CLUNE WIND FARM

Environmental Impact Assessment Report



Volume 4 - Non-Technical Summary

power for good

Clune Wind Farm

Non-Technical Summary



Contents

1 Introduction

1.1 Overview

1.1.1 This Non-Technical Summary (NTS) forms part of the Environmental Impact Assessment (EIA) Report that has been prepared to accompany an application for consent under Section 36 of the Electricity Act 1989 to construct and operate Clune Wind Farm (hereafter referred to as the Proposed Development). The Proposed Development is located on land located approximately 27km south-east of Inverness and approximately 13km north-west of Aviemore (the Site), as measured to the Site centre, in the Scottish Highlands.

1.1.2 The EIA Report presents the findings of the EIA which aims to identify potentially significant environmental effects from the Proposed Development and where possible proposes suitable mitigation measures to address or minimise such effects. This NTS summarise the findings of the EIA Report in non-technical language.

1.2 The Applicant

1.2.1 Renewable Energy Systems Ltd (RES) is the world's largest independent renewable energy company active in onshore and offshore wind, solar, energy storage, and transmission and distribution. At the forefront of the industry for over 40 years, RES has delivered more than 24GW of renewable energy projects across the globe and supports an operational asset portfolio of 41GW worldwide for a large client base.

1.2.2 RES employs more than 4,500 people and is active in 24 countries working across onshore and offshore wind, solar, energy storage, green hydrogen, and transmission and distribution.

1.2.3 From its Glasgow office RES has been developing, constructing and operating wind farms in Scotland since 1993. RES has developed and/or built 21 wind farms in Scotland with a total generation capacity of 597MW. The applicant has the necessary knowledge and experience in renewable energy to develop the Proposed Development.

1.3 The Proposed Development

1.3.1 The Proposed Development is located to the south-west of the A9, approximately 27km south-east of Inverness and 13km north-west of Aviemore. The Site is entirely within the administrative boundary of The Highland Council (THC). **Figure 1** presents a general context for the location of the Site within Scottish Highlands.

1.3.2 The Site covers an area of approximately 3,300ha and comprises predominantly managed upland grouse moorland with agricultural fields and mixed woodland in lower altitude areas. Clune Burn and Allt Lathach cross the Site along with other smaller tributaries running into the River Findhorn that lies to the north-west, outwith the Site Boundary. The Site inclines generally in a north-east to south-west direction. There are a number of operational, under construction and consented wind farms within 15km of the Site, including Dunmaglass Estate, Aberarder, Glen Kyllachy, Farr, Moy and Tom nan Clach.

1.3.3 The Site is located approximately 5km to the south-east of the operational Glen Kyllachy Wind Farm, which comprises 20 wind turbines up to 110m in blade tip height. Glen Kyllachy Wind Farm became fully operational in 2022.

1.3.4 The Proposed Development would comprise 26 wind turbines, with a height of 200m.

1.3.5 Associated permanent infrastructure would include wind turbine foundations, low to medium voltage transformers and related switchgear, crane hardstand areas adjacent to each wind turbine, underground electrical and communication cabling, a substation compound containing electrical infrastructure, control building, welfare facilities, and a communications mast, a battery energy storage system (BESS) compound, access tracks including watercourse crossings, passing places, turning heads and new Site entrance from the U2856, borrow pits; and temporary construction, gatehouse, and batching plant compounds.

1.3.6 A BESS compound is included as part of the application to improve the efficiency of the Proposed Development. It is anticipated that the BESS will have a storage capacity of up to 100MW.

1.3.7 It is anticipated that construction activities for the Proposed Development would take approximately 23 months, depending upon seasonal working

and weather conditions. Once constructed, it is anticipated that the Proposed Development would have an operational life of up to 40 years.

1.3.8 The Proposed Development and associated infrastructure are shown in **Figure 2**. A more detailed description of the Site and the Proposed Development is provided in **Chapter 3** of the EIA Report.

1.4 Need for and Benefits of the Proposed Development

Renewable Electricity Generation

1.4.1 Both UK and Scottish Government energy policy recognises the need for substantial increases in renewable energy generation, in particular onshore wind, if the transition towards net zero is to be achieved. Furthermore, recent global events have also shed a spotlight once again in UK energy policy on the importance of having greater security over our future energy supplies and the importance of generating more of the UK's energy domestically.

1.4.2 The proposed wind turbines would have an anticipated nominal capacity of approximately 187.2MW. The annual generation from the wind turbines is therefore estimated at approximately 699 Gigawatt hours (GWh) based on a Site-derived capacity factor of 42.6%.

1.4.3 The proposed wind turbines will therefore supply renewable electricity equivalent to the approximate annual domestic needs of up to 215,807[1] average UK households.

1.4.4 Each unit of renewable electricity transmitted will displace a unit of conventionally generated electricity, therefore displacing carbon dioxide (CO_2) emissions. It is estimated that the proposed wind turbines will displace approximately 215,807[2] tonnes of CO_2 emissions per year, or 4,526,831 tonnes over the anticipated 40-year lifespan of the Proposed Development.

Effect on Greenhouse Gas Emissions

1.4.5 The First Minister of Scotland declared a climate emergency in April 2019. In response, the Scottish Government introduced amendments to the

1 Calculated using the most recent statistics from the Department of Energy Security and Net Zero (DESNZ) showing that annual GB average domestic household consumption is 3,239kWh (as of January 2024, updated annually).
2 Based on the current grid-mix of the UK electricity grid of 162gCO2/KWh, http://www.carbon intensity.org.uk/ [Accessed 10th October 2024].

Climate Change (Scotland) Act 2009 through the Climate Change (Emission Reduction Targets) (Scotland) Act 2019. The 2019 Act amendment sets legally binding targets requiring Scotland to reduce carbon emissions to net zero by 2045, with interim targets to reduce emissions by 56% by 2020, 75% by 2030 and 90% by 2040. However, in April 2024, the Scottish Government removed the interim targets for 2030 and 2040, deeming them unattainable. This underscores the need to expedite developments contributing to these goals to ensure alignment with the Government's enduring commitment to achieving net zero by 2045.

1.4.6 The Proposed Development would reduce greenhouse gas emissions through replacing fossil fuel generation. The length of time a wind turbine needs to be in operation before it has, by displacing fossil fuel energy generation, avoided as much carbon dioxide as was released in its lifecycle is known as the carbon payback period.

1.4.7 A carbon balance assessment has been undertaken for the Proposed Development using the version of the Scottish Government's carbon calculator for wind farms provided by the ECU, noting that the online carbon calculator was offline at the point of submission (version 1.7.0). The results from the carbon calculator reveal that the net impact of the Proposed Development will be positive overall, as over its proposed 40-year operational life, it is expected that the Proposed Development could result in over 5 million tonnes of net carbon dioxide emission savings when replacing fossil fuel-mix electricity generation.

1.4.8 Overall, the Proposed Development would therefore lead to substantial net carbon savings and reduction of greenhouse gas emissions over its operational life.

2 Site Selection and Design

2.1 Site Selection

2.1.1 A Site selection process was undertaken which identified the Site as being potentially suitable for a wind farm development. This Site selection process took into account a number of potential environmental, technical and commercial constraints including, but not confined to:

- average wind speed;
- natural and built heritage constraints, in particular national and internationally designated assets;
- proximity to housing;
- slope constraint;
- aviation and defence interests;
- proximity to other wind farm sites (pre-planning, consented and operational)

Key Issues and Constraints

2.1.2 Once the Site was identified, key issues and constraints for consideration in the design process were established through a combination of desk-based research, extensive field survey and consultation (through the EIA scoping process). The design process considered the following key issues and constraints:

- landscape designations and visual amenity;
- archaeological and cultural heritage assets;
- sensitive fauna;
- sensitive habitats;
- watercourses, private water supplies and sensitive surface water features;
- topography and ground conditions;
- public road accessibility;
- recreational and tourist routes;
- proximity of residential properties;
- aviation and defence constraints; and
- presence of utilities.

2.1.3 Information in respect of the survey work to identify various key issues and constraints and how they have contributed to the layout design is provided in the technical chapters of the EIA Report (Chapters 5 to 12).

2.2 Design Strategy

2.2.1 As part of the iterative approach adopted by the Applicant, a number of design principles have been incorporated into the Proposed Development as standard practice, including the following:

- consideration to the underlying landscape and its scale;
- consideration to operational, consented and proposed wind turbines neighbouring the Site;
- consideration to the size and scale of the Proposed Development appropriate to the location and proximity to residential properties;
- sensitive siting of the proposed infrastructure incorporating appropriate buffer distances from environmental and archaeological receptors to avoid or reduce effects;
- maximising the re-use of existing tracks as much as possible to access proposed wind turbine locations;
- optimising the alignment of new access tracks and hardstands taking due consideration to the topography of the Site, to minimise cut and fill, minimise the impact on sensitive peatland and ecological habitats and reduce landscape and visual effects;
- adoption of floating access tracks to minimise disturbance of peat where appropriate;
- minimising watercourse crossings and encroachment on watercourse buffers;
- inclusion of borrow pit search areas to minimise the volume of the stone required to be imported to the Site;
- using the latest wind turbine technology, consisting of more efficient and larger turbines where these can be reasonably accommodated within the landscape, as supported by the Onshore Wind Policy Statement (OWPS); and
- maximising the potential energy yield of the Site through the employment of co-located technology in optimal locations (wind and BESS).

2.2.2 The results indicated that the Site would be a technically and environmentally appropriate location to develop a wind farm.

2.2.3 Environmental survey of Clune, for example for birds and other species, peat depth, archaeology, and other matters of interest, ran over a period from 2021-24 and also made use of data gathered for the nearby wind

farm applications where relevant. The data gathered enabled the team to investigate a number of different design iterations before settling on the final design which maximises the efficiency of the Proposed Development whilst limiting the potential environmental impacts.

2.2.4 The Proposed Development has been in the design process for a considerable time and the layout has evolved iteratively, including responding to issues raised during and after scoping, having considered different number and size of wind turbines. Such changes have been influenced by several factors including economics, stakeholder feedback, planning policy and potential environmental effects.

2.2.5 Full details of the Site design process undertaken for the Proposed Development is provided in **Chapter 2** of the EIA Report.

3 EIA Approach and Technical Assessments

3.1 Introduction

3.1.1 The EIA has identified the likely effects of the Proposed Development on the environment and an assessment has been made as to whether any of these effects could be significant. Conclusions about significance are determined by the sensitivity of the baseline conditions (the sensitivity of the receptor) combined with the predicted degree of alteration (the magnitude of change) from the baseline conditions that will occur as a result of the construction, operation and decommissioning of the proposed wind farm. **Chapter 4** of the EIA Report sets out the EIA approach and methodology employed in more detail.

3.1.2 Good practice advises that EIA should be an iterative process rather than a unique, post-design appraisal. In this way, the findings of the environmental assessments can be used to inform the design of the Proposed Development to respond to the environmental constraints and opportunities present. This approach has been adopted for the Proposed Development; where likely adverse effects have been identified, consideration has been given to removing or reducing these through evolving the design of the Proposed Development.

3.1.3 This section provides a brief, non-technical summary of the main findings of the EIA as set out in the technical assessment chapters (chapters 5 to 13) within the EIA Report.

3.1.4 Consultation on the scope and methodologies for each of these technical assessment chapters was agreed upon through a formal EIA scoping opinion request to the Scottish Government Energy Consents Unit. In addition, there has been continued dialogue with relevant statutory and non-statutory consultees both before and after the scoping opinion request was submitted to the Scottish Government.

3.2 Landscape and Visual

3.2.1 EIA Report **Chapter 5: Landscape and Visual** identifies and records the potential effects that the Proposed Development would have on the landscape and visual resource. This includes effects on physical elements of the landscape; effects on landscape character; effects on areas that have been designated for their scenic or landscape-related qualities; and

effects on views from various places such as settlements, routes, tourism features and other sensitive locations. The potential cumulative effects that would arise from the addition of the Proposed Development to other wind farms are also considered, as are the night-time visual effects of visible aviation lighting.

3.2.2 The Study Area for the Landscape and Visual Impact Assessment (LVIA) covers a radius of 35km from the outer turbines in the Proposed Development. Within the Study Area, 25 viewpoints that represent visibility of the Proposed Development have been identified and each of these is illustrated with visualisations and/or wireline drawings to help inform the assessment of the Proposed Development. These viewpoints represent views from various sensitive locations, including settlements, road/walking/cycling routes, tourist attractions and areas that have been designated for their scenic qualities (such as the Cairngorm National Park (CNP)).

Likely Significant Effects

3.2.3 The assessment has shown that the effect on the landscape and visual resource of the great majority of this Study Area would be not significant, which means that the Proposed Development would not be one of the defining influences on the landscape and visual resource, and the existing characteristics of the landscape and views would continue to prevail. The LVIA, however, has indicated that there is potential for the Proposed Development to result in some significant effects within parts of the Study Area.

3.2.4 The LVIA has identified that there is potential for significant effects to arise upon the following receptors:

- the landscape character of the Site and some of its surroundings, including parts of the Rolling Uplands – Inverness, Rolling Uplands – Cairngorms, Forested Upland Fringe, and Upland Strath Landscape Character Types (LCTs);
- the perception of three of the 42 Special Landscape Qualities (SLQs) associated with the Cairngorm National Park relating to *'Layers of receding ridge lines'* (SLQ29), *'Grand panoramas and framed views'* (SLQ30), and *'Dark skies'* (SLQ32) when experienced from some north-western areas of the Park;

- views experienced by residents from parts of the local settlement of Tomatin;
- views experienced by road users from short sections of the C1121, U1116, A9 and A938 roads;
- views experienced by cyclists from short sections of National Cycle Route 7 (NCR7);
- views experienced by hill walkers from some hill summits located within the Monadhliath and Cairngorm Mountain ranges;
- views experienced by recreational walkers from a short section of the LBS114 (Sustrans Route 7) Core Path; and
- views experienced at night-time from the settlement of Tomatin, sections of the C1121 and A9 roads, NCR7, and the LBS114 (Sustrans Route 7) Core Path, and the summit of Craiggowrie.

3.2.5 In addition to these effects arising as a result of the Proposed Development in isolation, there are also likely to be some significant cumulative effects upon the following receptors:

- Parts of the landscape character of the Rolling Uplands – Inverness LCT in all cumulative scenarios assessed in the LVIA, the Rolling Uplands – Cairngorms LCT in the scoping cumulative scenario, and the Forested Upland Fringe LCT in the scoping cumulative scenario; and
- Views experienced by road users from short sections of the U1116 road in all cumulative scenarios.

Mitigation

3.2.6 A variety of landscape and visual mitigation measures have been incorporated through the iterative design of the Proposed Development in order to prevent, reduce or offset potential landscape and visual effects. These embedded mitigation measures are the result of a design process that focussed on the following objectives:

- The removal of wind turbines from north-eastern parts of the Site so that the Proposed Development is set further back from the A9 corridor and Strathdearn, and also to reduce the horizontal extent of the wind farm in views from the CNP;
- The movement of western turbines into more recessed locations beyond the threshold of Strathdearn between Carn Bad an Daimh and An Sochach to moderate effects on the smaller scale strath;

- The movement of turbines north-east beyond the boundary of the Monadhliath WLA to avoid direct impacts on the WLA and reduce indirect impacts upon its wild land qualities; and
- The movement of easternmost turbines in a western direction to increase their separation from the CNP;
- Micrositing the remaining turbines so that they form a coherent design from key locations;
- Limiting turbine heights to 200m blade tip heights to respond to the scale of the underlying landform; and
- A reduced aviation lighting scheme has been agreed with the CAA to reduce the effects of lighting on night-time views from the surrounding area.

3.2.7 The design improvements that have resulted from meeting these objectives have notably reduced the effects of the Proposed Development on landscape, visual and residential receptors in the Study Area. Beyond these embedded mitigation measures, there is very limited opportunity to mitigate landscape and visual effects, and as a result there is no additional mitigation to be considered in relation to landscape and visual impacts.

3.3 Cultural Heritage and Archaeology

3.3.1 The full assessment of the potential effects of the Proposed Development on cultural heritage is provided in **Chapter 6** of the EIAR. Reference numbers for heritage assets are included in this non-technical summary to cross reference relevant sections within the report.

3.3.2 Cultural Heritage and Archaeology refers to assets which contribute to the historic environment. The cultural heritage and archaeological assessment is completed in two parts; direct and indirect physical impacts upon non-designated heritage assets and impacts upon the designated heritage assets' setting.

3.3.3 A Study Area of 1km from the Site boundary was used to procure non-designated cultural heritage data and 10km from the proposed turbine locations for designated cultural heritage assets. The assessment used a mixture of desk-based and field research to review known heritage assets, the potential for unrecorded archaeology within the Site and the potential for impacts on these assets.

3.3.4 There is a high level of prehistoric activity both within the Site and within 1km of the Site boundary. The assessment identified a direct impact upon **SLR76**, prehistoric hut circles, resulting in a very minor significance of effect. The assessment also identified a moderate potential for unknown prehistoric assets to be further identified within the Site. These would likely be concentrated along the water courses, particularly proximate to the River Findhorn, similar to the known prehistoric assets. Should these remains be impacted, the magnitude of impact would be medium, resulting in a moderate significance of effect.

3.3.5 The potential for unrecorded roman, early medieval, or medieval heritage assets within the Site is very low, due to the limited evidence for assets of these dates within the study area.

3.3.6 There is evidence of extensive post-medieval activity both within the Site and within 1km. These remains are of an agricultural and domestic nature, which focus upon the rivers and lowlands, rather than upland areas, with sparse sheepfolds within the upland area for livestock management. Therefore, there is a moderate to high potential for further unknown remains of this nature within the Site.

3.3.7 There is no evidence of modern heritage assets within the Site, and limited evidence from this period in the Historic Environment Records (HER) record within 1km from the Site. As this period is well documented in the area, there is considered to be a low potential for unknown heritage assets within the Site of this date.

3.3.8 The assessment identified three undated assets of which would be directly impacted by the proposals comprising **SLR27**, **SLR303** and **SLR306**. These impacts are considered to result in a very minor significance of effect.

3.3.9 Mitigation for the effects outlined above has been suggested in the form of watching briefs and fencing off of assets as required. Whilst this would not mitigate the impacts concluded above, any harm caused to buried remains as a result of ground disturbance during construction would be offset to some degree by the benefits provided through the information gained during the archaeological investigation and reporting process. Any significant impacts identified in relation to buried archaeological remains should be considered in this context.

3.3.10 Six assets were be carried forward for assessment for impacts on their setting within the EIA.

3.3.11 These assets were fully assessed for the potential for impacts on their setting as a result of the Proposed Development. In summary, it was identified that Soilsean deserted township and hut circle (SM11806) and Drumbain Cottage hut circles (SM11673) would have no significant effect, Edinchat cairn (SM11734), Banchor Cairn (SM11814), and Dalarossie cottage cairn (SM11815) would have a very minor significant effect, and Woodend cairn (SM11739) would have a moderate significant effect.

3.3.12 In the case of Woodend Cairn (SM11739), the impact of the Proposed Development is considered to be moderate in EIA terms. However, the Proposed Development is not considered to impact the integrity of the setting of the asset under Policy 7 h) ii of NPF4. Many contributing factors to the setting of the asset would be retained and the integrity of the asset's setting would not be eroded, as outlined in Section 6.6 of the Chapter. No further cumulative impacts were identified.

3.4 Ecology

3.4.1 Assessments of the relevant potential effects of the Proposed Development upon ecology and biodiversity are presented in **Chapter 7** of the EIA Report.

3.4.2 A minimum radius of 5km was applied for records of protected or otherwise notable species (extended to 10km for bats) and non-statutory designated sites for nature conservation (extended to 10km for statutory designated sites).

Baseline Surveys

3.4.3 Baseline surveys were undertaken in April / May to October 2022, and April to October 2023. Surveys undertaken included bat surveys, surveys for a range of terrestrial mammal species, vegetation surveys and fish habitat assessment surveys. All surveys were undertaken in accordance with relevant good practice guidelines.

Designated Sites

3.4.4 There are nine statutory designated sites within a 10km radius of the application boundary, and one of these (Kinveachy Forest Site of Special Scientific Interest (SSSI)) extends slightly within the application boundary, with no turbines or associated infrastructure sited within the designated site and with no oversail of the SSSI from the proposed siting of turbines.

Habitats

3.4.5 The Site is predominantly characterised by Dry Heath, Dry Heath / Acid Grassland mosaic and Dry Modified Bog habitats. The Site also supports smaller areas of Semi-Natural Broad-leaved Woodland, Planted Broad-leaved Woodland, Planted Coniferous Woodland, Planted Mixed Woodland, Dense / Continuous Scrub, Scattered Scrub, Parland / Scattered Trees, Unimproved Acid Grassland, Semi-Improved Acid Grassland, Improved Grassland, Marshy / Marshy Grassland, Species Poor Semi-Improved Grassland, Lichen / Bryophyte Heath, Wet Modified Bog, Standing and Running Water, and Acid / Neutral Inland Cliff.

Bats

3.4.6 The Clune Wind Farm Site is characterised by an area of upland, exposed habitat which offers sub-optimal habitat for bats in terms of foraging and commuting. With respect to roosting, the Site offers no significant potential due to a lack of structures and mature deciduous woodland habitat.

3.4.7 Activity levels across the Site were low with both common Pipistrellus pipistrellus and soprano pipistrelle Pipistrellus pygmaeus, and Myotis sp. all recorded but in low numbers. The number of bat passes per hour was low and reflects the occasional use of the Site by a small number of bat species. It is concluded that the frequency of use of the Site and specifically the turbine envelope is low enough that the risk of killing and injury of bats from the wind turbines is very low. This risk is further reduced due to the open nature of the Site and lack of features such as mature deciduous woodland.

Protected Species

3.4.8 The site contains dry and wet habitats, varied vegetation structure, open areas and ecotones, and is considered generally suitable for a variety of reptile and amphibian species. There is a solitary historical record of common lizard Zootoca vivipara within 5km of the site over the past 15 years.

3.4.9 Results from the Fish Habitat Survey identified old otter Lutra lutra spraint at three locations on the Allt Lathach. No other evidence for this species was recorded during surveys.

3.4.10 Evidence of water vole Arvicola amphibius was recorded along the middle to upper reaches of the Allt Lathach and Clune Burn. A burrow entrance with dropping was recorded on the Clune Burn. Further upstream, a burrow was found with mud piles breaking through the surface. Along the Allt Lathach, burrows were recorded close to the track. More burrows were observed along the Caochan Leiteir (tributary of the Allt Lathach).

3.4.11 Evidence of badger Meles meles was found within the Site at two locations in the north of the study area.

3.4.12 No evidence of wildcat Felis silvestris, pine marten Martes martes and red squirrel Sciurus vulgaris was found during the field surveys.

Fish Habitat Surveys

3.4.13 The following watercourses were surveyed:

- Un-named watercourse (approximate mid-point NH 75637 23517);
- Caochan Seachdag;
- Caochan a' Phuill;
- Wester Strathnoon Burn;
- Allt Lathach, and the tributaries Caochan nan Gamhainn and Caochan Leiteir;
- Clune Burn;
- Allt Phris;
- Allt Baile nan Gordonach;
- Allt Coire Phris Mhoir;
- Un-named watercourse (approximate mid-point NH 81892 21361);
- Allt Coire Chaillich;
- An Leth-allt;
- Allt an t-Sionnaich; and
- Caochan na Cuileige.

3.4.14 Many of the watercourses in the north of the Site offer low-good quality fish habitat, and the watercourses within the south of the Site contain good and high-quality fish habitat. High-quality habitat was recorded along some stretches of the watercourses; however, impassable obstacles likely prevent migration to most of the upper reaches of the surveyed burns. The Allt Lathach was found to be consistently high-quality habitat with confirmed fish and otter signs. The Allt An T-Sionnaich, Allt Coire Challich and An Leth-Allt were found to be consistently good and high-quality habitat with confirmed fish presence.

Predicted Effects

Designated Sites

3.4.15 The Proposed Development is not predicted to have any significant effects on any designated sites within a 10km radius of the application boundary.

3.4.16 With regards Kinveachy Forest Special Area of Conservation (SAC) / SSSI and River Spey SAC (all located downstream of the Proposed Development), appropriate pollution control measures will be installed prior to construction to ensure no change to the water quality and subsequent potential detrimental effects to habitats.

Habitats

3.4.17 The Proposed Development has been designed (as far as possible) to avoid flush habitats, watercourses and areas of deepest peat. However, some loss of bog habitats is unavoidable, and the proposals would result in the direct loss of up to 116.50ha of regionally important blanket mire, up to 119.14ha of locally important dry heath (including where it occurs in mosaic with acid grassland), and up to 0.005ha of locally important flush habitat.

3.4.18 The loss would be compensated for through measures to restore and manage peatland habitat (390.90ha) both on- and off-site, and through the adoption of land management practices that will promote and encourage the development of natural regeneration of native woodland from the inherent seedbank. This would be delivered via a Habitat Management and Biodiversity Enhancement Plan (HMBEP).

Bats

3.4.19 Bat activity levels across the Site were low with a total of 337 bat passes attributed to common pipistrelle, 200 bat passes attributed to soprano pipistrelle, 78 bat passes attributed to Myotis sp., 96 bat passes attributed to Pipistrellus sp., and 1 pass attributed to brown long-eared bat Plecotus auritus.

3.4.20 Both common and soprano pipistrelle are considered to be species of medium risk from wind turbine mortality. Myotis sp. are considered to be of low risk from wind turbine mortality. However, based upon the results of the static bat detector deployments, it is concluded that the number of bat passes per hour is low and reflects the occasional use of the Site by a small number of bat species. It is concluded that the frequency of use of

the Site and specifically the turbine envelope is low enough that the risk of killing and injury of bats from the wind turbines is very low. This risk is further reduced due to the open nature of the Site and lack of features such as mature deciduous woodland.

Protected Species

3.4.21 With regards otter, water vole and badger, pre-construction surveys providing up to date information on constraints and Ecological Clerk of Works (ECoW) supervision will ensure that construction takes place in an appropriate manner, and direct impacts as a result of destruction of otter / water vole / badger resting places or disturbance of individuals using resting places is considered unlikely. Construction work will primarily take place during daylight hours and as such, direct disturbance of foraging otters / water vole / badger, should they venture on to site, is also considered to be unlikely. Direct impacts and associated effects are therefore considered to be non-significant. There is potential for indirect impacts on otter and water vole to result from water pollution from construction activities. With the mitigation measures detailed above including the requirement for Environmental Clerk of Works (EnvCoW) / ECoW and the requirement for pollution control during construction (to be taken forward within the Proposed Development CEMP), effects will be non-significant.

3.4.22 No evidence of wildcat, pine marten, or red squirrel was recorded, and therefore no significant effects upon these species are likely. A pre-construction update survey would be undertaken for these species to check for subsequent colonisation of the Site and mitigation measures would be developed, if required, if protected mammal species are found to have colonised the Site.

Fish Habitat Surveys

3.4.23 The majority of the watercourses within the site offer good quality fish habitat, albeit with recognised barriers to fish movement preventing complete colonisation of upstream habitats. During construction design, replacement and new water crossings will be installed that follow current best practice and don't impede fish passage. It will also be important to ensure that Pollution Prevention Guidelines (PPGs) and the replacement Guidance for Pollution Prevention (GPPs) are followed and measures undertaken to minimise pollution of the aquatic environment. In order to

ensure that the aquatic environment is safeguarded, a water quality monitoring plan will be put in place encompassing electrofishing, macro-invertebrate sampling and chemical monitoring of the main watercourses prior to, during and post-construction, with the full scope to be agreed with the Findhorn Nairn and Lossie Rivers Trust and THC, post-consent.

Conclusion

3.4.24 No significant effects are predicted for any other protected or notable animal species, and no potential significant cumulative effects were identified.

3.5 Ornithology

3.5.1 Assessment of the relevant potential effects of the Proposed Development upon ornithology is presented in **Chapter 8** of the EIA Report.

3.5.2 The bird interests of the Site have been assessed using current NatureScot and Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines. Scoping was undertaken with NatureScot; no scoping response was received from the Royal Society for the Protection of Birds (RSPB).

Baseline Studies

3.5.3 Baseline studies and surveys took the following into account:

- sites designated for their bird interest (i.e. Kinveachy Forest Special Protection Area (SPA) / SSSI / Important Bird Area (IBA), and Loch Vaa SPA / SSSI); and
- bird species considered to be important and potentially affected by the project, such as species of European conservation importance (as listed on Annex I of the Birds Directive) and species considered to be of principal importance for biodiversity in Scotland.

3.5.4 The following field studies were undertaken:

- vantage point (VP) surveys – undertaken between September 2020 to February 2021, March 2021 to August 2021, September 2021 to March 2022, March 2022 to August 2022, and January 2023 to December 2023, including flight data recorded for target species;
- moorland Breeding Bird surveys – undertaken between April and July in 2021, 2022 and 2023;
- breeding Raptor surveys – undertaken between March and July in 2021, 2022 and 2023; and

- black grouse Lyrurus tetrix surveys – undertaken between end of March and mid-May in 2021, 2022 and 2023.

Evaluation

3.5.5 Five designated sites with avian qualifying features were identified within 10km of the Proposed Development:

- Kinveachy Forest SPA located approximately 0.65km to the south-east of the Site boundary at its closest point;
- Loch Vaa SPA located approximately 8.9km to the south-east of the Site boundary at its closest point;
- Kinveachy Forest SSSI overlaps the south-eastern edge of the Site boundary, but the turbines are located as such to prevent any oversail of the SSSI;
- Loch Vaa SSSI is located approximately 8.9km to the south-east of the Site boundary at its closest point; and
- Kinveachy Forest IBA located approximately 0.65km to the south-east of the Site boundary at its closest point.

3.5.6 Following the fie field surveys, impacts on the following bird species were assessed:

- Curlew Numenius arquata;
- Golden eagle Aquila chrysaetos;
- Golden plover Pluvialis apricaria;
- Greylag goose Anser anser;
- Merlin Falco columbarius;
- Pink-footed goose Anser brachyrhynchus;
- Red kite Milvus milvus; and
- White-tailed eagle Haliaeetus albicilla.

Predicted Effects

Golden Eagle

3.5.7 Golden Eagle Territory (GET) modelling has been carried out which shows that the area which contains the turbines contains a mix of highly suitable and low suitable territory for golden eagle.

3.5.8 The central area of the turbine area is generally low suitability, but the south-east turbines are in an area of moderate to high suitability, causing some displacement of this species. There may be additional displacement

around two other western turbines which sit on the edge of highly suitable habitat.

3.5.9 The collision risk model has predicted the loss of 11 birds over the 40-year lifetime of the Proposed Development. As a result, Population Viability Modelling (PVA) was undertaken and, irrespective of whether the collision risk was included or not, the population was found to decline. This appears to run contrary to the current understanding of the golden eagle population dynamics across the region, which show a recent improvement in the population within the central and southern Highlands.

3.5.10 At the same time, the collision risk estimates do not take account of displacement effects which are known to occur in this species. As such, the collision risk is likely to be substantially lower than the estimate, as birds will avoid the central array.

3.5.11 Therefore it is considered that the collision risk is unlikely to be significant to this species.

Red Kite

3.5.12 It is assumed that this species will exhibit a level of operational displacement. However, while activity was observed within what would become the turbine array area, levels of activity were greater to the north of this area, which would remain available for foraging birds. As a result, the removal of the area of ground supporting the turbine array is considered not significant. Areas with documented higher levels of activity would still be available for foraging post-construction.

3.5.13 The collision risk model has predicted the loss of 27 birds over the 40 year lifetime of the Proposed Development. PVA modelling was undertaken and the results showed that this would not be a significant impact on the local population , which would continue to increase.

White-tailed Eagle

3.5.14 There will be no significant displacement effect on white-tailed eagle given the large range of this species and the scale of the Proposed Development in an open environment with few other constraints.

3.5.15 The collision risk model has predicted the loss of 39 birds over the 40 year lifetime of the Proposed Development. PVA modelling was undertaken and the results showed that at the national level, the population growth is too strong to be impacted by the collision risk estimated for this species.

There may be local level effects, but given the strong population growth for the species, these would not be considered significant.

Conclusion

3.5.16 The residual effects, taking into account construction and operation, were then assessed to establish if they would have significant effects on the ornithological receptors and a cumulative assessment was carried out to identify any regional level impacts which could become significant as a result of the Proposed Development.

3.5.17 No significant residual effects were identified and it is therefore concluded that the Proposed Development could proceed without having an adverse effect on the ornithological receptors on and around the Proposed Development.

3.5.18 No significant cumulative negative effects on important bird species as a result of the Proposed Development are predicted.

3.6 Hydrology, Hydrogeology, Geology and Soils

3.6.1 **Chapter 9** of the EIA Report assess the potential effects of the Proposed Development on hydrology, hydrogeology and geology. Site survey work has been undertaken in two phases with the purpose of identifying and mapping sensitive receptors with the results subsequently informing the site design and assessment. Scottish Water, the Scottish Environment Protection Agency (SEPA), NatureScot, the Findhorn, Nairn and Lossie Rivers Trust, THC and other engaged stakeholders have been consulted during the EIA and their guidance used in designing the layout to protect these receptors from disturbance and potential effects during construction and operation.

3.6.2 A comprehensive desk-based assessment was undertaken to characterise the Site geology, hydrology and hydrogeology, the findings of which were then verified by a programme of Site inspection and investigation. The desk study, field investigation and feedback from consultees were used to identify potential receptors which were then taken forward and assessed in the EIA. Consultees included THC, Scottish Water, NatureScot and SEPA.

3.6.3 Within the study area, several designated sites are recorded with a dependency on soils, geology or water. The Kinveachy Forest SSSI, SAC and

SPA is located southeast of the Site and is designated for a breeding bird assemblage and woodland habitats including bog woodland. The Slochd Geological Conservation Review (GCR) site is located within the northeastern corner of the Site however no element of the Proposed Development is located within the GCR site.

3.6.4 The Site is located within surface water catchments of the River Findhorn to the north and River Spey to the south, in particular the River Dulnain sub catchment. Both rivers are classified as having good ecological status by SEPA.

3.6.5 The River Dunlain flows generally north-eastwards approximately 1.7km south-east of the Site, before discharging into the River Spey approximately 16.5km east of the Site. Several tributaries of the River Dunlain rise within the Site including the Allt an t-Sionnach, Caochan na Cuileige and Allt Coire Phris Mhoir.

3.6.6 The River Findhorn catchment has been designated as a Drinking Water Protected Area (DWPA). Consultation with Scottish Water confirmed that the designation is associated with a borehole in Tomatin which supplies the Tomatin Water Treatment Works (WTW). Scottish Water confirm that the River Findhorn is hydraulically connected to the sand and gravel aquifer which supplies the borehole. The borehole is located downstream of the Proposed Development.

3.6.1 Scottish Water, in their consultation response, considered that the Proposed Development poses a low risk to this Drinking Water Protected Area (DWPA).

3.6.2 The bedrock beneath the Site is underlain by several metamorphic units comprising semipelites, psammites, calc-silicates and quartzites. Several small igneous intrusions are noted across the Site.

3.6.3 Inferred zones of sheared rocks are noted on the boundaries of the bedrock units, particularly within eastern extent of the Site. Small, inferred faults and glacial meltwater channels are also noted across the Site.

3.6.4 Priority peatland mapping (see **Figure 9.4**) indicates that the majority of the Site is located within Class 5 peatland whereby no peatland habitats may be recorded, however, the soils may be carbon-rich and deep peat may be present. Areas of Class 1 peatland and a very small area of Class 2 peatland are recorded within the eastern and southern extent of the Site.

Class 1 and 2 peatland is potential nationally important carbon-rich soil, deep peat, and priority peatland habitat of potential high conservation value.

3.6.5 Class 3 peatland is also noted along the north-eastern boundary of the Site whilst Class 4 and mineral soils (Class 0) are noted within the eastern and southern extents of the Site near the hilltops locally. Class 3 peatland areas may record occasional peatland habitats, carbon-rich soils and areas of deep peat whilst Class 4 and 0 are not considered to represent areas associated with peatland habitats.

3.6.6 A comprehensive programme of peat depth probing has been completed to delineate these and the site design has avoided these where possible. Characterisation of the peat has also been undertaken by a programme of augering or order to, in consultation with the project ecologists, to complete a peatland condition assessment. A Site specific Peat Landslide Hazard Risk Assessment (PLHRA) and Peat Management Plan (PMP) has been prepared to assess and show how peat landslide risk is mitigated and how peat and carbon rich resources on site can be safeguarded.

3.6.7 Potential Ground Water Dependent Terrestrial Ecosystems (GWDTE) have been identified and infrastructure located outwith these areas.

3.6.8 A review of THC private water supply database indicates that there are eight private water supplies within the study area. In addition, a programme of Site investigation has been undertaken to confirm the location of Private Water Supplies (PWS) locations.

3.6.9 The risk the Proposed Development poses to PWS has been considered as part of this assessment and is presented in **Technical Appendix 9.4**. It confirms that:

- two PWS sources are potentially at risk from the Proposed Development without appropriate mitigation, although one has not been confirmed by the Site visit;
- four PWS sources are not at risk from the Proposed Development; and
- two properties are confirmed to be on mains water supplies.

3.6.10 Potential construction and operational effects include changes to surface water and groundwater flow and quality, excavation of peat, peat slide risk and effects to designated sites.

3.6.11 Following the identification and assessment of the key receptors, taking into account the potential effects, a comprehensive suite of embedded

mitigation and good practice measures has been incorporated into the design, including avoidance of areas of deep peat and inclusion of extensive water buffer areas.

3.6.12 Subject to adoption of best practice construction techniques and a final Construction Environmental Management Plan (CEMP), no significant adverse effects on geology (including soils and peat) and the water environment have been identified. The final CEMP will includes provision for drainage management plans which will be agreed with statutory consultees, including SEPA and THC which will be used to safeguard water resources and manage flood risk. A commitment to deploy Sustainable Drainage Systems (SuDS) in these plans has been made. The CEMP will also include provision of a Pollution Prevention Plan which would also be agreed with statutory consultees including SEPA prior to any construction works being undertaken. The final CEMP will be agreed with statutory consultees prior to construction.

3.6.13 Notwithstanding these safeguards, a programme of baseline and construction phase water quality monitoring is proposed which would be used to confirm that the Proposed Development does not have a significant effect on geology and the water environment. Monitoring of watercourses that drain from the Site will be included in the monitoring plan. It is proposed that the monitoring schedule includes one PWS source. Monitoring would commence prior to construction and continue throughout the construction phase and immediately post construction. It is anticipated that the monitoring programme would be secured by a pre-development planning condition to be agreed with statutory consultees.

3.6.14 Taking account of embedded and good practice mitigation, no significant effects on the water environment are expected to occur as a result of the Proposed Development.

3.7 Traffic and Transport

3.7.1 **Chapter 10** of the EIA Report considers the potential effects of the Proposed Development on access, traffic and transport during construction of the Proposed Development.

3.7.2 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.

3.7.3 The methodology adopted in this assessment involved the following key stages:

- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the traffic and transport baseline conditions (including future baseline);
- describe any likely impacts and effects of the Proposed Development on the receptors identified through the baseline assessment;
- describe the mitigation measures proposed to address any likely significant adverse effects; and
- assess the residual effects remaining following the implementation of mitigation.

3.7.4 Strategic access to the Site will be taken from the A9 which forms part of the trunk road network. Access for construction materials would be predominantly from the north and south via the A9 (depending on what materials are being delivered).

3.7.5 Construction traffic access for the Proposed Development will be directly from the U2856 (Slochd – Tomatin road) from a new priority access junction. Loads will then proceed to the proposed turbine locations using a combination of upgraded and new access tracks.

3.7.6 The likely Port of Entry (POE) used for the discharging of wind turbine components will be Inverness Harbour. Abnormal Indivisible Loads (AILs) would likely route to the Site via Longman Drive / Stadium Road, A9 and the U2856 through to the Site access junction.

3.7.7 As part of the wider development proposals, a new bridge is proposed between the Site and the A9, on the U2856 road, across the Highland Main Line. This is to replace the existing bridge, which is substandard and not suitable to accommodate the predicted loads. The works in relation to the new bridge will form part of a separate planning application and will be done in full consultation with The Highland Council (THC), Transport Scotland and Network Rail.

3.7.8 Baseline traffic data was obtained from a combination of Automatic Traffic Count Surveys (ATC) and existing information from the Transport Scotland database.

3.7.9 There are no dedicated pedestrian facilities in the immediate vicinity of the Site, reflecting its rural setting. Further away from the Site in the

wider study area, there are pedestrian facilities within the larger settlements like Inverness and Carrbridge, and some of the smaller settlements, including Tomatin and Moy.

3.7.10 There are however a number of Core Paths and a section of National Cycle Network (NCN) Route 7 in the vicinity of the Site and within the study area. These paths appear to be recreational in nature and do not appear to provide significant commuter / school traffic linkages to the surrounding settlements.

3.7.11 A review of Personal Injury Accident (PIA) data for the study area was undertaken within the assessment. This has shown that the majority of PIAs recorded occurred at or on approach to junctions / access to properties, where there is an increased interaction between vehicles and on bends. As such, it has been established that there are no specific road safety issues within the immediate vicinity of the Site that currently require to be addressed or will be exacerbated by construction activities.

3.7.12 A review of consented developments was undertaken as part of the baseline assessment. No other onshore wind farm developments or other potentially significant traffic generating developments were identified that should be considered as part of any cumulative assessment.

3.7.13 The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in months 14 and 15 when there will be a total of 172 vehicle movements per day, comprising 70 two-way Heavy Goods Vehicle (HGV) movements and 102 car / Light Goods vehicle (LGV) movements.

3.7.14 This would equate to approximately 14 two-way total movements or approximately six two-way HGV movements per hour, across a typical 12-hour day, assuming a flat traffic profile, where traffic arrived and departed the Site equally throughout the working day.

3.7.15 The assessment of significance suggests that the effects on the following receptors are considered significant, prior to the application of mitigation measures:

- U2856 Users (Medium Sensitivity);
- Residents on the U2856 (Negligible Sensitivity); and
- Core Path / NCN Route Users within and close to the Site (High Sensitivity).

3.7.16 It should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects are temporary in nature.

3.7.17 The following measures will be implemented to mitigate any adverse effects of construction traffic during the construction phase:

- Construction Traffic Management Plan (CTMP);
- AIL Transport Management Plan;
- Outdoor Access Management Plan (OAMP); and
- a Staff Travel Plan.

3.7.18 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.

3.8 Noise

3.8.1 The assessment of the potential sound and vibration effects from the construction and operation of the Proposed Development on local receptors is provided in **Chapter 11** of the EIA Report.

3.8.2 The acoustic impact for the operation of the Proposed Development on nearby residential properties has been assessed in accordance with the guidance on wind farm noise as issued in the DTI publication 'The Assessment and Rating of Noise from Wind Farms', otherwise known as ETSU-R-97, and Institute of Acoustics Good Practice Guide (IoA GPG), as recommended for use by relevant planning policy.

3.8.3 The results of background noise surveys conducted in support of other wind farm developments in the area have been used to determine appropriate overall noise limits, as required by ETSU-R-97 and the IOA GPG. These noise limits apply to the cumulative impact of operational noise from the Proposed Development and the neighbouring wind farm sites that are operational, consented and submitted in to planning.

3.8.4 Operational noise levels were predicted using the recommended noise propagation model. The predicted noise levels for the Proposed Development are within the derived noise limits at all considered wind speeds. The Proposed Development therefore complies with the relevant

guidance on wind farm noise and the impact on the amenity of all nearby residential properties would be regarded as acceptable.

3.8.5 Construction noise has been discussed with reference to BS 5228 and it has been determined that on-site construction noise levels are highly unlikely to exceed typical limiting noise criteria at nearby residential properties although appropriate mitigation measures will be adopted as a matter of due course. The access route for the Proposed Development is expected to pass reasonably close to residential properties and with some upgrade works to existing access tracks and public roads potentially occurring in close proximity to some of these residential properties. In these instances, the level of noise generated by construction works could be close to typical limits for relatively brief periods. As a result, typical and enhanced construction noise mitigation measures are provided within the chapter which aim to minimise noise as far as reasonably practicable and/or reasonable.

3.8.6 Vibration and air overpressure due to blasting are not expected to have a significant impact on nearby residents following the implementation of appropriate mitigation measures.

3.8.7 An acoustic assessment considering the operation of the proposed BESS, is provided in **Technical Appendix 11.3**. The assessment demonstrates that the development would not be considered significant in terms of current planning policy due the particularly low levels of predicted sound potentially generated by the facilities at neighbouring properties.

3.9 Shadow Flicker, Aviation, Radar and Other Issues

3.9.1 The full assessment of the potential effects of the Proposed Development on shadow flicker, aviation and radar is provided in **Chapter 12** of the EIAR.

Shadow Flicker

3.9.2 Wind turbines are tall structures which can cast long shadows when the sun is low in the sky. Given a conjunction of certain meteorological conditions (clear skies, enough wind for the wind turbines to be rotating and a low angle of the sun in the sky), observers close to a wind farm could experience a phenomenon commonly known as ‘shadow flicker’, where the rotating wind turbine blades pass between the sun and the

observer, usually through narrow openings such as doors or windows, creating an intermittent shadow.

3.9.3 There is one property within 11 rotor diameters of any wind turbine. The property is not expected to experience any shadow flicker as a result of the Proposed Development, and no mitigation is therefore required.

Aviation and Radar

3.9.4 An assessment of the potential for effects of the Proposed Development on aviation interests has been carried out.

3.9.5 The Civil Aviation Authority (CAA) requires any structure equal to and taller than 150m in height to be fitted with visible aviation warning lighting. The CAA has been consulted and a reduced aviation lighting scheme has been agreed.

3.9.6 The Proposed Development is within a military low flying area and so the Ministry of Defence (MOD) will require an infrared lighting scheme, which will be agreed prior to turbine erection. The tip height of the turbines in the Proposed Development is above 150 metres and is subject to Air Navigation Order (ANO) Article 222 Section 6 and, therefore, a reduced aviation lighting scheme has been agreed with the CAA. The implementation of a suitable MOD lighting scheme and a CAA approved lighting scheme will safeguard against effects on aviation as a physical obstruction.

3.9.7 The turbines in the Proposed Development are located within the extent of the Inverness Airport Air Traffic Control Surveillance Minimum Altitude Chart (ATCSMAC). Although in house calculations show no impact, Highlands and Islands Airports Limited (HIAL) will require a full Instrument Flight Procedure (IFP) assessment.

4 Next Steps and Further Information

4.1 Next Steps

4.1.1 The Scottish Government Energy Consents Unit will process the application on behalf of Scottish Ministers. At this stage, there will be an opportunity to make representations on the application to:

Scottish Government

Energy Consents Unit

5 Atlantic Quay

150 Broomielaw

Glasgow

G2 8LU

Email: representations@gov.scot

Online: http://www.energyconsents.scot/

4.2 Further Information

4.2.1 The EIA Report comprises the following:

- Volume 1 EIA Report;
- Volume 2a-c EIA Report Figures and Visualisation;
- Volume 3a-b EIA Report Technical Appendices; and
- Volume 4 Non-Technical Summary;

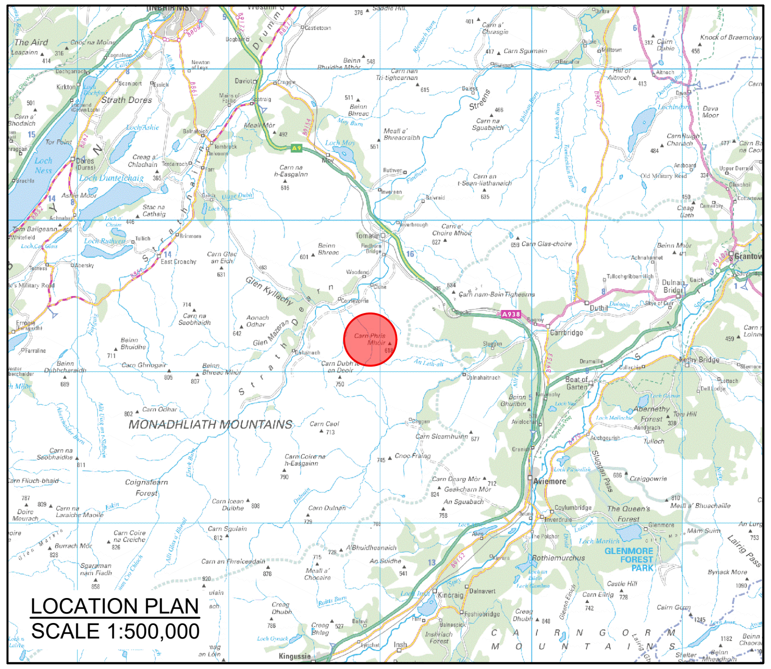
4.2.2 Hard copies of the NTS and EIA Report will be available for viewing in the following locations:

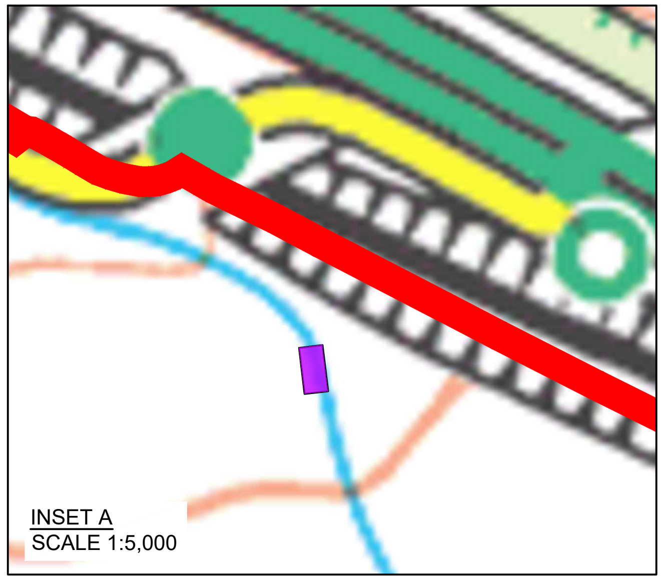
- The Strathdearn Hub, Tomatin, IV13 7YN

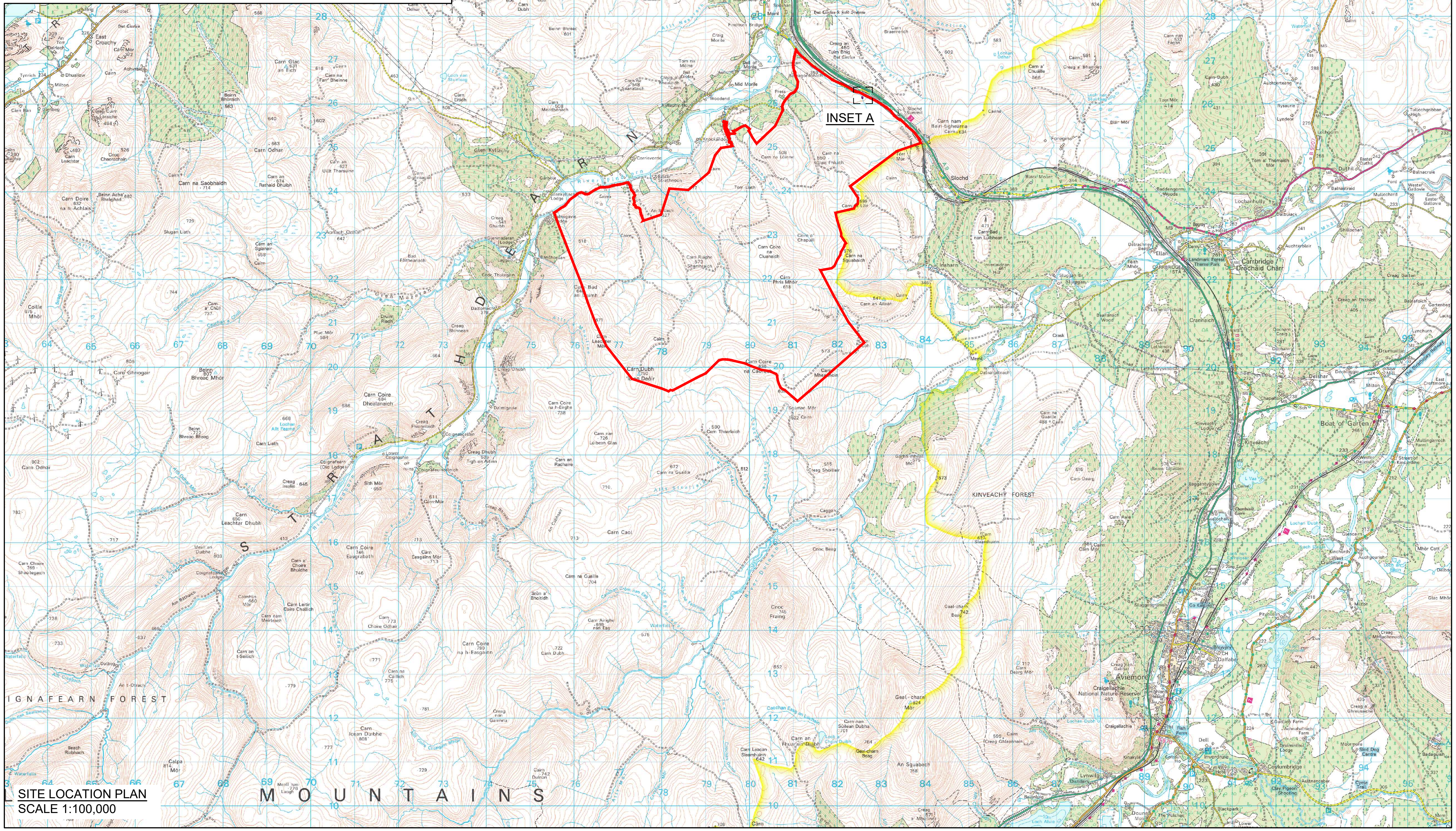
4.2.3 The NTS is available free of charge, and a limited number of hard copies of the EIA Report is available for £1,500 per copy. The price of the hard copy reflects the costs of producing the Landscape and Visual visualisations.

4.2.4 Alternatively, a DVD or USB memory stick containing PDF files of the EIA Report are available for £15 per CD. These PDF files can also be downloaded for free from the Clune Wind Farm website at:

https://www.clune-windfarm.co.uk/







CLUNE WIND FARM

FIGURE 1

SITE LOCATION

KEY:

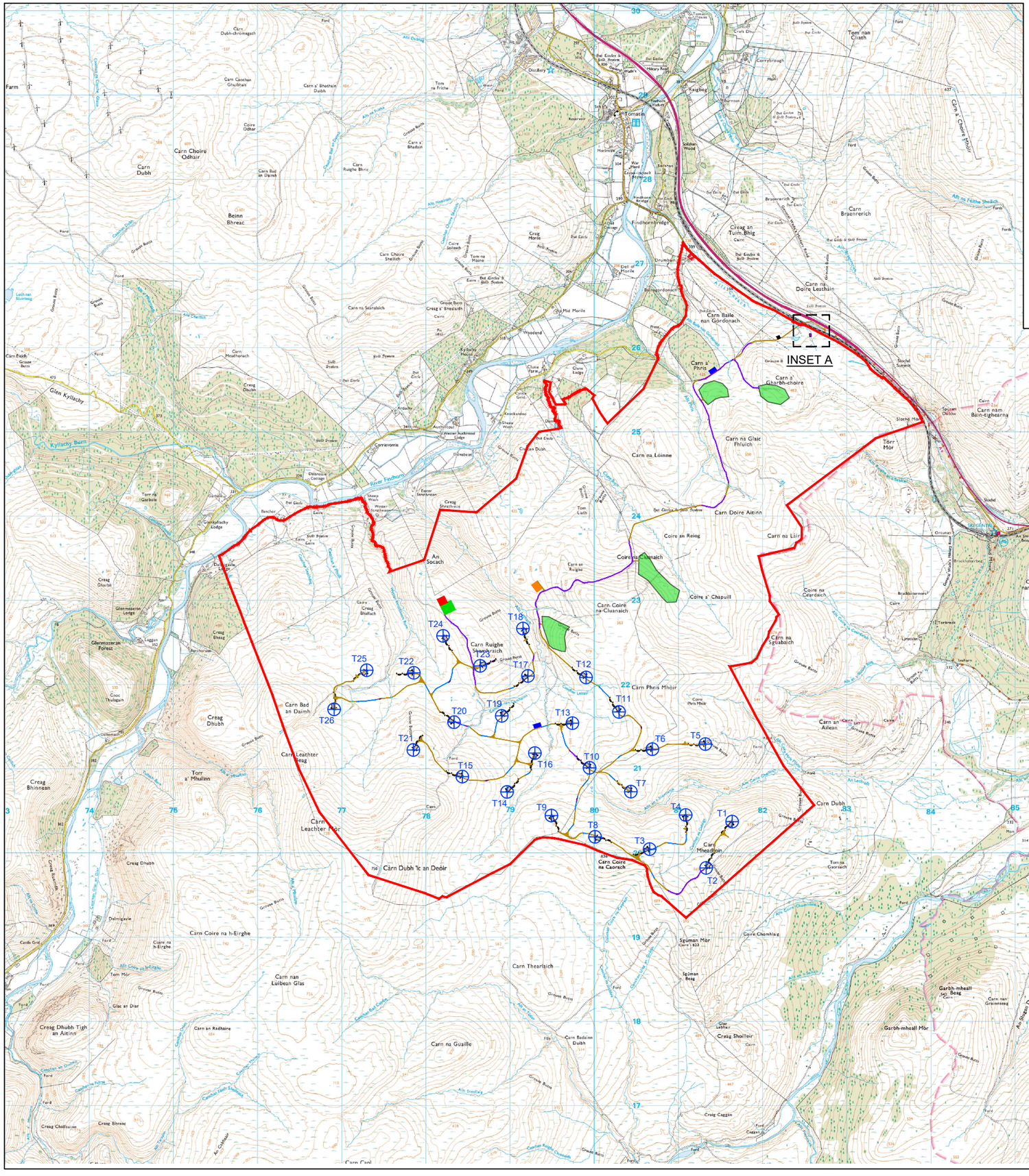
- SITE BOUNDARY
- EXCLUDED AREA

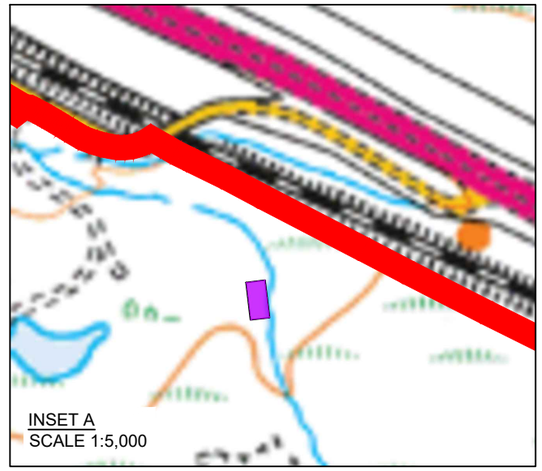
SITE LOCATION - NOT TO SCALE

LAYOUT DWG	N/A	T-LAYOUT NO.	N/A
DRAWING NUMBER	04707-RES-LAY-DR-XX-001	REV	8

SCALE - AS SHOWN @ A3

ENVIRONMENTAL IMPACT ASSESSMENT REPORT 2024





CLUNE WIND FARM

FIGURE 2

PROPOSED DEVELOPMENT

KEY:

- SITE BOUNDARY
- WIND TURBINE
- NEW TRACKS
- UPGRADED TRACKS
- FLOATED TRACKS
- WATERCOURSE CROSSING
- SUBSTATION
- CRANE HARDSTAND AREA
  - PERMANENT
  - TEMPORARY
- TEMP CONSTRUCTION COMPOUND
- BATCHING PLANT
- BATTERY ENERGY STORAGE SYSTEM
- GATEHOUSE COMPOUND
- BORROW PIT SEARCH AREA
- PASSING BAY
- EXCLUDED AREA

LAYOUT DWG	T-LAYOUT NO.
N/A	PSCOCLU041

DRAWING NUMBER	REV
04707-RES-LAY-DR-PE-001	5

SCALE - 1:50,000 @ A3

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