitats

⁹⁶ SNH (2012) Assessing the cumulative impacts of onshore wind energy developments. Guidance. March 2012

⁹⁷ SNH (2018) Assessing the cumulative impacts of onshore wind farms on birds. Guidance. August 2018

⁹⁸ SNH (2018b) Assessing the cumulative impacts of onshore wind farms on birds. Guidance. August 2018

⁹⁹ Wilson, M. W., Austin, G. E., Gillings, S. and Wernham, C. V. (2015). Natural Heritage Zone Bird Population Estimates. SWBSG Commissioned report number SWBSG_1504pp 72

¹⁰⁰ SNH (2016) Assessing connectivity with Special Protection Areas (SPAs). Guidance. Version 3 – June 2016

Regulations Appraisal of the Proposed Development in relation to the Tips of Corsemaul and Tom Mor SPA (and SSSI).

The Site is not located within the core foraging range for the qualifying interests of any other SPA (as per SNH guidance, 2016⁸⁰) and as such, the potential for connectivity between the Site and any other such designation has been discounted.

Avoidance and Mitigation

The adoption of embedded mitigation measures to avoid or minimise adverse impacts upon ornithological features resulting from the Proposed Development will be part of the iterative design process of the Proposed Development.

Full details of the scheme design evolution and embedded mitigation measures in relation to ornithology will be detailed within the EIAR. This will include the specification of any species' specific working buffers as a necessary requirement for the production of a breeding bird protection plan to ensure legislative compliance with current good practice guidance, following the completion of baseline studies outlined.

Residual Effects

An assessment to determine the significance of residual ornithological effects (those remaining after mitigation measures) will be undertaken.

Compensation

Where significant residual effects still remain, compensation will be provided. This could include replacement habitat, or habitat improvements which would offset the significant residual effects.

Enhancement

Suitable principles for biodiversity enhancement to be delivered as part of the Proposed Development will be outlined within the EIAR. The appropriateness and feasibility of principles will be confirmed with NatureScot and relevant consultees over the course of the EIA, with a view to prescriptive enhancement measures being detailed post-consent within a Habitat Management Plan (HMP). An Outline HMP will be presented in the EIAR.

Presentation of Sensitive Information

Information pertaining to the locations of sensitive breeding species will be included in a confidential appendix to the EIAR which will not be made publicly available but will be issued to NatureScot and ECU.

3.5.5 Baseline Conditions

Baseline ornithological conditions to inform the design and assessment of the impacts of the Proposed Development, will be established through desk study and field surveys. Full details of the surveys will be presented within the EIAR. A brief summary of key findings to date is provided in the following paragraphs.

Initial Desk Study

An initial desk study was undertaken in 2019 to inform the proposed approach to baseline information gathering, including the scope and requirement for baseline ornithological surveys.

The following key sources have been consulted:

- Sitelink¹⁰¹;
- Aerial imagery¹⁰²;
- NatureScot general pre-application/scoping advice to developers of onshore wind farms applicable at the time (NatureScot, 2020¹⁰³);
- NatureScot guidance (SNH, 2017) on bird survey methods at onshore wind farms¹⁰⁴;
- NatureScot guidance (SNH, 2018) assessing significance of impacts from onshore wind farms outwith designated areas⁹³;
- An information request to the North East of Scotland Raptor Study Group (NESRSG);
- An information request to the Royal Society for the Protection of Birds (RSPB); and
- An information request to the North East Scotland Biological Records Centre (NESBReC).

In addition, the ornithological field team, with considerable experience in the survey of comparable sites in Moray and Aberdeenshire and across Scotland, were also able to advise on the known presence or potential presence for sensitive ornithological interests within the Site and wider surrounding area.

Statutory Designated Sites for Nature Conservation

International statutory designated sites located within 10 km of the Site (extended to 20 km for any internationally designated sites with migratory waterfowl interests) are shown in Figure 3.9a (Appendix A) and summarised in Table 3.5.

Table 3.5: Statutory Designated Sites for Nature Conservation within 10 km of the Proposed Development		
Site Name	Approximate distance from the Site (km)	Qualifying Interests
Tips of Corsemaul and Tom Mor SPA and SSSI	1.28 km north	Breeding common gull.

Non-statutory Designated Sites for Nature Conservation

There are no non-statutory sites with ornithological qualifying interests within the study area.

Field Surveys

In accordance with NatureScot guidance (SNH, 2017¹⁰⁵) two years of ornithological surveys are required, unless it can be demonstrated that a reduced survey effort is appropriate.

Given the main ornithological sensitivity of the Site (breeding common gull) and following agreement with NatureScot, the following scope of field surveys were undertaken:

- Vantage Point (VP) Flight Activity Surveys:
 - Comprising four VPs between March 2019 and February 2020; and
 - Comprising two VPs between March 2020 and August 2020.

¹⁰¹ <https://sitelink.nature.scot/home>

¹⁰² <https://www.google.com/maps/@53.3303773,-2.632702,12z> [Accessed 18/11/20]

¹⁰³ Available at: <https://www.nature.scot/general-pre-application-and-scoping-advice-onshore-wind-farms> [Accessed 28/10/2020]

¹⁰⁴ SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. March 2017, Version 2

¹⁰⁵ SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. March 2017, Version 2

- Moorland Breeding Bird Survey (MBBS) comprising four visits covering the Site extent plus a 500 m buffer:
 - April to July 2019; and
 - April to July 2020.
- Annex 1 Breeding Raptor and Owl Searches comprising five visits covering the Site extent plus a 2 km buffer (extended to 6 km in 2020):
 - April to July 2019; and
 - March to July 2020.
- Breeding Black Grouse Survey in suitable habitats within 1.5 km of the Site:
 - March and April 2019; and
 - March and April 2020.

Target Species

In review of existing ornithological information, the key ornithological sensitivities identified for this Site, are considered to comprise the following target species, in accordance with NatureScot guidance (SNH, 2017¹⁰⁵ and 2018⁹³):

- Common gull;
- Golden eagle *Aquila chrysaetos*;
- Peregrine falcon *Falco peregrinus*;
- Merlin *Falco columbarius*;
- Hen harrier *Circus cyaneus*;
- Osprey *Pandion haliaetus*;
- Goshawk *Accipiter gentilis*;
- Short-eared owl *Asio flammeus*;
- All divers;
- Black grouse *Tetrao tertix*;
- Breeding Schedule 1 and Annex 1 waders; and
- All waders and waterfowl (excl. feral species).

Secondary species are considered to comprise all non-Schedule 1 and non-Annex 1 raptors (buzzard *Buteo buteo*, kestrel *Falco tinnunculus* and sparrowhawk *Accipiter nisus*), all gulls (with exception of common gull) and any notable passerines e.g. Red-listed Birds of Conservation Concern (Eaton *et al.*, 2015¹⁰⁶), and those listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

VP Flight Activity Surveys

Four VPs were used in year 1, between March 2019 and February 2020 (48 hours breeding season, 36 hours non-breeding season, per VP). At the end of the breeding season (August 2019), access restrictions to VP2 meant an enforced change of location to VP2A for the September 2019 to February 2020 non-breeding season surveys. The VP2 and VP2A viewsheds were comparable, and details of the enforced amendment along with the VP viewsheds were provided to NatureScot during consultation in August 2019, where NatureScot confirmed that it was satisfied with the approach.

Figure 3.9b (Appendix A) presents a plan showing all VP locations used in year 1 and year 2.

¹⁰⁶ Eaton, M. *et al.* (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746

VP locations used in year 1 were:

- VP1: NJ 38321 32944;
- VP2: NJ 40410 35332 (Mar-19 to Aug-19) / VP2A: NJ 38653 35407 (Sept-19 to Feb-20);
- VP3: NJ 36952 34438; and
- VP4: NJ 38923 36054.

Two VPs were used in year 2, between March 2020 and August 2020 (48 hours breeding season per VP), to account for the reduced extent of the Site. Details into the reduction in the number of VPs used (and the location and viewsheds from the two VP locations) were provided to NatureScot during consultation in April 2020, where it was confirmed that NatureScot was satisfied with the approach.

VP locations used in year 2 (Mar-Aug 2020) were:

- VP1: NJ 38411 33134; and
- VP2: NJ 38814 35594.

Total VP flight activity across both survey periods was highest for common gull, with relatively high activity also of curlew *Numenius arquata*, goshawk, hen harrier and golden plover *Pluvialis apricaria*.

Wading species found to be breeding within the study area were common snipe *Gallinago gallinago*, curlew, oystercatcher *Haematopus ostralegus* and lapwing *Vanellus vanellus*, with the number of breeding territories typically low (≤ 3 territories).

A suspected goshawk territory was observed, barn owl *Tyto alba* nest sites and a hen harrier nest were recorded in the study area (hen harrier nest approximately 1.5 km from the Site).

Black grouse were recorded within the study area, with up to four lek sites identified.

Collision Risk Modelling (CRM) will be undertaken on those target species with sufficient data to provide a robust assessment.

3.5.6 Effects Evaluation

Potential adverse impacts upon ornithological features to be assessed within the EIAR, which could arise during the construction, operational and decommissioning phases of the Proposed Development are summarised below.

Impacts will be assessed and informed on the basis of baseline study findings and through consultation with relevant specialist groups as required.

Important Ornithological Features

The identification of important ornithological features for detailed assessment will be undertaken on the basis of baseline study results with reference to NatureScot guidance (SNH 2017¹⁰⁵ and 2018⁹³), and will broadly include:

- species listed on Annex 1 of the Birds Directive; and
- species listed on Schedule 1 of the Wildlife and Countryside Act.

In addition, red-listed Birds of Conservation Concern (BoCC) (Eaton *et al.*, 2015¹⁰⁶), will also be identified where the conservation status of such species may be adversely affected by the Proposed Development.

Construction

During construction of the Proposed Development, in the absence of mitigation, impacts upon ornithological features to be addressed within the EIAR may arise from:

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

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

Given the proximity of the Tips of Corsemaul and Tom Mor SPA and SSSI to the Site (1.28 km), direct impacts of construction on ornithological interests of this designated site during the breeding season cannot be discounted.

The potential for direct disturbance to other designated sites is considered unlikely by virtue of spatial separation from the designations.

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

Operation

The operation of turbines and maintenance activities has the potential to cause disturbance and displacement of birds 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.

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

Where flight activity data is sufficiently recorded, Collision Risk Models (CRM) following the Band Model and in accordance with NatureScot guidance (Band *et al.*, 2007⁹⁵; SNH, 2000b¹⁰⁷) will be undertaken to quantify the likelihood of mortality for target species. This will include common gull flights. The CRM will therefore determine likely impacts upon the breeding common gull colony, which use the Tips of Corsemaul and Tom Mor SPA and SSSI.

There is unlikely to be an effect on any other ornithological interests of any designated site for nature conservation during the operation of the Proposed Development, due to the spatial segregation of other designated sites with ornithological interest from the Site.

Decommissioning

Potential impacts associated with the decommissioning phase are likely to be similar to those identified for the construction phase.

¹⁰⁷ SNH (2000b) Windfarms and birds: calculating a theoretical collision risk assuming no avoiding action. Guidance

3.5.7 Issues Scoped Out of the Assessment

The above scope is based on the requirement for EIA to consider likely significant effects of the Proposed Development. Effects that are not likely to be significant do not require assessing under the EIA regulations.

With the exception of the Tips of Corsemaul and Tom Mor SPA, based on the distances from the Site, and the features for which they are designated, there is considered to be no connectivity between the Site and any other designated site. As such, no other significant effects are envisaged.

3.6 Hydrology, Hydrogeology and Geology

3.6.1 Overview

This section has been prepared by Ramboll UK Limited and provides a summary of baseline hydrological, hydrogeological and geological information applicable to the Site, and that shall inform the EIA of the Proposed Development. An overview of potential impacts to be addressed within the EIAR and the proposed method for the evaluation of effects is also provided.

3.6.2 Study Area

The study area, in respect of potential impacts on water resources, will include the Site extent plus a 250 m buffer. Additionally, the assessment will take into account potential hydrological downstream connectivity to areas extending beyond this buffer.

The study area, in respect of potential impacts on peat and carbon rich soils, considers land within the Site.

3.6.3 Baseline Conditions

Hydrology

Most of the Site drains via the Green Burn in a southerly direction and discharges via the Burn of Findouran and the Charach Water to the River Deveron (refer to Appendix A: Figure 3.10). The north east of the Site drains to tributaries of the Chapel Burn and Tammie's Burn, which both flow from the Site in a north-easterly direction and discharge to the River Deveron. The Linn Burn is also present in the northeast of the Site and flows from the Site in a southerly direction to the River Deveron.

Land close to the central-northern boundary of the Site is in potential connection to Markie Water via the Keelholes Stripe. Markie Water flows to the River Deveron. A small area in the southeast of the Site drains to a network of land drains which feed the Burn of Succoth, flowing to the River Deveron.

According to SEPA's Online Water Classification Hub¹⁰⁸, the River Deveron at its closest point to the Site, is classified to be of "Good Overall" status under the Water Framework Directive, with overall ecological status of "Good".

Land in the northwest of the Site drains to the River Fiddich via the Burn of Allawaken (off-site and adjacent to the west of the Site). The Dry Burn, a tributary of the Burn of Allawaken flows

¹⁰⁸ SEPA Water Classification Hub. Available online at: <https://www.sepa.org.uk/data-visualisation/water-classification-hub/> [last accessed, October 2020]

across the northwest arm of the Site. River Fiddich forms part of the River Spey SAC. The River Spey SAC is designated for Habitats Directive Annex II species (discussed in more detail in Section 3.4 of this Report). No infrastructure is likely to be in the north western area of the site that drains to the River Fiddich.

According to SEPA's Online Water Classification Hub, the River Fiddich is classified to be of "Moderate Overall" status under the Water Framework Directive, with overall ecological status of "Moderate".

A review of the SEPA online Flood Risk Management Maps¹⁰⁹ show that the Site is not considered to be at risk of flooding from rivers. Very small, isolated areas of the Site are assessed to comprise a High probability of surface water flooding (there is considered to be a 1 in 10 or 10% annual probability of flooding). However, these areas are highly localised and are considered to represent a negligible flood risk at the Site.

Geology and Soils

According to the British Geological Survey's (BGS) 'Geology of Britain Viewer' website¹¹⁰ (1:625,000), the superficial deposits underlying the Site comprise an area of peat, particularly in the northern and central areas. Devensian Till (Diamicton) and alluvium and river terrace deposits (undifferentiated) underlie most of the other areas of the Site (refer to Appendix A: Figure 3.11a).

The underlying bedrock across most of the northern, central, and western parts of the Site is mapped as the Appin Group, comprising metamorphic graphitic pelite, calcareous pelite, calcsilicate rocks and psammite. This is interspersed with metamorphic rocks belonging to the Appin Group and the Argyll Group, both comprising metamorphic quartzite. To the east, the Site is underlain by the Argyll Group, comprising metamorphic psammite, semipelite and pelite, and unnamed igneous rocks comprising neoproterozoic mafic lava and mafic tuff. A small igneous intrusion is also present in this area (refer to Appendix A: Figure 3.11b).

A review of the SNH Carbon Rich Soil and Deep Peat and Peatlands Habitat Map (2016)¹¹¹, illustrated in Appendix A: Figure 3.12, confirms that areas of peat and organic material are present across parts of the Site. Most of the peat is shown as Class 3, 4 or Class 5, however, there are some areas of Class 1 peat indicated to be located in the northern and central areas of the Site ('nationally important carbon rich soils, deep peat and priority peatland habitat'). Some smaller areas of Class 2 are also indicated to be present in the central part of the Site ('nationally important carbon rich soils, deep peat and priority peatland habitat').

Water Resources

According to a previous review of the Scottish Drinking Water Quality Regulator (DWQR) online mapping¹¹², there are Private Water Supplies (PWS) in the south and west of the Site, as well as off-site to the southeast, between the Site and the River Deveron.

¹⁰⁹ SEPA Flood Risk Management Maps. Available online: <http://map.sepa.org.uk/floodmap/map.htm> (Last accessed, October 2020)

¹¹⁰ <https://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Last accessed, October 2020)

¹¹¹ https://map.environment.gov.scot/Soil_maps/ (Accessed October 2020)

¹¹² Previously available online Via DWQR: <https://dwqr.scot/private-supply/>

SEPA records of Compliance Assessment Scheme Assessment Reports¹¹³ do not suggest the presence of public water supplies located within 2 km of the Site. However, the northeast section of the Site is located within a Surface Drinking Water Protection Zone (Ref: DWPA13_119).

3.6.4 Potentially Significant Effects

Based on baseline conditions described above, it is anticipated that the following potentially significant effects could occur as a result of the Proposed Development:

- There is the potential to alter in-channel or overland flow regimes through excavations, disruption to artificial drains, exposure of bare earth or rock, alteration to forestry drains or field drains and the construction of watercourse crossings.
- There is the potential to increase erosion and transport of sediment to watercourses as a result of constructing watercourse crossings, vegetation and soil stripping, excavations and dewatering activities. Potential effects include indirect effects on aquatic ecology, fluvial morphology and PWS.
- In the event that PWS are found to be in hydrological or hydrogeological connection to the Proposed Development, there is the potential that the quality or quantity of water supply could be affected. There is the potential for water supply at groundwater or surface water abstraction locations to be impacted.
- There is the potential to impact on receiving soils, groundwater and watercourse quality through the release of contaminated water and stored chemicals used on-site during construction works. Potential effects include those on water quality and indirect effects on aquatic ecology.
- There is potential to permanently alter or disrupt shallow groundwater flow, in particular through the construction of tracks, drainage measures and turbine foundations.
- The peat erosion potential of any peat disturbed may also be exacerbated as a consequence of localised drying of the peat and resultant oxidation.
- Excavation of soil and bedrock during the construction phase of the Proposed Development could cause localised disruption and interruption to groundwater flow. Interruption of groundwater flow would potentially reduce the supply of groundwater to GWDTE thereby causing an alteration/change in the quality or quantity of and/or the physical or biological characteristics of the GWDTE. Contamination of groundwater may also cause physical or chemical contamination to the GWDTE.
- The northeast of the site lies within a Surface Drinking Water Protection Zone. There is therefore the potential that the Proposed Development could affect drinking water supplies.
- Potential for loss/disturbance to peat and carbon rich soils.

3.6.5 Issues Scoped Out of the Assessment

Based on a review of SEPA Flood Maps, it is noted that flood risk is highly unlikely to be increased as a result of the Proposed Development, either through development taking place on areas considered to be at risk of flooding or through an increase in flood risk downstream. Ramboll would therefore expect the assessment of flood risk to form part of the EIA chapter without the need for separate reporting, including conceptual description of Sustainable Drainage System (SuDS) measures to be employed at the site to ensure runoff rates from the site are not increased. However, if assets are found to be at significant flood risk, or, should the Proposed

¹¹³ SEPA, Compliance Assessment Scheme - Assessment Reports. Available online: <https://www2.sepa.org.uk/Compliance/map.aspx> [Last accessed October 2020]

Development be found to have a potential impact on flood risk in the surrounding area, a detailed Flood Risk Assessment would be prepared.

A detailed assessment of potential flow rates at proposed watercourse crossing locations would be carried out by the contractor at the detailed design stage, such that all of the watercourse crossings identified for the Proposed Development would be designed in compliance with requirements of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 as amended. The design of watercourse crossings would also take account of the future 'with climate change' baseline and (to avoid altering the flow regime) would be sized for a 1:200 year plus climate change flood event. Detailed flow rate calculations will not be carried out within the EIAR.

In the event that PWS at the Site are outwith a 250 m buffer of infrastructure and construction activity of the Proposed Development, there will be no requirement for a separate detailed risk assessment for PWS abstractions (in line with SEPA Land Use Planning System (LUPS) SEPA Guidance Notes 4 and 31¹¹⁴). If a very limited number of PWS are identified, a risk assessment of the PWS will be incorporated into the hydrology chapter of the EIAR.

According to the BGS digital map and Hydrogeological and Groundwater Vulnerability Maps of Scotland (1:625,000)¹¹⁵, the Site overlies a Low Productivity aquifer. If it is identified that potentially groundwater dependent vegetation communities (as identified by ecological surveying and classification of NVC communities) are not supported by groundwater supplies, in consultation with SEPA, Ramboll would seek to scope out this assessment from the EIAR. The EIAR will provide detailed assessment of potential effects the Proposed Development on surface water conditions supporting sensitive, non-groundwater dependent habitats.

No infrastructure is proposed in the River Fiddich catchment which drains into the River Spey SAC. Therefore, potential effects of the Proposed Development in relation to water quality are scoped out of the hydrology section of the EIAR. However, as noted under the Ecology scope of work (Section 3.4.4) the EIAR will provide sufficient information to allow the competent authority to undertake a Habitats Regulations Appraisal of the Proposed Development in relation to the River Spey SAC.

3.6.6 Additional Baseline Information Collection

Consultation with Moray and Aberdeenshire Councils will be undertaken to confirm the location of PWS located within the vicinity of the Site. Consultation with Scottish Water and Moray and Aberdeenshire Councils will be undertaken to confirm if there are public water supplies for potable water are located within 2 km of the Site.

A review of potential GWDTes (identified as a result of NVC mapping prepared by consultants carrying out ecological baseline assessments) will be completed in order to assess impacts on High or Moderate GWDTes from the Proposed Development.

A site walkover will be carried out to hydrologically characterise areas of proposed infrastructure. The site walkover will incorporate:

¹¹⁴ LUPS-GU31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems, Version 3 (September 2017); GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer (November 2017)

¹¹⁵ BGS Map Viewer. Available online: <https://www.bgs.ac.uk/geological-data/map-viewers/> [last accessed, November 2020]

- A review of locations of PWS, as identified by desktop assessment and inspection of any further potential PWS locations as noted during the walkover;
- Identification of smaller watercourses and hydrological features not identified through desktop assessment, where there is the potential for interaction with proposed infrastructure; and
- Surveying of potential watercourse crossing locations in line with SEPA Guidance¹¹⁶. This survey will provide information on crossing locations, Controlled Activities Regulations (CAR)¹¹⁷ requirements, channel dimensions and likely crossing types.

Peat probing will be undertaken in accordance with good practice guidance and relevant methodologies¹¹⁸. This will include a coarse resolution grid across the developable area of the Site, based on a 100 m grid (subject to access). The peat depth data will then be used to inform the design of the Proposed Development.

If peat is confirmed, a higher resolution peat probing survey will be undertaken, to include other proposed infrastructure such as along proposed tracks (at 50 m intervals) and at 10 m crosshairs at turbine locations. The further peat probing will ensure that all infrastructure locations have sufficient peat depth information to support relevant studies on peat instability, peat excavation and reuse, and carbon calculations.

3.6.7 Effects Evaluation

The assessment of the significance of soils and geology, hydrological and hydrogeological impacts will be undertaken by determining the sensitivity of the specific attribute and the magnitude of the impact upon the attribute. Impacts will be assessed for all phases of the Proposed Development. Following the determination of impacts, mitigation measures will be identified, and residual impacts identified.

An outline CEMP will be included as a technical appendix to the EIAR which will include mitigation measures, environmental management requirements, outline method statements and environmental monitoring requirements.

The EIAR will consist of a baseline assessment (both desk-based and from fieldwork), the development of hydrological constraints, associated guidance and mitigation and an assessment of the impacts. Distinct and separate reports shall be provided, suitable for incorporation as Technical Appendices to the EIA (as appropriate) covering:

- Watercourse crossings description¹¹⁹;
- GWDTE construction impact review¹²⁰;

¹¹⁶ SEPA best practice guidance: SEPA and Natural Scotland, 2010. Engineering in the water environment: good practice guide (Second Edition). Available online: <https://www.sepa.org.uk/regulations/water/engineering/engineering-guidance/> [Last accessed November 2020]

¹¹⁷ CAR reference: SEPA, 2019. The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), a Practical Guide, Version 8.4. Available online: <https://www.sepa.org.uk/regulations/water/> [Last accessed November 2020]

¹¹⁸ Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey. Guidance on Developments on Peatland, on-line version only, URL: <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatland-survey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf>

¹¹⁹ Assessment will be carried out in line with Scottish Government (2011, 2013, 2017) Water Environment (Controlled Activities) (Regulations) Scotland 2011 (CAR) and their further amendments of 2013 and 2017 Available at: <https://www.sepa.org.uk/regulations/water/>

¹²⁰ LUPS-GU31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems, Version 3 (September 2017)

- Peat survey results;
- Peat landslide hazard and risk assessment;
- Outline peat management plan¹²¹; and
- Carbon calculator.

Sensitivity

Potential effects on geological and water resources shall be described as beneficial, neutral or adverse and shall be considered with reference to the value or sensitivity of the receptor, as described in Table 3.6.

Table 3.6: Sensitivity of Environmental Resource		
Sensitivity of Receptor	Definition	Typical Criteria
High	International or national level importance. Receptor with a high quality and rarity, regional or national scale and limited potential for substitution/ replacement.	High likelihood of fluvial/ tidal flooding in the sub catchment – defined as 1:10 probability in a year. EC Designated Salmonid / Cyprinid fishery Surface water classed as 'High' by Water Framework Directive (WFD). Scottish Government Drinking Water Protected Areas. Aquifer providing regionally important resource such as abstraction for public water supply, abstraction for private water supply. Supporting a site protected under EC or UK habitat legislation / species protected by EC legislation. Active floodplain. Highly Groundwater Dependent Terrestrial Ecosystems. Protected Bathing Water Area. Average peat depth >1 m within the sub catchment. Peat slide hazard risk assessment is 'high' risk. Sites of international and national geological importance.
Medium	Regional, county and district level importance. Receptor with a medium quality and rarity, regional scale and limited potential for substitution/replacement.	Medium likelihood of fluvial/ tidal flooding in the sub catchment – defined as a 1:200 probability in a year. Surface water WFD class 'Good' or 'Moderate' Aquifer providing water for agricultural or industrial use. Local or regional ecological status / locally important fishery.

¹²¹ An outline Peat Management Plan will be prepared in accordance with SEPA guidance *Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste, Version 1 (2012)*. Scottish Renewables & SEPA

		<p>Contains some flood alleviation features.</p> <p>Average peat depth >0.5 m within the sub catchment.</p> <p>Moderately sensitive Groundwater Dependent Terrestrial Ecosystems.</p> <p>Peat slide hazard risk assessment is 'medium' risk.</p> <p>Sites of regional geological importance.</p>
Low	<p>Local importance.</p> <p>Receptor is on-site or on a neighbouring site with a low quality and rarity, local scale.</p> <p>Environmental equilibrium is stable and is resilient to changes that are greater than natural fluctuations, without detriment to its present character.</p>	<p>Surface water WFD class 'Poor'.</p> <p>Unproductive strata / no abstractions for water supply.</p> <p>Sporadic fish present.</p> <p>No flood alleviation features.</p> <p>Sewer.</p> <p>Average peat depth <0.5 m within the sub catchment.</p> <p>Peat slide hazard risk assessment is 'low' risk.</p> <p>Sites of local geological importance.</p>

Magnitude

The size or magnitude of each impact will be determined as a predicted deviation from the baseline conditions during construction, operation and decommissioning, as described in Table 3.7.

Table 3.7: Magnitude of Impact on a Receptor	
Magnitude of Impact	Criteria
Large	Large alteration / change in the quality or quantity of and / or to the physical or biological characteristics of environmental resource.
Medium	Medium alteration / change in the quality or quantity of and / or to the physical or biological characteristics of environmental resource.
Small	Small alteration / change in the quality or quantity of and / or to the physical or biological characteristics of environmental resource.
None	No alteration / change detectable in the quality or quantity of and / or to the physical or biological characteristics of environmental resource.

In describing a potential effect, consideration will also be given to its geographical scale and duration, which have been defined as follows:

- The geographical scale of an impact refers to the zone of influence, and can be described as: localised, site-wide, a specific distance / range from a source, regional, national, global; and
- The duration of an impact can be described as: short to long term, permanent or temporary for the duration of the construction / operational period.

Significance Criteria

The significance of residual effects will be defined as a function of the sensitivity of receptors and the magnitude of change, as presented in Table 3.8, taking account of any mitigation proposed.

Differentiations between categories, and thus the final significance ratings, are based upon professional judgement.

Table 3.8: Significance Criteria

		Magnitude of Impact			
		None	Small	Medium	Large
Sensitivity of Receptor	High	None	Minor	Major	Major
	Medium	None	Minor	Moderate	Moderate
	Low	None	Negligible	Minor	Minor

Major and moderate impacts (shaded in grey) are deemed significant in the context of the EIA Regulations. Minor and negligible impacts will not be considered significant in EIA terms.

Cumulative Impacts

Potential cumulative environmental impacts to soils, geology and water resources will be assessed where concurrent proposed wind farm sites or construction activity may be in hydrological connection with the Proposed Development, or water resource receptors. Where potential cumulative impacts are identified, the same criteria as used for assessment of the Proposed Development will be employed.

Residual Effects

It is anticipated that as the assessment of potential impacts would inform the design of the Proposed Development and best practice measures would be implemented during the construction, operation and decommissioning of the Proposed Development, that significant residual effects to the geological and water environment would be avoided. However, if potential significant residual effects to the geological and water environment are identified through the assessment process described above, suitable mitigation measures will be set out in the EIAR.

3.7 Traffic and Transport

3.7.1 Overview

This section has been prepared by Pell Frischmann Consultants Limited and sets out the proposed approach to the assessment of potential effects of the Proposed Development on access, traffic and transport during the construction and operation phases. Effects during the decommissioning phase are scoped out (as set out below).

A Transport Assessment (TA) will be provided to review the impact of transport related matters associated with the Proposed Development. This will be appended to the EIAR and will be summarised into a Transport and Access Chapter.

The following policy and guidance documents will be used to inform the Transport and Access Chapter of the EIAR:

- Transport Assessment Guidance (Transport Scotland, 2012)¹²²;

¹²² Transport Scotland: Transport Assessment Guidance (2012)

- The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEA), 1993)¹²³;
- SPP (Scottish Government, 2014)¹²⁴; and
- Moray Council Local Development Plan (2020)¹²⁵.

Each turbine is likely to require between 11 and 13 abnormal loads to deliver the components to site. The components will be delivered on extendable trailers which will then be retracted to the size of a standard Heavy Goods Vehicle (HGV) for the return journey.

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

3.7.2 Study Area

The traffic, transport and access study area will be defined by the preferred abnormal load and general construction traffic routes to the site.

The Proposed Development will be directly accessed from the A941. A detailed access review is being undertaken to identify the most suitable access junction option for the site and further consultation with Moray Council will be held once the final access solution has been determined.

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

A detailed site access review will be provided for the Proposed Development and will be appended to a Transport Assessment. This will detail the finalised access option and will outline the reasoning for the selected access option.

The finalised access option would then be used to determine the traffic impact associated with the Proposed Development. This will be assessed in a Transport Assessment. The impact assessment will be summarised in the EIAR which will also examine the impact upon affected receptors.

3.7.3 Consultation

Consultation with the following stakeholders will be undertaken:

- Moray Council Roads and Transport officers;
- Aberdeenshire Council Roads and Transport officers;
- Transport Scotland; and
- Various consultees responsible for reviewing the possible effects of abnormal loads on road structures, including Network Rail and the trunk road agents. These consultations will be undertaken using Highways England ESDAL consultation system.

¹²³ IEA: The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (1993))

¹²⁴ Scottish Government: Scottish Planning Policy (2014)

¹²⁵ Moray Council: Local Development Plan (2020)

3.7.4 Approach

The Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993)¹²³ sets out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

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

The main transport impacts will be associated with the movement of general HGV traffic travelling to and from the site during the construction phase of the Proposed Development.

A cumulative assessment will take place where a proposed development (any significant traffic generating development located on the proposed access route) has planning consent and would have a significant impact on the study network (i.e. over 30% increase in traffic flows). These traffic flows would be included into the baseline flows used within the assessment. Planning proposals that are in scoping, but which do not have planning consent are not committed development and as such would not be included in the assessment.

Once operational, it is envisaged that the level of traffic associated with the Proposed Development would be minimal. Regular monthly or weekly visits would be made to the Site for maintenance checks. The vehicles used for these visits are likely to be 4x4 vehicles and there may also be the occasional need for an HGV to access the Site for specific maintenance and/or repairs.

3.7.5 Baseline Conditions

Due to the effect of the ongoing COVID 19 restrictions, traffic survey data for use in the assessment would be obtained from historic data sources that will include the UK Department of Transport (DfT) traffic survey database, Traffic Scotland database and other public datasets that are available. Data for the following links would be obtained:

- A941 near the proposed Site access junction;
- A941 in Dufftown;
- A920 Between Dufftown and Huntly; and
- A96 at Huntly.

Further traffic data would be obtained from Crashmap UK for the A941 within the vicinity of the Site access junction to inform the accident review for the immediate road study area.

3.7.6 Effects Scoped Out

It is considered that the effects of operational traffic would be negligible and therefore no detailed assessment of the operational phase of the Proposed Development will be required.

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

3.7.7 Effects Evaluation

The following rules taken from the guidance¹²³ would be used as a screening process to define the scale and extent of the assessment:

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

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

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

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

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

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

3.8 Noise and Vibration

3.8.1 Overview

This section has been prepared by TNEI Services Ltd and provides a summary of the noise effects anticipated during the construction, operation and decommissioning phases of the Proposed Development. Where appropriate, details of the proposed assessment work will be provided.

3.8.2 Study Area

The Site is located within a rural location where background noise levels are anticipated to be relatively low. There are a number of scattered residential properties around the Site.

There are also a number of operational wind farm developments within the vicinity of the Proposed Development therefore an assessment will be undertaken to consider the potential cumulative noise impacts (Appendix A: Figure 1.2).

The study area will be determined in line with Institute of Acoustics Good Practice Guide¹²⁶ (IOA GPG) and ETSU-R-97¹²⁷. The closest noise sensitive receptors to the Proposed Development will be identified.

The IOA GPG states the following:

"Definition of Study Area

2.2.1 The 'study area' for background noise surveys (and noise assessment) should, as a minimum, be the area within which noise levels from the proposed, consented and existing wind turbine(s) may exceed 35 dB LA90 at up to 10 m/s wind speed... It should be borne in mind that at the survey scoping stage the definition of the 35 dB LA90 contour is often preliminary, because (for example) the precise positions and type of wind turbines are not finalised."

In terms of whether a cumulative noise assessment is required the IOA GPG states the following:

"Cumulative impact assessment necessary

5.1.4 During scoping of a new wind farm development consideration should be given to cumulative noise impacts from any other wind farms in the locality. If the proposed wind farm produces noise levels within 10 dB of any existing wind farm/s at the same receptor location, then a cumulative noise impact assessment is necessary.

5.1.5 Equally, in such cases where noise from the proposed wind farm is predicted to be 10 dB greater than that from the existing wind farm (but compliant with ETSU-R-97 in its own right), then a cumulative noise impact assessment would not be necessary."

Further details regarding the assessment methodology can be found in Section 3.8.6, Operational Noise below.

3.8.3 Potentially Significant Effects

An assessment of the potential effects of noise emitted during the construction, operation and decommissioning phase of the Proposed Development will be undertaken.

A cumulative noise assessment will be undertaken in order to consider the consented, operational and proposed wind farms within the vicinity of the Site.

3.8.4 Issues Scoped Out of the Assessment

Vibration

Given the anticipated relative distances from residential receptors (greater than 1 km from proposed turbine locations) and construction activities proposed (for example laying of tracks across the site, excavation of turbine foundations, concrete batching, construction of turbine bases, and the installation of turbines, a substation and other infrastructure), the risk of ground borne vibration impacting on residential receptors is considered to be low, as such a vibration assessment will not be undertaken.

¹²⁶ Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013)

¹²⁷ ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97)

Low-Frequency Noise

A study¹²⁸, published in 2006 by acoustic consultants Hayes McKenzie on the behalf of the Department of Trade and Industry (DTI), investigated low frequency noise from wind farms. This study concluded that there is no evidence of health effects arising from infrasound or low frequency noise generated by wind turbines.

In February 2013, the Environmental Protection Authority of South Australia published the results of a study into in infrasound levels near wind farms¹²⁹. This study measured infrasound levels at urban locations and rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organised shutdowns of the windfarms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.

Furthermore, a study conducted by Bowdler (et al., 2009)¹³⁰ concluded that:

"...there is no robust evidence that low frequency noise (including 'infrasound') or ground-borne vibration from wind farms generally has adverse effects on wind farm neighbours".

More recently, during a planning Appeal (PPA-310-2028, Clydeport Hunterston Terminal Facility, approximately 2.5 km south-west of Fairlie, 9 Jan 2018), the health impacts related to low frequency noise associated with wind turbines were considered at length by the appointed Reporter (Mr M Croft). The Reporter considered evidence from Health Protection Scotland and the National Health Service. In addition, he also considered low frequency noise surveys undertaken by the Appellant and the Local Authority, both of which demonstrated compliance with planning conditions and did not identify any problems attributable to the turbine operations; some periods with highest levels of low frequency noise were recorded when the turbines were not operating.

The Reporter concluded that:

- The literature reviews by bodies with very significant responsibilities for the health of local people found insufficient evidence to confirm a causal relationship between wind turbine noise and the type of health complaints cited by some local residents.
- The NHS' assessment is that concerns about health impact are not supported by good quality research.
- Although given the opportunity, the Community Council failed to provide evidence that can properly be set against the general tenor of the scientific evidence.

It is therefore not considered necessary to carry out specific assessments of low frequency noise and that it should be scoped out.

Amplitude Modulation

In its simplest form, Amplitude Modulation (AM), by definition, is the regular variation in noise level of a given noise source. This variation (the modulation) occurs at a specific frequency,

¹²⁸ Hayes McKenzie (2006). 'The measurement of low frequency noise at three UK windfarms', Hayes Mckenzie, The Department for Trade and Industry, URN 06/1412, 2006

¹²⁹ Environment Protection Authority (2013). 'Infrasound levels near windfarms and in other environments' Available Online At: http://www.epa.sa.gov.au/xstd_files/Noise/Report/infrasound.pdf

¹³⁰ Bowdler et al (2009). 'Prediction and Assessment of Wind Turbine Noise: Agreement about relevant factors for noise assessment from wind energy projects. Acoustics Bulletin, Vol 34 No2 March/April 2009, Institute of Acoustics

which, in the case of wind turbines, is defined by the rotational speed of the blades, i.e. it occurs at the rate at which the blades pass a fixed point (e.g. the tower), known as Blade Passing Frequency.

A study¹³¹ was carried out in 2007 on behalf of the Department for Business, Enterprise and Regulatory Reform (BERR) by the University of Salford, which investigated the incidence of noise complaints associated with wind farms and whether these were associated with AM. The study defined AM as aerodynamic noise from wind turbines with a greater degree of fluctuation than normal at blade passing frequency. Its aims were to ascertain the prevalence of AM on UK wind farm sites, to try to gain a better understanding of the likely causes, and to establish whether further research into AM is required.

The study concluded that AM had occurred at only a small number (4 of 133) of wind farms in the UK, and the meteorological conditions for AM prevailed only for between 7% and 15% of the time. It also stated that, the causes of AM are not well understood, and that prediction of the effect was not currently possible.

This research was updated in 2013 by an in-depth study undertaken by Renewable UK¹³², which has identified that many of the previously suggested causes of AM have little or no association to the occurrence of AM in practice. The generation of AM is based upon the interaction of a number of factors, the combination and contributions of which are unique to each site. With the current state of knowledge, it is not possible to predict whether any particular site is more or less likely to give rise to AM, and the incidence of AM occurring at any particular site remains low, as identified in the University of Salford study. The report includes a sample planning condition to address AM, however that has not yet been validated or endorsed by UK Government.

In 2016, the Institute of Acoustics (IOA) proposed a measurement technique to quantify the level of AM present in any particular sample of windfarm noise¹³³. In August 2016 a report written by WSP/Parsons Brinkerhoff was published by the Department of Business, Energy & Industrial Strategy (BEIS, formerly The Department of Energy & Climate Change)¹³⁴. The report sought to build on the conclusions of the IOA study in order to define an appropriate assessment method for AM, including a penalty scheme and an outline planning condition.

In November 2017, an article entitled 'A planning condition for wind farms' was published in Vol 42 No 6 of the Acoustics Bulletin magazine. The article was written collaboratively by a number of noise consultants and suggested a noise planning condition which included consideration of AM. The authors noted in the article that:

"Whilst local authorities and developers have waited for a planning condition that could be applied to newly consented wind farms, or to those already consented but with a suspensive condition, the report Wind Turbine AM Review (WTAMR) by WSP/Parsons Brinckerhoff for DECC arguably did not provide that. In addition, there have been a number of comments on WTAMR that we consider should be addressed."

¹³¹ University of Salford (2007). 'Research into aerodynamic modulation of wind turbine noise'. Report by University of Salford, The Department for Business, Enterprise and Regulatory Reform, URN 07/1235, July 2007

¹³² Renewable UK (2013). 'Wind Turbine Amplitude Modulation: Research to improve understanding as to its Cause and effects', Renewable UK, 2013

¹³³ Institute of Acoustics, (2016) A Method for Rating Amplitude Modulation in Wind Turbine Noise

¹³⁴ BEIS, (2016), Review of the evidence on the response to amplitude modulation from wind turbines

The article also noted that: *"This approach is proposed based on the current state of understanding but, may be subject to modification in light of new research and further robust information."* And *"As various people before us have discovered, the derivation of a penalty is not easy. There is not sufficient reliable research to be confident that a penalty system would always provide a fair indication of the impact of AM."*

At the time of writing there has been no official response to those recommendations from the IOA Noise Working Group and, as yet, no endorsement from any Scottish Government Minister or Department. The recommendation to impose a planning condition and the associated penalty scheme is at odds with the advice from the IOA Good Practice Guide (GPG) which currently states (paragraph 7.2.1):

"7.2.1 The evidence in relation to "Excess" or "Other" Amplitude Modulation (AM) is still developing. At the time of writing, current practice is not to assign a planning condition to deal with AM."

At time of writing there is no agreed methodology which can be used to predict the occurrence of AM or an agreed methodology which can be used to determine whether the effects of AM, should it occur, are likely to be significant. On that basis it is considered therefore that amplitude modulation should be scoped out.

3.8.5 Baseline Information Collection

Background noise monitoring will be undertaken at key representational noise monitoring locations within the study area for the Proposed Development. Background noise monitoring will be undertaken in line with ETSU-R-97¹³⁵ and the IOA GPG¹³⁶ (refer to Section 3.8.6, Operational Noise for more details). Detailed consultation will be undertaken with the Moray and Aberdeenshire Council's Environmental Health Department prior to the commencement of the noise assessment in order to agree the assessment methodology, background noise monitoring locations and the approach to the cumulative assessment (this consultation is being completed in parallel to the formal request for a scoping opinion).

Equipment for measuring meteorological conditions will be installed at the site for the duration of the noise assessment in order to collect wind speed and direction data at various heights. Depending on the monitoring equipment used, data will be either measured directly at hub height or data collected at two different heights will be used to determine the wind speed at turbine hub height, in accordance with the guidance in the IOA GPG. A series of simultaneous ten-minute measurements will be taken by the wind monitoring equipment over a period of at least two weeks.

3.8.6 Effects Evaluation

Construction and Decommissioning Noise

Noise emitted during the construction and decommissioning phase will be temporary and short term in nature and can be minimised through careful construction practices. The effective control of these impacts can be achieved by way of a suitable condition of consent. Should consent be

¹³⁵ Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013)

¹³⁶ Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013)

granted, construction and decommissioning noise can be controlled through the use of two legislative instruments which address the effects of environmental noise with regard to construction noise, vibration, and nuisance:

- The Environmental Protection Act 1990 (EPA)¹³⁷; and
- The Control of Pollution Act 1974 (CoPA)¹³⁸.

The CoPA provides two means of controlling construction noise. Section 60 provides the Local Authority with the power to impose at any time operating conditions on the development site. Section 61 allows the Developer to negotiate a set of operating procedures with the Local Authority prior to commencement of site works.

The construction noise assessment will be undertaken using the data provided in British Standard (BS) 5228: Part 1: 2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites - Noise'¹³⁹ and the calculation methodology ISO9613-2:1996 'Acoustics - Attenuation of sound during propagation outdoors' -Part 2: General method of calculation'¹⁴⁰. Impacts will be assessed using criteria contained within BS5228-1:2009+A1:2014 and, where appropriate, mitigation measures will be proposed.

Operational Noise

The Scottish Government's Planning Advice Note PAN1/2011 'Planning and Noise'¹⁴¹ refers to the 'Onshore Wind Turbines' web based document, which in turn states that ETSU-R-97 'The Assessment and Rating of Noise from Windfarms'¹⁴² should be used by Planning Authorities 'to assess and rate noise from wind energy developments until such time that an update is available.' The web-based document also refers to the IOA 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise'¹⁴³ (IOA GPG) as a source which provides:

"significant support on technical issues to all users of the ETSU-R-97 method for rating and assessing wind turbine noise, and, should be used by all IOA members and those undertaking assessments to ETSU-R-97. The Scottish Government accepts that the guide represents current industry good practice."

ETSU-R-97 details a methodology for establishing noise limits for proposed wind farm developments and these limits should not be exceeded. ETSU-R-97 states that noise limits should be set relative to existing background noise levels at the nearest receptors and that these limits should reflect the variation in both turbine source noise and background noise with wind speed. Separate noise limits apply for quiet daytime and for night-time periods. Quiet daytime limits are chosen to protect a property's external amenity, and night-time limits are chosen to prevent sleep disturbance indoors, with windows open.

¹³⁷ Environmental Protection Act 1990

¹³⁸ Control of Pollution Act 1974

¹³⁹ British Standard BS5228-1: 2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites - Noise'

¹⁴⁰ International Standards Organisation ISO9613: 1996 'Acoustics - Attenuation of sound during propagation outdoors Part 2: General method of calculation'

¹⁴¹ Scottish Government Planning Advice Note PAN 1/2011: 'Planning and Noise'

¹⁴² ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97)

¹⁴³ Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013)

ETSU-R-97 recommends that wind farm noise for the quiet daytime periods should be limited to 5 dB(A) above the prevailing background or a fixed minimum level within the range 35 - 40 dB $L_{A90,10min}$, whichever is the higher. The precise choice of criterion level within the range 35 – 40 dB(A) depends on a number of factors, including the number of dwellings in the neighbourhood of the wind farm (relatively few dwellings suggest a figure towards the upper end), the effect of noise limits on the number of kWh generated (larger sites tend to suggest a higher figure) and the duration and level of exposure to any noise. These factors will be taken into account with justification for deriving suitable noise limits included in the noise assessment.

An exception to the setting of both the quiet daytime and night-time fixed minimum limit occurs where a property occupier has a financial involvement with the Proposed Development. In that case the fixed minimum limit can be increased to 45 dB $L_{A90,10min}$ or the prevailing background noise L_{A90} plus 5 dB, whichever is the greater for both the quiet daytime and night-time periods.

A background noise survey may not be required for situations where predicted wind turbine noise levels at the nearest noise sensitive properties is limited to an $L_{A90,10min}$ of 35dB(A) up to wind speeds of 10 m/s at 10 m height above ground level, as the protection of the amenity of those properties can be controlled through a simplified noise condition as detailed in ETSU-R-97.

ETSU-R-97 states that:

"For single turbines or wind farms with very large separation distances between the turbines and the nearest properties, a simplified noise condition may be suitable. If the noise is limited to an $L_{A90,10min}$ of 35dB(A) up to wind speeds of 10m/s at 10m height, then this condition alone would offer sufficient protection of amenity, and background noise surveys would be unnecessary."

Where noise levels are predicted to exceed the simplified noise criteria (or if cumulative noise has the potential to constrain development) then background noise monitoring may be undertaken at key representational noise monitoring locations around the study area for the Proposed Development. The assessment of cumulative impacts will derive site specific noise limits with consideration of the relevant consented, operational and proposed wind farms within the vicinity of the Proposed Development (relevant cumulative schemes in the vicinity are here defined as those with noise predictions within 10 dB as described in Section 3.8.2 above).

The noise assessment will also include predictions of likely wind turbine noise levels across a range of wind speeds to demonstrate compliance with the noise limits.

The assessment will be undertaken in accordance with ETSU-R-97 and the IOA GPG.

3.9 Aviation and Telecommunications

3.9.1 Overview

This section has been prepared by Aviatica and sets out the proposed approach to the assessment of potential effects of the Proposed Development on aviation and telecommunications.

Aviation

The EIAR will address potential significant effects on air traffic control and air defence radars, military low flying and the provision of obstruction lighting.

Telecommunications

Potential significant effects on telecommunications will be assessed to ensure that the turbine layout is designed to avoid such effects.

3.9.2 Study Area

A study area of 100 km radius from the Site will be adopted for air defence and air traffic control primary surveillance radars; 20 km for secondary surveillance radars and aeronautical radio navigation aids; 25 km for airfields and landing sites; and 3 km for fixed telecommunications links.

3.9.3 Consultation

Consultation will be undertaken with all aviation and telecommunications stakeholders with assets identified as being subject to potential significant effects from the Proposed Development.

Aviation consultees will include NATS and the Ministry of Defence (MoD). Consultations have been completed with Atkins and the Joint Radio Company (JRC) in respect of energy and water industry scanning telemetry links. Both companies have confirmed that there are no links with the potential to be affected by the Proposed Development.

3.9.4 Approach

Aviation

The EIAR will be based on a line of sight analysis of the Proposed Development from all radars identified as having the potential to be affected. For those radar identified as having line of sight to the development, an operational analysis will be conducted to determine the effects on the radar given the airspace structure and classification, the volume and types of air traffic in the airspace, and the nature of the air traffic services provided using the radar.

Telecommunications

For telecommunications links identified as having the potential to be affected by Proposed Development, the proximity of the proposed turbines to the link will be assessed using an Ofcom-recommended formula¹⁴⁴ for safe separations between microwave links and wind turbines.

3.9.5 Baseline Conditions

Aviation

The Site is located in uncontrolled airspace from ground level to Flight Level 195 (approximately 19,500 feet above sea level). Above that level is the Class C controlled airspace of the Scottish Upper Airspace Control Area, within which air traffic services are provided by the NATS En Route (NERL) Prestwick Centre. Radars used to provide these services in the vicinity of the Site include those at Perwinnes Hill, 57 km east south east of the Site, and Allanshill, 56 km northeast of the Site. These radars are also used to provide air traffic services to aircraft inbound to and outbound from Aberdeen Airport.

¹⁴⁴ DF Bacon, 'Fixed-link wind-turbine exclusion zone method', Version 1.1, 28 October 2002, Radiocommunications Agency

RAF Lossiemouth is located 38 km northwest of the Site. It operates a primary surveillance radar located on the airfield. RAF Lossiemouth provides a Lower Airspace Radar Service to aircraft operating below controlled airspace in the vicinity of the Site.

The Remote Radar Head (RRH) at Buchan, 71 km east of the Site, is an air defence primary surveillance radar.

A primary surveillance radar is operated at Inverness Airport, 62 km northwest of the Site.

There are no airports, airfields or landing sites within 25 km of the Site, and no secondary surveillance radars or aeronautical radio navigation aids within 20 km of the Site.

The Site is located within Low Flying Area (LFA) 14, where military aircraft are permitted to fly as low as 250 feet above ground level. The Site is wholly located within a part of LFA 14, which has been designated by the MoD as a “*low priority military low flying area less likely to raise concerns*”.

Telecommunications

The Ofcom Spectrum Information Portal identifies two fixed telecommunications links within 3 km of the Site. These are Airwave microwave links running from Ardwel, south of the Site, to Succoth, then north to Glass.

Atkins and the JRC have confirmed that there are no water or energy industry scanning telemetry links in the vicinity of the Site.

Terrestrial television signals in the area are provided from three transmitters: Knockmore (16 km northwest of the Site); Durriss (59 km south southeast of the Site); and Gartly Moor (15 km east of the Site).

3.9.6 Effects Evaluation

Aviation

Preliminary radar line of sight analysis, together with consultation of NATS online radar coverage maps¹⁴⁵, has established that there will be no radar line of sight to proposed turbines on the Site. Consequently, NATS radars have been scoped out of the EIAR.

The primary surveillance radar at Inverness Airport is similarly screened from the Proposed Development by intervening terrain and has also been scoped out of the assessment.

Detailed radar line of sight analysis, using 5 m resolution digital terrain data (DTM), will be conducted for the radars at RAF Lossiemouth and RRH Buchan. In the event of line of sight being found to exist, the EIAR will review the options for providing mitigation to address the effects on the Lossiemouth and/or Buchan radars.

Effects on other airfields, landing sites, radars and navigation aids have been scoped out since no such facilities exist within the study area.

Since the proposed turbines are >150 m in height to blade tips, they will trigger a requirement for visible spectrum obstruction lighting. The EIAR will explore the potential for a reduced lighting scheme for submission to the Civil Aviation Authority (CAA) for approval. Radar-activated lighting systems will also be evaluated.

¹⁴⁵ <https://www.nats.aero/services-products/catalogue/n/wind-farms-self-assessment-maps/>

Telecommunications

The two Airwave microwave links to the south and east of the Site will be at least 1.5 km from all turbines in the Proposed Development. Since this eliminates the possibility of potential significant effects, no further assessment of those assets will be conducted.

JRC and Atkins have confirmed that there are no scanning telemetry systems in the vicinity with the potential to be affected.

Since broadcast signals are available in the area surrounding the Site from three different TV transmitters, the potential for significant effects on television reception quality is minimal. No further assessment is proposed.

3.10 Socioeconomics

3.10.1 Overview

This section has been prepared by Ramboll UK Limited. The assessment of socioeconomic impacts include, direct economic impacts and the wider indirect effects associated with capital investment, operational expenditure in developing the Proposed Development, potential impacts on population and demographics, and potential impacts on tourism and recreational activities and assets. This section provides a summary of baseline socioeconomic information relevant to the assessment of likely significant effects associated with all stages of the Proposed Development. Following the baseline review, this section details the potential impacts to be addressed within the EIA and the proposed method of the evaluation of effects. A rationale for those issues proposed to be scoped out from further consideration is also provided.

3.10.2 Study Area

For the purposes of the EIA, the following socioeconomic study areas would be considered:

- Local Area: Speyside Glenlivet and Huntly, Strathbogie and Howe of Alford Electoral Wards;
- Region: Aberdeenshire Council and Moray Council Areas; and
- National: Scotland.

3.10.3 Consultation

The following consultees are invited to provide input to the scope of the socioeconomic impact assessment via the scoping consultation process.

- Aberdeenshire Council;
- Moray Council;
- Strathisla Community Council;
- Huntly Community Council;
- Dufftown and District Community Council;
- Tap O' Noth Community Council;
- Strathbogie Community Council;
- British Horse Society;
- Deveron District Salmon Fishery Board (DSFB);
- Mountaineering Scotland;
- Scottish Rights of Way and Access Society (ScotWays);
- Visit Scotland;
- Cairngorms National Park Authority;
- Fisheries Management Scotland;

- Deveron Fisheries Trust; and
- Any other relevant interested stakeholders.

In addition, the Applicant will be completing a programme of pre-application public and stakeholder engagement during the coming months.

3.10.4 Approach

A desk based socio-economic assessment will consider the potential direct and indirect, adverse and beneficial effects of the Proposed Development on the Local Area, Regional areas and on a national level.

Existing publicly held information, surveys and assessments of socioeconomic indicators for the area will be collated and reviewed as part of the EIA. Visitors and tourist profiles, land uses and ownership and nearby public facilities will also be considered in the EIA. Public attitudes to wind farms will be referenced, along with other background information in order to assess the Proposed Development for significant effects.

3.10.5 Baseline Conditions

Population

There are several scattered settlements, villages and towns within the vicinity of the Proposed Development. The following key settlements have been identified within the Local Area:

- Dufftown (Moray), approximately 8 km northwest of the Site;
- Craigellachie (Moray), approximately 11 km northwest of the Site,
- Huntly (Aberdeenshire), approximately 12 km northeast of the Site;
- Rhynie (Aberdeenshire), approximately 12 km southeast of the Site; and
- Aberlour¹⁴⁶ (Moray), approximately 13 km northwest of the Site.

There are some residential properties within the Site's boundary to the southwest and southeast of the proposed turbine locations. Individual properties are located along A941 and the minor road located to the southwest to southeast of the Site respectively.

The Moray side of the Site is located in the Speyside Glenlivet Electoral Ward, which includes the villages of Dufftown, Aberlour and Craigellachie, as shown on Figure 3.13 (Appendix A). In 2019, the population of this area was estimated to be 9,059, whilst the population of Moray as a whole was estimated to be 95,820¹⁴⁷.

The Aberdeenshire side of the Site is located on the Huntly, Strathbogie and Howe of Alford Ward, which includes the town of Huntly and the village of Rhynie, as shown on Figure 3.13 (Appendix A). In 2019, the population of this area was estimated to be 16,574, whilst the population of Aberdeenshire as a whole was estimated to be 261,210¹⁴⁸.

¹⁴⁶ Also known as 'Charleston of Aberlour'

¹⁴⁷ Scottish Government (2019), *Electoral Ward: Speyside Glenlivet*. Available at: <https://statistics.gov.scot/atlas/resource?uri=http%3A%2F%2Fstatistics.gov.scot%2Ffid%2Fstatistical-geography%2FS13003024> [Last Accessed: 28/10/2020]

¹⁴⁸ Scottish Government (2019), *Electoral Ward: Huntly, Strathbogie and Howe*. Available at: <https://statistics.gov.scot/atlas/resource?uri=http%3A%2F%2Fstatistics.gov.scot%2Ffid%2Fstatistical-geography%2FS13002861> [Last Accessed: 28/10/2020]

Further statistics to support the assessment of economic impacts, including information on the local labour markets and supply chain synergies with the Proposed Development would be provided in the EIAR.

Tourism and Recreation

There are no tourism assets or destinations within the Site; however, the Local Area and Region include a number of visitor attractions and tourism destinations.

A key tourist attraction in the Local Area surrounding the Site is the Speyside Malt Whisky Trail¹⁴⁹. Speyside is world famous for its whisky distilleries, with more than half of Scotland's malt whisky distilleries located in this area. The Speyside Malt Whisky Trail is a tourist route between Glenlivet and Forres, which incorporates seven working Speyside distilleries, one historic distillery and the Speyside Cooperage. Five of the advertised stops on the Speyside Malt Whisky Trail, as well as the Speyside Cooperage are located within, or in close proximity to, the Local Area, including:

- The Glenlivet Distillery, Ballindalloch;
- Cardhu Distillery, Aberlour;
- Speyside Cooperage, Aberlour;
- Glenfiddich Distillery, Dufftown;
- Glen Grant Distillery, Rothes; and
- Strathisla Distillery, Keith.

The other three advertised stops on the Speyside Malt Whisky Trail are located in the Elgin and Forres, over 40 km away from the Site. There are also several other working and historic distilleries and breweries within the Local Area, which are not advertised as part of Speyside Malt Whisky Trail. Most of the distilleries are clustered around the River Spey to the east of the Site, particularly around Dufftown and Aberlour.

Part of Scotland's Castle Trail¹⁵⁰, a tourist route through Aberdeenshire and Moray which includes 19 different castles and stately homes, is located within the Local Area. Of the advertised stops within Scotland's Castle Trail, Balvenie Castle in Dufftown, Huntly Castle in Huntly and Leith Hall Garden and Estate in Rhynie are closest within the Local Area. Although not part of the Castle Trail, Auchindoun Castle is located approximately 2 km northwest of the Site at its closest point.

Other tourist attractions and recreational facilities identified in the Local Area include the Speyside Way Visitor Centre, Knockando Woolmill, Speyside Falconry, Craigellachie Bridge, Linn Falls and various fisheries. There are also golf courses located in the towns of Dufftown and Huntly. The River Spey is also used for water sports and activities such as canoeing, kayaking and white water rafting.

There are several summits within the vicinity of the Proposed Development, including the Corbets Ben Rinnes and Corryhabbie Hill to the southeast of the Site (refer to Appendix A: Figure 3.4), which may be used by hillwalkers and mountain bikers.

Retail, catering and accommodation facilities in the Local Area are largely concentrated in settlements of Dufftown, Aberlour, Craigellachie and Huntly, although a few isolated B&Bs, guest

¹⁴⁹ Visit Scotland (2020), *Speyside's Malt Whisky Trail*. Available at: <https://www.visitscotland.com/see-do/food-drink/whisky/speyside-malt-whisky-trail-itinerary/> [Last Accessed: 28/10/2020]

¹⁵⁰ Visit Scotland (2020), *Scotland's Castle Trail*. Available at: <https://www.visitscotland.com/see-do/attractions/castles/scotland-castle-trail/> [Last Accessed: 28/10/2020]

houses and other local businesses have been identified in rural locations closer to the Site, particularly at locations along the River Deveron Valley. Aswanley¹⁵¹, a popular wedding and events venue, is located approximately 4 km northeast of the Site, south of the River Deveron. The Aswanley Estate also owns three self-catering holiday cottages that can be rented by guests attending the Aswanley venue or other visitors. Fly fishing on the estate is available to guests staying in the holiday cottages. Other accommodation identified within the River Deveron Valley includes Terryhorn Bungalow near Cain borrow and two holiday cottages at Drumdelgie.

There are also a few rural businesses located immediately south of the Site near Bridgend, including 'The Grouse Inn'¹⁵², a well-known country pub and tea room which is famous for its whisky collection, and 'Barrel Creations'¹⁵³, a company which creates furniture out of discarded whisky barrels. A non-profit organisation called The Cabrach Trust¹⁵⁴, is also based at Inverharroch farm, near Bridgend. The Trust aims to provide economic and social development opportunities for The Cabrach, a remote and sparsely populated area in Moray, by creating jobs and attracting new visitors to the area. Since its establishment in 2011, The Cabrach Trust has acquired the historic Inverharroch Farm, the Old School and Hall and the Acorn Community Centre.

Outside of the River Deveron Valley area, Laggan Farmhouse B&B is located approximately 1 km northwest of the Site at its closest point (although the nearest turbine is located 4 km from the B&B). Castleview B&B is located approximately 5 km northwest of the Site, near Milltown of Auchindoun. There are also camping and/or caravan parks located in Dufftown, Aberlour and Huntly.

The Speyside Way¹⁵⁵, a 105 km trail between Aviemore and the Buckie on the Moray coast, is located approximately 8.7 km northwest of the Site at its closet point, as shown in Figure 3.4, (Appendix A). The Speyside Way is designated as one of 'Scotland's Great Trails'. Together with The Moray Coastal Trail and the Dave Way, The Speyside Way also forms part of the Moray Way, a 160 km circular long-distance walking trail¹⁵⁶.

There are also several Core Paths within the Local Area (Appendix A: Figure 3.4), which may be used for recreational purposes. The nearest core path 'SP29', which runs parallel to the River Fiddich, is located approximately 100 m west of the Site at its closest point, where it connects to the A941 at Bridgehaugh.

There are no cycle routes listed on the National Cycle Network (NCN) within Local Area. The closest NCN cycle route is 'Route 1', which follows the Moray Coast to the north of the Site.

The Cairngorms National Park is located approximately 13 km southwest of the Site at its closest point. The Cairngorms National Park is a nationally important area for tourism and recreation in Scotland.

¹⁵¹ Aswanley (2020): *Aswanley*. Available at: <https://www.aswanley.com/> [Last Accessed 02/11/2020]

¹⁵² Dufftown (2000): *The Grouse Inn*. Available at: http://www.dufftown.co.uk/prov_attr_detail.php?id=75 [Last Accessed 02/11/2020]

¹⁵³ Barrel Creations (2020): *Barrel Creations*. Available at: <http://www.barrelcreations.co.uk/> [Last Accessed 02/11/2020]

¹⁵⁴ The Cabrach Trust (2020), *The Cabrach Trust*. Available at: <https://cabrachtrust.org/> [Last Accessed 02/11/2020]

¹⁵⁵ Speyside Way (2020), Available at: <https://www.speysideway.org/> [Last Accessed: 28/10/2020]

¹⁵⁶ The Moray Way Association (2020). Available at: <https://www.morayways.org.uk/routes/the-moray-way/> [Last Accessed: 28/10/2020]

Existing local socioeconomics issues are likely to include a narrow local business base and limited access to services, while local tourism and leisure activity is likely to be primarily related to the Speyside Malt Whisky Trail and the whisky industry, Scotland's Castle Trail and outdoor activities such as walking, hill climbing, golf, water sports and fishing.

3.10.6 Effects Evaluation

Public Access to the Site

The provision for access to the Site, in line with the requirements of the Land Reform (Scotland) Act 2016, will be documented in the EIAR. This will clarify the extent of current public access, define existing routes and identify restrictions during construction and operation of the Proposed Development. The impact of the Proposed Development to the public footpaths and rights of way will be clearly indicated. If any re-routing of paths under a Right of Way is required, alternative routes will be highlighted for consideration.

Potential Likely Significant Effects

The EIAR will include relevant economics information connected with the Proposed Development, including the potential number of jobs supported (local authority and Scotland wide), economic activity associated with the procurement, construction and decommissioning of the Proposed Development, community benefits and disbenefits and opportunities for local people to invest in the Proposed Development.

Based on the baseline review, the following potential likely significant beneficial effects have been identified:

- Economic Impacts;
- Expenditure;
- Community Benefits; and
- Non-domestic Rates.

Issues Scoped Out of the Assessment

Based on the nature of the Proposed Development (an onshore wind farm), its extent and duration of both construction and operational phases, effects on population and demographics in terms of demand for housing, health or educational services is expected to be negligible or none at all. As such it is proposed that these matters are scoped out of further consideration.

There are no tourism assets or destinations within the Site. The potential effects on visual amenity for tourism and recreational locations within 20 km of the Site, including recreational routes, will be fully assessed in the EIAR as part of the Landscape and Visual Amenity Assessment. In addition, research undertaken by Visit Scotland¹⁵⁷ and BiGGAR Economics¹⁵⁸ suggests that there is no evidence that the presence of wind farm developments have an adverse effect on the tourism sector in Scotland, and no relationship has been identified between the development of onshore wind farms and tourism employment at the level of the Scottish

¹⁵⁷ Visit Scotland (2014), *VisitScotland Position Statement - Wind Farms*. Available online: <https://www.visitScotland.org/binaries/content/assets/dot-org/pdf/policies/visitScotland-position-statement---wind-farms---oct-2014.pdf>

¹⁵⁸ BiGGAR Economics (2016). *Wind Farms and Tourism Trends in Scotland* [pdf]. Available at <http://www.biggarEconomics.co.uk/wp-content/uploads/2016/07/Research-Report-on-Wind-Farms-and-Tourism-in-Scotland-July-16.pdf>; and Renewables UK (2010). I. [pdf] Renewables UK. Available at: <http://www.helensburghrenewables.co.uk/wp-uploads/2013/02/ReUK-Tourism.pdf>

economy, at local authority nor in the areas immediately surrounding wind farm development. It is also not anticipated that the construction of the Proposed Development would entail significant road works, closures or diversions which would have potential to adversely affect access to tourism assets, therefore no potential for significant effects is identified.

As such it is proposed that potential socioeconomic impacts on tourism and recreational locations are scoped out of further consideration.

3.11 Forestry

3.11.1 Overview

This section has been prepared by Neil McKay Forestry Consultant Limited. The Proposed Development would require clearing of areas of existing coniferous forest plantation. A targeted Forest Impact Assessment (FIA) will be carried out for the Proposed Development, which will include calculation of areas of temporary and permanent loss and measures for compensatory planting. Future forest management will be carried out through specific wind farm Forest Plans in accordance with UK Forestry Standard (UKFS).

3.11.2 Study Area

The study area, in respect of potential impacts on forestry and woodland, will include all woodlands within the Site extent.

3.11.3 Consultation

Consultation will be sought with Scottish Forestry (SF), the Scottish Government's agency with responsibility for forests and woodland. SF is divided into five regional Conservancies; the Site is within the Grampian Conservancy with their local office in Huntly.

Consultation with SF will aim to establish the approach to felling and replanting to accommodate the Proposed Development and how the long-term forest management arrangements will be demonstrated through a wind farm Forest Plan. Specifically, the consultation will revolve around the Scottish Government's Control of Woodland Removal Policy (CoWRP) and compensatory planting requirements therein.

3.11.4 Approach

It is considered that a FIA, which will be presented as a Technical Appendix to the EIAR, is the preferred method of describing the changes to the forest structure resulting from the Proposed Development. As part of the FIA, a Forest Plan "*with wind farm scenario*" will be produced and then compared with a "*without wind farm scenario*".

The FIA will describe temporary felling and restocking on site, permanent woodland loss and compensatory planting on or off-site. This assessment would be limited to the effects of the Proposed Development on forest composition and yield.

The FIA will refer to relevant industry guidance including, but not limited to:

- The Scottish Government's Policy on Control of Woodland Removal¹⁵⁹ and

¹⁵⁹ Forestry Commission Scotland. (2009) *The Scottish Government's Policy on Control of Woodland Removal*, Forestry Commission Scotland, Edinburgh

- Implementation Guidance (February 2019)¹⁶⁰;
- The UK Forestry Standard, The Government's Approach to Sustainable Forestry¹⁶¹;
- Forests and Water. UK Forestry Standard Guidelines (and other guidelines in the same series)¹⁶²;
- Guidance on the Management of Forestry Waste¹⁶³;
- Scotland's Forestry Strategy - 2019-2029¹⁶⁴ and
- Scottish Planning Policy 2014 (A Natural, Resilient Place; Valuing the Natural Environment) Section 218 (Woodland)¹⁶⁵.

3.11.5 Baseline Conditions

The northeast section of the Site contains approximately 250 hectares of upland productive conifer plantations. This forest area consists of two individual but contiguous ownerships, Howeshalloch Forest and Brown Hill Forest.

The northwest of the Site also contains the Ben Main woodland. A coniferous plantation with an area of native woodland creation. In addition, there are several small areas of woodland present on the western boundary.

Interrogation of Scottish Forestry Map Viewer reveals that Howeshalloch Forest has a current (2016 – 2026), Forest Design Plan¹⁶⁶. Brown Hill does not appear to have any plans in place which have been approved by Scottish Forestry.

The Ancient Woodland Inventory (Scotland)¹⁶⁷ reveals one area which is referred to as being of Long Established (of Plantation Origin), and the Native Woodlands Survey of Scotland¹⁶⁸ for this area identifies 1.43 hectares of pole-stage Native pinewood within Ben Main. The small area of woodland on the western boundary contains 13.10 hectares of native woodland planting through the Rural Development Contract, Woodland Creation Scheme.

3.11.6 Effects Evaluation

Secondary effects resulting from forestry activities including effects on habitats and species, ornithology, hydrology and landscape and visual effects would be considered within their respective chapters of the EIAR and would not be covered by the FIA.

The FIA will identify and quantify areas of forest which will need to be removed to accommodate the Proposed Development, those areas available for replanting once construction is complete and the net area of forest land lost. The FIA will also assess the potential impacts of this loss on

¹⁶⁰ Forestry Commission Scotland. (2019) *Implementation Guidance (February 2019)*. Forestry Commission Scotland, Edinburgh

¹⁶¹ Forestry Commission. (2017) *The UK Forestry Standard, The Governments' Approach to Sustainable Forestry*. Forestry Commission, Edinburgh

¹⁶² Forestry Commission. (2017) *Forests and Water. UK Forestry Standard Guidelines (and other guidelines in the same series)*. Forestry Commission, Edinburgh

¹⁶³ Scottish Environment Protection Agency (SEPA). (2013) *Guidance on Management of Forestry Waste*. SEPA, Edinburgh

¹⁶⁴ Scottish Government. (2019) *Scotland's Forestry Strategy - 2019-2029*. Forestry Commission, Edinburgh

¹⁶⁵ Scottish Government (2014) *Scottish Planning Policy 2014 (A Natural, Resilient Place; Valuing the Natural Environment) Section 218 (Woodland)*, Scottish Government, Edinburgh

¹⁶⁶ Howeshalloch Forest Design Plan, reference number 16FGS08174

¹⁶⁷ <https://data.gov.uk/dataset/c2f57ed9-5601-4864-af5f-a6e73e977f54/ancient-woodland-inventory-scotland>

¹⁶⁸ <https://data.gov.uk/dataset/da3f8548-a130-4a0d-8ddd-45019adcf1f3/native-woodland-survey-of-scotland-nwss>

the forest resource and structure, and will detail proposals for forest redesign, as required, and any proposals for mitigation compensatory planting, if necessary.

The significance of effects to forestry will be assessed against any area of permanent woodland loss in accordance with CoWRP.

3.12 Shadow Flicker

3.12.1 Overview

This section has been prepared by Ramboll UK Ltd. Under certain combinations of geographical position, times of day and year, the sun may pass behind the turbine rotor and cast a shadow flicker over the windows of neighbouring buildings. When the blades rotate and the shadow passes a window, to a person within that room, the shadow appears to flick on and off; this effect is known as 'shadow flicker'. This effect occurs only within buildings where the flicker appears through a window aperture and in the UK typically occurs only in buildings within 130 degrees either side of north relative to a turbine.

3.12.2 Study Area

Scottish Government web-based advice on onshore wind turbines¹⁶⁹ (previously known as PAN45) states that "where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), 'shadow flicker' should not be a problem." On this basis, the study area is limited to 10 rotor diameters and building within 130 degrees either side of north relative to the proposed turbines.

3.12.3 Baseline Conditions

A desk-based analysis confirms that based on the Scoping Layout, there are nine dwellings potentially, located within a distance of 10 rotor diameters¹⁷⁰ of the Proposed Development.

3.12.4 Issues Scoped Out of the Assessment

Where moving shadows are cast over the ground, rather than through the windows of a building, this is known as 'shadow throw'. There are no guidelines to quantify the effect and no requirement to assess 'shadow throw'. Therefore, 'shadow throw' has not been considered further in this assessment.

3.12.5 Additional Baseline Information Collection

Where receptors are located within the study area, a site survey would be completed to confirm the presence and use of buildings identified from desktop study. The survey would also identify the presence of any new buildings that were not included in the aerial imagery/mapping used. The survey will confirm the orientation of the buildings, the location of windows and the location of any features that may act to screen the buildings from shadow throw.

¹⁶⁹ Onshore wind turbines: planning advice. Scottish Government. 2014. Available at: <https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/>

¹⁷⁰ Based on an indicative rotor diameter of 155 m

3.12.6 Approach

Proprietary software (either Resoft WindFarm or WindPro) will be used to identify the potential areas susceptible to shadow flicker. The software identifies the study area for the assessment based on proposed turbine dimensions and orientations.

The shadow flicker modelling will provide details of the predicted occurrence frequency of shadow flicker at each window location.

3.12.7 Effects Evaluation

There is no standard for the assessment of shadow flicker in Scotland and there are no guidelines with which to quantify what exposure levels would represent a significant versus not significant effect. In the absence of specific guidelines the assessment has considered the 'Best Practice Guidance for Planning Policy Statement 18 (PPS18) Renewable Energy' (Department of Environment Northern Ireland, 2009) from Northern Ireland, which states: *"It is recommended that shadow flicker at neighbouring offices and dwellings within 500 m should not exceed 30 hours per year or 30 minutes per day"*. As such, properties where shadow flicker would potentially exceed these thresholds would be subject to significant effects.

3.13 Climate

3.13.1 Overview

This section has been prepared by Ramboll UK Ltd. The EIA regulations require the EIA process to have had regard to the impact of the Proposed Development on climate, including the nature and magnitude of greenhouse gas emissions and the vulnerability of the development to climate change.

3.13.2 Baseline Conditions

The Climate Change (Scotland) Act 2009¹⁷¹ requires an 80% reduction in Greenhouse Gas (GHG) emissions in Scotland by 2050, compared to the 1990-1995 baseline. The Scottish Government has since passed the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 which has set a target of reducing domestic emissions to net zero by 2045. The Scottish Government has set annual targets¹⁷² shown in Table 3.9.

Table 3.9: Annual GHG Emission Targets for Scotland		
Year	Annual Target (tCO₂ e)	% Reduction from Baseline
2019	41,976,000	-46%
2020	40,717,000	-47%
2021	39,495,000	-49%
2022	38,310,000	-50%

¹⁷¹ Climate Change Plan. The Third Report on Proposals and Policies 2018-2032. Scottish Government, 2018. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2018/02/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/documents/00532096-pdf/00532096-pdf/govscot%3Adocument/00532096.pdf> [Accessed on 23/03/2020]

¹⁷² Climate Change Plan. The Third Report on Proposals and Policies 2018-2032. Scottish Government, 2018. Available at: same as above

Year	Annual Target (tCO₂ e)	% Reduction from Baseline
2023	37,161,000	-52%
2024	35,787,000	-54%
2025	34,117,000	-56%
2026	32,446,000	-58%
2027	30,777,000	-60%
2028	29,854,000	-61%
2029	28,958,000	-62%
2030	28,089,000	-64%
2031	27,247,000	-65%
2032	26,429,000	-66%

The UK climate change risk assessment¹⁷³ details some of the hazards related to climate change of most relevance to the Proposed Development. The hazards include:

- increased precipitation (heavier rainfall) leading to potential flooding and erosion;
- higher extreme temperatures leading to risks associated with wildfire or risks to the grid connection; and
- increased severity of storms with the potential for damage to plant and infrastructure.

3.13.3 Potentially Significant Effects

Greenhouse Gas Emissions

IEMA guidance¹⁷⁴ indicates all GHG emissions should be considered as significant.

It is anticipated that the Proposed Development will result in a net-reduction/saving of GHG emissions. A GHG assessment is proposed to consider the influence of the Proposed Development on climate change. The assessment will consider the following:

- total GHG emission savings with respect to emissions from different power generating sources;
- GHG emissions due to production, transportation, erection, operation and dismantling of the wind farm;
- GHG emissions due to the need for backup power generation; and
- GHG emissions due to change in fixing potential of peat land, loss of carbon dioxide stored in peat land, balanced against carbon saving due to restoration of habitat and loss of carbon-fixing potential as a result of forest felling.

¹⁷³ URL: <https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Scotland-National-Summary.pdf> (accessed 24/3/2020)

¹⁷⁴ IEMA (2017). Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available at: <https://www.iema.net/assets/newbuild/documents/IEMA%20GHG%20in%20EIA%20Guidance%20Document%20V4.pdf>. [Accessed 24/03/2020]

Climate Change Hazard Vulnerability

The vulnerability of the Proposed Development to climate change hazards is considered to be low on the basis that the design (which will be set out in the EIAR) will specifically include embedded mitigation to ensure that significant effects are avoided or reduced to a tolerable level. The Proposed Development is not within an area prone to flooding and all watercourse crossings will be designed to accommodate a 1:200-year (plus climate change) flood event. The Proposed Development will provide a SuDS for both the construction and operational phase, which will ensure that the volume, rate and quality of surface water runoff is not impacted.

Resilience in the event of severe weather and fire is a core component to the wind farm design and turbine design. The Applicant would use a remote operational control system (controller and SCADA systems), which allow both automated and remote user shutdown in order to protect assets in the event of extreme conditions including extreme high wind or ice loading. It is noted that the site is not considered to be vulnerable to flooding and extreme heavy snow is also likely to rare given the relatively low altitude of the site. With respect to protecting the safety of people, the Applicant operates to the highest standards for safety and health, including implementing strict protocols for risk assessment which includes consideration of severe weather, and site based 'dynamic' risk assessment which requires staff to stop work in the event that weather conditions become unsafe.

Wind speeds are constantly measured by the nacelle based ultrasonic anemometers, which are permanently heated. There are typically two anemometers located on the nacelle roof, with redundancy that allows continued operation should one malfunction. The outputs from the anemometers are integrated into the controller and SCADA systems to inform and warn the operator. When wind speeds in excess of the cut-out wind speed (determined from the power curve) are experienced the turbine will enter an idle state by pitching the blades out of the prevailing wind. All turbine subsystems will then run in an auto mode configuration. This means the turbine is in a state ready for production until the wind speed falls below the level to cut back in, over a 10-minute average. When this occurs, the turbine is ready to resume generation and export power. The turbine yaw system will keep the turbine pointing upwind with the subsystems in the auto mode. In addition, rotor speed is constantly monitored to ensure that should any overspeed occur, then the turbine will automatically shut down by pitching the blades to stop position whilst the yaw remains active. Siting assessments and analysis of historic wind speed data will be used to determine the extreme wind speeds likely to be encountered on the site. The turbines proposed by the manufacturers will have been designed to operate within these conditions.

Ice detection is performed by a software application, whereby ice build-up on the turbine blades is determined by comparing the actual performance data with the nominal turbine power curve. The software makes comparisons with pre-defined threshold levels or a low power (ice detection) power curve. When the performance levels drop below the reference thresholds an alarm is generated within the SCADA system to warn the operator. In this instance the system can be configured to pause the turbine or to continue operation at reduced power whilst displaying the level of icing severity. If the turbine is shut down by an icing event, then depending on the system installed it may be possible to carry out remote re-starting of the turbine when climatic conditions allow. Sometimes a manual start will be required. This will necessitate the operator going to the turbine, where a visual assessment of ice build-up can be made. When attempting to re-start the turbine it will be necessary to put an exclusion zone in place in case of any residual ice throw from the blades.

In the event of fire, turbines are located a sufficient distance from settlements and scattered dwellings, such that there would be no significant risk to human health. The turbines are fitted comprehensive fire detection and warning systems that are integrated to the control and SCADA systems to generate alarms, alert the operator and control the shutdown of the turbine. Smoke and heat detectors are located in the high-risk areas; all electrical panels and controller cabinets, above the switchgear, above the generator and over the high-speed brake disk. Depending on supplier the transformer enclosure will be monitored by smoke and heat detection or by arc flash detection for immediate shutdown and removal of electrical energy. The system will also close off air vents and stop all fans to reduce air intake to a potential fire and to prevent smoke and/or gasses from being circulated within the tower/nacelle. The weather screen and housing around the machinery in the nacelle is made of fibreglass reinforced laminated panels with fire-protecting properties. The design includes fully integrated lightning and EMC protection. Both the nacelle and the steel tower act as a Faraday cage thus preventing fire induced by lightning. The blades are fitted with multiple lightning receptors that conduct to the tower via a slipring arrangement. Any excess grease or spilled oil are gathered in reservoirs to be emptied during scheduled maintenance. The high-speed brake system is shielded around the moving parts to ensure that any sparks generated will not spread into the nacelle. The use of flammable materials has been eliminated wherever possible by design and halogen free (low smoke) cables are deployed.

3.13.4 Issues Scoped Out of the Assessment

For the reasons set out in Section 3.13.3, impacts related to vulnerability to climate change hazards are scoped out of further consideration.

3.13.5 Effects Evaluation

A statement of the expected carbon savings over the lifetime of the Proposed Development will be presented. The Scottish Government's Carbon Calculator Tool¹⁷⁵ will be used to present the carbon emissions associated with ground conditions, access preparations, foundation excavations, materials used on-site, the transportation of materials and components to Site and any other carbon loss through tree felling or through degradation of peat/peaty soils. This will be completed using the Scottish Government online tool and will be summarised within a technical appendix to the Development Description chapter. The total GHG emissions associated with the Proposed Development will be compared to the carbon budget for Scotland and the emissions savings will be calculated with reference to a 2019 'grid'mix' carbon intensity factor to provide context.

¹⁷⁵ <https://informatics.sepa.org.uk/CarbonCalculator/index.jsp> (Accessed 09/10/20)

4. TOPICS SCOPED OUT OF THE ASSESSMENT

4.1 Air Quality

The Proposed Development is not considered likely to give rise to significant impacts on air quality. The main activities would be limited to construction works (dust from soil stripping and earthworks, from excavation, potentially including occasional blasting, and from vehicles running over unsurfaced ground) and exhaust emissions from fixed and mobile construction plant and construction vehicles. Construction works would be localised, short term, intermittent and controllable through the application of good construction practice.

The contributions of exhaust emissions (NO₂ and PM₁₀) from construction vehicles would likely be low, and orders of magnitude below current Air Quality Objectives. Therefore, it is proposed that the EIA will not address air quality impacts. An Outline CEMP will be included in the EIAR which will include general pollution control measures for air quality.

4.2 Ice Throw

The maximum potential distance of ice falling from turbines can be approximated using the formula $1.5 \times (\text{blade diameter} + \text{hub height})$. For the Proposed Development, the maximum distance from a turbine where ice could be expected to fall is therefore in the region of 300 m. As such, the risk to public safety is considered to be very low because the distance from the outermost turbines to the nearest public road, residential property or core path would be greater than 300 m as shown in Figure 3.4 (Appendix A).

However, in line with current guidance a permanent warning sign at the Site's main entrances is proposed to alert the public to this issue. No detailed assessment on ice throw impacts is proposed as part of the EIAR.

4.3 Population and Human Health

The EIA will consider "human health" in terms of amenity through the assessment of potential likely significant effects associated with water supplies, noise, traffic and on visual amenity. No other sources or pathways for effects on human health have been identified. The potential for likely significant effects on "population" will be considered through the socioeconomics, recreation and tourism assessment (as described above). As such, a separate human health impact assessment chapter and population impact assessment chapter will not be presented.

Appropriate control measure to ensure potential effects on air and water quality are managed appropriately in the construction phase will be addressed through an outline CEMP. A similar decommissioning management plan would be prepared for the decommissioning phase in line with the relevant guidance requirements at that time.

4.4 Risk of Major Accidents and/or Disasters

A peat slide risk assessment will be completed (as described under Hydrology, Hydrogeology and Geology section) which will provide an assessment of the risk of peat slide.

Due to the nature of the Proposed Development, the risk of a major accident or disaster is considered to be extremely low. In addition, the site is located in a remote area, with few nearby receptors. A risk assessment process will be followed by the Principal Designer during the design stage as part of the requirements of the Construction (Design and Management) Regulations 2015. This will ensure that all potential risks are identified at an early stage and appropriate mitigation is implemented.

During the operational stage of the Proposed Development, routine maintenance inspections would be completed in order to ensure compliant operation of the Proposed Development.

No further assessment of the risk of major accidents and/or disasters is proposed.

5. NEXT STEPS

This report is provided to support a request under Regulation 12 of the EIA Regulations for a 'Scoping Opinion' regarding the information to be provided within the EIAR which will accompany the Application.

Informing its opinion, the Scottish Ministers will seek the views of various organisations with an interest in the Proposed Development, inviting comments on the proposed scope of and approach to the EIA proposed herein.

APPENDIX A

FIGURES

APPENDIX B

CONSULTEE LIST

Table B.1: Consultee List
Statutory Consultees
Energy Consents Unit (ECU)
Aberdeenshire Council
Moray Council
Scottish Environment Protection Agency (SEPA)
NatureScot (NS)
Historic Environment Scotland (HES)
Internal Scottish Government Advisors
Transport Scotland
Marine Scotland
Scottish Forestry
Scottish Forestry Grampian
Non-Statutory Consultees
BAA Aerodrome Safeguarding (Aberdeen)
British Horse Society
British Telecom (BT)
Cairngorms National Park Authority
Civil Aviation Authority – Airspace
Crown Estate Scotland
Defence Infrastructure Organisation
Deveron District Salmon Fishery Board (DSFB)
Deveron Fisheries Trust
Fisheries Management Scotland
Joint Radio Company
John Muir Trust
Mountaineering Scotland
NATS Safeguarding
RSPB Scotland
Saving Wildcats
Scottish Rights of Way and Access Society (ScotWays)
Scottish Water
Scottish Wildcat Action
Scottish Wildlife Trust
Scottish Wild Land Group (SWLG)
Visit Scotland

Table B.1: Consultee List
Community Councils
Dufftown and District Community Council
Huntly Community Council
Strathbogie Community Council
Strathisla Community Council
Tap O' Noth Community Council

APPENDIX C

PRE-SCOPING CONSULTATION SUMMARY IN RELATION TO ECOLOGY AND ORNITHOLOGY

Table C.1: Consultation Summary			
Date and Form of Consultation	Consultee	Date and Form of Response	Comments
8 th April 2019 (email)	North East Scotland Biological Records Centre (NESBReC)	17 th May 2019 (records sent by email)	<p>Contacted for existing ecological and ornithological records (incl. non-statutory sites) relevant to the Site and surrounding area.</p> <p>NESBReC responded providing relevant records which have been used to identify any known sensitive features and inform the scope of baseline field surveys.</p> <p>Information obtained will be further used to inform the design and assessment of the Proposed Development.</p>
8 th April 2019 (email)	Royal Society for the Protection of Birds (RSPB)	13 th May 2019 (records sent by email)	<p>Contacted for ornithological records relevant to the site and surrounding area.</p> <p>RSPB responded providing relevant records which have been used to identify target species and inform the scope of baseline field surveys.</p> <p>Information obtained will be further used to inform the design and assessment of the Proposed Development.</p>
8 th April 2019 (email)	North East of Scotland Raptor Study Group (NESRSG)	3 rd May 2019 (letter by email)	<p>Contacted for ornithological records relevant to the site and surrounding area.</p> <p>NESRSG responded providing relevant records which have been used to identify target species and inform the scope of baseline field surveys.</p> <p>Information obtained will be further used to inform the design and assessment of the Proposed Development.</p>
14 th May 2019 (letter sent by email)	NatureScot (NS) (formerly SNH)	16 th May 2019 (email)	<p>Contacted and provided with the proposed scope of ornithological and ecological surveys.</p> <p>NS responded to confirm that they are in agreement with the scope of surveys proposed, and that the main ecology/ornithology consideration for development at this location will comprise the Tips of Corsemal and Tom Mor Special Protection Area (SPA) breeding common gull colony.</p>
21 st August 2019 (letter sent by email)	NatureScot (NS) (formerly SNH)	27 th August 2019 (email)	<p>Contacted and advised on the requirement to force an amendment of a Vantage Point (VP) survey location, on account of access restrictions and advise on the appropriateness of an alternative VP location.</p> <p>NS responded to confirm the requirement was acknowledged and did not see any issue as long as the alteration is duly acknowledged in the assessment.</p>
9 th April 2020 (letter sent by email)	NatureScot (NS) (formerly SNH)	4 th May 2020 (email)	Contacted NS upon the completion of Year 1 ornithology surveys, for advice on the requirement for further survey.

Table C.1: Consultation Summary			
Date and Form of Consultation	Consultee	Date and Form of Response	Comments
			NS responded to agree that a full second year of ornithology survey would not be required and given the main ornithology considerations at this site (breeding common gull) only a second breeding season of ornithology surveys would be required.
4 th November 2020 (email)	Scottish Wildcat Action (SWA)	11 th November 2020 (email)	Contacted SWA to enquire about wildcat records and known range in the area of the Site, and to discuss any requirement for further targeted wildcat surveys. SWA provided wildcat/wildcat hybrid records they have relevant to the Site. SWA stated that although much of the Site (conifer plantation) is not good habitat for wildcat, they provided some information regarding the potential habitat enhancement measures that could be adopted as part of the HMP to benefit wildcats.