

# **Coille Beith Wind Farm**

# Environmental Impact Assessment Report Volume 1: Non-Technical Summary

June 2025



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# 1. Introduction

### 1.1 Overview

- 1.1.1 Coille Beith Wind Farm Limited (The Applicant) has applied for consent<sup>1</sup> to construct and operate an onshore wind farm and associated infrastructure with a generation capacity of greater than 50 megawatts (MW). The project name is Coille Beith Wind Farm (hereafter referred to as 'the Proposed Development'). The Proposed Development would include up to 11 wind turbines with a maximum blade tip height of 200 metres (m) above ground level (agl) on land approximately 18 kilometres (km) south west of Lairg and 20 km north west of Bonar Bridge, the Highlands, Scotland. The Site location is shown on Figure 1: Site Location.
- 1.1.2 An Environmental Impact Assessment (EIA) Report has been prepared to accompany the application for consent. The EIA Report provides the environmental information that Scottish Ministers must take into account when considering a decision to grant consent under the Electricity Act or directing that planning permission be deemed granted. This document provides a Non-Technical Summary (NTS) of the EIA Report.

# 1.2 Purpose of the Non-Technical Summary

- 1.2.1 The aim of this NTS is to summarise the content and main findings of the EIA Report in a clear and concise manner to assist the public in the understanding of the design of the Proposed Development, what the predicted likely sigificant environmental effects of the Proposed Development would be, and any mitigation measures proposed. For full details please refer to **Volumes 2-4** of the EIA Report.
- 1.2.2 The EIA Report comprises the following volumes:
  - Volume 1: Non-Technical Summary (NTS);
  - Volume 2: Main Report;
  - Volume 3a: Figures;
  - Volume 3b: Visualisations;
  - Volume 3c: The Highland Council Visualisations;
  - Volume 4: Technical Appendices; and
  - Volume 5: Confidential Information.

The application is accompanied by the following additional documents that do not form part of the EIA Report:

- Planning Statement;
- Pre-Application Consultation (PAC) Report; and
- Statement on Socio-economic Benefits.

# 1.3 EIA Process

1.3.1 EIA is a process that identifies the potential environmental effects (both beneficial and adverse) of a proposed development and, where possible, identifies mitigation to avoid, reduce, and offset potential significant adverse environmental effects. The EIA process adopted for the Proposed Development has followed best practice guidelines, as set out by the Institute of Environmental Management and Assessment's (IEMA) Quality Mark Scheme.

# 1.4 Copies of the EIA Report

- 1.4.1 The EIA Report will be published in accordance with Part 5 of the EIA Regulations and Part 4 of the Electricity (Applications for Consent) Regulations 1990 (as amended).
- 1.4.2 A notice will be published as follows:
  - on the project website <u>www.coille-beith.co.uk;</u>
  - once in the Edinburgh Gazette;

<sup>&</sup>lt;sup>1</sup> An application for consent for the Proposed Development will be made to the Scottish Ministers under section 36 of the Electricity Act 1989, along with a request for a direction that planning permission be deemed to be granted under section 57(2) of the Town and Country Planning (Scotland) Act 1997 as amended.



- once in the Herald; and
- in the Northern Times and the Press & Journal for two successive weeks.
- 1.4.3 A paper copy of the EIA Report will be made available to view at the following publicly accessible locations:
  - Kyle of Sutherland Hub, South Bonar Estate, Bonar Bridge, Sutherland, IV24 3AQ (open 7 days a week all year) see <u>https://www.kyleofsutherland.com/</u> or telephone 01863 769 170 for details on opening hours; and
  - Lairg Access Point, Community Centre, Main Street, Lairg, IV27 4DD (open Monday Tuesday and Thursday – Friday) see <u>Visit an office - Lairg Access Point | The Highland Council</u> or telephone 01549 402 577 for details on opening hours.
- 1.4.4 The EIA Report, including all figures, technical appendices and accompanying documents are available to view and download on the project website (<u>www.coille-beith.co.uk</u>).
- 1.4.5 The application documents will be available via the Scottish Government energy consents portal (<u>https://www.energyconsents.scot/Default.aspx</u>) and The Highland Council (THC) planning portal (<u>https://am.highland.go.uk/wam/</u>).
- 1.4.6 The Applicant will work closely with the Scottish Government, Energy Consents Unit (ECU) to ensure all statutory consultees receive a physical copy of this EIA Report upon request.
- 1.4.7 In the interests of sustainability and the drive towards Net Zero carbon emissions, reference to the paperless (project website /USB) version is strongly recommended. For anyone who has difficulty accessing the documentation online, a USB copy will be made available free of charge; hard copies are available on request at a charge of £1,500 per hard copy.. Hardcopies of the Non-Technical Summary can be made available free of charge by contacting <u>UKProjects@statkraft.com</u>.

# 1.5 Commenting on the Application

- 1.5.1 The Applicant will advertise the application in accordance with legislation as noted above.
- 1.5.2 The advertisement will provide details of the date by when representations should be made. The Scottish Government will invite formal representations on the Proposed Development, which will be taken into account before any decision is reached on the application.
- 1.5.3 Any representations in relation to the application should be made to the Energy Consents Unit mailbox, at <u>representations@gov.scot</u>, or by post to The Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the Proposed Development and specifying the grounds for representation. Written or emailed representations should be dated, clearly stating the name (in block capitals), full return email and postal address of those making representations.

# 2. Consultation on the Scope of the EIA

# 2.1 Scoping

- 2.1.1 The Applicant submitted a request for a Scoping Opinion to Scottish Ministers on 5 July 2024. This request was accompanied by an EIA Scoping Report, prepared by Ramboll on behalf of the Applicant, which set out a summary of the proposals, identified the likely significant environmental effects, and summarised the proposed scope of the EIA.
- 2.1.2 A Scoping Opinion was received from the Energy Consents Unit (ECU) on 30 September 2024. The contents of this and other consultation responses received are summarised in **Technical Appendix 1.1** (EIA Report Volume 4), along with a list of all bodies consulted during the scoping exercise.
- 2.1.3 The Scoping Process allowed the EIA Report to focus on the main areas of interest raised by various Consultees, with agreement with Consultees that impacts which are not likely to be significant could be scoped out of further assessment.

# 2.2 Public Consultation

- 2.2.1 In addition to seeking a Scoping Opinion, the Applicant conducted public exhibitions to seek the views of the local community, as follows:
  - 25th September 2024, Rosehall Village Hall and 26th September 2024, Oykel Bridge Hotel; and
  - 2nd and 3rd April 2025, Rosehall Village Hall.



- 2.2.2 In addition, the Applicant presented at community council meetings which included public Q&A sessions following the presentation. These were held as follows:
  - 3<sup>rd</sup> March 2025, Creich Community Council, Bonar Bridge Community Hall; and
  - 13<sup>th</sup> March 2025, Ardgay & District Community Council, Culrain Hall.
- 2.2.3 Further detail on the key issues identified through the scoping and consultation process are described in **Chapter 3** (EIA Report Volume 2).

# 3. Proposed Development

### 3.1 Site Location and Context

- 3.1.1 The Site covers an area of approximately 1,306 hectares (ha) and is located approximately 18 km southwest of Lairg and 20 km northwest of Bonar Bridge, the Highlands, Scotland (approximate OS Grid Reference for Site centre: (NH415986), as illustrated in **Figure 1**.
- 3.1.2 Wind farms are an existing feature of the surrounding landscape. As illustrated on **Figure 2** there is a cluster of existing and consented wind farms to the east and northeast. The closest of these being the consented Strath Oykel Wind Farm immediately adjacent and the operational Rosehall and Achany wind farms, around 7.5 km northeast of the Site and located on the northern slopes and hills of the strath. Extending east of these and to the south of Lairg there are further consented schemes and a small operational scheme of three turbines south southeast of Lairg, around 17 km east of the Site.
- 3.1.3 There are no residential properties located within the Site boundary. There are various farmsteads and dispersed rural properties to the northwest of the Site. The majority of settlement lies to the east of the Site along the A837, although there are a small number of properties located on the minor road south of the river extending between Doune and Inveroykel, the closest of which are located around 1.7 km from the nearest turbine. The nearest settlement is at Rosehall (4.5 km northeast).

# 3.2 Description of the Proposed Development

- 3.2.1 The Proposed Development layout is shown in **Figure 3** and includes the following key components:
  - Up to 11 wind turbines, each up to a maximum tip height of 200 m;
  - Associated permanent foundations and crane hardstanding;
  - A total of approximately 9.54 km of new on-site tracks with associated water crossings, passing places, turning heads, and approximatly 4.1 km of existing tracks, upgraded as required (not including access options which are accounted for below);
  - A network of on-site buried electrical cables connecting the turbines to the on-site substation compound;
  - A substation and control building compound (selecting one of the two options, eastern or western);
  - Two temporary construction compounds and laydown area;
  - A main Site entrance (one of two options) to the east or west of the Site, for use during construction and operation;
  - Two access options (with only one option taken forward if the Proposed Development were to gain consent);
    - An eastern access option, with a total of approximately 2.14 km of new on-site access tracks with associated watercourse crossings and approximately 3.16 km of existing tracks, upgraded as required; or
    - A western access option with a total of approximately 3.18 km of new on-site access tracks with associated watercourse crossings and approximately 451 m<sup>2</sup> of proposed widening of an existing road.
  - Associated ancillary work, including:
    - Nature Enhancement Management Plan (NEMP) areas and forest felling;
    - Extraction of rock from borrow pits; and
    - Concrete batching plant. This would be located within one of the temporary construction compounds or borrow pit search areas.
- 3.2.2 Biodiversity enhancement measures for the Site may include, but not be limited to, options such as forest to bog creation, peatland restoration, riparian tree planting, ancient woodland enhancement, bird/bat boxes, and bug hotels.



- 3.2.3 The locations of the proposed turbines and other infrastructure would be subject to 'micrositing'. This process allows for minor changes in wind turbine or infrastructure locations to respond to possible variations in ground conditions across the Site, which would only be confirmed following detailed site investigation work carried out immediately prior to construction. This process also provides scope for further mitigation of localised potential environmental effects through avoidance of sensitive features. It is anticipated that a micrositing distance of up to 100 m would be appropriate for the Proposed Development and would form a condition accompanying consent, should it be granted. Any repositioning would be carried out under the supervision of an Environmental Clerk of Works (ECoW) and making reasonable endeavours to mitigate environmental effects .
- 3.2.4 The Proposed Development has a secured transmission (132 kV) grid connection offer, connecting to Dalchork substation in 2032. Scottish and Southern Electricity Networks (SSEN) would provide the grid connection, including gaining the necessary consents. The exact route of the connection and the technology solution have not yet been determined and therefore have not been included within the assessment.

# 3.3 Construction Activites

- 3.3.1 The construction of the Proposed Development would take approximately 18 23 months.
- 3.3.2 The typical construction hours of work would be Monday to Friday 0700 to 1900 and Saturday 0700 to 1600. No construction work will take place on a Sunday or Public Holiday, unless agreed in writing by The Highland Council (THC). Outwith these specified hours, maintenance works, emergency works and construction works shall be limited to concrete pours, wind turbine erection, dust suppression, and the testing of plant and equipment, unless otherwise approved in advance in writing by THC.
- 3.3.3 A Traffic Management Plan (TMP) would be agreed in consultation with THC and Transport Scotland. This would address the scheduling, routing and overall management of abnormal load movements along with the programming and management of all other HGV movements.
- 3.3.4 A Construction Environmental Management Plan (CEMP) would be implemented during construction to avoid, reduce or control associated adverse environmental effects. An Outline CEMP is provided in Technical Appendix 2.1 (EIA Report Volume 4). A detailed CEMP, would be agreed with THC and relevant statutory consultees prior to construction commencing. The CEMP would, as a minimum, include details of:
  - construction methodologies;
  - pollution prevention measures;
  - public liaison provision;
  - peat slide, erosion, and compaction management;
  - control of contamination/pollution prevention;
  - drainage management and sustainable drainage systems (SuDS);
  - water quality monitoring;
  - species and habitat protection measures;
  - management of construction traffic;
  - control of noise and vibration; and
  - control of dust and other emissions to air.

# 3.4 Operational Stage Activities

### Life of the Proposed Development

3.4.1 The expected operational life of the Proposed Development is 50 years from the date of final commissioning.

### **Operational Management and Maintenance Activities**

- 3.4.2 Wind turbines and wind energy projects are designed to operate largely unattended. Each turbine at the Proposed Development would be fitted with an automatic system designed to supervise and control a number of parameters to ensure proper performance (e.g. start-up, shut-down, rotor direction, blade angles etc.) and to monitor condition (e.g. generator temperature).
- 3.4.3 The control system would automatically shut the turbine down should the need arise. Sometimes the turbines would re-start automatically (if the shut-down had been for high winds, or if the grid voltage had fluctuated out of range), but other shut-downs (e.g. generator over temperature) would require investigation and manual restart.

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3.4.4 The wind turbines, substation, control room, and ancillary infrastructure would be subject to ongoing maintenance throughout the operational life, with regular visits by wind turbine technicians and other staff and contractors.

#### **Operational Use of Natural Resources, Residues, and Emissions**

- 3.4.5 Once operational the Proposed Development will have no likely significant effects resulting from the use of natural resources as there will be no significant resource use required (other than the wind).
- 3.4.6 The EIA Report provides further information on the likely emissions of light and noise. Under current regulations an agreed scheme of aviation warning lighting will be required. Wind turbines emit noise; however the emissions will be managed in accordance with agreed limits to avoid likely significant effects.

#### Decommissioning

- 3.4.7 At the end of the Proposed Development's operational life, a decision would be made as to whether to refurbish, remove, or replace the turbines. If refurbishment or replacement were to be chosen, relevant consent applications would be made. If a decision were to be taken to decommission the Proposed Development, this would entail the removal of all the turbine components, transformers, the substation and associated buildings. Foundations would typically be removed to a depth of 0.5 m below ground level (bgl) to avoid environmental effects from removal. It is assumed that some of the access tracks and underground cables may be left in place; however this would be subject to further evaluation of the options and subject to the submission of a Decommissioning, Restoration and Aftercare Plan no later than one year prior to the expiry of the Section 36 consent.
- 3.4.8 A Decommissioning, Restoration and Aftercare Plan would set out environmental protection measures and restoration principles which would be implemented. This plan would be agreed with THC and currently these plans do not form part of this proposal. It is anticipated this would be secured by an appropriately worded planning condition.
- 3.4.9 A detailed assessment of the decommissioning of the Proposed Development has not been undertaken as part of this EIA because i) the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage, and ii) the proposals for refurbishment/decommissioning are not known at this stage. However, an outline decommissioning strategy is included in the Outline CEMP (**Technical Appendix 2.1**, EIA Report Volume 4). It is assumed that the significance of impacts of decommissioning will be no greater, or less than the impacts of construction.

# 4. Site Selection and Design Evolution

# 4.1 Site Selection and Considerations

- 4.1.1 The Site for Proposed Development is considered by the Applicant to be suitable for wind farm development for the following reasons:
  - It is situated in an established area for onshore wind farm development;
  - It is out with areas identified within NPF4 as unsuitable for wind development, e.g., National Scenic Areas and National Parks (NPF4 Policy 11);
  - There are no planning policies, which in principle, preclude wind energy development on the Site;
  - There is ongoing compatibility with the existing commercial forestry landuse;
  - There is a minimum distance of 1.5 km required to be kept between the turbines and the closest inhabited residential properties;
  - It has high wind speeds based on available data; and
  - It has a secured viable grid connection to the electricity transmission network.

# 4.2 Alternatives

### **Design Evolution and Alternative Layouts**

- 4.2.1 **Figure 4** summarises the reasonable alternative layouts considered during the Proposed Developments design evolution from scoping stage to design freeze layout.
- 4.2.2 The Proposed Development design process was iterative, with the design evolving as environmental constraints were identified and as a result of feedback from consultees. There were four principal design stages as detailed below.



#### Layout 1 (Scoping Layout)

- 4.2.3 Layout 1 (Scoping Layout) represented the original turbine layout proposed by the Applicant.
- 4.2.4 At this stage in the Proposed Development design, it was considered that the Site could theoretically accommodate up to 19 turbines up to a 200 m maximum tip height. Layout 1 formed the basis in respect of which initial environmental considerations were reviewed and the Scoping Report prepared.

#### Layout 2 (Design Workshop 1)

- 4.2.5 Layout 2 represents a revised layout outcome which took account of:
  - landscape and visual analysis of Layout 1 (Scoping Layout);
  - · known environmental constraints gathered post-scoping through on-site surveys; and
  - feedback received during public consultation.
- 4.2.6 Regarding landscape and visual considerations, the evolution of the turbine design incorporated key landscape views, designations, and classifications including:
  - Strath Oykel (and associated receptors within);
  - Dornoch NSA; and
  - Strath Cuileannach.

Along with key views from the following transportation routes:

- A836; and
- A837.
- 4.2.7 Following the landscape and visual analysis of the constraints mentioned above, the number of turbines was reduced from 19 to 10. Turbines were removed/repositioned to mitigate landscape and visual impacts by:
  - Ensuring a cohesive and balanced array in all views, considering the consented Strath Oykel Wind Farm;
  - Concentrating turbines within forested areas and locations where adjacent forest cover provides additional screening;
  - Avoiding prominent slopes above Strath Oykel to minimize impacts on Dornoch NSA;
  - Setting back from Strath Cuileannach;
  - Increasing buffers to residential receptors from approximately 1 to 2 km;
  - Avoiding intrusive views from sensitive receptors such as at Doune, Strath Oykel, and Dornoch NSA; and
  - Positioning turbines on the northern side of a prominent ridgeline between Glen Oykel and Strath Cuileannach, within a slight bowl to offer a degree of enclosure and screening.

#### Layout 3 (Design Chill)

- 4.2.8 Landscape and visual analysis identified a gap in the turbine array of Layout 2 from northern viewpoints which resulted in two distinct turbine groupings. Therefore, an additional turbine was introduced into an unconstrained area to fill the gap and neighbouring turbines were adjusted to maintain appropriate turbine separation.
- 4.2.9 Changes were made to respond to consultation feedback on sensitive cultural heritage assets from Historic Environment Scotland (HES), specifically to increase the separation and reduce effects on the setting of Langwell, fort and dun (SM5302). In addition, changes were made to avoid impact on ancient woodland.
- 4.2.10 The addition of an eleventh turbine improved the layout design in views from the north and maximised the available/secured grid connection capacity (79.2 MW). In addition, the following environmental constraints, considerations, and mitigation by design were considered and incorporated into the layout:
  - Landscape and Visual: Cumulative visual impacts; visible ridge lines; and sensitive landscapes.
  - Cultural Heritage: Recorded heritage sites within the Site; setting of nearby Langwell Fort Scheduled Monument.
  - Ecology: M17 and M19 peatland bog habitat; habitat on the Ancient Woodland Inventory; bat buffers; River Oykel SAC; watercourse buffers; watercourse crossing sensitivity; water voles, pine martins, deer all present on-site.
  - Ornithology: Lekking black grouse; breeding barn owl and osprey; breeding waders (curlew).



- Forestry: Ancient woodland inventory.
- Hydrology, Hydrogeology, and Geology: River Oykel SAC, watercourse buffers, and PWS.
- Peat: Class 1 and 2 areas of peat; phase 1 peat probing data (peat depth); peat restoration areas; and peat instability features.
- Noise: Cumulative noise impacts in the Doune and Strath Oykel.

#### Layout 4 (Design Freeze Layout)

- 4.2.11 Layout 4 represents the finalised design freeze for the Proposed Development, which responds to the results of the detailed peat probing of Layout 3. Principally, for purposes of the assessment, turbines were renumbered from T1 to T11.
- 4.2.12 From Layout 3 to 4, a number of turbines and associated infrastructure were repositioned to move them out of areas of deeper peat, as well as to reduce proximity to watercourses. Other considerations included improvements to predicted wind yield and ecological habitat.

# 5. Environmental Impact Assessment

### 5.1 Introduction

- 5.1.1 The EIA process is designed to identify the potential significant effects, both adverse and beneficial, that the Proposed Development could have on the environment and where it has been possible, set out how they have been reduced or mitigated. The technical assessments have considered the potential effects of the Proposed Development during consutruction, operation, and decommissioning. The EIA considered potential environmental impacts across a range of topics, in accordance with the Scoping Opinion received from the Energy Consents Unit (ECU).
- 5.1.2 The following environmental topics have been considered within the EIA:
  - Landscape and Visual Amenity;
  - Cultural Heritage;
  - Ecology;
  - Ornithology;
  - Geology, Hydrology and Peat;
  - Transport;
  - Noise; and
  - Aviation.

# 5.2 Landscape and Visual Amenity

- 5.2.1 The assessment considers the likely significant effects on landscape and visual receptors associated with the construction, operation, and decommissioning of the Proposed Development.
- 5.2.2 A detailed landscape and visual impact assessment (LVIA) has been undertaken which describes the current landscape and visual baseline context of the Site and identifies key sensitive receptors.
- 5.2.3 The Site is located within the Rounded Hills Caithness and Sutherland Landscape Character Type (LCT), which typically comprises undulating broad, rounded hills, with some relatively higher and more defined rounded hills in the southeast of the LCT. Specifically, the Site is situated on the southern slopes of Strath Oykel.
- 5.2.4 An iterative design process has been followed to mitigate landscape and visual effects. This has provided a cohesive and balanced array in views consistent with the emergent pattern of development in the locality, particularly in relation to the consented Meall Buildhe and Strath Oykel wind farms.
- 5.2.5 The Proposed Development would have limited indirect effects on key characteristics of landscape character types (LCTs) and the special landscape qualities (SLQs) of designations such as National Scenic Area (NSA) 36 and Special Landscape Area (SLA) 18; further, the Proposed Development would have limited indirect effects on the Wild Land Qualities (WLQs) of Wild Land Area 29 and 34. The change to the underlying landscape character and view composition would be consistent with the baseline context that includes operational wind farms.
- 5.2.6 The Proposed Development would intensify the existing influence of wind energy development within the landscape context and views. The most pronounced effects would be from areas within or adjoining the Site. Significant effects would be predominantly restricted to within 10 km, although views from more distant summits would also have potential for significant effects when considering cumulative effects.



# 5.3 Cultural Heritage

- 5.3.1 The cultural heritage assessment considers the potential for direct and settings effects on the cultural heritage resource within the Site and surrounding Study Areas during construction, operation, and decommissioning of the Proposed Development.
- 5.3.2 A desk-based assessment and walkover field survey has been undertaken to establish the archaeology and cultural hertiage baseline within the Site.
- 5.3.3 Fourteen non-designated assets (Assets 18, 35 and 47-58) have been identified within the Site, comprising a findspot for a stone bowl of unknown date and function, a modern bank associated with the modern forestry tracks, post-medieval tracks, enclosures, a field boundary, shielings, drainage ditches, a modern pond, culvert and field boundary.
- 5.3.4 Potential medium magnitude impacts are predicted for the shielings (Asset 47) if these cannot be avoided, and high magnitude impacts are predicted for the revetment walls (Asset 50), resulting in, at worst, minor adverse level effects, which are not significant. The remainder of the assets would experience no, negligible, or low magnitude impacts resulting in negligible direct effects which are not significant.
- 5.3.5 There are no designated heritage assets within the Site. There is one Scheduled Monument within 1 km of the Site (Langwell, fort and dun 500 m WSW of (Asset 1)) and four Category B listed buildings and two Category C Listed Buildings within 5 km of the Site.
- 5.3.6 Potential operational effects on the settings of all designated assets within 5 km of the Site, and all nationally significant designated assets within 10 km of the Site, with the inclusion of two further nationally significant designated assets beyond 10 km, have been considered. Close attention has been paid in particular to the Scheduled Langwell, fort and dun 500m WSW of (SM5302) (Asset 1), and an iterative design process has been used to reduce potential setting effects upon this asset. It is judged that setting effects for designated assets included within the assessment would not exceed minor adverse and so would not be significant.
- 5.3.7 The potential for as-yet unknown sub-surface remains across the majority of the Site is considered low across all periods, and particularly as a result of the likely disturbance from forestry operations on-site. There is higher medium potential for remains of post-medieval date to survive within the western access track area. There is the potential for moderate levels of effect if construction works are unmitigated. However mitigation measures in the form of demarcation and avoidance of known heritage assets, limited archaeological evaluation and/or monitoring of works which will impact known heritage assets, and in specific areas which have not been cultivated as part of the forestry operations, are proposed in order to ensure that the adverse effects on any as-yet unknown heritage assets are reduced and offset. This would ensure that the overall level of effect would not be significant.
- 5.3.8 Potential cumulative effects have also been considered and assessed, with at worst, minor adverse cumulative effects predicted, which are not significant.

# 5.4 Ecology

- 5.4.1 The ecological assessment considers the potential effects on important ecological features (IEFs) associated with the construction, operation, and decommissioning of the Proposed Development.
- 5.4.2 A suite of baseline ecology field surveys has been undertaken to inform the impact assessment, including for habitats and vegetation, badger, otter, pine marten, red squirrel, water vole, Scottish wildcat, bats, and fisheries.
- 5.4.3 There are several designated sites of nature conservation with ecological interest in the nearby and surrounding area to the Site. The closest and most relevant being the River Oykel Special Area of Conservation (SAC) which is designated for its important populations of Atlantic salmon and freshwater pearl mussel. The western access route crosses the River Einig (which is part of the River Oykel SAC) at an existing watercourse bridge crossing.
- 5.4.4 Baseline surveys have established that habitats within the Site predominantly comprise dense Sitka spruce and lodgepole pine plantation, with some open habitats around the centre of the Site and in the south of the Site associated with hill tops, including Carn na Bo Maoile. The open habitats comprise wet heath, acid grassland and marshy grassland, with bog communities largely confined to the forestry rides and the high ground in the south, and also to the north. Peatland of Possible National Interest was recorded within the Site, principally on the Site's periphery. Field surveys confirmed the presence of pine marten, water vole, and brown hare within the Site. Common pipistrelle, soprano pipistrelle, brown long-eared, and Myotis bat species were recorded during the bat activity surveys. The western access route predominantly passes through wet heath and marshy grassland, and the eastern access route passes through mainly coniferous plantation and coniferous plantation clear-fell.



- 5.4.5 No significant adverse effects are predicted on IEFs from the Proposed Development, alone or cumulatively with other relevant developments.
- 5.4.6 Embedded mitigation and pre-construction surveys, together with the employment of a suitably qualified ECoW, would enable the protection of IEFs, including otter, bats, badger, red squirrel, water vole, pine marten, fish (freshwater pearl mussel) and non-marine species of amphibian and reptile during construction. A fish (extended to include freshwater pearl mussel) monitoring plan will also be implemented to record pre-, during and post- construction fish populations in watercourses on and adjoining the Site.
- 5.4.7 Impacts on Priority Peatland of Possible Interest have been assessed as resulting in an effect of minor adverse significance, which is considered not significant. With the adoption of mitigation and enhancement measures, it is anticipated that a long-term, low magnitude of impact would result in an effect of minor beneficial significance on peatland habitats on-site
- 5.4.8 Information to inform a Habitats Regulations Appraisal has been provided with respect to assessing the potential for Likely Significant Effects (LSEs) on the River Oykel SAC. No LSEs are predicted on the integrity of the River Oykel SAC, either from the Proposed Development alone, or in-combination with other relevant developments.
- 5.4.9 Habitat enhancement opportunities detailed in an outline Nature Enhancement Management Plan (oNEMP), will deliver broader biodiversity benefits, including for many locally occurring IEFs.

# 5.5 Ornithology

- 5.5.1 The ornithology assessment considers the potential significant effects on important ornithological feautures (IOFs) associated with the construction, operation and decommissioning of the Proposed Development.
- 5.5.2 The assessment is based upon comprehensive baseline data, comprising specifically targeted field surveys of legally protected and notable ornithological features of conservation concern identified during desk study and consultation feedback. It draws on pre-existing information, where appropriate, from other studies and survey data sources.
- 5.5.3 A full year's-worth of ornithological surveys were carried out to support the application, as agreed through consultation with NatureScot. Surveys consisted of vantage point (VP) flight activity surveys, and surveys for moorland breeding birds, Annex I and Schedule 1 breeding raptors and owls, black grouse, and breeding drivers.
- 5.5.4 The habitats in the wider area surrounding the Site support a reasonable number of bird species regarded as 'target species', however, the Site itself is of relatively low importance to such species. This is reflective of the commercial plantation forestry which dominates the Site. Based on a review of the ornithological features associated with the Site and the immediately surrounding area, no IOFs were taken forward for detailed assessment. In addition there are no potential impacts on Caithness and Sutherland Peatlands Special Protection Area (SPA) and Wetland of International Importance (Ramsar Site) based on their distance from the Site.
- 5.5.5 A shadow Habitats Regulations Appraisal (sHRA) has been provided which demonstrates that the Proposed Development will not result in any Likely Significant Effects (LSEs) on designated sites.
- 5.5.6 The Proposed Development is therefore not anticipated to pose any significant adverse effects on IOFs and hence will not contribute to any significant cumulative effects. Therefore, a cumulative impact assessment was not undertaken.
- 5.5.7 Embedded mitigation and good practice control measures include, the production of a Construction Breeding Bird Protection Plan (CBBPP) involving pre-and during construction surveys and appointment of an ECoW to oversee the implementation of standard ornithological protection measures.
- 5.5.8 Habitat enhancement opportunities detailed in an outline Nature Enhancement Management Plan (oNEMP), including peat restoration and native tree planting, would improve nesting and foraging opportunities for locally occurring bird species.

# 5.6 Geology, Hydrology and Peat

5.6.1 The assessment considers the likley significant effects on geological, hydrological, and peat features associated with construction, operation, and decommissioning of the Proposed Development. The assessment considered effects on water quality, flood risk, water resources, private water supplies (PWS), carbon rich soil, deep peat and ground water dependent ecosystems (GWTDE).



- 5.6.2 The assessment is based upon comprehensive baseline data, comprising desk study information, hydrological field surveys, peat depth surveys, peat landslide hazard risk assessment, outline peat management plan, watercourse crossing assessment, groundwater dependent terrestrial ecosystem assessment, PWS assessment, and borrow pit assessment.
- 5.6.3 The Site supports extensive areas of commercial forestry on heavily modified peat, open moorland with good peat conditions in the southern section of the Site, and watercourses that offer limited (if any) habitat for low numbers of fish.
- 5.6.4 Throughout the design of the Proposed Development, measures to avoid or minimise adverse effects upon geological, hydrological, and peat features have been incorporated, such as minimising the number of watercourse crossings, maintaining a minimum 50 m buffer from watercourses and avoiding areas of deep peatland habitats, where possible.
- 5.6.5 The assessment concluded that during construction no significant adverse effects are likely to occur. Construction would be carried out in accordance with a site-specific CEMP which would include: pollution prevention control measures; adoption of 50 m buffer from surface water features where possible; use of sustainable drainage systems; applications for the relevant licences/authorisations for abstractions, discharges and watercourse crossings; and management and reinstatement of peat in line with the Peat Management Plan.
- 5.6.6 During the operation phase of the Proposed Development, no significant adverse effects are likely to occur. During operation, there would be ongoing maintenance of all on-site drains and culverts to ensure the effective operation of drainage measures, preventing flow disruptions and associated increased flood risk, sediment transport etc. This would ensure that silt management measures remain effective for the lifetime of the Proposed Development.

### 5.7 Transport

- 5.7.1 The transport assessment considers the potential effects of the Proposed Development on receptors along the transport routes resulting from vehicle movements required by the construction, operation, and decommissioning of the Proposed Development.
- 5.7.2 The construction traffic and Abnormal Indivisible Loads (AILs) associated with the transportation of turbine components to the Site would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development, with the peak of construction activity expected to occur in month seven.
- 5.7.3 A review of the theoretical road capacity was undertaken for the Study Area which showed that with the addition of construction traffic associated with the Proposed Development, there would be significant spare capacity within the road network.
- 5.7.4 The operational phase is restricted to maintenance operations which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network.
- 5.7.5 The following measures would be implemented to mitigate any adverse effects of construction traffic during the construction phase and in line with mitigation required for this type of development:
  - Construction Traffic Management Plan;
  - Abnormal Load Transport Management Plan;
  - Outline Access Management Plan; and
  - A Staff Travel Plan.
- 5.7.6 With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be minor and will occur during the construction phase only, they are temporary and reversible.
- 5.7.7 The movement of Abnormal Indivisible Load (AIL) traffic will require small scale and temporary remedial works at a number of locations along the identified delivery route.

### 5.8 Noise

- 5.8.1 The noise assessment considers the likely effects with respect to noise associated with the construction, operation, and decommissioning of the Proposed Development.
- 5.8.2 Relevant Study Areas and receptors were identified for the assessment of noise from the construction of the Proposed Development, noise from construction vehicles, and noisefrom the operation of the Proposed Development. Three receptors were identified for the construction assessment, and 36 receptors were identified for the operational assessment.



- 5.8.3 Background baseline noise surveys were conducted at five locations in 2024.
- 5.8.4 Noise effects from the construction of the Proposed Development would not be significant, due to the separation distances between noise-sensitive receptors and construction areas, and the resulting low noise levels likely to occur.
- 5.8.5 Potentially significant noise levels may occur during construction and modification of access tracks, particularly in combination with noise from construction vehicles on public roads. However, these effects would comprise temporary increases anticipated to occur for approximately two days and at a limited number of properties. Therefore, these effects are concluded to be not significant.
- 5.8.6 Noise effects from the operation of the Proposed Development would not be significant, due to predicted noise levels meeting the applicable noise limits at all receptors and for all time periods, for both the direct and cumulative operational noise scenarios.
- 5.8.7 Cumulative noise levels are predicted to exceed the noise limits by up to 0.5 decibels (dB) for 6 to 8 meters per second (m/s) wind speeds at three receptor locations, assuming those locations are downwind of all cumulative wind farm developments. However, receptors could not be downwind of all cumulative developments at any given time and cumulative noise levels would not exceed noise limits in practice for any given wind direction. Cumulative noise effects are therefore concluded to be not significant. In addition, no significant loss of quiet respite periods would be anticipated to occur due to the introduction of the Proposed Development.

### 5.9 Aviation

- 5.9.1 The aviation assessment considers the likely effects of the Proposed Development on aviation stakeholder interests and reports on consultation and potential mitigation solutions.
- 5.9.2 The Proposed Development is located approximately 60 km to the northwest of Inverness Airport and approximately 85 km to the west northwest of RAF Lossiemouth. In airspace terms it is within Class G unregulated airspace which extends up to 19500 ft. The Proposed Development is located within R610A, also known as Highlands Restricted Airspace (HRA) which was established to protect tactical low flying in the area, which extends across virtually the whole of Northern Scotland. From an aviation perspective this is a remote location likely to have no effects on the provision of Air Traffic Control (ATC) services.
- 5.9.3 Wind turbines with a tip height in excess of 150 m are required to be illuminated with medium-intensity red aviation obstruction lights installed on the turbine hub in accordance with the Civil Aviation Authority (CAA) Policy Statement: 'Lighting of Onshore Wind Turbine Generators in the United Kingdom with a maximum blade tip height at or in excess of 150 m Above Ground Level'.
- 5.9.4 A reduced lighting scheme that fulfils the requirements for flight safety whilst minimising environmental (visual) effects which has gained approval from the Civil Aviation Authority (CAA) is provided in **Appendix 11.1**, EIA Report, Volume 4).
- 5.9.5 With the exception of aviation lighting there are no residual effects and no effects on aviation stakeholders.

# 6. Summary

- 6.1.1 As a result of a combination of design-led mitigation, and additional proved construction phase mitigation measures, the EIA Report concludes that likely significant effects associated with the Proposed Development, alone and in addition to other wind farm developments, are limited to landscape and visual effects (in localised areas within 10 km).
- 6.1.2 No residual significant effects are identified for cultural heritage, ecology, ornithology, geology, hydrology and peat, transport, noise, or aviation.





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