

Non-Technical Summary

Cairds Hill Wind Farm

Client: EDP Renewables
Reference: C4421-145
Version 1

April 2024



Non-Technical Summary

EDP Renewables | C4421-145 | Version 1



Report Prepared for:

EDP Renewables

Author:

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Table of Contents

1	Non-Technical Summary	1
1.1	Introduction	1
1.2	Environmental Impact Assessment	2
1.3	Environmental Impact Assessment Report	2
1.3.1	Availability of the EIA Report	2
1.3.2	Representations to the application	2
1.4	The Applicant	3
1.5	The Agent	3
1.6	Content of Planning Application	3

2	Consultation	5
2.1	Pre-application Meeting	5
2.2	Scoping	5
2.3	Consultation Event	5

3	Site Selection and Design	7
3.1	Introduction	7
3.2	Site Selection and Consideration of Alternatives and Design	7
3.3	Site Constraints	7
3.4	Design Evolution	8
3.5	Conclusion	9

4	Proposed Development	10
4.1	Introduction	10
4.2	Development Description	10
4.3	The Site	11
4.3.1	Access	11
4.3.2	Grid Connection	12
4.3.3	Wind Turbines	12
4.4	Construction	13
4.4.1	Construction Approach	13
4.4.2	Construction Environmental Management Plan	13
4.4.3	Drainage	13
4.4.4	Micrositing	13
4.4.5	Forestry	13
	Operation and Maintenance	13
4.5	13	
4.6	Reinstatement and Decommissioning	14
4.6.1	Reinstatement	14
4.6.2	Decommissioning	14

5	Ornithology	15
5.1	Introduction	15
5.2	Survey Results	15
5.3	Predicted Effects	15

6	Ecology	16
6.1	Introduction	16
6.2	Site Protected Species Summary	16
6.3	Mitigation	17
6.4	Summary	17
7	Landscape and Visual Impact Assessment	18
7.1	Introduction	18
7.2	Assessment Results	18
7.2.1	Landscape Effects	18
7.2.2	Visual Effects	18
7.2.3	Cumulative Effects	19
7.3	Summary	19
8	Cultural Heritage and Archaeology	20
8.1	Introduction	20
8.2	Assessment Results	20
8.2.1	Within the Site	20
8.2.2	Outwith the Site	20
8.3	Summary	20
9	Hydrology and Hydrogeology	22
9.1	Introduction	22
9.2	Sensitive Receptors	22
9.3	Potential Impacts	22
9.3.1	Watercourses	22
9.3.2	Private Water Supplies	23
9.3.3	Groundwater Dependent Terrestrial Ecosystems (GWDTE)	23
9.4	Mitigation	23
9.5	Summary	23
10	Noise	24
10.1	Introduction	24
10.2	Summary of Predicted Impacts and Effects	24
10.2.1	Construction noise	24
10.2.2	Operational Noise	24
10.2.3	Cumulative Noise	24
10.3	Conclusion	24
11	Shadow Flicker	25
11.1	Introduction	25
11.2	Summary of Predicted Impacts and Effects	25
11.3	Conclusion	25
12	Aviation and Radar	26
12.1	Introduction	26
12.2	Potential Effects	26

12.3	Summary	26
13	Access, Traffic and Transport	27
13.1	Introduction	27
13.2	Abnormal Loads Route to Site	27
13.3	Construction Traffic	27
13.4	Summary	27
14	Socio-economics, Tourism and Recreation	28
14.1	Introduction	28
14.2	Potential Impacts	28
14.2.1	Socio-economic	28
14.2.2	Tourism	28
14.2.3	Recreation	28
14.3	Summary	29
15	Forestry	30
15.1	Introduction	30
15.2	Summary	30
16	Other Issues	31
16.1	Introduction	31
16.2	Telecommunications	31
16.2.1	Introduction	31
16.2.2	Predicted Impacts and Effects	31
16.2.3	Summary	31
16.3	Carbon Balance	31
16.3.1	Introduction	31
16.3.2	Summary	32
16.4	Safety	32
16.4.1	Introduction	32
16.4.2	Summary	32

1 Non-Technical Summary

1.1 Introduction

This document provides a Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) Report for the proposed Cairds Hill Wind Farm. The EIA Report forms part of an application by EDP Renewables Limited, hereafter referred to as 'the Applicant' for consent to construct, operate and decommission the Proposed Development. The application will be submitted under the Town and Country Planning (Scotland) Act 1997 (As Amended).

The Proposed Development consists of four turbines, three up to 180m in tip height, one measuring up to 150m tip height and associated infrastructure. Each turbine would generate around 4.2MW of electricity for an overall total of 16.8MW of generating capacity.

The Proposed Development is located within the Caird Woods in Moray. Whilst the Proposed Development site totals around 170 hectares, the area occupied by the turbines and associated infrastructure would be approximately 6 hectares. The nearest settlement to the Proposed Development is Keith, 2.4km kilometres from the nearest turbine. The location and Site Boundary of the Proposed Development (the Site) is shown in **Figure 1.1** below.

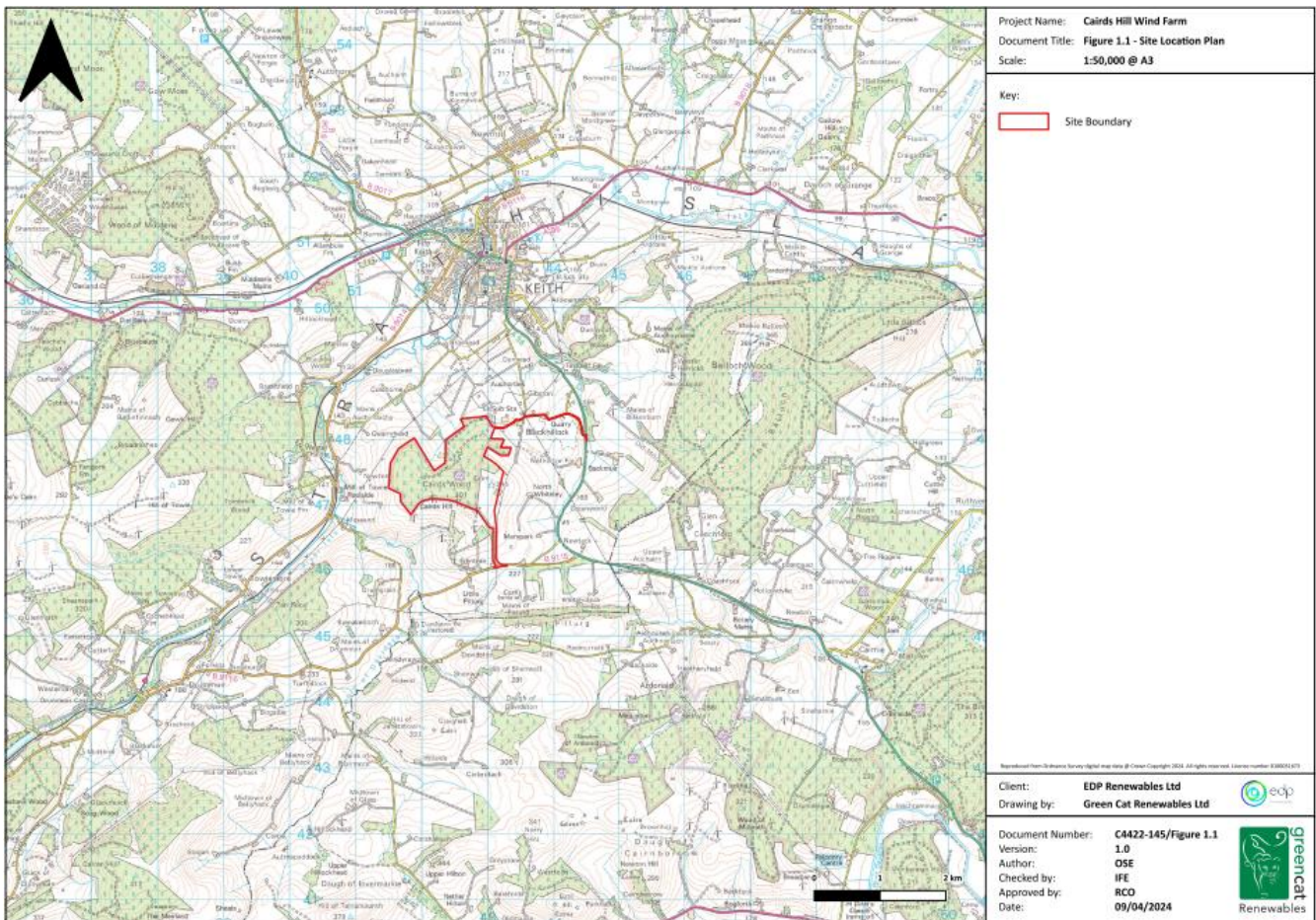


Figure 1.1 - Site Location Plan

1.2 Environmental Impact Assessment

Under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (hereafter referred to as the EIA Regulations), the Proposed Development is considered to have the potential to result in significant effects to the environment. Therefore, an EIA must be undertaken and an EIA Report submitted with the application.

The main steps in the EIA assessment process for the Proposed Development have been:

- Summary of the relevant legislation, policy and guidance documents used to inform the assessment;
- Discussion of the results of consultation for each technical chapter;
- Identification of the chapter specific assessment methodology;
- Identification of the existing baseline conditions at the Site and the defined study area;
- Assessment of the likely environmental impacts (both adverse and beneficial) associated with the construction, operation and decommissioning of the Proposed Development;
- Identification of mitigation to avoid, prevent, reduce or, if practicable, offset adverse effects;
- Summary of Predicted Impacts and Effects

1.3 Environmental Impact Assessment Report

An Environmental Impact Assessment Report (EIA Report) is a means of drawing together, in a systematic way, an assessment of the likely significant environmental effects arising from a proposed development. It is a rigorous assessment of the potential environmental effects the development may have across a wide range of areas. The purpose of the assessment is to ensure that decision makers consider these environmental impacts when forming a decision on the planning application.

The EIA Report is a report that pulls together the results of the assessments as part of the EIA process. The EIA Report includes a description of how the work was carried out and any assumptions that were used. It sets out the likely impacts of the development on the environment and describes the measures proposed to reduce any impacts (known as 'mitigation').

In line with the EIA Directive¹ and the local planning policies, the EIA Report covers the key environmental, technical and social issues associated with the Proposed Development

1.3.1 Availability of the EIA Report

Copies of the EIA Report can be viewed online at the links provided:

- Moray Council Planning Portal: <https://publicaccess.moray.gov.uk/eplanning/>

1.3.2 Representations to the application

Representations will only be accepted electronically using the online comments form at the link below or by email.

Any representations to the application should be made directly to Moray Council via the Council's e-planning portal at: <https://publicaccess.moray.gov.uk/eplanning/>

Email: comments.planning@moray.gov.uk

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0052&from=EN> (Accessed 19/02/2024)

If you wish to submit a representation by post, an email address must also be provided. Any correspondence from the planning authority in relation to an application will be sent by email.

All representations should include:

- Your full name and address
- The date
- Your email address
- An application reference number and property address
- The grounds on which you are commenting

1.4 The Applicant

EDPR is a global leader in the renewable sector and the world's fourth-largest renewable energy producer. EDPR is currently present in the UK and internationally in another 28 markets. EDPR has personnel based in Edinburgh and, through its joint venture with ENGIE (Ocean Winds), recently completed construction on the 950MW Moray East Offshore Wind Farm, which has the capability of supplying 40% of Scotland's electricity demand. Further information on EDPR can be found on its corporate website at <https://www.edpr.com/en>.

1.5 The Agent

Green Cat Renewables Ltd (GCR) have been commissioned to prepare this report and manage all aspects of the planning submission. GCR is an environmental and engineering consultancy focused on all aspects of development support, based in Scotland. With an expanding team spread across 3 offices, the company's multi-disciplinary resource base spans all stages of project delivery: from feasibility and concept development to planning, engineering, project management and operational asset management.

1.6 Content of Planning Application

The application for planning permission for the Proposed Development comprises:

- The Cairds Hill Wind Farm EIA Report including all technical assessments;
- Non-Technical Summary (NTS) to provide a simplified overview;
- Planning Statement to highlight key policy and legislation;
- Design Statement to showcase the design evolution of the Site

The EIA Report is organised as follows:

- Volume 1: EIA
 1. Introduction
 2. Project Description
 3. EIA Methodology
 4. Planning Policy
 5. Ornithology
 6. Ecology
 7. Landscape and Visual Impact Assessment
 8. Cultural Heritage and Archaeology

Non-Technical Summary

EDP Renewables | C4421-145 | Version 1

9. Hydrology and Hydrogeology

10. Noise

11. Shadow Flicker

12. Aviation

13. Traffic and Transport

14. Socio-economics

15. Forestry

16. Other Issues

- Volume 2: Figures and Visualisations
- Volume 3: Appendices

2 Consultation

Consultation is a key component of the EIA process, and continues throughout the lifecycle of a development, from its initial stages through to consent, construction, operation, and decommissioning. This section details the consultation process undertaken during the design and EIA process.

2.1 Pre-application Meeting

The Proposed Development was presented to Moray Council and Key Stakeholders during a Pre-Application Meeting on the 29th October 2020.

The project team presented the early stage design for discussion, including scoping design of seven wind turbines and key constraints as identified during the initial design phase.

The meeting was attended by members of Moray Council, NatureScot and SEPA. Following the meeting Moray Council provided a pre-application response setting out key areas for consideration to support the planning application.

2.2 Scoping

A Scoping Report was submitted to Moray Council in January 2021 which requested receipt of a scoping opinion from Moray Council. A Scoping Opinion was issued by Moray Council in April 2021. A summary of key issues raised during consultation, both as part of the Scoping Direction and in response to additional pre-application consultation, has been included in each technical chapter of the EIA Report (**Chapters: 5-16**) as applicable.

2.3 Consultation Event

EDP hosted a public consultation event on 29th March 2022 in the Longmore Village Hall. The event was advertised in the local press ahead of the event as shown in **Figure 2.1**.

As well as the in-person event, the information presented was hosted on the project website to allow those who could not attend to view the materials and provide any comment, due to the Covid-19 Pandemic.

edp renewables

Edintore II Wind Farm Public Exhibition Invitation

EDP Renewables invites you to attend our public exhibition event for the Edintore II Wind Farm proposal, a four turbine extension to the operational Edintore Wind Farm.

We are committed to listening to local communities as we shape our plans.

Public Exhibition:

Longmore Village Hall, Keith - Tuesday 29 March, 3pm - 8pm

The exhibition will follow relevant Covid-19 guidelines.

Consultation materials will be available at www.edintore2windfarm.co.uk from 29 March 2022.

Comments should be made to EDP Renewables by 22 April 2022 and do not constitute a formal representation. An opportunity to make a formal representation will exist when a subsequent application is made. Thank you and we hope you can take part in the consultation events.

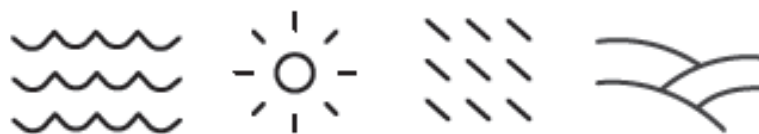


Figure 2.1 - Press advert

3 Site Selection and Design

3.1 Introduction

This chapter outlines the process undertaken in selecting the Site as a potential location for a wind farm development, provides a description of the Site and surrounding area, and discusses the design evolution and the alternatives that were considered during that process.

One of the principles of the Environmental Impact Assessment (EIA) process is that site selection and project design should be an iterative, constraint-led process. This process seeks to ensure that potential negative impacts, as a result of the Proposed Development, have been avoided or minimised as far as reasonably possible.

3.2 Site Selection and Consideration of Alternatives and Design

The Applicant has undertaken an extensive site searching exercise, seeking suitable sites upon which to develop a portfolio of wind turbine projects in the UK. The Applicant identified the Site as having potential for onshore wind development and entered into an agreement with the landowner to develop it.

It was confirmed at an early stage in the planning process that the Site could accommodate seven wind turbines. From this, the next step was to identify key site constraints, and to develop an appropriate design concept that respected those constraints.

The goal of the final layout of the turbines and associated infrastructure was to be sited in a manner that had the least environmental impact on potential receptors and sought to avoid significant impacts, whilst maintaining the technical and commercial viability of the overall project.

3.3 Site Constraints

Constraints were identified through a desk-based assessment, utilising publicly available data provided online by the appropriate authority bodies, site surveys and the consultation process. Key constraints for the Site are shown in **Figure 3.1** below.

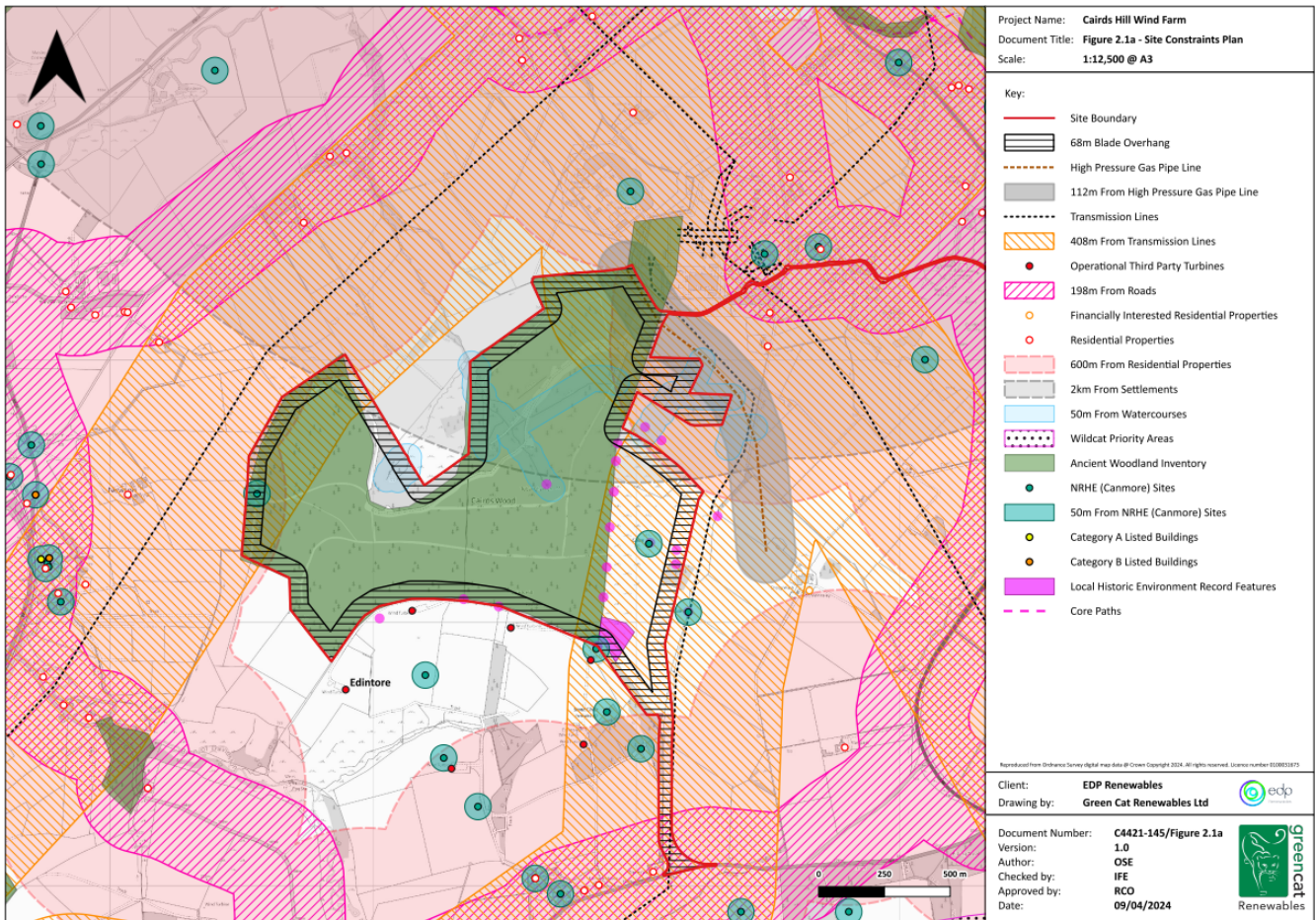


Figure 3.1 - Site Constraints Plan

3.4 Design Evolution

The design process of the Proposed Development has had three key iterations. The first layout iteration involved an initial high-level review of environmental constraints on Site alongside a landscape and visual impact appraisal by OPEN. Through this process it was identified the Site could accommodate seven wind turbines. A pre-application meeting was held with key stakeholders including Moray Council on 29th October 2020. Some of the key areas discussed were protected species, archaeology and landscape and visuals. All commentary was taken into account and a scoping report was prepared based on feedback.

Following the response to the scoping report, additional design was undertaken by the applicant’s design team. This reduced the number of turbines from seven to four. As a result of the reduction in number of turbines, a decision was made to increase the tip height from 149.9m to 180m to improve the commercial viability of the Proposed Development.

Following additional landscape and visual assessment and design review by OPEN, it was put forward that T1 (The most western turbine) should be reduced to 149.9m to limit impacts on nearby residential properties.

These iterations have taken into consideration environmental constraints, results from environmental baseline surveys, scoping responses from consultees and feedback from public consultation events. For more information on layout iterations see the **Design Statement**. The final design layout can be found in Planning Drawing: **C4421 (P) 101-106 Site Layout**.

3.5 Conclusion

The final layout is the result of a diligent design process and communication with key stakeholders, aimed at mitigating predicted impacts and effects through design. The design principles behind the proposed scheme have taken into account potential environmental considerations such as landscape and visual effects, cultural heritage impacts, physical constraints and engineering requirements.

By following the adopted design process, the siting and design of the Proposed Development has been optimised to avoid significant environmental impacts while maximising the generation capacity of the Site.

4 Proposed Development

4.1 Introduction

The Proposed Development is for a four-turbine wind farm of up to 16.8MW of generating capacity. The application is seeking:

The erection of four wind turbines, three of which are up to 180m to blade tip height and one up to 150m blade tip height, with a combined generating capacity of up to 16.8MW. This will form an extension to the existing Edintore Wind Farm. Associated and ancillary infrastructure includes hardstanding areas for each turbine location, onsite access tracks, an electrical substation and buried cables, temporary laydown areas and a temporary construction compound.

Consent is sought for a temporary period of 40 years.

The following planning figures and drawings detail the Proposed Development and accompany the planning submission:

- **Figure 2.1a Site Constraints Plan**
- **Figure 2.1b Site Constraints Plan with Layout**
- **C4421 (P) 100- Site Location**
- **C4421 (P) 101-106 Site Layout**
- **C4421 (P) 107-112 Drainage Concept**
- **C4421 (P) 113 Drainage Details**
- **C4421 (P) 114 Typical Details Foundation**
- **C4421 (P) 115 Typical Details Hardstanding**
- **C4421 (P) 116 Typical Details Access Track**
- **C4421 (P) 117 Sub Station Details**
- **C4421 (P) 118- Turbine Elevation**
- **C4421 (P) 119 Site Entrance Design & Visibility Splay**
- **C4421 (P) 120 Vis Splay-North Access**

4.2 Development Description

The Proposed Development will consist of the following infrastructure elements:

- Three, three-bladed horizontal axis wind turbines measuring up to 180m tip height;
- One, three-bladed turbine horizontal axis wind turbine measuring up to 150m tip height;
- Hardstanding areas for cranes at each turbine location;
- Turbine foundations;
- Approximately 3,675m of new access tracks;
- Approximately 1,593m of upgraded access tracks;
- Drainage works;
- New water crossings;

- An on-site electrical sub-station and control network of buried cables;
- Temporary laydown areas;
- Temporary construction compound, including parking, and welfare facilities; and
- Associated ancillary works.

Discussions are ongoing with Scottish and Southern Energy Networks (SSEN), who are the Distribution Network Operator (DNO), with regard to how the project would connect to the national electricity grid network. This does not form part of the current application.

4.3 The Site

The Proposed Development site is located on Cairds Hill (301m AOD) approximately 2km to the south of Keith in eastern Moray and 1.2km to the north of the Moray/Aberdeenshire boundary. The site area largely comprises the Cairds Wood area but extends across open ground to the east. The operational Edintore Wind Farm sits directly to the south of the site and Cairds Wood, on the south-facing slopes of Cairds Hill. As well as the operational wind farm, the local landscape also contains the recently extended Blackhillock Substation and Cairds Hill Quarry, adding to the partial industrialisation of the local area.

The landscape of the Site and the immediate surrounding landscape is characterised by gently undulating open farmland, punctuated by occasional woods and plantation forestry, most of which follow valleys or lower slopes of the larger hills in the area. The combination of sweeping gentle slopes, farmland, woodlands, and settlement results in a character of contrasting scale and openness. The River Isla is the largest river valley in the immediate area, passing through the settlement of Keith directly to the north of the Site.

The surrounding landscape is settled and in addition to Keith, includes Huntly to the southeast and Dufftown to the southwest, both at approximately 11km from the Proposed Development. Settlement within the area also includes a number of scattered residential properties and farms.

The A96 is located approximately 1.2km to the east of the Site, linking Inverness and Aberdeen. Other key routes in the area include the A95, the B9014 and the B9115 approximately 1.1km south of the site.

4.3.1 Access

The wind turbine components would be delivered to Peterhead Port and transported to site. Two access options have been identified within the Traffic and Transport study. Both routes follow the A90 south then exit at Craibstone Roundabout for access towards Inverness. Both routes then follow the A96 for 78-80km towards Keith (**Figure 4.1**).

Access Option 1 accesses the site from the south off the B9115 and Access Option 2 accesses the site from the east. Once on-site, each turbine location will be accessed via a combination of existing roads, upgraded access tracks and new access tracks.

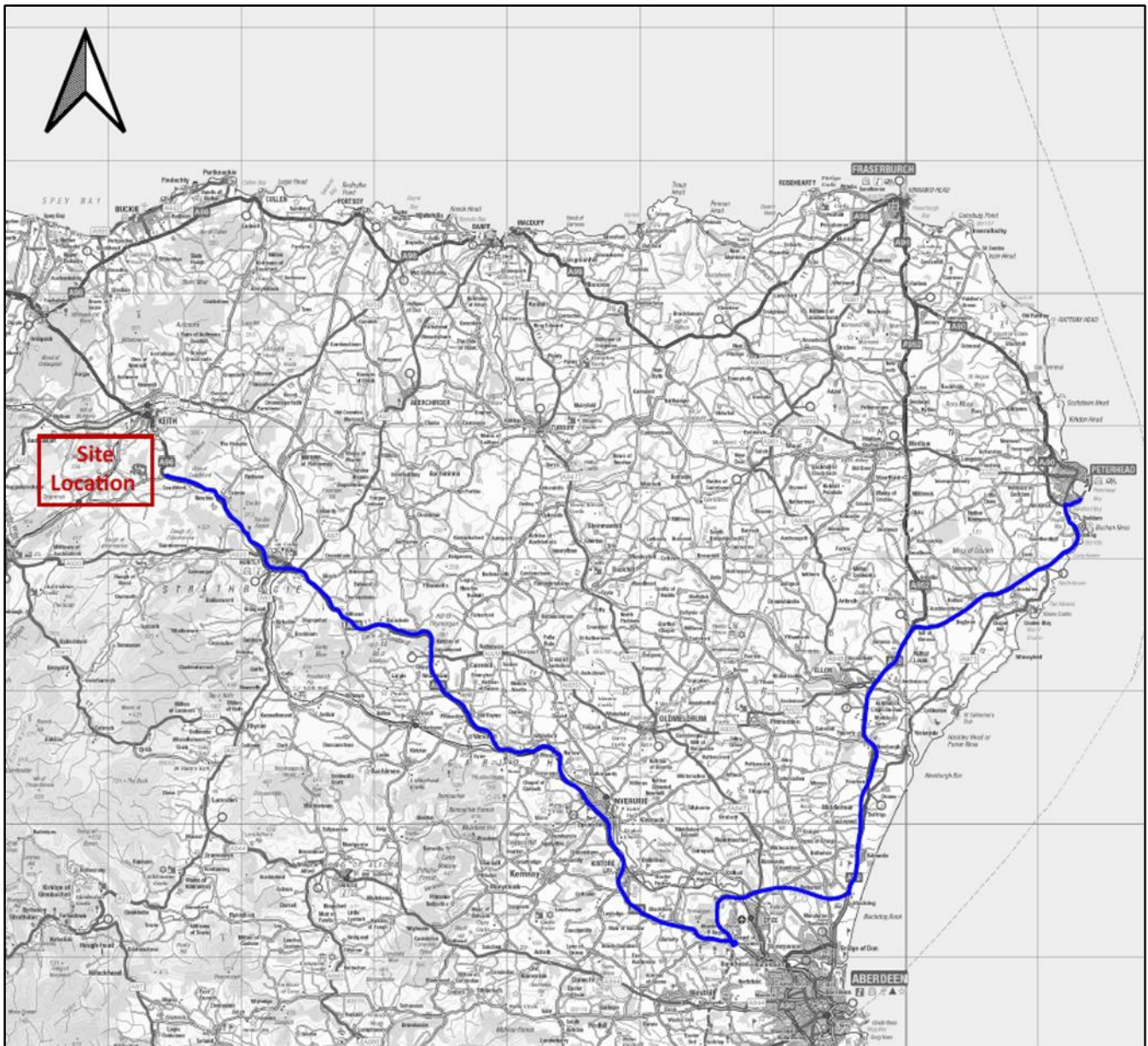


Figure 4.1 - Abnormal Load Route to Site

4.3.2 Grid Connection

Electrical cables will be laid in trenches, typically alongside the access tracks, and run to the onsite substation. Discussions are ongoing with Scottish and Southern Energy Networks, with regard to how the project would connect to the national electricity grid network. These plans would be finalised should the planning application gain consent.

4.3.3 Wind Turbines

The Proposed Development would comprise three wind turbines up to 180m in tip height and one turbine up to 149.9m in tip height. The exact model of wind turbine to be installed will be selected through a competitive procurement process. For the purposes of the assessments, a candidate model will be used, the Vestas V136-4.2MW which fits these height parameters, and which has a combined (four turbine) electricity generating capacity for the site of up to 16.8MW.

4.4 Construction

The onsite construction period for the Proposed Development is expected to be approximately 8 - 12 months. Normal construction hours would be between 07:00 and 18:00 Monday to Friday and 07:00 to 13:00 on Saturdays, or as agreed with Moray's Environmental Health Officer (EHO). It should be noted that in some instances (due to inclement weather or for health and safety reasons), some activities, for example abnormal load deliveries (which are controlled by Police Scotland) and the lifting of the wind turbine components, may occur outside the specified hours stated.

4.4.1 Construction Approach

A variety of materials would be required including crushed stone, cement, sand and concrete. Soil would be stripped back from the excavation area and stored for reinstatement. Surface runoff and ground water would be pumped away from the excavation area using techniques that avoid pollutants from entering watercourses. Concrete would be cast and excavated soil would be laid on top. Crane hardstandings can then be constructed.

4.4.2 Construction Environmental Management Plan

A CEMP will be prepared and implemented ahead of the commencement of construction to outline mitigation measures which will be implemented prior to construction. The CEMP will be prepared and agreed with Moray Council and relevant consultees prior to the commencement of construction.

4.4.3 Drainage

A preliminary drainage strategy plan has been produced to manage all surface water and foul drainage. This aspect is discussed further in **Chapter 9 Hydrology & Hydrogeology** and shown on **C4421 (P) 107-112– Drainage Concept**.

4.4.4 Micrositing

A micrositing allowance from the proposed position of turbines, and the routes of access tracks (up to 50m deviation from the indicative design) is requested via planning condition and will assist in reducing environmental impacts during construction. Micrositing of any of the turbines, track or associated infrastructure would be used to limit environmental impacts following a detailed site and ground investigation required as part of discharging the planning conditions and the final locations of infrastructure would be agreed in writing with the planning authority prior to site commencement.

4.4.5 Forestry

The Proposed Development would result in a net loss of 18.63ha of woodland. The Applicant is committed to providing appropriate compensatory planting to offset the woodland removal. **Chapter 16: Other Issues** highlights the carbon losses from tree removal is more than offset and the turbines would meet the energy demands of approximately 15,000 homes annually.

4.5 Operation and Maintenance

It is proposed that the operational lifetime of the Proposed Development will be 40 years. The Proposed Development would undergo maintenance throughout its operational lifespan.

Management of the Proposed Development would typically include wind turbine maintenance, health and safety inspections and maintenance of tracks, drainage and buildings.

Although activity on Site will be limited during the operational phase, the requirements of the CEMP will remain in place in the event that any maintenance works are required.

4.6 Reinstatement and Decommissioning

4.6.1 Reinstatement

Prompt completion of reinstatement works shall be undertaken where reasonably practicable. Early reinstatement reduces the temporary storage of materials and the associated visual impact.

Excavated materials will be replaced in a sequence and to a depth similar to those recorded during excavation, or similar to the surrounding undisturbed ground at the point of reinstatement.

Any reinstatement and restoration proposals will consider, and mitigate against, all residual risks to environmental receptors. These proposals will be submitted and agreed with Moray Council pursuant to any planning conditions.

4.6.2 Decommissioning

At the end of its operational life the Proposed Development is expected to be decommissioned. The decommissioning will be undertaken in accordance with good practice guidance available at the time. While details of the decommissioning stage cannot be known at this time, it is expected that decommissioning will involve the removal of all above ground infrastructure. On completion of the decommissioning works, all temporary facilities will be removed and areas of excavation disturbed will be reinstated.

Decommissioning effects are not generally considered in detail at this stage. It is proposed that a decommissioning plan will be agreed upon with Moray Council and relevant consultees prior to the end of life of the proposed development in line with planning conditions.

5 Ornithology

5.1 Introduction

The Ornithology assessment evaluates the potential impacts of the Proposed Development on bird species of conservation concern and their supporting habitats.

A programme of desk-based searches were undertaken from 2020 to 2023. The surveys undertaken consisted of 2 winter and 2 summer vantage point surveys, breeding bird surveys April-June 2022, and a Scarce breeding birds survey within a 2km radius of site. Collision risk modelling was used to predict the number of individuals per target species that might collide with the wind turbine rotors.

5.2 Survey Results

From an ornithological perspective, the size, habitat and locality of the site rules out various Schedule 1 species e.g., peregrine falcon, hen harrier, short eared owl as breeding birds. Goshawk are known to be in the wider area but were not noted breeding on site. Red kites are expanding over Scotland and single birds were present in 2022 in the area.

Breeding birds of interest recorded in the construction footprint were very limited. The predominant habitat is commercial plantation. After Storm Arwen in 2021 much of the forestry is wind-blown and there are also clear-felled areas. Birds in this habitat are limited to common passerines e.g. wren, robin etc. No curlew or lapwing breed on site. Breeding birds in the areas of gorse scrub are as expected and include yellowhammer, bullfinch, goldfinch, wren, robin, chaffinch, linnets etc.

The site is approximately 8km distant from the Tips of Corsemal & Tom Mor SSSI & SPA that is designated for breeding common gull. The grazing fields in the general area was attractive to foraging gulls (herring and common) at times. Common gulls occasionally flew over Site, however, no flights were recorded at Collision Risk Height. No species designated for the SPA were recorded either breeding or foraging on site. The Moray & Nairn Coast SPA & RAMSAR designated for wildfowl and breeding osprey is approximately 15km from Site.

5.3 Predicted Effects

Habitat loss, disturbance and displacement will be limited during construction given the small numbers of species present. Given the small amount of habitat that is on the site and general area and that this habitat is common in Scotland, the effect will be short term and there are not likely to be any significant impacts on ornithology as a result of the construction of the proposed development. Embedded mitigation undertaken before and during construction will minimise any detrimental effects.

In order to mitigate impacts on breeding birds, construction activities taking place within the bird-breeding season (1st March to 31st July inclusive) should be subject to a breeding bird survey by a suitably qualified ecologist or ECoW before construction commences.

6 Ecology

6.1 Introduction

The ecology and biodiversity assessment considers the potential impacts of the Proposed Development on habitats, flora and fauna. It details likely significant effects associated with the construction, operation and decommissioning phases of the Proposed Development.

The area within which the desk-based research and field surveys were undertaken varies depending on the ecological feature and its search/survey requirements. A desk study was undertaken to collate relevant public domain survey data, scientific publications, grey literature, and to obtain historical records of protected and relevant species of conservation interest and species and habitats protected by Scottish and European legislation from within the Site and surrounding environment.

There are two statutory designated sites located within 5km of the study area boundary that have ecological qualifying features, Den of Pitlurg SSSI and Mill Wood SSSI.

The conifer plantations within the red line boundary are listed within the Ancient Woodland Inventory (AWI), Native Woodland Survey of Scotland (NWSS) and the National Forest Inventory Woodland Scotland 2020 (NFIWS).

6.2 Site Protected Species Summary

Protected Species Surveys were undertaken in 2022 – 2023 (Appendix 6.2 and 6.3) and encompassed all land within the Site in line with NatureScot guidance.

During the protected mammal surveys the following species were specifically targeted, with species-specific buffers included for the surveys, according to survey guidelines and best practise and termed Ecology Survey Area (ESA):

- Badger (*Meles meles*): Suitable habitats within the Site and extending up to 100m from the Site;
- Otter (*Lutra lutra*): Suitable habitats to be surveyed within the Site, extending up to 200m of suitable habitats potentially impacted by the proposed development .
- Water Vole (*Arvicola amphibious*): The survey area included all suitable habitat within the Site, and within a 200m buffer to be surveyed where possible (access permitting), and extending up to 50m up and downstream of any watercourses or ditch systems potentially impacted by the proposed development;
- Red Squirrel (*Sciurus vulgaris*): Suitable habitats to be surveyed within the Site, involving visual surveys and transects, with distances as per Gurnell, J. and P.W.W. Lurz (2012, page 9) .
- Pine Marten (*Martes martes*): The survey includes a systematic search for signs of pine marten presence and potential den sites within the proposed development following methodology set out in Cresswell et al. (2012) .
- Brown Hare (*Lepus europaeus*): Suitable habitats within the Site and extending up to 200m from the Site, following methodology set out in Cresswell et al. (2012) ;
- Wildcat (*Felis silvestris*): Initial surveys were undertaken following methodology and guidance from NatureScot 2014 . Surveys for wildcat included searching for potential den sites and for other signs of wildcat presence within the Site and extending up to 250m from the Site boundary;
- Reptiles & Amphibians: No specific surveys undertaken, records obtained when on Site during other survey work; and
- Further species included watching brief surveys of Deer.

Any evidence of the presence of protected mammals was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was recorded using a handheld GPS unit and photographs were taken to visually catalogue each record.

6.3 Mitigation

The following actions are proposed for the Proposed Development:

- A suitably qualified and experienced Ecological Clerk of Works (ECoW) will be appointed to provide ecological and environmental advice during construction
- Pre-construction surveys for protected species, such as otter, badger, water vole, red squirrel and wildcat will be undertaken to provide up-to-date information about the distribution and abundance of the protected species.
- Habitat management plans are advised to protect and enhance good quality habitat and effective hydrological connectivity to sensitive mire, marsh habitats and watercourses.

The Applicant has committed to the provision of a Habitat Management and Monitoring Plan (HMMP) to reduce adverse environmental effects and to provide significant enhancements for important ecological features and biodiversity enhancement at the Proposed Development, and as a requirement in line with Policy 3 of National Planning Framework 4. Enhancement is suggested for terrestrial habitats and water course habitats.

Watercourse enhancement will include management of bankside vegetation and riparian planting. Terrestrial habitat enhancement will include tree and wildflower planting.

6.4 Summary

Following the application of mitigation, such as, habitat management plans, species protection plans and standard working methods and good practice measures, no significant residual effects are predicted.

Therefore, embedded mitigation has been proposed to ensure the low magnitude of effects during the construction phase and to reduce the likelihood of legal offences and comply with good practice.

- Habitat management plans are advised to protect and enhance good quality habitat and effective hydrological connectivity to sensitive mire, marsh habitats and watercourses.
- Species Protection Plans have been advised in **Appendix 6.1** for badger, wildcat, water vole and otter.

This assessment does not predict any likely significant ecological residual effects associated with the proposed development.

7 Landscape and Visual Impact Assessment

7.1 Introduction

The Landscape and Visual Impact Assessment considers effects on the landscape resource - both direct effects and effects on how the landscape is perceived - and the effect on visual amenity (views) within the Study Area. Cumulative effects arising from the addition of the Proposed Development to other wind farms are also considered. Landscape and Visual Impact Assessment (LVIA), including a Cumulative LVIA, was undertaken for the Proposed Development in accordance with EIA regulations and best practice. The landscape and visual assessment is supported by a series of graphics and visualisations.

7.2 Assessment Results

7.2.1 Landscape Effects

The Proposed Development is located on an upland landscape (Low Forested Hills) on the broad forested hill of Cairds Hill. Areas of forestry are required to be removed in the construction of the Proposed Development. Whilst this represents a relatively modest amount of felling in the context of surrounding forestry, the forested summit of Cairds Hill provides a recognisable feature in the landscape due to its position across the top of the hill and contrast to the steep sloping upland farmland that surrounds it. The physical landscape effect of the Proposed Development on this landscape element has been assessed as Moderate and Not Significant.

An area of agricultural land on the eastern slopes of Cairds Hill would also be disrupted by the Proposed Development with access tracks, the substation compound and one of the turbines located within it. The area of agricultural land to be permanently removed in the construction and operation of the Proposed Development is very limited in relation to the total area on the site and elsewhere within neighbouring Landscape Character Types (LCTs). The physical landscape effect of the Proposed Development on this landscape element has been assessed as Minor and Not Significant.

The LVIA has identified significant effects for localised parts of the landscape character areas that cover the site and its immediate surroundings. Significant landscape character effects are assessed to extend across Low Forested Hills LCT (Cairds Hill Unit) and north across the Upland Farmland LCT within 2-3km from the nearest turbine of the Proposed Development. Significant landscape character effects would arise largely due to the close proximity of the Proposed Development but also take account of the interaction with the visibility and potential cumulative effects with the existing Edintore wind turbines. No other LCTs considered in the LVIA are assessed as being subject to significant effects. None of the landscape designations within the Study Area have been assessed as being subject to significant effects.

7.2.2 Visual Effects

The assessment of effects on views is informed by a series of 19 viewpoints that were selected, in agreement with Moray Council and NatureScot to represent visibility from a range of receptors throughout the Study Area. The visual assessment has found significant effects for the operational/under construction scenario, at four viewpoint locations, as follows:

- Moderate and significant effects for road users at - Viewpoint 1- A96 at junction of B9115; and Viewpoint 2- Isla Way near Braehead.
- Moderate and significant effects for residential receptors at Viewpoint 19- Keith – Mid Street Conservation Area (street level views).

- Moderate-Major and significant effects for residential receptors at Viewpoint 5- Keith, Union Terrace and Viewpoint 19- Keith – Mid Street Conservation Area (unobstructed upper storey views).
- Major and significant effects for recreational receptors at Viewpoint 2- Isla Way near Braehead

7.2.3 Cumulative Effects

The significant effects identified in the LVIA are considered to occur both as a result of the Proposed Development on its own (introduced to the host LCT or in close proximity views) and also cumulatively with the operational / under construction baseline. Where consented and cumulative schemes are visible from key landscape and visual receptors, they would often appear within a context and backdrop of existing wind energy development in the distant view, substantially limiting their cumulative influence or interaction when considering the additional effect of the Proposed Development. For the majority of landscape and visual receptors in the Study Area, the addition of the Proposed Development to the consented and application cumulative scenarios would therefore not result in an alteration to the cumulative effect assessed against the operational baseline scenario assessed in the LVIA.

7.3 Summary

The Proposed Development turbine layout has been carefully designed to minimise the effect on localised receptors taking care in positioning turbines to fit with the layout of Edintore in order to maintain a cohesive spread of turbine development. The landscape and visual effects would be intensified within some views and parts of the landscape due to clear differences in scale between the existing Edintore turbines and the Proposed Development turbines. The design Proposed Development has made the best use of the hill forms on site to help to settle the Proposed Development into the topography to minimise these scale differences where possible. The compact nature of the layout also results in a small horizontal field of view when viewing the Proposed Development from the wider landscape context. Therefore, the Proposed Development would be consistently viewed within the same context as the existing Edintore wind farm and as occupying a small part of the wider landscape context.

8 Cultural Heritage and Archaeology

8.1 Introduction

Cultural heritage is represented by a wide range of features, both above and below ground, which result from past human use of the landscape. These include standing buildings, many of which are still in use; sub-surface archaeological remains and artefact scatters; industrial remains; earthwork monuments and landscape features such as field boundaries. The cultural heritage and archaeological assessment aims to identify heritage assets that may be impacted upon by the Proposed Development.

8.2 Assessment Results

8.2.1 Within the Site

Eleven locally and regionally significant features located on or in close proximity to the Site were assessed in terms of physical and setting impacts. This assessment found that impacts to features on Site were generally low to negligible and no significant impacts were found.

8.2.2 Outwith the Site

The setting impact upon historic features within 10km of the Proposed Development have been considered in the assessment. The overall predicted level of effect upon the historic features within 10km of the development is typically low to negligible with one medium impact occurring to Keith Mid Street Conservation Area. The assessment has highlighted no significant impacts on any heritage assets.

There is one feature of high sensitivity and three features of medium sensitivity found within 2km of the Proposed Development, Edintore House, Mill of Towie, Mill of Towie Granary, and Auchindachy Bridge. None of these were found to be significantly impacted by the Proposed Development.

Beyond 2km and out to 10km, there are a further four Scheduled Monuments, two Conservation Areas and six Category A Listed Buildings included in the assessment. None of these were found to be significantly impacted by the Proposed Development.

Beyond 10km a further five Scheduled Monuments, three Conservation Areas and an Inventory Battlefield were included in the assessment as requested. These impacts were considered to be negligible.

8.3 Summary

This assessment has considered the potential effects on the cultural heritage and archaeological assets from the Proposed Cairds Hill Wind Farm. Both physical impacts and setting impacts have been considered as part of this assessment.

In terms of physical effects, no features were found to be within the direct area of construction however some features are within 50m of proposed infrastructure and 200m of the proposed turbines. As such mitigation in the form of fencing and watching briefs is proposed.

With regard to setting effects, there were no significant impacts found on the setting or historical appreciation of any features within the Site, within the 10km study area or on those features that were considered beyond 10km. There were no significant impacts found on any other features of high or medium sensitivity. This includes effects found on any Scheduled Monuments, Category A and B Listed Buildings, Conservation Areas, Inventory Battlefields and Gardens and Designed Landscapes.

Many of the more sensitive features of cultural heritage are situated within the settlement of Keith, where the impacts are limited by distance, topography, vegetation as well as the fact the turbines have limited impact on the urban setting of Keith and the setting it provides to these features.

The existing turbines already have some level of impact on the present day setting of the historic and cultural features in the area, and the modest addition of four turbines in a similar part of the landscape would not exacerbate these existing impacts.

9 Hydrology and Hydrogeology

9.1 Introduction

Understanding surface and groundwater environments is critically important to designing a successful project. The hydrology assessment considers the potential effects of the Proposed Development on surface water and ground water.

Surface water includes watercourses, water bodies, and runoff. It provides an important resource for potable and other uses, amenity, aesthetic value, conservation, ecological environments, and for recharge to groundwater systems. Groundwater is also an important resource. It provides more than a third of the potable water supply in the UK and includes all water stored in permeable underground strata (or aquifers). In addition, it provides essential baseflow to rivers and wetland areas, often supporting important ecological systems.

The risk of pollution or disruption of watercourses, groundwater bodies, and private water sources, within or near the site, needs to be assessed and appropriately mitigated where necessary. Potential impacts could include:

- Erosion and sedimentation
- Impacts to surface runoff characteristics
- Impacts on surface water quality
- Impacts on river flows and flooding
- Impacts on groundwater dependent terrestrial ecosystems
- Impacts on soils
- Impacts on peat hydrological regime
- Chemical pollution of groundwater
- Disruption or fouling of private water supplies
- Impacts on public water supplies and abstractions
- Modifications to hydrogeological regime
- Peat Slide Risk

9.2 Sensitive Receptors

Three main categories of sensitive receptors were identified within the study area. These were watercourses, Private Water Supply (PWS) and groundwater dependent terrestrial ecosystems (GWDTE).

9.3 Potential Impacts

9.3.1 Watercourses

There is potential for increased surface runoff to elevate the risk of flooding in the downstream catchment, and to enable sediment and contaminants to reach watercourses. Due to the Proposed Development's proximity, there is potential for increased sediment to be washed into the River Isla and its tributaries. The construction of access track, crane hardstandings, and laydown areas may all interrupt surface water flow paths and increase flood risk. Due to the proximity, the watercourses within the study area have the potential to be impacted by any temporary dewatering activities.

9.3.2 Private Water Supplies

Three PWS have been identified within the 1.2km study area, which are all noted to serve residential properties from a spring source. As the water supplies are located downhill from the Proposed Development, there is potential for an increased runoff to allow sediment and contaminants and sediment-laden runoff to reach the PWS. Due to distance from the development it is not anticipated that the three PWS will be impacted by dewatering activities or chemical pollution.

9.3.3 Groundwater Dependent Terrestrial Ecosystems (GWDTE)

GWDTE are vegetation communities with a varying degree of dependency on groundwater. GWDTE derive their water supply primarily from a groundwater body, rather than deriving their water from rain and surface water. There is potential for an increase in surface water runoff to enable sediment and contaminants, such as foul drainage and chemical pollution, to reach GWDTE communities. Dewatering may also temporarily affect groundwater in the vicinity of these communities.

9.4 Mitigation

Prior to construction, a Construction and Environmental Management Plan (CEMP) and a Pollution Prevention Plan (PPP) will be put in place, adhering to the standards set out by SEPA and Moray Council. These documents will outline mitigation measures to reduce or nullify potential impacts on the ground and surface water environment.

The CEMP and PPP will address the following issues:

- Reinstatement and Restoration
- Decommissioning
- Contractor Duties
- Tool Box Talks
- Pollution Prevention and Mitigation
- Control of Substances Hazardous to Health
- Pollution Monitoring & Controls
- Site Waste Management Plan

Early reinstatement of excavated materials is required to minimise visual impact, to reduce time required for temporary storage/stockpiling of soils, and to encourage vegetation and habitat restoration as early as possible.

9.5 Summary

A desk-based study and site walkover were conducted to establish the baseline hydrological environment of the site, whereby potential impacts from the development were identified.

It was determined that there were three categories of sensitive receptor within the study area, these being: Surface Water Features, including the 'River Isla – Source to Keith' and the 'Burn of Drum' watercourses and their tributaries; Three Private Water Supplies (PWS); and Class 2 GWDTE communities. Class 2 GWDTE are communities which are partially dependent on groundwater as their water source.

It is anticipated that careful design of the site layout, and the implementation of the mitigation methods proposed, will ensure that any potential risks identified are avoided and the associated risk is reduced to acceptable levels.

10 Noise

10.1 Introduction

Noise can have an effect on the environment and on the quality of life enjoyed by individuals and communities. The impact of noise can, therefore, be a material consideration in the determination of planning applications.

Noise impacts have the potential to arise from three distinct areas of wind farm development:

- The construction of the wind turbines – through the movement of vehicles and use of construction plant
- During the operation of the wind turbines – predominantly through the rotation of the turbine blades generating aerodynamic sound when the turbines are operating.
- Cumulative noise from surrounding wind farms – the combination of multiple turbines emitting aerodynamic sound.

The noise assessment took the form of a desktop assessment following Institute of Acoustics (IoA) Good Practice Guide recommendations.

10.2 Summary of Predicted Impacts and Effects

10.2.1 Construction noise

It was agreed at the scoping stage that construction noise can be controlled through an appropriate planning condition. Sound levels arising from construction activities are expected to have a low noise impact due to the significant setback distance (>600m) of the nearest sensitive receptors.

10.2.2 Operational Noise

Operational noise from the Proposed Development was assessed using propagation modelling in accordance with the Institute of Acoustics Good Practice Guide. 18 receptors were identified within the study area and included in the NIA. Background noise survey data collected within the study area, in support of third-party wind developments, was referenced to derive cumulative noise limits.

The Proposed Development was predicted to meet applicable noise limits at surrounding, noise sensitive receptors.

10.2.3 Cumulative Noise

Noise impacts arising from the proposed turbines were considered cumulatively with 15 third-party wind turbines identified within a 5km radius from the Proposed Development. This provided a highly conservative assessment of cumulative wind turbine noise.

Total calculated immissions were shown to meet cumulative ETSU-R-97 limits for both daytime and night-time periods.

10.3 Conclusion

It was concluded that the Proposed Development would meet appropriate noise limits resulting in a low to negligible impact on all nearby third-party receptors within the study area.

11 Shadow Flicker

11.1 Introduction

Tall structures such as wind turbines cast shadows. The shadows vary in length according to the sun's altitude and azimuthal position. Under certain combinations of geographical position and time of day, the sun may pass behind the rotor of a wind turbine and cast a moving shadow over neighbouring properties. Where this shadow passes over a narrow opening such as a window, the light levels within the room affected will decrease and increase as the blades rotate, hence the shadow causes light levels to 'flicker' - an effect commonly known as 'shadow flicker'.

11.2 Summary of Predicted Impacts and Effects

All of the potentially sensitive residential properties surrounding the site have been identified and a mathematical model has been run using conservative assumptions to calculate the theoretical potential effect of shadow flicker at the identified receptors. The assessment was also carried out cumulatively to incorporate any potential effects from the existing Edintore Wind Farm.

The assessment found that shadow flicker had the potential to occur at some of the surrounding properties. Once realistic meteorological and operational factors were considered it was found that any flicker is likely to be infrequent and short-lived. The assessment recommended that the turbines be programmed to shut down when shadow flicker events are predicted to occur should it be demonstrated that shadow flicker effects cause problems at nearby houses.

11.3 Conclusion

It is expected that a suitable planning condition could be used to mitigate any potential adverse shadow flicker effects either in response to a complaint or proactively by means of incorporating a turbine shutdown strategy.

12 Aviation and Radar

12.1 Introduction

The aviation and radar assessment considers the potential effects of the Proposed Development on existing and planned military and civil aviation activities, including those resulting from impacts to radar and the potential effects resulting from the physical presence of the turbines as obstacles.

Radio waves are used in a variety of surveillance and communication systems within aviation and any large structure has the potential to interfere with their broadcast and reception. The potential of a structure to affect the propagation of radio waves is principally dependent upon the size, shape and materials of construction. The blade rotation can cause turbines to show up on radar, which is specifically designed to detect movement. Whilst turbines can impact radar, whether or not this generates significant operational effects depends upon both the use of the radar and of the airspace above the Proposed Development.

The potential effects are highly dependent on the location of the wind farm and on the positions of the individual turbines. In some cases, there are no significant consequences, and no mitigation is required, whilst in other cases the turbine specification or layout must be designed to accommodate local infrastructure. Mitigation is often available and appropriate to manage impacts.

12.2 Potential Effects

There will be no significant aviation effects during construction or decommissioning, beyond the lighting of the cranes and notification of their use as tall structures, which is typical for a development of the size and type of the Proposed Development.

The primary consideration in terms of impacts and any requirement for mitigation, arises from the operational phase of the Proposed Development. Responses from stakeholders have been received both as a result of the scoping submission and from the aviation lighting consultation conducted since.

No objections have been received from National Air Traffic Services (NATS), Highlands and Islands Airport Limited (HIAL), Aberdeen Airport, Scottish Police and Scottish Air Ambulance.

The MOD responses have highlighted anticipated impacts to the Air Traffic Control (ATC) radar at RAF Lossiemouth. The Applicant accepts the potential for impacts and will work with the MOD to identify and implement a radar mitigation scheme.

12.3 Summary

Physical obstruction risks can be effectively mitigated through the use of the proposed lighting scheme approved by the Civil Aviation Authority, also stipulated by the MOD. It is possible that the MOD will ask for the addition of infrared lighting, visible only to pilots using night vision goggles. Any such request will be met.

A requirement for the mitigation of impacts to the ATC radar at RAF Lossiemouth is also anticipated. Mitigation technologies are available. The Applicant will work with the MOD to identify, prove and implement a radar mitigation scheme fully meeting military requirements. Once the radar mitigation scheme has been implemented there will be no significant residual effects, noting that the MOD will only sanction mitigation that achieves this goal.

Visible spectrum lighting will be fitted to two of the turbines due to the tip heights being over 150m, this is for aviation safety.

13 Access, Traffic and Transport

13.1 Introduction

The Traffic and Transport assessment outlines the potential impacts of the Proposed Development on the local road network and highlights whether mitigation measures are required to minimise potential disruption.

13.2 Abnormal Loads Route to Site

As previously mentioned in **Section 4.3.1**, the wind turbine components would be delivered to Peterhead Port and two access options have been identified within the Traffic and Transport study. Both routes follow the A90 south then exit at Craibstone Roundabout for access towards Inverness. Both routes then follow the A96 for 78-80km towards Keith. Access Option 1 accesses the site from the south off the B9115. Access Option 2 accesses the site from the east.

13.3 Construction Traffic

The requirement for construction material deliveries will be spread throughout this period. Deliveries will be scheduled to avoid peak hours when the roads are busiest. Whilst delivery routes will vary depending on the source of the materials, it is expected that the majority of vehicles will follow a similar route to the turbine delivery vehicles described above.

It is proposed to use stone from local quarries for access tracks and hardstanding areas such as Cairdshill Quarry located 1km east of the Site, Leith Parkmour Quarry located 10.7km southwest of the Site and Breedon Rothes Glen Quarry located 16.3km west of the Site. Deliveries would likely access the Site by connecting to the A941 before joining the A95 eastbound towards Keith and connecting to the A96 at Haughs Road, travelling along the A96 until turning into the site entrance.

Following consent, an Abnormal Load Routing Plan (ALRP) and Construction Traffic Management Plan (CTMP) will be produced and agreed upon with Dumfries and Galloway Council. These documents will lay out a finalised work programme, schedule of deliveries and any required management measures in detail.

13.4 Summary

A suitable route to the site has been identified to be viable. The finalised route will be presented as part of the ALRP and CTMP. No significant effects have been identified as a result of the construction phase. It has been demonstrated that the turbine components can be safely delivered to the site and that suitable management plans will be enacted in agreement with the LPA and other key stakeholders, post consent.

14 Socio-economics, Tourism and Recreation

14.1 Introduction

This assessment evaluates the potential effects of the Proposed Development on socio-economics, tourism and recreation. There are no recognised standards or methodologies for assessing wind farms' socio-economic, tourism and recreation effects and as such, professional judgment has informed the approach to this assessment.

The assessment included:

- Desk-based studies to establish the baseline conditions of the Site;
- Consultation with relevant statutory and non-statutory bodies;
- An assessment of the impact of the Proposed Development on socio-economic, tourism and recreational receptors and
- Identification of possible measures to avoid, and mitigate against, any potential adverse effects because of the Proposed Development.

14.2 Potential Impacts

14.2.1 Socio-economic

The Proposed Development will provide a range of employment opportunities for the local, regional, and national economies. Of particular interest are those which will benefit Moray Council local economy.

It is estimated that over the duration of the construction and operational phase of the Proposed Development that:

- Up to 22 jobs will be created locally between construction, operation, and decommissioning phase
- Up to £1.5 million in gross Gross Value Added per year within Moray

This would be a positive change to the employment levels within the local community and the increased use of local facilities is considered to have a positive impact overall.

14.2.2 Tourism

During construction and decommissioning, some disruptions to road networks because of construction traffic would occur in addition to visual/noise impacts from workers, machinery, and on-site activity. Once constructed, the main impact to tourism would be the visual impact of the turbines themselves.

In total 9 tourist receptors were assessed including the Keith and Dufftown Railway, and Drummur Castle & Estate. Overall, there would be a minor level of effect on these receptors.

14.2.3 Recreation

Eight recreation receptors were assessed and it was found that there could be a moderate impact on Cairds Woods during construction. Otherwise, there would be a minor level of effect on recreation receptors in the area.

14.3 Summary

An overall beneficial impact on the local economy is predicted as the Applicant looks to maximise the net economic impact of the Proposed Development to the local community.

A comprehensive assessment of Socio-Economics, Tourism and Recreation has been carried out and it has been established that the Proposed Development will have minor impact on tourism and recreation and an overall beneficial impact on the local economy.

15 Forestry

15.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIA Report) evaluates the potential effects of the proposed Cairds Hill (the Proposed Development) on the woodland resource.

Commercial forests are a dynamic environment, and their structure continually undergoes change due to the following:

- normal felling and restocking by the landowner;
- natural events, such as storm damage, pests or diseases; and
- external factors, such as wind farms or other development.

The assessment identifies areas of forest to be removed for the construction and operation of the Proposed Development and outlines the proposed management practices, while identifying the likely restocking proposals and future land management of the remaining forest. The responsibility for the management of the remainder of the forest outwith the proposed Development lies with the landowner and therefore the wider felling operations, restocking, and aftercare operations do not form part of the proposed Development for which consent is sought.

15.2 Summary

The total study area extends to 141.76 ha and is comprised of state owned and managed woodlands.

Felling would be advanced on 52.94 ha for construction of the proposed development.

The species composition of the forest would change as a result of the proposed development forestry proposals. In particular, the area of Sitka spruce would decrease by 2.13 ha and the area of mixed conifer would increase by 13.46 ha.

The area of unplanted ground would increase and, as a result, there would be a net loss of woodland area of 18.63 ha.

In order to comply with the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required to mitigate for the loss of woodland area. The Applicant is committed to providing appropriate compensatory planting. The extent, location and composition of such planting is to be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of construction.

16 Other Issues

16.1 Introduction

An assessment of three other issues was requested by consultees as part of the EIA scoping process. These were:

- Telecommunications
- Carbon Balance
- Safety

These are briefly summarised below.

16.2 Telecommunications

16.2.1 Introduction

Wind turbines have the potential to affect television reception, fixed telecommunication links and utilities during operation. These impacts include but are not limited to:

- Physical obstructions;
- Adverse effects on the overall performance of Communications, Navigation and Surveillance (CNS) equipment;
- Interference with electromagnetic signals and potentially affecting television reception and fixed telecommunication links.

Ofcom has primary responsibility for regulating broadcasting, telecommunications, and postal industries in the UK. Both Arqiva and the Joint Radio Company (JRC) were contacted regarding their infrastructure.

16.2.2 Predicted Impacts and Effects

The only fixed telecommunications link that the Ofcom Spectrum Information Portal identified is located 1.1km from the nearest proposed turbine, therefore it is anticipated that it will not interfere with the Proposed Development.

The Joint Radio Company (JRC), who are responsible for the radio spectrum used by the UK Energy Industry, have identified a link that the Proposed Development may conflict with. However, a range of mitigation measures are available to handle any interference, which may include rerouting signals around the proposed wind farm, and these would be implemented prior to wind farm operation.

Since the digital switchover in 2009 and the cessation of analogue television signals being broadcast, no adverse impacts on television signals are expected from wind farms.

16.2.3 Summary

The Applicant will work closely with telecommunications operators to ensure that there are no unacceptable impacts on fixed links and any potentially unidentified links.

16.3 Carbon Balance

16.3.1 Introduction

The UK and Scottish Governments have developed ambitious targets for tackling climate change:

- The UK Government, in the 2008 Climate Change Act made a commitment to reduce the UK's emissions of CO₂ by 34% (on 1990 levels) by 2020 and 80% by 2050.

- The Climate Change (Scotland) Act 2009 set in statute the Government's Economic Strategy target to reduce Scotland's emissions of greenhouse gases by 80% by 2050 (on 1990 levels), with an interim reduction target of at least 42%.
- Scotland has set a target of becoming net zero by 2045. With a new legally binding target for 2030 of a 75% reduction in emissions compared to 1990 .
- The UK Government amended the Climate Change Act of 80% reduction to 100% reduction by 2050. These targets will be achieved through an investment in energy efficiency and clean technologies such as renewable energy generation.

Moray Council are working to become Net Zero in line with the Scottish Government target year of 2045. The Council adopted a Climate Change Strategy in 2021 which outlines its ambition for its own emissions to be Net Zero by 2030.

The manufacturing, construction, and installation of the wind turbines on site has an associated carbon cost, and carbon losses are also generated by the requirement for extra capacity to back up wind power generation.

The carbon balance over the lifetime of the wind farm was assessed as part of the EIA.

16.3.2 Summary

Over its 40-year lifetime the project is expected to result in a CO₂ saving of 290,000 tonnes, which would meet the energy needs of 15,000 homes annually.

The assessment demonstrates that the Proposed Development would make a significant contribution to Moray Council's low carbon energy production targets and support the decarbonisation targets set by the local authority, while contributing to the wider national target of achieving net zero by 2045.

16.4 Safety

16.4.1 Introduction

A safety section within the EIA outlines the procedures that will be put in place and followed to ensure the safety of the workforce and the public, specifically in relation to the following:

- Approach to safe operation and maintenance;
- Turbine safety;
- Safe operation;
- Safety during adverse weather conditions; and
- Public safety.

16.4.2 Summary

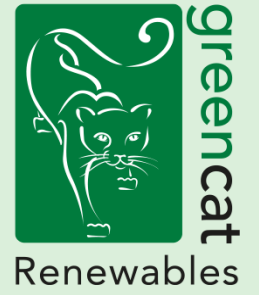
Modern wind turbines have a proven track record for safety, and the turbines proposed will be constructed and operated in accordance with relevant health and safety legislation. Commercial sized turbines are particularly reliable, requiring minimal intervention and maintenance during operation. They are designed to cope with extreme wind and weather conditions.

Only turbines with a proven record of safety and reliability will be selected for this site.

The risk of ice throw (ice falling or being thrown from a turbine during particular circumstances) is also low. An ice detection system on the turbines will ensure they are deactivated if there is a risk of ice throw. As a further safety measure, notices at access points alerting members of the public of potential risks under certain conditions will be provided.

The development site is an area of open agricultural land with scattered farmsteads, forestry and an operational wind farm. In terms of access, the potential for interaction between members of the public and the development are low. The site's location has been given detailed consideration throughout the design process and appropriate separation has been included between all infrastructure elements and the nearest residential receptors, paths, public rights of way and any other access points to the development site.

The assessment undertaken shows that there are no likely significant effects on human health through the safe operation of the Proposed Development, Cairds Hill Wind Farm.



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