



CRUACH CLENAMACRIE WIND FARM

NON-TECHNICAL SUMMARY

November 2024

RESPONSIBILITIES

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1 INTRODUCTION

1.1 Overview

This Non-Technical Summary (NTS) has been prepared by Green Cat Renewables (GCR), on behalf of Voltaia UK Ltd (hereinafter referred to as 'the Applicant') to accompany the application to construct and operate Cruach Clenamachie Wind Farm (hereinafter referred to as 'the Proposed Development'). This NTS summarises the Environmental Impact Assessment (EIA) Report for the Proposed Development.

The final design of the Proposed Development comprises up to six wind turbines, up to 200m to tip, with a combined generating capacity of up to 45 megawatts (MW) and associated infrastructure, including crane hardstandings, access tracks and Battery Energy Storage System (BESS), of up to 20MW. As the installed capacity of the Proposed Development would exceed 50 MW the Applicant is applying to the Scottish Ministers under Section 36 (S36) of The Electricity Act 1989.

The Proposed Development is located approximately 7km east of Oban within the Argyll and Bute Council area. Fearnoch is located approximately 2.0km north-east of the closest turbine. The A85 lies directly north of the Site and provides connectivity to the A82, A816 and A8.

The location and Application Boundary of the Proposed Development is shown in **Image 1**.



IMAGE 1: SITE LOCATION PLAN

1.2 The Applicant

Founded in 2005, Voltage is an experienced global renewable energy developer and Independent Power Producer (IPP) developing, constructing, and operating solar, wind, hydro, biomass, and storage projects. Voltage has assets with 2.37GW of installed capacity, with a 16.6GW pipeline of projects globally and has a long-term commitment and experience to development in the UK.

Voltage UK Ltd is focused on providing renewable energy schemes to help decarbonise the UK's electricity generation and combat the climate crisis by supplying an affordable and renewable source of clean electricity.

The Proposed Development is the first in a series of renewable energy projects which Voltage are proposing to construct and operate in Scotland. If consented, international experience and expertise will allow Voltage to develop their ~600MW of onshore renewables in Scotland to help achieve the current net zero targets and fight the climate crisis.

1.3 Need for the Project

The UK and Scottish Governments have declared a climate emergency and set ambitious climate targets with a Net-Zero CO₂ target for 2045 in Scotland. Key to reaching this target is the generation of green electricity, such as onshore wind.

Renewable electricity generated by wind turbines is considered to be the cheapest form of new electricity generation and as such, has a vital role to play in achieving the ambitious targets set by both the Scottish and UK Governments.

A net emissions savings of 1,471,000 tonnes of CO₂ is expected over the 50-year lifetime of the Proposed Development. The Proposed Development will make a positive contribution to the national target of securing 20 Gigawatts (20GW) of installed onshore wind capacity by 2030.

1.4 Environmental Impact Assessment

This EIA has been carried out in accordance with the Electricity Act (Environmental Impact Assessment) (Scotland) Regulations 2017 (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 need for an EIA was confirmed by the Scoping Opinion received from the Scottish Government in October 2023.

EIA is a statutory process governed by UK law. It is a means of drawing together in a systematic way, an assessment of the likely significant environmental effects arising from a proposed development.

The EIA Report describes the existing environmental conditions to identify sensitive assets or features (known as receptors) and the methods used to assess whether environmental effects, either beneficial or adverse, are predicted due to the construction, operation or decommissioning of the Proposed Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and if possible, offset any significant adverse environmental effects. Following consideration of mitigation measures, any remaining residual effects are also presented.

The EIA Report also considers 'cumulative effects' which considers how multiple effects at the same time may affect a receptor. This could be due to the effects of the Proposed Development happening in combination with effects from other existing, approved, and/or 'in planning' developments.

The individual methodologies for assessing each EIA topic are described in detail within each of the technical topic chapters in the EIA Report.

2 SITE SELECTION AND DESIGN

2.1 The Site

The landscape within the Site is characterised as craggy upland with oak-birch woodland, rounded knolls, rocky outcrops and numerous lochs in low-lying hollows and glens. The terrain is hilly with a maximum elevation of 273m Above Ordnance Datum (AOD). Death Choimhead Hill is situated south of the Site.

There are no Scheduled Monuments or Listed Buildings within the Site. Glenamachrie Cairn and An Dun, dun and Glenamachrie Standing Stone are the closest Scheduled Monuments located approximately 0.8km south-west of the Site. The closest Listed Building is the Category B Achnacloch House which is located approximately 2.3km to the north-west of the access track.

Directly north of the Site lies an area of the Loch Etive Woods Special Areas of Conservation (SAC) which is located within the Clais Dhearg Site of Special Scientific Interest (SSSI). In addition, there are areas of Ancient Woodland Inventory located within the Fearnoch Forest portion of the Site along the access track.

Fearnoch is located approximately 2.3km north-east of the closest turbine. Glenamachrie is the nearest residential property located approximately 1.3km south-west of the closest turbine.

2.2 Site Selection

One of the principles of the 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 practicable. Developers use a range of criteria to select sites for the development of onshore wind projects. The Applicant identified the Site as having potential based on the following criteria:

- The Site is not within an area of high natural or cultural heritage sensitivity or international or national nature conservation designations (i.e. SPA, SSSI or SAC, etc);
- The Site has a suitable wind resource;
- It has good access through Fearnoch Forest via the A85;
- The Site is within proximity of Taynuilt substation offering a viable grid connection;
- The Site is a suitable proximity, over 1km, from any residential properties; and
- The landowner is locally based and wishes to diversify the estate through the potential to host a wind energy development.

2.3 Iterative Design Process

The following principles were adopted during the design iterations to ensure that the final design of the Proposed Development was the most appropriate and optimal for the Site:

- Creating a wind farm that is appropriate for the existing landscape and visual environment;
- Avoiding areas of deep peat;
- Having a suitable buffer from residential properties to minimise impacts of noise, shadow flicker, and visual impact;
- Taking account of the Site topography when setting out the location of key infrastructure to ensure that environmental and construction best practices can be adhered to;
- Designing the layout to minimise impacts on the settings of designated heritage assets such as scheduled monuments, listed buildings, Garden and Designed Landscapes (GDLs), and conservation areas;
- Utilising existing access tracks where possible, to minimise the need for new access tracks; and

- Maintaining appropriate buffer distances between proposed infrastructure and environmental receptors to avoid or reduce effects on the environment.

The design of the Proposed Development had four key design iterations before the layout was finalised. The final layout is the result of a comprehensive design process and communication with key stakeholders, aimed at mitigating potentially significant impacts through design. The process resulted in the following key changes:

- Reduction in the number of turbines, from eight to six, due to the presence of Hen Harrier and Black Grouse, as well as telecommunication links;
- Shifting of infrastructure to account for key environmental and technical constraints, such as high value ecology habitats;
- Increasing the northern extent of the Application Boundary, to give more flexibility in design so that the Proposed Development's impact on factors such as landscape and deep peat could be reduced; and
- Alteration to the access point and access track route, to reduce impacts on native woodland, peat, and the water environment, as well as utilise existing tracks where possible.

3 PROJECT DESCRIPTION

3.1 Proposed Development

The Proposed Development (shown in **Image 3**) would comprise up to six turbines with a combined generating capacity of approximately 45MW and approximately 20MW of Battery Energy Storage System (BESS) and associated infrastructure comprising:

- New Access tracks, passing places, and turning heads;
- Site entrance from the A85;
- Access route through Fearnoch Forest;
- Turbine foundations;
- Hardstanding areas for cranes at each turbine location;
- Blade laydown areas;
- Temporary construction compound, including parking, and welfare facilities;
- Watercourse crossings;
- Drainage works;
- Power cables, linking the wind turbines, laid in trenches underground, including cable markers;
- An on-site electrical substation, parking, and a small storage compound;
- Borrow Pits; and
- Aviation obstacle lighting fitted to turbines.

3.1.1 Access

The Proposed route to Site for abnormal loads can be seen in **Image 2**. Delivery vehicles will navigate the A830 eastbound from Corpach to the A830/A82 roundabout, where it will follow the A82 until Tyndrum, at which point it will join the A85 travelling west towards the Site.

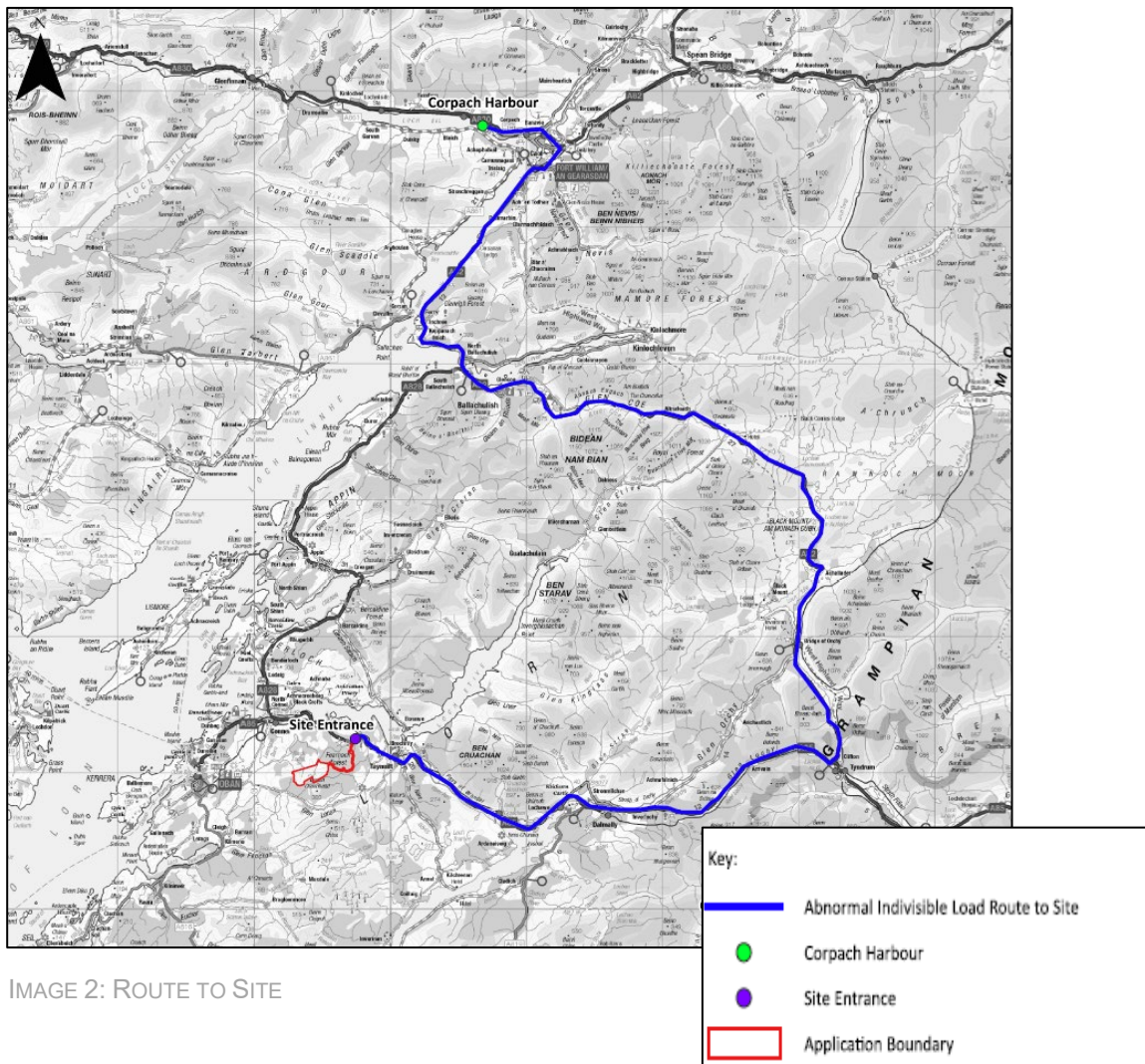


IMAGE 2: ROUTE TO SITE

3.1.2 Construction

The onsite construction period for the Proposed Development is expected to be approximately 12 – 18 months, subject to the award of consent and award of construction contracts. Normal construction hours would be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays, or as agreed with Argyll and Bute Council’s Environmental Health Officer (EHO). 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. A Construction Environmental Management Plan (CEMP) will be prepared and implemented ahead of the commencement of construction to outline mitigation measures which will be implemented prior to construction.

3.1.3 Operation and Maintenance

It is proposed that the operational lifetime of the Proposed Development will be up to 50 years. The Proposed Development would undergo maintenance throughout its operational lifespan, typically including wind turbine maintenance, health and safety inspections and maintenance of tracks, drainage and buildings. An Operational Environmental Management Plan (OEMP) will be prepared to ensure that any activity on Site, whilst minimised, complies with industry best practice.

Turbines will be fitted with aviation obstacle lighting to meet the requirements of both the Civil Aviation Authority (CAA) and the Ministry of Defence (MoD). As the turbine tip heights exceed 150m they are within the scope of Air Navigation Order 2016 (ANO) Article 222 for aeronautical obstacle lighting.

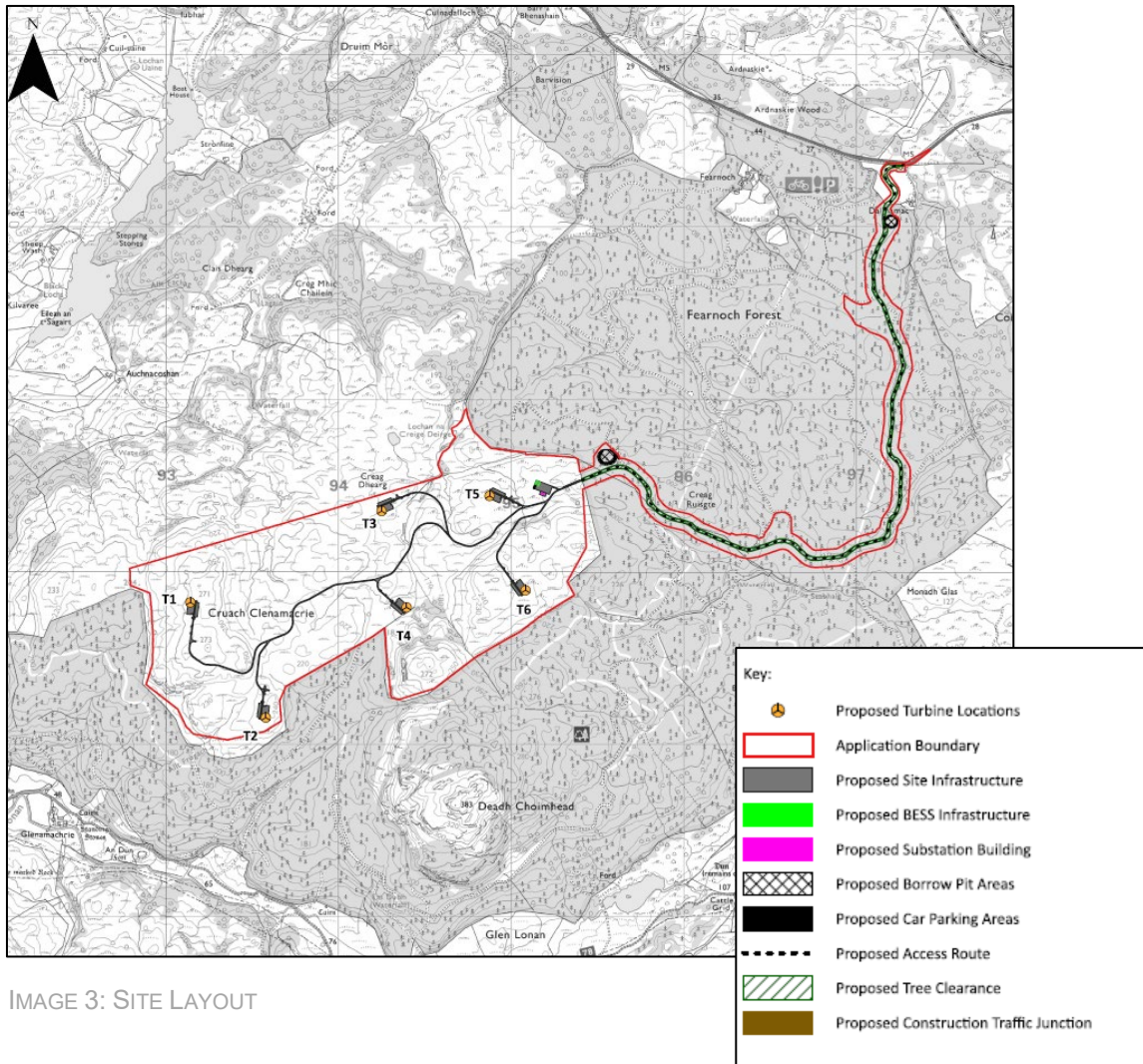


IMAGE 3: SITE LAYOUT

3.1.4 Reinstatement and Decommissioning

At the end of its operational life, it is assumed that the Proposed Development will 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 assumed for the purpose of the EIA 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.

Prompt completion of post-construction 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 Argyll and Bute Council pursuant to any planning conditions.

3.1.5 Benefits of the Proposed Development

The Proposed Development would deliver the following key socio-economic benefits:

- Up to £8.2 million is anticipated to be spent within the local economy during the construction phase and up to £1.3 million is anticipated to be spent annually during the operational phase.
- Net employment benefit of up to 43 jobs (direct, indirect and induced) will be created across Argyll and Bute during the construction phase, as well as up to 8 jobs (direct, indirect and induced) during the operational phase. This will provide up to 66 Full Time Equivalent (FTE) job years during the construction phase and up to 382 job years during the operational phase.
- Net economic benefit of up to £4.3 million during the construction phase and up to £786,344 (annually) during the operational phase.

Calculations on job years are based on the Full Time Equivalent (FTE) metric. An FTE job standardises employee workload, equalling one full-time position, usually 40 hours per week and combines full- and part-time roles into a single metric.

5 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

5.1 Likely Significant Effects

5.1.1 Effects on Character

The assessment found that significant effects on landscape character would arise on the host 7a Craggy Upland with Settled Glens character type and LCT 20 Rocky Mosaic which runs along the shores of Loch Etive to the north of the Site. These significant effects on character would arise as a result of changes within up to 6km north and north-east and 3-4km south and south-west of the proposed turbines – affecting a localised area.

5.1.2 Visual Effects

Significant visual effects would arise as a result of changes to views experienced in Glen Lonan and along the north shore of Loch Etive. This area is localised, extending approximately 3-4km to the south, 5km east and west and 6km north from the proposed turbines.

From the key transport routes, settlements along the south shore of Loch Etive and from Oban, visibility would be limited by the hills rising to the south and by woodland and buildings. Visibility from within settlements will be limited to occasional more elevated locations in Connel and Taynuilt and short, more open stretches of the A85 near the garden centre at Dunbeg and east of Taynuilt.

There would be more distant views from the islands of Lismore, Mull and Kererra, Tralee beach; ferry routes; the summit of Ben Cruachan, and panoramic viewpoints at Pulpit Hill and Knipoch. Effects on these views would not be significant.

5.1.3 Effects on Designated Areas

Effects on designated landscapes within the Study Area would not be significant.

The Lynn of Lorn National Scenic Area (NSA) lies approximately 9km north-west of the Site and would experience minor effects as a result of distant views of the turbines where there are more open views towards the mainland to the south-east.

The Local Landscape Areas (LLA) within Argyll and Bute do not have identified special qualities and are designated for their 'scenic value'. There would be moderate, adverse effects on the North Argyll and North West Argyll LLAs which respectively lie approximately 6.5km east and south-west of the Site, arising from localised views towards the turbines from areas of higher ground and slopes facing towards the Site.

5.1.4 Night-time Effects

Significant adverse effects would arise for local residents and road users within Glen Lonan and between Barranrioch and Ardchnnell to the south and west of the Site, as a result of patchy visibility of the red aviation lights from a rural area that otherwise only has views of lights in the small number of homes.

The most extensive area of visibility of the aviation lights would be from the road and settlements north of Loch Awe between Connel Bridge and Bonawe. From this area, the aviation lights would be seen above the skyline, to the left of the red lights on the turbines at Barran Caltum, and above the moving head and tail lights seen along the A85. Taking account of the existing lights seen from this area, effects would not be significant.

5.1.5 Cumulative Effects

Effects with operational and consented wind farms are considered in the main LVIA. The only wind farms in planning within the 25km Study Area are Ladyfield and An Carr Dubh wind farms, both beyond 18km to the south-east of the Site. There would be limited combined visibility of the Proposed Development and the two wind farms and cumulative effects would be the same as for the Proposed Development alone.

5.1.6 Residential Visual Amenity

The Residential Visual Amenity Assessment (RVAA) provided in **Appendix 6.4** concludes that none of the five properties within (and just beyond) the RVAA Study Area would experience effects of the highest magnitude and the RVAA threshold, as outlined in the relevant guidance, would not be reached for any home as a result of the Proposed Development.

5.2 Mitigation

The design has been informed by landscape and visual considerations. Key factors which have influenced the design include:

- The potential effects on the residential amenity of nearby homes;
- The appearance of the wind farm from the main area of visibility along the north shore of Loch Etive – particularly given the undulating terrain of the Site;
- The appearance of the wind farm from Glen Lonan given the potential for turbines in the south part of the Site to dominate the small scale of the valley and appear incongruous; and
- The tracks, substation and other infrastructure would be sited to minimise external visibility and tree removals.

5.3 Summary/Conclusion

Significant effects would arise as a result of changes to the landscape character and views within 4km south, 5km east and west and 6km north of the Site. These effects would be localised in their extent and would not affect landscape or views of regional or national importance.

6 CULTURAL HERITAGE AND ARCHAEOLOGY

6.1 Likely Significant Effects

6.1.1 Construction

The assessment has identified eight non-designated heritage assets within the Site that are considered to be of Negligible importance. Direct impacts are anticipated on five of the non-designated heritage assets. The effect significance is judged to be Minor or Negligible and not significant in EIA terms in each case.

There is a high potential for paleoenvironmental remains to survive on the Site and the importance of such remains is considered to be low. Peat deposits would be impacted by the Proposed Development, and there is the potential for impacts on paleoenvironmental remains. The impact magnitude is judged to be Low. The resulting effect significance would be Negligible. This effect significance is not considered to be significant in EIA terms.

The importance of hitherto unknown archaeological remains cannot be predicted and thus the effect significance cannot be determined at this time; however, these features are considered to be of low or negligible importance. Impacts upon any such remains could range from negligible to high in terms of magnitude of impact, depending upon the extent of damage/removal of the asset. This has the potential to result in effects of up to minor significance which is not significant in EIA terms.

Offsite habitat enhancement works include a proposal for Rhododendron removal which has potential to result in direct impacts upon the E of Auchnacloch Railway Station Scheduled Monument as a result of ground disturbance from root extraction. Any works within the Scheduled Monument extent would require Scheduled Monument Consent (SMC) in advance of works. The exact level of effect would be dependent upon the methodology employed, and thus the extent of disturbance; however, any magnitude of impact to a Scheduled Monument is likely to be considered significant.

6.1.2 Operation

All designated heritage assets within 10km of the Proposed Development have been identified as part of the assessment. The assessment identified Minor and Neutral effect significance and are not considered to be significant in EIA terms.

Cumulative developments have been identified and the impact of these cumulative developments on the settings of designated heritage assets was at worst judged to be no greater than the impact resulting from the Proposed Development on its own. No significant cumulative effects upon the setting of heritage assets have been identified.

6.1.3 Decommissioning

It is not anticipated that decommissioning works would cause direct impacts upon any buried archaeological remains, deposits or features beyond the existing footprint of the Proposed Development. There is a potential for temporary effects upon the settings of heritage assets during the decommissioning phase, but it is not anticipated that these would cause a level of effect higher than those reported for the construction and operation of the Proposed Development. Any decommissioning effects would be temporary and likely of a shorter duration than the assessed construction effects.

Upon the completion of the decommissioning, the long-term effects of the Operational Phase on the setting of assets would be removed, with the setting of those assets restored to the current baseline condition.

6.2 Mitigation

Eight non-designated heritage assets have been identified on the Site. Due to the nature of these assets, they have been judged to be of negligible importance being historically recorded or common features of an upland landscape. Four of these heritage assets have been avoided by the design.

There is the potential for archaeological and paleoenvironmental remains to survive within the peat identified on the Site. All areas of deep peat, the likely locations where paleoenvironmental remains would be best preserved, have been avoided by design.

Mitigation in the form of toolbox talks, and archaeological works including; a watching brief, and an archaeological coring programme are recommended to inform the construction team of the presence of known assets, identify the potential for archaeological remains and to investigate the potential for archaeological and paleoenvironmental remains to survive around known assets and deposits has been recommended.

Dun Chathach, dun 630m E of Auchnacloch Railway Station would be fenced off with a 20m buffer. No root removal would be undertaken within this area and the fencing would be maintained throughout the duration of the works to ensure no accidental incursion into this area. A toolbox talk will also be given to the works team prior to the removal commencing, ensuring they are appraised of the location of the Scheduled Monument and acknowledge that no ground breaking works, or works which could cause damage to any upstanding fabric of the Scheduled Monument, are to be undertaken without SMC.

A programme of enhancement on the Site may result from archaeological and paleoenvironmental discoveries made during construction, with the results disseminated through a variety of media to different audiences and within the publicly accessible areas of the Site.

The location of turbines have been designed to avoid any known key views of designated heritage assets within the 10km Study Area insofar as possible. No direct mitigation is possible for setting effects (beyond embedded mitigation by design).

6.3 Summary/Conclusion

The effect significance of the Proposed Development on known archaeological remains within the Site is not considered to be significant in EIA terms. The effect significance of the Proposed Development on the potential for hitherto unknown archaeological remains and the potential for paleoenvironmental remains within the Site is not anticipated to exceed the threshold of EIA significance.

The effect significance of the Proposed Development on the settings of groups of designated heritage assets and individual heritage assets within the 10km Study Area is not considered to be significant in EIA terms.

Embedded, construction and operational mitigation has been considered by this assessment. The locations of known heritage assets have, where possible, been avoided by design, as have deep areas of peat where there is a higher potential for well-preserved archaeological and paleoenvironmental remains to survive. Key views to and from heritage assets were also taken into consideration during the placement of turbines.

7 NOISE

7.1 Likely Significant Effects

7.1.1 Construction

Given the setback distance and limited duration of construction activities to the nearest receptor, it was proposed at the Scoping stage that construction noise can be constrained to recommended limits via a suitable planning condition.

A noise assessment associated with borrow pit drilling, however, was included due to the proximity of the nearest receptor. This assessment took the form of a desktop assessment following the appropriate guidance. Total equivalent operational plant noise levels associated with drilling and rock excavation activities were predicted at the nearest receptor.

Total predicted levels at the nearest receptor will meet the requirements of the relevant guidance for noise levels.

7.1.2 Operation

Operational noise from the Proposed Development was assessed using propagation modelling in accordance with industry standard best practice guidance the Institute of Acoustics (IoA) Good Practice Guide.

The total predicted levels at the nearest receptor met the recommendations of this good practice guidance.

7.2 Mitigation

The operational noise assessment results demonstrated that immission from the proposed turbines would be able to meet the relevant noise limits set out in IoA Good Practice Guide guidance at all receptors therefore, no mitigation is required.

7.3 Summary/Conclusion

It was concluded that the Proposed Development would be within the relevant noise limits set out in planning guidance. Immission levels are expected to have a low to negligible impact on all receptors within the Study Area. As such, the Proposed Development can be accommodated in noise terms and it is concluded that operational noise impact would be not significant in EIA terms at the nearest surrounding receptors.

8 GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND SOILS

8.1 Likely Significant Effects

8.1.1 Construction and Operation

The impact of construction and operational phase works at the Proposed Development on the following elements were assessed:

- Physical changes to overland drainage and surface water flows;
- Water contamination from particulates and suspended solids;
- Water contamination from fuels, oils, concrete and suspended solids;
- Changes in or contamination of water supply to vulnerable receptors including private water supplies (PWS), groundwater-dependent terrestrial ecosystems (GWDTE) and designated sites;
- Increased flood risk;
- Modification to groundwater flow paths;
- Soil erosion and compaction; and
- Peat instability.

The assessment found that no significant effects would occur provided best practice construction methods were used alongside mitigation methods as described below.

8.1.2 Decommissioning

Effects during decommissioning were assessed as being similar to those encountered during the construction phase, although of lower magnitude, as the level of activity at the Proposed Development would be less during the decommissioning phase.

8.2 Mitigation

Proposed mitigation methods included embedded mitigation, meaning mitigation which is built into the design, and additional mitigation commitments. Embedded mitigation includes the following:

- Avoidance, where possible, of sensitive areas of peatland, potential GWDTE, designated sites and PWS;
- Minimisation of watercourse crossings;
- Careful design of drainage to avoid increasing downstream flood risk;
- Preparation of a Construction Environmental Management Plan (CEMP) to manage environmental impacts during construction; and
- Preparation of a Pollution Prevention Plan, Peat Management Plan and Drainage Strategy for the Proposed Development.

Additional mitigation commitments include measures to manage construction traffic, control pollution, protect GWDTE and PWS, and the creation of a risk management system to be compiled and maintained at all stages of the Proposed Development.

8.3 Summary/Conclusion

This chapter has shown that, as a result of careful design and mitigation commitments, no significant impacts on geology, hydrogeology, hydrology, soils and peat would arise as a result of the Proposed Development.

9 ECOLOGY

9.1 Likely Significant Effects

9.1.1 Construction

The impact assessment identified that the construction of the Proposed Development would result in no adverse effects on the Airds Park and Coille Nathais SSSI and the Clais Dhearg SSSI-notified species marsh fritillary, via disturbance-related impacts to supporting habitats.

For priority peatland habitat, no significant residual effects are predicted in the medium term, and eventually in the long-term, when following provisions made within the outline Habitat Management Plan (oHMP) and significant beneficial residual effects will be delivered.

No significant residual effects are anticipated for bats, red squirrel, wood ants or otter.

Adverse, direct, temporary, and short-term effects on fish are anticipated at a site-level only and are, therefore, not significant as a result of vibration and noise disturbance. Replacing box culverts with open-bottomed culverts would provide a beneficial long-term impact on fish passage.

9.1.2 Operation

No significant residual effects are anticipated for any scoped in designated sites or species from the operation phase following mitigation and monitoring.

Regarding cumulative effects of the Proposed Development from habitat loss and/or disturbance/mortality related impacts to species, concurrently or sequentially to these known connections, it would be unlikely to cause a significant cumulative effect.

9.1.3 Decommissioning

Effects related to decommissioning are predicted to be of no greater magnitude than construction related effects, and good practice measures would be implemented in accordance with best practice at that time. Therefore, decommissioning effects were not detailed further within the assessment.

9.2 Mitigation

Mitigation measures will include pre-construction surveys, the use of species-specific buffer zones and avoidance of sensitive lifecycle periods. A Construction Environmental Management Plan (CEMP) will be produced and implemented by the Principal Contractor building upon the outline principles set out in documents such as the outline Habitat Management Plan (oHMP), Species Protection Plans and Pollution Protection Plan, which will minimise the effects of such disturbance on species and their habitats during the construction phase in the interests of good practice and legal compliance. Additionally, post-construction monitoring surveys for marsh fritillary and an oHMP would reduce residual effects during operational phase on both species to not significant.

In addition to the above mitigation, peatland restoration measures which will seek to offset losses and habitat enhancement measures relating to deer management and control of invasive non-native plant species, are described within the oHMP.

9.3 Summary/Conclusion

Although a range of target species and habitats were recorded at the Site and wider Study Areas, no significant impacts were predicted during construction and operation. Taking mitigation and enhancement measures into account, it was concluded that the Proposed Development would not have a significant effect on those scoped in species and habitats.

10 ORNITHOLOGY

10.1 Likely Significant Effects

10.1.1 Construction

The impact assessment identified that the construction of the Proposed Development would only result in adverse effects on hen harrier and black grouse, via disturbance-related impacts.

10.1.2 Operation

Regarding the operation of the Proposed Development, adverse effects on all three scoped in species were predicted. The only significant effect was disturbance to nesting hen harrier and/or lekking black grouse. With regards to the cumulative effects of the Proposed Development from habitat loss/displacement and/or collision risk in combination with those of other wind farm developments, none were predicted.

10.1.3 Decommissioning

Effects related to decommissioning are predicted to be of no greater magnitude than construction related effects, and good practice measures would be implemented in accordance with best practice at that time. Therefore, decommissioning effects were not detailed further within the assessment.

10.2 Mitigation

Mitigation measures secured through a Breeding Bird Protection Plan are proposed to minimise the effects of such disturbance on both black grouse and hen harriers during the construction phase in the interests of good practice and legal compliance. Additionally, post-construction monitoring surveys and an oHMP would reduce residual effects during operational phase on both species to not significant.

10.3 Summary/Conclusion

Although a range of target species were recorded at the Site, only three species were scoped into the assessment. Significant impacts on hen harrier and black grouse from disturbance to nest and lek sites respectively were predicted during operation for hen harrier and during both construction and operation for black grouse. However, taking mitigation measures into account, it was concluded that the Proposed Development would not have a significant effect on birds.

11 TRANSPORT AND ACCESS

11.1 Likely Significant Effects

11.1.1 Construction

The Proposed Development would lead to a temporary increase in traffic volumes on roads in the Study Area during the construction phase, compared to the future baseline. Traffic volumes would fall considerably outside the peak period of construction.

The maximum traffic impact associated with construction is predicted to occur in month nine of 18 of the indicative construction programme.

The traffic associated with the Proposed Development, at the peak of construction, would result in an additional 84 total movements which comprise of 44 Heavy Goods Vehicles (HGV) movements per day (22 inbound and 22 outbound) and 40 Cars \ Light Goods Vehicles (LGVs) (20 inbound and 20 outbound).

The greatest impact on the public road would occur along the A85, to the west of the proposed Site access junction, with an increase in traffic of less than 0.9%. Users of the Forest Path network are considered to be those most affected by construction traffic.

11.1.2 Operation

No operational effects are predicted during the operational phase of the Proposed Development.

11.1.3 Decommissioning

No operational effects are predicted during the operational phase of the Proposed Development.

11.2 Mitigation

Mitigation measures during the construction phase would include a Construction Traffic Management Plan, a public road Wear & Tear agreement, an Abnormal Indivisible Load Transport Management Plan, a construction staff Travel Plan and an Outdoor Access Management Plan.

11.3 Summary/Conclusion

With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect transport and access issues. The residual effects are all assessed to be Minor. Furthermore, as they will occur during the construction phase only, they are temporary and reversible.

12 FORESTRY

12.1 Likely Significant Effects

Forestry is not regarded as a receptor for EIA purposes. 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 developments.

The construction phase has the potential to result in changes to the physical structure of the forestry within the Application Boundary, as well as forestry waste arising from the Proposed Development. The forestry proposals are interrelated with environmental effects, which are assessed separately.

Management of the remainder of the forest, outwith the Site, lies with the landowners and therefore the wider felling operations, restocking, and aftercare operations within these areas do not form part of the Proposed Development for which consent is sought.

The majority of the proposed infrastructure is located outside of existing woodlands; however, access for the Proposed Development is taken via commercial forestry plantations. The forestry proposals have been developed to:

- Identify areas of forest to be removed for the construction/operation of the Proposed Development;
- Identify those areas which may or may not be replanted as part of the Proposed Development; and
- Propose management practices for the forestry works.

The Forestry Study Area extends to 18.1 hectares (ha), excluding existing open ground. Felling would be advanced on 18.1ha for construction of the Proposed Development. There would be 6.8ha of woodland restocked in line with the aims of the Taynuilt Land Management Plan.

There would be a loss of woodland totalling 11.3 ha due to the access track.

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 to be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of construction.

13 AVIATION

13.1 Likely Significant Effects

13.1.1 Construction

Equipment up to 200 metres above ground level may be present on the Site and could therefore present a hazard to aircraft flying at low altitudes. Since the Site is in an area designated by the MoD as “low priority” for low flying these effects are assessed as of minor significance.

The Proposed Development will infringe the Outer Horizontal Surface (OHS) of Oban Airport – a horizontal plane designed to provide notification and control of obstacles around the airport. In view of the constraints on flight paths and altitudes already imposed by the terrain and other obstacles in the area to the south-east of the airport, it is concluded that the effect of the Proposed Development on the Oban Airport OHS would be of minor to moderate significance.

There will be no effects on the design of a future instrument approach procedure to runway 01 at Oban Airport.

The Proposed Development has the potential to create adverse effects on radio communications between Oban Airport and aircrafts. Research into other airfields with wind turbines in the vicinity found no evidence of adverse effects on radio communications. The effect of the Proposed Development on Oban Airport radio communications is assessed as being of minor significance.

The Proposed Development would be well outside the Civil Aviation Authority (CAA) and International Civil Aviation Organisation recommended safeguarding zones for aeronautical radio navigation equipment at Oban Airport. Any effects of the Proposed Development on these facilities would be of negligible significance.

13.1.2 Operation

The Proposed Development will not be within line of sight of any radar used for air traffic control, air defence and weather forecasting and will therefore have no effects on those facilities; however, there is potential that the Proposed Development could generate air turbulence which could affect aircraft flying inbound to or outbound from Oban Airport at low altitude in the area downwind of the turbines. Minor deviations of flight path would keep aircraft clear of the potential turbulence zones. It is assessed that the effect of downwind turbulence from the Proposed Development on air traffic using Oban Airport would be of minor to moderate significance.

13.1.3 Decommissioning

The effects of the Proposed Development on aviation in the decommissioning phase would be the same as those during the construction phase.

13.2 Mitigation

The Proposed Development’s infringement of the Oban Airport OHS will be mitigated by listing the location and height of the turbines in Oban Airport’s entry in the UK Aeronautical Information Publication and by the provision of lighting on the turbines. A lighting scheme has been approved by the CAA and Oban Airport.

Mitigation of the potential effects of downwind turbulence from the Proposed Development, if required, could be provided by advisory text in the airport’s Aeronautical Information Publication entry and/or recommendations on the routes to be followed by arriving aircraft.

13.3 Summary/Conclusion

The assessment of likely significant effects of the Proposed Development on aviation finds that:

- All turbines in the Proposed Development would infringe the Oban Airport Outer Horizontal Surface. This is an effect of minor to moderate significance. If minor, the effect is not significant in EIA terms. If moderate, the effect is significant in EIA terms; and
- There is potential for the Proposed Development to generate turbulence which could affect aircraft flying to/from Oban Airport. This is an effect of minor to moderate significance. If minor, the effect is not significant in EIA terms. If moderate, the effect is significant in EIA terms.

Following the application of mitigation measures, the residual effects of the Proposed Development on aviation will be of minor significance and therefore not significant. Since with mitigation applied, any effects experienced would not require any alteration of existing operational and technical practice.

14 SHADOW FLICKER

14.1 Likely Significant Effects

Following the relevant guidance and best practice principles, all properties within a 1620-meter Study Area from the Proposed Development were identified. A mathematical model has then been run using conservative assumptions to calculate the theoretical potential effect of shadow flicker at the identified receptors.

Two residential properties were assessed within the shadow flicker Study Area. After accounting for climatic and operational conditions, all properties are predicted to receive less than 7 hours of shadow flicker per year, comfortably below the annual 30-hour threshold of significance.

Both properties are predicted to exceed the 30-minute per day threshold of significance. However, predictions show flicker is expected to occur between the hours of 06:00am – 07:00am British Summer Time (BST). Given potential impacts for the majority of the time fall outside typical waking hours, the likelihood of disturbance is low. Although shown to exceed a daily threshold of 30 minutes of flicker, shadow flicker impacts are not considered significant.

Shadow flicker was calculated assuming window sizes of 4m x 4m at each property. This is likely to be an overestimate in the majority, if not all, cases. In practice, smaller window sizes will lead to a lower duration of shadow flicker occurring than modelled.

14.2 Mitigation

Flicker is shown to occur before 07:00am (BST), generally considered outside typical waking hours. Where shadow flicker is predicted to occur for short periods of time, it is likely that no mitigation will be required, as the magnitude of resulting impacts is shown to be low.

Flicker is only expected to occur from the two most southerly turbines (T1 & T3) at each location. In the event a shadow flicker complaint is received with suitable evidence, the turbines can be fitted with a shadow stop system that can be programmed to automatically shut down when environmental conditions are conducive to shadow flicker at affected properties. This means that the turbine would be equipped with a light level sensor, which would be used to ensure the turbine shuts down during periods of sufficient light to generate shadow flicker.

14.3 Summary/Conclusion

Two properties were assessed within the shadow flicker Study Area, with a maximum realistic shadow flicker prediction of 7 hours per year, considerably lower than the 30 hours threshold of significance. Flicker shown to exceed the daily threshold of 30 minutes occurs outside typical waking hours and is not considered significant.

As such, shadow flicker is expected to have a low and not significant effect on nearby sensitive receptors. In the event that shadow flicker subsequently becomes problematic in practice, and a verified complaint is received, individual turbines can be programmed to reduce flicker.

15 TELECOMMUNICATIONS AND INFRASTRUCTURE

15.1 Introduction

Tall structures such as wind turbines can have adverse effects on the performance of fixed radio communications links operating in the microwave and Ultra High Frequency (UHF) frequency bands, if the link paths are close enough to the structures.

15.2 Likely Significant Effects

Potential effects on fixed radio links are similar in the construction, operation and decommissioning phases.

Consultations with the Joint Radio Company (JRC), Arqiva, Atkins, BT, and Vodafone identified three fixed links with the potential to be affected by the Proposed Development:

- An Arqiva UHF television re-broadcast link from Torosay to Dychliemore; A Vodafone microwave link from Torosay to Cruachan; and A JRC-managed microwave link from Torosay to Cruachan.

Following a reduction in the number of proposed turbines from eight to six and changes in the layout, Arqiva, Vodafone and JRC all confirmed that the Proposed Development would meet their requirements for minimum separation distances between blade tips and the link path. The effects of the Proposed Development on telecommunications are therefore assessed as negligible.

15.3 Mitigation

No mitigation is required.

15.4 Summary/Conclusion

The effects of the Proposed Development on telecommunications are assessed as negligible and not significant.

16 CLIMATE CHANGE AND CARBON BALANCE

16.1 Likely Significant Effects

Predicted overall carbon emissions, show that over the Proposed Development's lifetime the project is expected to result in a net emissions carbon dioxide (CO₂) saving of 1,600,000 tonnes of CO₂ against a grid-mix counterfactual and 3,200,000 tonnes of CO₂ against a fossil-fuel mix counterfactual. It is important to note that National Planning Framework 4 (NPF4) (pg. 103), concludes that the lifecycle greenhouse gas (GHG) emissions assessment of renewable electricity generation will likely have an overall net positive impact on achieving national GHG emissions reduction targets. Therefore, the Proposed Development's influence on climate change is considered to be a beneficial effect which is significant following the Institute of Environmental Management and Assessment's guidance (2022) on assessing GHG emissions.

16.2 Mitigation

An iterative design approach was taken for the layout of the Proposed Development therefore, turbines and associated infrastructure are designed to avoid the deeper areas of peat and watercourses, as well as utilising existing infrastructure where possible.

As the Proposed Development is expected to have a beneficial effect on climate change in terms of offsetting GHG emissions, no further mitigating actions are deemed necessary at present.

16.3 Summary/Conclusion

The assessment demonstrates that the Proposed Development would make a positive contribution to Argyll and Bute's Decarbonisation Plan, meanwhile contributing to the wider national target of achieving net zero by 2050. The Proposed Development will also contribute to renewables energy generation targets and on GHG emissions reduction ambitions set out by the Scottish Government.

17 AVAILABILITY OF THE EIA REPORT

Digital copies of the EIA Report will be available at the links below:

- Energy Consents Unit (ECU) Portal: <https://www.energyconsents.scot/Default.aspx>
- Cruach Clenamacrie Wind Farm website: <https://cruach-clenamacrie.co.uk/>

Hard copies of the EIA Report will also be available for inspection, free of charge at the following locations:

Oban Public Library
Albany Street
Oban
PA34 4AL

Opening Times:
Sunday & Monday: Closed
Tuesday & Wednesday: 9:30 am–16:30 pm
Thursday: 9:30 am–18:30 pm
Friday & Saturday: 9:30 am–13:00pm

Connel Village Hall
Connel
PA37 5AL

Opening Times:
Monday – Sunday: 10:00am – 19:00pm
Times may vary, please check the online hall diary on the Connel Village Hall website, <https://www.connelvillagehall.org.uk/index.asp>
Materials will be displayed in the front entrance of the village hall.

Hard copies of the Non-Technical Summary (NTS) can be provided free of charge upon request and the full EIA Report can be provided for £1000 per hard copy. Electronic copies of the EIA Report on a USB drive are available free of charge.

To request copies of the NTS or EIA Report please contact Green Cat Renewables.

Address: Stobo House, Roslin, EH25 9RE

Email: info@greencatrenewables.co.uk

Tel: 0131 541 0060

17.1.1 Representation to the Application

Representations can be made via email to representations@gov.scot or in writing to Energy Consents Unit, Scottish Government, Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU.