



Earraghail Renewable Energy Development

EIA Report Non-Technical Summary

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Earraghail Renewable Energy Development

Preface

1. This document is the Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIA Report) and has been prepared to accompany the Section 36 consent application submitted by ScottishPower Renewables (SPR) for the proposed Earraghail Renewable Energy Development (the proposed Development). The proposed Development is located on the Kintyre Peninsula, between the village of Tarbert, to the north east, and the village of Skipness, to the south (**Figure 1**).
2. The EIA Report comprises the following:
 - **Volume 1:** Non-Technical Summary;
 - **Volume 2:** Written Statement;
 - **Volume 3:** Figures; and
 - **Volume 4:** Technical Appendices.
3. Printed copies of this NTS and the EIA Report (including figures and appendices) are available free of charge from:

ScottishPower Renewables
9th Floor, ScottishPower House
320 St Vincent Street
Glasgow
G2 5AD
Email: EarraghailRenewableEnergyDevelopment@scottishpower.com
4. The Non-Technical Summary is available free of charge in electronic format, and a limited number of hard copies of the EIA Report are available for £1,000 per copy. The price of the hard copy reflects costs of producing the Landscape and Visual visualisations.
5. Alternatively, a DVD or USB memory stick containing PDF files of the EIA Report is available for £15 each. These PDF files can also be downloaded for free from the Earraghail project website at:

<https://www.scottishpowerrenewables.com/EarraghailRED>
6. SPR has a duty to undertake statutory publication of the EIA Report in accordance with Part 5 of the 2017 EIA Regulations and the Electricity (Applications for Consent) Regulations 1990. Due to the ongoing Covid-19 situation and the provisions of the Coronavirus Act 2020, Government advise is that hard copies of the application and EIA Report should not be placed on public display. The application documents are being made available online via the Energy Consents Unit website as normal, and hard copies are being made available to specific Statutory Consultees.
7. A notice will be published as follow:
 - on the SPR project website;
 - In the Scotsman;
 - In the Edinburgh Gazette; and
 - In the Campbeltown Courier and Argyllshire Advertiser.

8. In addition to the formal notification of the application SPR has:
- made available a Non-Technical Summary of the EIA Report and USB of the entire application submission to the local Community Councils on request;
 - made available free of charge, further copies of the Non-Technical Summary of the EIA Report;
 - made available hard copies of the application documents on request (at a cost to cover printing);
 - maintained a dedicated project mailbox (earraghailrenewableenergydevelopment@scottishpower.com) to receive comments relating to the proposed Development; and
 - maintained ongoing contact with local residents and Community Councils on request.
9. Comments in relation to the application for consent should be forwarded to the address below:

Energy Consents Unit
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow G2 8LU

Email: representations@gov.scot

Web: www.energyconsents.scot/Register.aspx

EIA Report Non-Technical Summary

1 Introduction

10. This Non-Technical Summary (NTS) summarises the Environmental Impact Assessment (EIA) Report for the proposed Earraghail Renewable Energy Development. The EIA Report accompanies an application for consent under Section 36 of the 1989 Electricity Act.
11. Earraghail Renewable Energy Development is referred to in this NTS and in the EIA Report as 'the proposed Development'. The proposed Development is a Renewable Energy Development that intends to make use of available renewable energy technologies to maximise and optimise the renewable energy potential of the Site.
12. The proposed Development comprises up to 13 three-bladed horizontal axis wind turbines, up to 180 m to blade tip with a combined rated output of around 78 megawatts (MW), ground mounted solar array with a rated output of around 5 MW, producing a combined output of around 83 MW or between 230-280GWh of electricity annually which equates to the annual power consumed by approximately 45,307 average UK households. Furthermore, a battery energy storage system (BESS) of around 25 MW would also be installed to store generated renewable energy and provide flexible management of energy delivery and ancillary support services to the National Grid. The proposed Development is described in further detail in Chapter 3 of the EIA Report.
13. The proposed Development is located between the village of Tarbert, to the north east, and the village of Skipness, to the south, situated within the northern part of Kintyre Peninsula in Argyll & Bute council and administrative area – centred on National Grid Reference (NGR) NR 88732 63637. The nearest turbines are located approximately 5.7 km south of the village of Tarbert and 3 km north of the village of Skipness. The exact location of the Site is shown on **Figure 1.1** of the Environmental Impact Assessment (EIA) Report.
14. Environmental effects of the proposed Development have been considered as part of an iterative design process and included within the Environmental Impact Assessment (EIA). The results of the EIA are presented within the EIA Report and summarised in this NTS. The EIA Report informs readers of the nature of the proposed Development, the baseline environmental conditions, potential significant environmental effects and measures proposed to protect the environment, during site preparation, construction, and the operation of the proposed Development.
15. Assessments as reported in this EIA Report have been informed by work undertaken as part of the EIA process. Further details on the Site history and selection are provided in Section 4 of this NTS.
16. The applicant is ScottishPower Renewables (SPR). SPR is part of the ScottishPower group of companies operating in the UK under the Iberdrola Group, one of the world's largest integrated utility companies and a world leader in wind energy. ScottishPower now only produces 100% green electricity – focusing on wind energy, smart grids and driving the change to a cleaner, electric future. The company has committed to investing over £4 m every working day between 2018 to 2022 to make this happen and is committed to speeding up the transition to cleaner electric transport, improving air quality and over time, driving down bills to deliver a better future, quicker for everyone.
17. SPR is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. Its ambitious growth plans include expansion of its existing onshore wind portfolio, investment in new large-scale solar deployment and innovative grid storage systems including batteries. The company is also delivering the Iberdrola Group's offshore windfarms in the Southern North Sea off East Anglia.
18. With over 40 operational windfarms, ScottishPower Renewables manages all its sites through its world leading Control Centre at Whitelee Windfarm, near Glasgow.

2 Legal and Policy Framework

2.1 Legislative Context

19. The proposed Development would have a capacity exceeding 50 megawatts (MW) and so an application under Section 36 of the Electricity Act is being made to the Scottish Government's Energy Consents Unit. Furthermore, SPR would also seek that a direction under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 should be granted to provide deemed planning permission.
20. Schedule 9 of the Electricity Act imposes duties on SPR, as the Applicant and a licensed generator, to have regard for a range of factors in developing the proposals. These are; "...have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest." In addition, under Schedule 9, paragraph 3 (1)(b) SPR must "do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects". Through the EIA process SPR has sought to develop a layout that takes account of the duties set out in Schedule 9 of the 1989 Act.
21. Section 36 applications are also subject to the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations). Under the EIA Regulations, the proposed Development is considered to have the potential, if uncontrolled, for significant effects on the environment and must undergo the process of EIA and an EIA Report must be submitted with the application.

2.2 Environmental Impact Assessment

22. Potential environmental effects have been assessed to measure their significance. Mitigation is proposed where possible to prevent, reduce or offset significant potential effects.
23. In accordance with the EIA Regulations, the assessment has also considered 'cumulative effects'. By definition these are effects that result from incremental changes in combination with past and reasonably foreseeable developments or different types of impacts on a single receptor.

2.3 Renewable Energy Policy

24. The UK Government and the Scottish Government have both declared a 'climate emergency' and are committed to ensuring that an increased proportion of electricity is generated from renewable energy sources in order to meet carbon emission targets set in 2019.
25. The Climate Change Act¹ was passed by the Scottish Parliament in 2019 and its measures were brought into force in March 2020. It amends the previous Climate Change Act², and sets targets to reduce Scotland's emissions of all greenhouse gases to net-zero, which means that Scotland's net carbon emissions (the balance of carbon emissions released into the atmosphere and those removed from the atmosphere) will be zero, by 2045 at the latest, with interim targets for reductions of at least 56% by 2020, 75% by 2030, 90% by 2040. These are currently the most ambitious statutory targets in the world.
26. On 13th December 2020, the UK Government published its Energy White Paper, 'Powering our Net Zero Future', this document sets out current thinking on the way in which the UK should work towards meeting its Net Zero targets by 2050. It advises that although retiring capacity will need to be replaced, modelling suggests, overall demand could double by 2050. It notes that this would require a four-fold increase in clean electricity generation with decarbonisation of electricity increasingly underpinning the delivery of the Net Zero target. The 3 key themes set in the UK White paper are:
- transform energy;
 - green recovery; and
 - fair deal for consumers

¹ The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

² Climate Change (Scotland) Act 2009

27. In October 2021 the Scottish Government published its consultation on a revised Onshore Wind Policy Statement. While not yet policy, this document provides insight into the Scottish Governments position on the future of onshore wind. The Ministerial forward acknowledges that onshore wind is a cheap and renewable source of electricity generation. It further advises that onshore wind remains vital to Scotland's future energy mix and the delivery of renewable electricity generation is essential. The document advises that the Scottish Government believes that it is "vital to send a strong signal and set a clear expectation" on what onshore wind can contribute to meeting Net Zero.
28. In 2007, the Scottish Government set a target for the supply of 50% of Scotland's electricity from renewable sources by 2020, and in March 2011³ revised its targets and now aimed to provide 100% of Scotland's electricity generation from renewable sources by 2020. This target was narrowly missed as 97.4% of Scotland's gross electricity consumption was from renewable sources in 2020 (Scottish Government, 2021).
29. In December 2017, the Scottish Government published the Scottish Energy Strategy. The Scottish Energy Strategy advises that for Scotland to meet climate change targets, the Government will set a new 2030 target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources. The Strategy advises that onshore wind development is essential to Scotland's transformation to a fully decarbonised energy system, meaning that no carbon emissions are released in the generation of energy, by 2050 and brings opportunities which underpin the vision to grow a low carbon economy and build a fairer society.
30. On 16th December 2020, the Scottish Government published Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018-2032 (CCP Update). This provides an update to Scotland's 2018-2032 Climate Change Plan (CCP) and sets out the Scottish Government's pathway to what they describe as new and ambitious targets set by the Climate Change Act 2019. The CCP Update clearly recognises the role of electricity generation going forwards and identifies how sectors can promote a green recovery from the COVID-19 pandemic

2.4 National Planning Policy

31. Planning policy is the development framework under which decisions on planning applications are made. National planning policies are set by the Government through the National Planning Policy Framework, which sets out nation-wide economic, environmental and social policies. These policies subsequently underpin and contribute to the preparation of local development plans which are implemented on local scale i.e., Argyll and Bute Local Development Plan (explained in more detail in section 2.4 -Local Planning Policy)
32. Scottish Planning Policy (SPP) (June 2014) provides support for wind development in principle and encourages local authorities to guide developments towards appropriate locations. Paragraph 154 states that planning authorities; "should support the development of a diverse range of electricity generation from renewable energy technologies – including the expansion of renewable energy generation capacity".
33. SPP Paragraph 155 also states that; "development plans should seek to ensure an area's full potential for electricity and heat from renewable sources is achieved, in line with national climate change targets.". Onshore wind is specifically considered in SPP starting at paragraph 161. SPP advises that Planning Authorities should identify areas likely to be most appropriate for onshore windfarms.
34. There is high level support for the promotion of renewable energy developments throughout many parts of National Planning Framework 3 (NPF3), which recognises that planning will play a key role in delivering the Scottish Government commitments set out in low carbon Scotland. NPF3 advises that, whilst Scotland is making good progress in diversifying the energy generation capacity and lowering carbon emissions, more action is required by way of continuing to capitalise on the wind resource to ensure security of supply.
35. The National Planning Framework 4 (NPF4), which details the Scottish Government's long-term plan for what Scotland could be in 2045, was laid in Parliament on 10 November 2021. It is currently the subject of consultation which will last until the end of March 2022. Part 1 of NPF4 sets out an overarching spatial strategy for Scotland and states:

³ 2020 Routemap for Renewable Energy in Scotland (Scottish Government, 2011)

“We have set a target of net zero emissions by 2045 and must make significant progress towards this by 2030. This will require new development and infrastructure across Scotland.”

36. It continues by stating:

“We will plan the place we want Scotland to be carefully. The way we live, learn, work and play in the future will need to be consistent with our ambition to achieve net zero emissions and nature recovery.”

37. The NPF4, highlights the radical shift being required in Scotland’s Spatial plan and policies to meet the emissions targets for 2030, 2040 and 2045. This demonstrates the step change which has started and must continue in the weight to be attached to renewable energy policies in decision making processes. The published document is not a statement of policy and is subject to consultation. Given this, the weight to be attached to the document is considered to be limited, however it does show clearly the Government’s train of thought.

2.5 Local Planning Policy

38. Local planning policy acknowledges a need to promote onshore wind energy projects to help meet carbon abatement targets. Following a declaration of climate emergency, Argyll and Bute Council set a decarbonisation plan and strategy⁴, for achieving 75% carbon reduction by 2030 and eventually reach net zero in the Council’s carbon emissions by 2045 – consistent with the Scottish Government’s target of net zero by 2045.

39. As previously mentioned, planning policies establish a framework for development. In this context, Argyll and Bute Council, in line with the Scottish government’s National Planning framework, have created the following development plan that incorporates several policies associated with any development or scheme that is being proposed within the council boundaries.

40. In the case of Section 36 Applications, the role of the Development Plan is not the same as in the case of the Town and Country Planning (Scotland) Act 1997, meaning that that the proposed Development does not have to accord with the terms of the Development Plan; however, the Development Plan has the status as a relevant consideration.

2.5.1 Development Plan

41. The Argyll and Bute Local Development Plan 2015 provides a local planning framework for the Council area and additional supplementary guidance to support the sustainable growth of renewables within the council boundaries.

42. As indicated by policy no.6 in the development plan, ‘the Council will support renewable energy developments where these are consistent with the principles of sustainable development and it can be adequately demonstrated that there would be no unacceptable significant adverse effects, whether individual or cumulative, including on local communities, natural and historic environments, landscape character and visual amenity, and that the proposals would be compatible with adjacent land uses.

43. Supplementary to the Local Development Plan, Argyll and Bute Council created a spatial framework (known as Supplementary Guidance) for the positioning of windfarm developments and renewable energy schemes, as well as means for assessing the likely effects that developments may impose on the surrounding environment, economy and society. Through this framework, developments are being assessed at an early stage against various criteria, including:

- Net economic impact
- Effect on Greenhouse gas emissions
- Impacts on communities
- Effects on natural heritage
- Impacts on road traffic
- Effects on hydrology
- Opportunities of energy storage
- Landscape and visual impacts
- Impacts on rich carbon soils

⁴ https://www.argyll-bute.gov.uk/sites/default/files/decarbonisation_plan_-_final.pdf

44. By taking into consideration the Supplementary Guidance, Scottish Power Renewables (SPEN) have proposed a site that is in Groups 2 and 3. Therefore, the selected area has been selected on the basis that onshore wind development, and other forms of renewable energy development, is permissible and by noting that further consideration would be required to demonstrate that any significant effects can be sustainably overcome by siting, design, or other mitigation.

3 Site Selection, Alternatives and Design Strategy

3.1 Site Selection

45. The site selection process of SPR is designed to identify potential renewable energy sites that are financially and technically viable, environmentally acceptable, most likely to obtain planning approval, and make meaningful contributions to Scotland's targets for renewable energy generation.
46. SPR is committed to avoiding the development of renewable energy projects in areas where there would be an unacceptable effect on environmentally designated sites and where mitigation measures are unlikely to be successful. SPR is also committed to not considering sites where developments may have an unacceptable effect on landscape character or amenity of National Parks and National Scenic Areas, and special consideration is attributed to internationally and nationally important species and habitats in the wider area.
47. Site selection work by SPR is an ongoing process, whereby a list of candidate sites is maintained and updated as new opportunities are identified and candidate sites move into development. Candidate sites are identified initially through a desk-based exercise which includes the consideration of issues such as site capacity, distance from properties, exposure and topography, site access and proximity to a potential electricity grid connection point.
48. Forestry and Land Scotland (FLS), who manage the National Forest Estate, assessed their forest estate and identified potential sites for renewable energy development. In 2011, SPR was awarded the opportunity to further explore the potential for renewable energy to be generated on the FLS estate.
49. The Site was short-listed due to a number of factors, including the following:
- there are no international or national statutory designations within the area identified for potential development;
 - there are no planning policies which, in principle, preclude wind energy or other renewables development.
 - The Site is located within group 2 and group 3 areas, under the Argyll and Bute Local Development Plan, which are considered to have potential for wind energy or other forms of renewable energy development subject to careful siting and design. Further information has been provided in **Chapter 4** of the EIA Report;
 - initial desk-based assessments and wind monitoring onsite suggest that there is likely to be a good wind and solar resource and the Site is available for a renewable energy development;
 - the Site itself has open and expansive characteristics considered appropriate for renewable energy development;
 - the topography of the Site is attuned with the construction of a commercial scale renewable energy development;
 - the grid network in the west coast of Scotland has been identified by SPR as requiring balancing services that would be suited to a BESS which would complement the ground mounted solar arrays and wind turbines;
 - there are several areas of flat/gently sloping south facing land that are suitable for a ground mounted solar array;
 - the Site has reasonably good access from the public road network for construction traffic and wind turbine deliveries, particularly for longer blades which allows consideration of larger turbines to make the best use of the expected wind resource; and
 - the distances from the nearest residential properties are such that undue noise or visual impacts on visual amenity can be avoided.

3.2 Design Approach and Alternatives

50. With respect to the proposed Development the alternatives considered were as follows:
- different turbine and infrastructure layouts/locations within the Site;
 - different turbine heights/dimensions; and
 - different routes between the proposed Development's infrastructure within the Site.
51. The renewable energy design and layout was adapted and altered in response to environmental constraints and consultation feedback. The proposed Development went through a series of four broad design iterations. Changes to the layout included decreasing the number of turbines, changing turbine positions, siting of ancillary infrastructure, and routing of access tracks.

-
52. The layout and design of the proposed Development follows an iterative design and environmental constraints led process aimed at optimising a renewable energy development that minimises environmental impacts but meets the commercial requirements of SPR. An iterative design approach works in tandem with the EIA process, whereby the design process facilitates incremental changes in layout and design resulting from a continually developing understanding of environmental constraints. This iterative approach allows potential environmental constraints, as they are identified, to be avoided or minimised through alterations in design. This approach is referred to within this EIA as mitigation 'embedded' into the proposed Development or simply 'embedded mitigation'. Further information on embedded mitigation is explained within **Chapters 7 to 15** of the EIA Report.
53. As part of the approach, numerous design principles and environmental measures have been implemented and incorporated into the proposed Development as standard practice, including the following:
- minimising impacts on peat as far as possible;
 - sensitive siting of the proposed infrastructure incorporating appropriate buffer distances from environmental receptors to avoid or reduce effects on the environment; and
 - minimising removal of plantation/tree cover.
54. Throughout the design evolution of the proposed Development layout, a key driver was the consideration of potential landscape and visual effects on receptors and how the proposed Development would relate to the existing landscape character. Importance has been given to the following landscape and visual parameters:
- underlying character and scale of the landscape;
 - layout and spacing of wind turbines relative to key viewpoints;
 - size and scale of proposed Development and proximity to residential areas;
 - setting of cultural heritage assets; and
 - number and size of turbines proposed.
55. Overall, the landscape and visual effects potentially caused by the proposed Development have been considered extensively from key receptors during the design of the proposed Development.
56. At the final stages of the EIA process, following a thorough review of the proposed Development and its potential impacts on the setting of cultural heritage assets, SPR decided to remove turbine number 10 from the design and relocate turbine number 5 further north. The decisions were made on the basis that the proposed turbines, being proposed for the southern section of the site, could have adverse significant effects on Skipness Castle and setting of Kilbrannan Chapel (SM13225). Therefore, instead of putting the visual setting of the Scheduled monument at risk, SPR decided to revise the final design of the scheme reduce the number of wind turbines being proposed and change the design of the proposed Development.
57. The solar array area has been selected using a similar approach to the wind turbine layout by applying technical and environmental constraints to the Site. The principal criteria for solar development have been the identification of flat land and/or ideally south facing slopes. The general design parameters used have been as follows:
- slope (less than 5 degrees for north facing slopes and no more than 10 degrees for south facing slopes);
 - watercourses (10 m buffer);
 - availability of visual screening
 - avoidance of significant shading
 - avoidance of the need for tree removal as far as is practicable;
 - availability of suitable access to site;
 - avoiding extending the physical footprint of the proposed development out with the envelope established by other elements of the infrastructure.
 - potential synergies with the proposed wind and supporting site infrastructure; and
 - avoidance of sensitive habitats and deep peat, where possible.
58. The substation and BESS also have similar requirements positioning on flat land and avoiding sensitive habitats areas and deep peat. The same is true for the construction and maintenance compound but with its position ideally located as near as possible to the entrance and the location of the first wind turbine on entering the site.

59. This combination of environmental, design and technical parameters has resulted in the final layout. It is considered that the proposed Development represents an optimum fit within the technical and environmental parameters of the Site. A range of alternative layout options were refined through an iterative process of design and environmental assessment. Alternative numbers and heights of wind turbines were considered but the final design of turbines at 180 m to vertical blade tip, is considered to create the best balance with tall turbines in the landscape, whilst optimising energy yield.

4 Proposed Development

4.1 Description of the Proposed Development

60. The layout of the proposed Development is shown on Figure 2. ScottishPower It intends to make use of available renewable energy technologies to optimise the renewable energy potential of the Site. The proposed Development comprises 13 three-bladed horizontal axis wind turbines up to 180 m tip height, with a rated output of 78 megawatts (MW) and ground mounted solar arrays of around 5 MW, producing a combined output of around 83 MW or between 230-280GWh of electricity annually. A battery energy storage system (BESS) of around 25 MW would also be installed to store generated renewable energy and provide flexible management of energy delivery and ancillary support services to the National Grid.

61. The layout of the proposed Development includes:

- 13 wind turbines up to 180 m in height, including foundations and aviation lighting;
- ground mounted solar arrays;
- a BESS units;
- crane hardstandings for wind turbine installation;
- transformer/switchgear housings located adjacent to turbines & solar arrays
- existing and search areas for up to 3 borrow pits to extract construction aggregates within the Site;
- a permanent lattice meteorological mast, up to 105 m high;
- underground electrical cabling;
- new (10.4 km) and upgraded (12.9 km) access tracks including watercourse crossings where necessary, passing places and turning heads;
- one main site construction and maintenance compound and a security compound;
- health & safety and other directional site signage;
- compound containing substation, control building and BESS; and
- additional development components to improve the overall ecological, environmental and social benefits accruing from the proposed Development, as follows:
 - Ecological and environmental: peatland restoration; habitat improvement; native woodland planting
 - Social: proposed new walking bothy and stone seating on the Kintyre Way; circular walking route and viewpoint near Tarbert.

62. As a result of any possible issues encountered during site construction (e.g. unsuitable ground conditions), it may be necessary to microsite elements of the proposed Development (i.e. revise the location of infrastructure to a more suitable place). It is proposed that a 50 m micrositing tolerance from turbines and other infrastructure would be applied, where possible, to the proposed Development and that within this distance any micrositing would be agreed in advance with specialist advisors such as ecologists or archaeologists.

63. The proposed Development would require 110.79 ha of woodland to be directly felled in order to facilitate wind turbines, solar arrays and associated infrastructure. Forestry felling will be required in a 108 m keyholed radius from each turbine location within woodland to allow for construction, operation and environmental mitigation, including bat habitat standoff distances. In line with the Scottish Government's Control of Woodland Removal Policy, compensatory planting (CP) of an area equivalent to the net loss, or habitat restoration would be undertaken. Of the 110.79 ha of forestry to be felled, approximately 27.18 ha could be replanted following completion of the construction phase. Further details are provided in **Technical Appendix 15.1**.

64. The proposed Development is anticipated to have an operational life of 40 years, after which it would be decommissioned, and the turbines dismantled and removed. This is the proposed course of operations which is being applied for and any alternative to this action would require separate consent from Argyll and Bute Council, and so is not considered within this EIAR. Consequently, all chapters of the EIA Report consider the effects of the operational phase of the proposed

Development within that timescale. Effects associated with carbon emissions during manufacturing and pay-back period during operation have been calculated – estimating a total of 22 months of operation to offset life-cycle emissions.

65. The proposed Development would be connected to the substation and electricity network via an onsite control building. The control building would also host solar panels on the roof to reduce the carbon footprint of the building and will likely include other energy efficient measures, such as electric vehicle charging points and rainwater harvesting for flushing of toilets. A small car park will also be located adjacent to the control building.

66. The proposed development would connect to electricity transmission network via an SSE overhead line (OHL) between Crossaig and Craig Murrail substations. The exact grid connection point is subject to confirmation by the network operator/owner, which in this instance is Scottish Hydro Electric Transmission (SHET). The precise route of the grid connection cabling has not yet been determined and its effects are not identifiable at this stage. The grid connection may require consent under Section 37 of the Electricity Act 1989, which is the subject of a separate consenting process to this Section 36 application. Therefore, as part of a separate application process, all appropriate surveys and assessments would be conducted in line with the specified regulation requirements.

4.2 Proposed access

67. Technical studies have been undertaken to identify potential access routes to the proposed Development Site. This has enabled the identification of routes for the road transportation of abnormal loads such as wind turbine components (e.g., tower sections, nacelle, and blades) using specialised heavy transport vehicles as well as Heavy Goods Vehicles (HGVs) and other vehicles.

68. For the provision and delivery of construction materials, two different delivery scenarios have been assessed. First, a scenario whereby all construction materials (e.g., concrete for foundations and aggregate for access tracks) are delivered to the Site. The second scenario, and the one preferred by SPR, is for access track aggregate other than the running surface to be sourced from onsite borrow pits, thereby reducing the total number of heavy goods vehicle movements. Both scenarios result in increases in heavy goods vehicles (HGV) movements on the A83, but the more likely scenario at a lower rate compared with the unlikely worst case.

69. Should consent be granted, a detailed access assessment would be undertaken which would identify the requirements for any road modifications, vegetation or tree trimming required along the access route.

70. As shown in **Figure 3.11** of **Chapter 3**, access to the Site would be secured via the A83 at Tarbert Holiday Park to the north of the Site. Nevertheless, to allow the safe delivery of turbine components and construction materials, upgrade to the site entrance would be required. The proposed upgrade and reinstatement of the access entrance compound is considered an integral aspect of the proposed Development, which is expected to facilitate growth to Tarbert Holiday Park after the Development's completion.

4.3 Habitat

71. As established in the Habitat Management Plan (HMP) (**Technical Appendix 8.5**), SPR is committed to multiple objectives towards habitat restoration and enhancement. The purpose of the bespoke HMP, is not only to mitigate for the loss of habitat but also to enhance the local area for biodiversity through large scale habitat restoration and native woodland creation.

72. After identifying the potential of restoring priority habitats within the surrounding area and consulting Forestry Land Scotland (FLS), SPR have developed a bespoke Habitat Management Plan (HMP), aiming to restore 213.1 ha of peatland habitat as part of CP obligations. Additionally, in line with the HMP, SPR is intending to restore 43.3 ha of improved moorland habitat and 25.2 ha of broadleaf woodland. FLS reviewed and approved the final HMP and habitat restoration programme, which would take place in conjunction with the construction and operation stages of the proposed Development.

73. By implementing positive land management for the benefit of nature conservation and enhancement of priority habitats, adverse impacts imposed from the proposed Development on the surrounding environment would be effectively mitigated.

4.4 Recreation

74. During construction of the proposed Development, where possible, recreational access to the Site would be maintained along publicly accessible paths such as the Kintyre Way. Where access along the existing route is not possible, a diversion would be agreed and implemented. There may be occasions when access to the Site for members of the public is not possible for

short periods during the construction phase for health and safety reasons (e.g., during delivery of certain infrastructure components).

75. Changes to access arrangements within the Site would be detailed in an Access Management Plan prepared in advance of construction commencing. This would include an arrangement for communicating changes in access to relevant stakeholders. The Access Management Plan details will be discussed with Argyll and Bute Council's Outdoor Access Manager and shared with key stakeholders such as Local Community Council's and the Kintyre Way Scottish Charitable Incorporated Organisation (SCIO).
76. The proposed Development includes a creative and considered package of enhancement measures to support recreational and tourism uses within the Site during the operational phase based on consultation with stakeholders. These include a new circular walking route being proposed, the provision of a new bothy for recreational users of the Kintyre Way, close to the southern extent of the Site, and a viewpoint location.

5 Scoping and Consultation

77. The purpose of scoping and pre-application consultation is to:
- ensure that statutory consultees and other bodies with a particular interest in the environment are informed of the proposal and provided with an opportunity to comment at an early stage in the EIA process;
 - obtain baseline information regarding existing environmental site conditions;
 - establish key environmental issues and identify potential effects to be considered during the EIA;
 - identify those issues which are likely to require more detailed study and those which can be justifiably excluded from further assessment; and
 - provide a means of confirming the most appropriate methods of assessment.

5.1 Scoping

78. As part of the EIA, the proposed Development was subject to a detailed Scoping exercise on May 2020, in order to determine areas that should be addressed. The Scoping exercise involved a review of available documentation related to the form and status of the existing environment; consultation with statutory and non-statutory stakeholders and other environmental bodies with knowledge of the Site and surrounding area; preliminary desk-based and site-based appraisals and surveys; and knowledge of the potential environmental implications of comparable developments (based on direct past project experience and other published experience and guidance).

79. The following considerations were factored into the scoping process:
- the nature of the receiving environment and the type of operations associated with the proposed Development are such that environmental effects could arise during construction and operation of the proposed Development;
 - a review of the Site revealed ecological habitats, areas of peat and peatland habitats, and species of potential interest;
 - early liaison with stakeholders and consultation bodies e.g., NatureScot, as required, to provide input into the EIA and site design process; and
 - consideration of cumulative effects that could potentially arise through interaction of the proposed Development with other existing or approved development projects nearby.

80. Following submission of the Scoping Report to the ECU, key consultees and stakeholders have been consulted and formed their Scoping Opinion.

5.2 Consultation

81. The process of consultation is critical to the development of a comprehensive and balanced EIA Report. Views of the key statutory and non-statutory consultees serve to focus the environmental studies and to identify key specific issues which may require further investigation.

82. A comprehensive understanding of the requirements/views of consultees has been sought throughout the EIA process. This has informed the design of project Development. Consultation comprised public consultation, undertaken in June 2020

(subsequently cancelled on request of the local community but detailed information still gathered) and between November 2020 and January 2021 – between a range of statutory bodies, non-statutory bodies, community councils and landowners.

83. Public consultation is seen as a key element of the EIA process. Further information on this is contained in the **Pre-Application Consultation (PAC) Report** that is provided alongside this application for consent.

6 EIA Assessments

6.1 Summary of Environmental Effects

84. This Section outlines the predicted environmental effects of the proposed Development. In summary, the EIA assessments show that through careful and iterative design of the proposed Development, through site-specific mitigation measures and the use of good practice methodologies during construction there would be no significant environmental effects, with the exception of some localised significant landscape and visual effects.

85. The following **Sections (6.2 to 6.13)** provide a summary of the effects for each of the EIA assessments, starting with landscape and visual assessment where some significant effects have been predicted.

6.2 Landscape and Visual Impact Assessment

86. The extent of operational effects upon the landscape character would be limited by the topographic containment of the Kintyre peninsula. Significant effects would be contained within the local landscape type (Upland Forest Moor Mosaic), with most notable influence within 2-4 km of the proposed turbines. Beyond this there would be no significant effects on landscape character.

87. The nearest visual receptors significantly affected would be those hillwalkers on the Kintyre Way, as this route passes through the Site. There would be significant visual effects for those people located to the east, including those on the water within Loch Fyne area including recreational sailors, kayakers and Tarbert - Portavadie ferry route. There would also be significant effects for people on the western side of South Cowal/Ardlamont peninsula including Portavadie. To the south, there would be significant visual effects for users of the Lochranza- Kintyre ferry route and those on the northern part of Arran including at the Lochranza, Arran Coastal Way and at Newton Point.

88. Significant construction/decommissioning landscape effects would be limited to the host landscape. Significant construction/decommissioning visual effects would be limited to users of the Kintyre Way.

89. A significant effect was not identified on any designated landscapes including the National Scenic Areas or Areas of Panoramic Quality (local designation).

90. The steepness of landform which forms the Kintyre peninsula leads to a lack of intervisibility with most of the coastal settlements and roads on the Kintyre peninsula and reduces the potential for likely significant cumulative interactions with many landscape and visual receptors. The proposed Development would be perceived as a new renewable energy development at the head of the Kintyre peninsula and would be seen distinctively, well separated from other developments further south along the Kintyre peninsula or further north within South Knapdale. The addition of the proposed Development would increase the number of discrete clusters present within views and the upland of the Kintyre peninsula.

91. The proposed Development will require visible aviation lighting on the nacelles and towers and a range of mitigation options have been considered in relation to night-time impacts. With just the embedded mitigation included in the proposed Development, the assessment concludes that there would be Significant night-time impacts on residents and some recreational receptors on the western Ardlamont peninsula and on the northern tip of Arran at Lochranza. However, with the additional mitigation of an aviation detection lighting system, all these effects would reduce to Minor or Minor/Negligible and Not Significant, due to the short duration the lights would be lit.

92. The changes arising from a project may engender positive or negative responses depending on individual perceptions regarding the merits of renewable energy. However, the assessment has taken a precautionary approach in considering that all effects on the landscape and on views, which would result from the construction and operation of the proposed Development, would be adverse; however, many people would not consider the effects to be adverse.

6.3 Access, Traffic and Transportation

93. **Chapter 12** of the EIA report assesses the potential effects of the proposed Development on the road network and its users.

94. The assessment approach follows industry good practice and focuses upon the changes in traffic flows along specific sections of roads along which construction traffic will pass. This is predominantly the A83(T) in the surrounding area,

stretching as far as the A82(T) including Lochgilphead, Ardrishaig, Tarbert and Inveraray for general construction traffic. Abnormal turbine loads will be delivered to the Port of Campbeltown and travel from there to the Site using the A83(T).

95. The assessment was undertaken taking account of consultation responses from the Argyll and Bute Council and Transport Scotland. The method adopted included desk-based assessment, site visits, and traffic modelling.

96. Once the proposed Development has been constructed, there will be very little change in traffic numbers. Only occasional access for maintenance will be required, and so operational effects are not considered within the assessment.

97. The main impact upon traffic from the proposed development is predicted to be during the construction phase as a result of the increased number of heavy goods vehicle (HGV) movements. The proposed Development would result in a maximum increase in traffic on the A83(T) Kennacraig during its construction of 10.5 % over existing baseline traffic flows.

98. To minimise negative traffic and transport effects during construction, a Construction Traffic Management Plan (CTMP) will be prepared by SPR and agreed with Argyll and Bute Council and Transport Scotland in advance that will identify the measures to be put in place. Consequently, with this mitigation, no significant effects are predicted to occur as a result of the access, traffic and transport impacts.

6.4 Noise

99. The proposed Development is predicted to generate turbine noise levels that will comfortably meet the requirements of Scottish planning policy (i.e., ETSU-R-97 The Assessment and Rating of Noise from Wind Farms). Other infrastructure associated with the proposed Development (e.g., substations and BESS) will be located sufficiently far and have limited noise generation and visibility from neighbouring residences. The resultant impacts of the proposed Development in terms of planning are therefore also considered Not Significant.

100. The noise generated by the BESS and substation, at the nearest residential locations, was considered Negligible and Not Significant given the separation distances involved.

101. Noise associated with the construction of the development will be controlled via the provision of a Construction Environmental Management Plan (CEMP) and is considered insignificant on the basis that it will be temporary and will typically occur at distances which will result in a low impact in terms of typical planning guidance in this respect.

6.5 Socio-economics, Recreation and Tourism

102. An assessment of the potential socio-economic effects of the proposed Development and the likely significance of these on tourism, recreation, land use economic output, employment generation and other indirect effects is described in more detail in **Chapter 14** of the EIA report.

103. The assessment has been undertaken on the basis of the proposed Development consisting of up to 13 wind turbines each with a generating capacity of around 6 megawatts (MW) and with a rated output of around 78 megawatts, ground mounted solar arrays with a generating capacity of around 5 MW, and a battery energy storage system (BESS) of around 25 MW, all of which offer opportunities for provision of goods and services from the local area as well as direct, indirect and induced employment during construction and operation.

104. The assessment was undertaken taking account of consultation responses from the Argyll and Bute Council, ScotWays and Tarbert and Skipness Community Council.

105. Based on the installed capacity, the assessment of the proposed Development's impact found that⁵:

- the development expenditure during the construction phase is estimated to be approximately £117.1million, approximately £13.78 million of which would be spent in the local (Argyll and Bute) economy and approximately £43 million in Scotland as a whole;

⁵ estimates of expenditure within Scotland assume that turbine towers are not purchased in Scotland. If this option becomes available, there would be a substantially increased benefit to Scottish jobs and the wider Scottish Economy.

- during the 24 months construction phase, the proposed Development is expected to support, in net terms, approximately 60.3 person-years of employment benefiting local residents. Nationally (for Scotland as a whole), the proposed Development would be expected to support approximately 215.4 person-years of employment;
 - during the operational phase, the proposed Development is expected support, in net terms, 9 permanent person-years of employment benefiting local residents, and 12 permanent person-years of employment for Scotland as a whole. Additional benefits would accrue to the local supply chain as a result of services supplied to the operation of the proposed Development;
 - the local economy would be expected to be boosted by a total of £4.2 million of net Gross Value Added (GVA) during the construction phase. The Scottish economy would benefit by £17.4 million net GVA; and
 - during the operational phase (assessed over a nominal 40-year life) the proposed Development would contribute lifetime GVA of just under/just over £26.4 million to the local economy through direct, indirect and multiplier effects, and over £35.6 million to the economy of Scotland as a whole.
106. Furthermore, the proposed Development includes a creative and considered package of enhancement measures to support recreational and tourism uses within the Site during the operational phase based on consultation with stakeholders. In particular, measures would focus on users of, and connections to, The Kintyre Way with a new circular walking route being proposed, the provision of a new bothy for recreational users of the Kintyre Way, close to the southern extent of the Site, and a viewpoint location.
107. To date, SPR has voluntarily awarded more than £2 million in community benefit funding arising directly from renewable energy projects to communities in Argyll and Bute, supporting initiatives such as community facilities, environmental projects, heritage projects, health and wellbeing equipment and skills and employment support. It is expected that any proposed income streams would provide a long-term, flexible revenue which could be used to support community projects within the Kintyre area.
108. The community benefit package for the proposed Development includes an offer of a community benefit fund and an opportunity for the local community to invest in the proposed Development once operational. A number of Kintyre communities have already formed an appropriate community vehicle and are currently considering an investment opportunity offered in relation to SPR's Beinn an Tuirc 3 windfarm, soon to be operational.
109. Overall, the proposed Development is expected to have a positive economic effect albeit not significant in EIA terms, and No Significant adverse effect on tourism and recreation. Benefits arising through spending by construction workers and operational staff, as well as through benefits packages (including potential for investment) would support local businesses and communities as part of a wider cumulative benefit to the economy through the development of renewables and green jobs.

6.6 Ecology

110. An assessment of the potential impacts upon ecological features as a result of the proposed Development is described in more detail in **Chapter 8** of the EIA report.
111. Baseline ecological conditions to inform the design and assessment of the proposed Development have been established through a desk study review of existing information and ecological field surveys, informed through consultation with NatureScot, species specialists and biological recording groups.
112. The Tarbert Woods Special Area of Conservation (SAC) and Tarbert to Skipness Coast Site of Special Scientific Interest (SSSI) are located adjacent to the application Site. Baseline studies have established that habitats within the Site are predominantly comprised of low ecological value coniferous plantation woodland, with more limited areas of grassland, bog and heath habitats. Low levels of bat activity were recorded on-site during baseline surveys, with habitats considered to provide very limited roosting and foraging opportunities for bats. Studies also established the use of the Site by pine marten, with evidence of badger, otter and red squirrel locally. Common reptiles and amphibians may be present, but water vole and wildcat are considered to be absent. The watercourses intersecting the Site are considered to be of low value for fish.
113. Scheme design has inherently sought to minimise habitat losses of more sensitive habitats, like blanket bog and heath. The design of the proposed Development has also considered the location of key bat features (such as watercourses and woodland edge) with appropriate stand-off buffers adopted between turbines and such features, and the number of watercourse crossings has been minimised. Good practice measures, including pre-construction surveys and appointment of

a suitably qualified Ecological Clerk of Works (ECoW), will also ensure the protection of protected species during the construction and operational phases of the proposed Development. Furthermore, habitat restoration measures would be undertaken in accordance with a Construction Environmental Management Plan (CEMP), and the proposed Development provides opportunity to deliver notable habitat improvements within the Site, including peatland restoration and native woodland planting detailed in a Habitat Management Plan (HMP). No significant residual effects upon any important ecological feature are therefore predicted to occur (alone or in combination with any other windfarm development).

6.7 Ornithology

114. An assessment of the potential impacts upon ornithological features as a result of the proposed Development is described in more detail in **Chapter 9** of the EIA report.
115. Baseline ornithological conditions to inform the design and assessment of the proposed Development have been established through a desk study review of existing information and ornithological field surveys, informed through consultation with NatureScot, species-specialists and ornithological recording groups.
116. Knapdale Lochs Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), golden eagle, hen harrier, red-throated diver and black grouse were 'scoped-in' for detailed assessment, with proposed embedded mitigation and good practice measures considered appropriate to minimise risks to all other ornithological features (which are scoped out of assessment).
117. The Knapdale Lochs SPA and SSSI is designated for breeding black-throated diver, and given the designated site is within the specie's core foraging range of the Site, potential effects on the SPA/SSSI were considered in detail in the assessment. No black-throated divers were however recorded during surveys, and as such no evidence was found to suggest the integrity of the designated sites would be affected by the proposed Development.
118. Baseline studies have established the Site and/or adjacent habitats are used by golden eagle, hen harrier, red-throated diver and black grouse. Collision risk mortality has been determined for golden eagle and hen harrier as they were recorded in sufficient number for collision risk modelling (CRM), and found annual mortality rates of respectively 0.393 and 0.057 birds. The mortality rate for golden eagle is however, considered to be an over-estimation based on recently published research on displacement effects of windfarms on golden eagles, and such effects are detailed in the Golden Eagle Topographical (GET) Modelling which is also considered in the assessment. Whilst some level of localised displacement may occur, this is thought to be too small as to represent a threat to territory viability.
119. Scheme design has considered the location of nests of key species (including Annex 1 raptors and breeding red-throated divers), with appropriate stand-off buffers between turbines and nest sites. Furthermore, embedded mitigation and pre-construction checks will ensure that features such as black grouse leks and nesting birds are protected from works associated with the proposed Development. The proposed Development provides an opportunity to deliver notable habitat improvements within the Site, including the peatland restoration and native woodland planting which is detailed in a Habitat Management Plan (HMP), and will benefit many of the key bird species and others. No significant residual effects upon any important ornithological feature are therefore predicted to occur (alone or in combination with any other windfarm development).

6.8 Hydrology, Hydrogeology, Geology and Soils

120. An assessment was undertaken of the proposed Development's water environment and ground conditions, including peat, along with impacts that could arise from potential activities. The assessment included extensive peat depth mapping to understand the peat distribution across the Site. Peat is very variable, with measurements to over 6 m in depth in some areas, although much of the Site has no peat.
121. A Peat Slide Risk Assessment and Peat Management Plan have been produced for the proposed Development, which show that areas of deep peat can be avoided, and peat resources can be safeguarded.
122. Sustainable Drainage Systems (SuDS) have been proposed to ensure that the rate of runoff from the Site post-development is no greater than that prior to development and would not therefore increase flood risk downstream. The proposed SuDS allow the quality of water to be managed at source, prior to any discharge, thereby helping to prevent any reduction in water quality downstream of the Site.

123. Impacts on the water environment have been minimised by making use of the existing access track as far as possible. Only two new watercourse crossings would be required, with other crossings requiring upgrade to ensure their suitability for construction traffic. Potentially groundwater-dependent terrestrial ecosystems have been identified within the Site and assessed on a case-by-case basis to determine their level of groundwater dependency and potential impacts from development.
124. Location-specific mitigation measures are provided to manage potential impacts arising from construction where it has not been possible to avoid these areas. Mitigation measures have been identified for all potential impacts, either through the Site design process or in accordance with good practice guidance. It has been shown, as a consequence of the Site design and embedded mitigation, that the proposed Development would not result in any significant impacts on hydrology, hydrogeology, geology and soils.

6.9 Climate Change Mitigation

125. The calculations of total carbon dioxide emission savings and payback time for the proposed Development indicate the overall payback period of a development with 13 turbines with an average (expected) installed capacity of around 6 MW each would be approximately 1.8 years, when compared to the fossil fuel mix of electricity generation. The payback will be further reduced by the proposed addition of solar arrays, although not included within the Carbon Calculator (which was solely devised for the Scottish Government to monitor onshore wind energy)
126. This means that the proposed Development is expected to take around 22 months to repay the carbon exchange to the atmosphere (the CO₂ debt) through construction of the wind turbines; the Site would in effect be in a net gain situation following this time period and would contribute to national objectives.

6.10 Archaeology and Cultural Heritage

127. Potential effects of the proposed Development upon cultural heritage assets resulting from its construction and operation have been considered along with cumulative effects. No direct physical impacts upon any known heritage assets within the Site are anticipated during construction and no construction-phase effects upon the setting of heritage assets have been identified. Any effect resulting from an impact upon archaeological remains discovered during construction is unlikely to be significant.
128. Following implementation of a programme of mitigation agreed with the Argyll and Bute Council's archaeological advisors in advance of the works, no residual effects are anticipated upon any hitherto unknown potential heritage assets that may be preserved within the Site. An effect of Minor adverse significance which is Not Significant in EIA terms as a result of the operation of the proposed Development is predicted within the setting of one scheduled monument, Skipness Castle and Kilbrannan Chapel (SM13225). No increased cumulative impacts are predicted for known cultural heritage assets from any combination of developments

6.11 Forestry

129. Throughout the delivery of the proposed project, SPR intends to remove woodland of an estimated area of 110.79 ha. The average yield classes are expected to be Sitka Spruce, other conifers and mixed broadleaves. Of the 110.79 ha of forestry to be felled, approximately 25.2 ha could be replanted following completion of the construction phase. Further details are provided in **Technical Appendix 15.1**.
130. The method of felling and utilisation will be based on whole tree utilisation. Thus, all timber and branch-wood will be removed from site. It is equally important to mention that the harvested timber would be transferred locally, where it is expected to be processed into wood pellets.
131. Although the proposed Development involves the removal of woodland for the purposes of conversion to another type of land use, it meets the criteria for woodland removal as, the change of land use would contribute significantly to 'helping Scotland to adapt to climate change' by providing facilities appropriate for the development of renewable energy projects and significantly reduce net greenhouse gas emissions.
132. Furthermore, as concluded within the **Technical Appendix 15.1**, no large-scale re-stocking or planting is recommended for the area within or adjacent of the proposed Development. This conclusion was based on the understanding that extensive replanting within the proposed Development could compromise the operation of the proposed renewable energy systems, while increasing mortality risks of bat and bird species via collision.

133. However, as indicated in the HMP, 213.1 ha of peatland habitat would be restored as part of CP obligations. Additionally, in line with the HMP, SPR is intending to restore 43.3 ha of improved moorland habitat and 25.2 ha of broadleaf woodland. The timing of any forestry works required to accommodate the habitat management improvements would be agreed with FLS as landowner.

6.12 Other Issues

134. A number of other issues associated with the proposed Development are considered in **Chapter 15** of the EIA Report, including potential effects on aviation and defence, telecommunications, television reception, air quality, shadow flicker, population and human health, risk of accidents and other disasters, waste and environmental management and the carbon net balance of CO₂ emissions.

6.12.1 Air Quality

135. Construction activities can result in short term temporary effects from dust if unmanaged. The nearest property is adjacent to the application boundary and the existing access to the Site, therefore effects associated with dust or vehicle emissions are considered to be likely. Nevertheless, mitigation measures as part of the CEMP (**Technical Appendix 16.1**) would be implemented based on good construction practice to reduce the potential for dust emissions.

136. Empirical evidence from similar construction sites suggests that the mitigation approaches and proposed measures are sufficient to avoid any significant effects. Some of the standard mitigation measures implemented on site may include, but will not be limited to, the following:

- adherence to the speed limit on site in order to reduce the dust generated from transport on site roads;
- water bowsers – spraying with water to dampen dust down;
- road sweepers – remove silt from the road surface to reduce the potential for dust on public roads, if required;
- materials with the potential to produce dust to be stored so as to prevent dust generation e.g., materials stored out of the wind and covered; and
- transport of dust generating material to be covered.

6.12.2 Aviation

137. Wind turbines have the potential to cause a variety of adverse effects on aviation interests. They can cause issues for the radars used by civilian and military air traffic controllers because the characteristics of moving turbine blades are similar to those of aircraft, leading to spurious returns, or clutter, on radar displays. This can affect the safe provision of air traffic services. Wind turbines can also present a physical obstruction for aviation activities such as military low flying.

138. The closest radar-equipped airports are Glasgow Prestwick Airport (GPA) and Glasgow Airport, and the nearest NATS (EN Route) plc (NERL) operated radar facilities are at Lowther Hill and Tiree. The proposed Development's turbines would be within a Ministry of Defence "blue" low flying zone classed as a low priority area that is less likely to raise concerns.

139. Radar line of sight modelling has shown that the proposed turbines would be detectable by the GPA and Lowther Hill radars, however mitigation should only be required if the turbine clutter has a detrimental impact on the air traffic services provided in the airspace affected.

140. If necessary, GPA's Terma radar could be re-optimised to filter out the turbine-induced clutter. Lowther Hill radar clutter could also be mitigated, by using an alternative source of radar data in the affected area from a radar that does not detect the proposed turbines. Again, this would only be required if it is shown that there would otherwise be a detrimental impact on air traffic services.

141. As the proposed turbines would be in excess of 150m to blade tip, they would be required to be fitted with medium intensity red aviation warning lights at the tops of the turbine towers to help make them more conspicuous to low-level aircraft. Low intensity lights would also be required at the mid-points of the towers. To minimise light pollution from these warning lights, light minimisation strategies are being considered such as an aviation detection lighting system. This would only activate the warning lights when aircraft are detected in the vicinity of the turbines

6.12.3 Shadow Flicker:

142. No properties will experience Shadow Flicker effects from the proposed Development.

6.12.4 Telecommunications:

- ^{143.} The proposed Development is not predicted to impact on any telecommunications assets.

7 Environmental Management

144. Environmental constraints and considerations have been taken into account in the site layout and the design of the proposed Development to avoid and minimise the potential for significant effects. Further measures to prevent or reduce any remaining significant environmental effects are described within each technical Chapter of the EIA Report (**Chapters 7 to 15**). These measures and commitments are set out in Chapter 16 of the EIA Report. Furthermore, the environmental mitigation and commitments would be formalised within a CEMP. An outline CEMP can be found in **Technical Appendix 16.1**.
145. SPR and the Principal Contractor would oversee operations and ensure that mitigation measures are implemented, and activities carried out in such a manner as to minimise or prevent effects on the environment. The Principal Contractor would be supported by specialists, such as an Ecological Clerk of Works to ensure that mitigation measures are implemented effectively.

8 Benefits of the proposed Development

^{146.} SPR is committed to providing a variety of other benefits above and beyond the renewable energy infrastructure and habitat enhancements. Thereby, the proposed Development would deliver the following key benefits:

8.1 Renewable Energy Generation and Carbon Dioxide Emissions

- production of around 245 to 295 GWh of electricity annually which equates to the annual power consumed by approximately 50,430⁶ average UK households (depending on the actual turbines installed);
- a BESS to store energy from the proposed Development or excess electricity from the national grid, providing stability to the electricity supply network, meeting energy demands and providing improved energy security; and
- savings in CO₂ emissions due to the replacement of other electricity sources over the lifetime of the proposed Development and displacement of carbon-emitting generation after 1.8 years of operation.

8.2 Community and Environmental Benefits

- the opportunity for community benefit, providing a long-term, flexible revenue which could be used to support community projects;
- a Habitat Management Plan which would restore 213.1 ha of modified and drained blanket peat bog using methods successfully used by ScottishPower Renewables on similar developments resulting in a likely net gain in biodiversity;
- a new walking route up to a viewpoint location at the summit of Cnoc nan Caorach at the northern edge of the Site. The proposed route would be in the form of a unmetalled footpath suitable for pedestrian use only and its appearance would be consistent with the Corranbuie Walking. The viewpoint on the new path at the summit of Cnoc nan Caorach would have good views to the north to Tarbert and to the south to the proposed Development;
- a new walking bothy for recreational users of that would be located approximately 4.2 km away from Skipness and 10.5 km away from Tarbert along the Kintyre Way. The bothy would consist of a basic single room, single-storey building finished with local materials and in the vernacular architectural style of the local area; and
- stone seating in areas along or near the Kintyre Way. The undressed small boulders of varying size could help recreational users of the Site and the Kintyre Way to rest and recuperate.

8.3 Construction Employment and Economic Benefits

- opportunities for suppliers of a wide range of goods and services within Argyll and Bute, and Scotland as a whole;
- benefits to local and regional businesses, such as accommodation businesses and shops, that supply goods and services to construction workers;
- total direct construction expenditure estimated at £117.1 million, which would result in an approximately £17.4 million contribution to Scottish economy;
- support, in net terms, for approximately 53 person-years of wider employment benefiting Argyll and Bute; and
- support for approximately 215.4 person-years of wider employment nationally for Scotland as a whole.

8.4 Operational Employment and Economic Benefits

- £35.6 million contribution to the Scottish economy during the operational phase through direct, indirect and multiplier effects, with around £26.4 million contribution to the Argyll and Bute economy;
- around 9 permanent person-years in Argyll and Bute and 12 permanent person-years of employment for Scotland as a whole, over its operational life; and
- the proposed Development would be expected to contribute lifetime GVA of some £26.4 million to the local economy through direct, indirect and multiplier effects, and just around £35.6 million to the economy of Scotland as a whole.

⁶ Calculations from the Scottish Government Renewable electricity output and energy conversion calculators website: <https://www.gov.scot/publications/renewable-and-conversion-calculators/> [accessed 29 October 2021]

9 References

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Wind Energy Supplementary Guidance: Argyll and Bute Council: 2016

Scottish Energy Strategy: The Future of Energy in Scotland: Scottish Government: 2017

Scottish Government's Control of Woodland Removal Policy: Scottish Government: 2019

Scottish Planning Policy: Scottish Government: 2014

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

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The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

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Figures

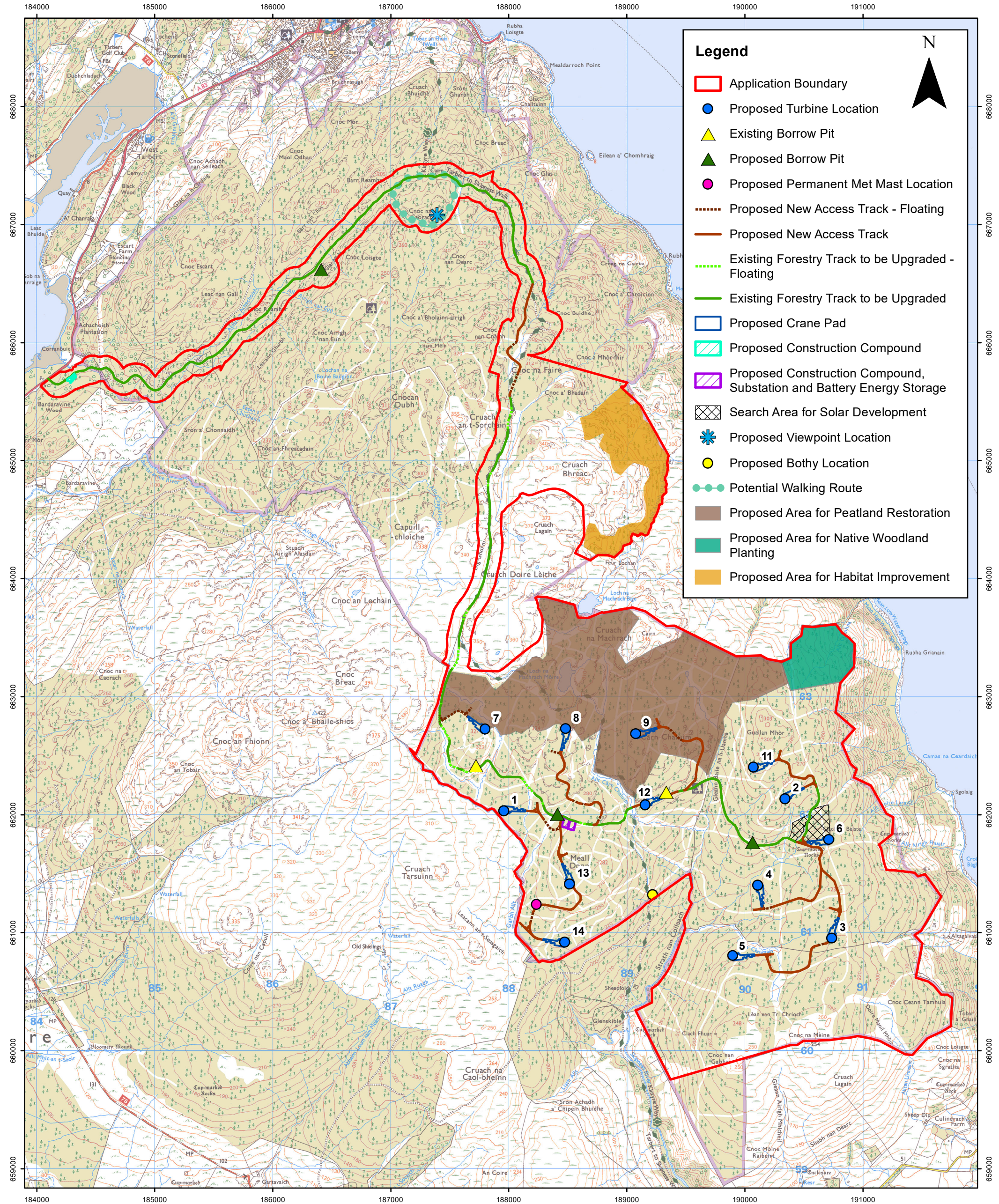


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Earraghail Renewable Energy Development Non Technical Summary Application Boundary

Rev	Date	By	Comment
D	07/01/22	DL	Revised Site Boundary
C	26/11/21	DL	Revised Logo
B	20/10/21	DL	Revised Scale

1:140,000 Scale @ A3				
Figure	Date	Rev	Dwg No.	Datum: OSGB36 Projection: TM
1	07/01/22	D	EHAII-RSK-I-084	



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Earraghail Renewable Energy Development

Non Technical Summary

Proposed Site Layout

C	07/01/22	DL	Revised Turbine Locations and Infrastructure
B	26/11/21	DL	Revised Logo
A	30/09/21	DL	Proposed Site Layout
Rev	Date	By	Comment

1:30,000 Scale @ A3

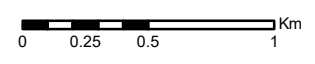


Figure	Date	Rev	Dwg No.	Datum: OSGB36
2	07/01/22	C	EHAIL-RSK-I-085	Projection: TM

Appendices

Appendix 1: Glossary

BESS	Battery Energy Storage System
CEMP	Construction Environmental Management Plan. Sets out the controls and processes that are to be adopted to mitigate environmental impacts throughout a project
CTMP	Construction Traffic Management Plan. Provides information regarding the management of all site traffic, with particular reference to environmental safeguards and mitigation required to address impacts identified in the EIA.
EIA	Environmental Impact Assessment
EIA Report	Environmental Impact Assessment Report
Electricity Act	The Electricity Act 1989
GWh	Gigawatt-hours. This is a measurement of electricity used over time, describing how fast the energy is used (gigawatts (GW)) and the length of time it is used (hours (h))
GVA	Gross value added. GVA measures the contribution to the economy of an individual producer, an industry, sector or region.
GWDTE	Groundwater Dependent Terrestrial Ecosystem
GW	Gigawatts - a measurement of power, equivalent to 1000 megawatts. It is used to describe the amount of energy being used, or, in this case, generated in a specific moment
GWh	Gigawatt-hours – a measurement of electrical output in gigawatts
HGV	Heavy Goods Vehicle
HMP	Habitat Management Plan. Detail habitat protection, restoration and creation measures associated with the proposed Development.
ISA	Inner study area. A study area the extent of the Site used to search for potential archaeological receptors that might be subject to direct impacts from the proposed Development.
IUCN	International Union for Conservation of Nature
Local Development Plan	A plan that sets out a local authority's policies and proposals for land use in their area.
LCT	Landscape Character Type. Areas of consistent and recognisable landscape character.
MW	Megawatts - a measurement of power, equivalent to 1 million watts. It is used to describe the amount of energy being used, or, in this case, generated in a specific moment
MWh	Megawatt-hour – a measurement of electrical output in megawatts
NGR	National Grid Reference
NTS	Non-Technical Summary
OWESG	Onshore Wind Energy Supplementary Guidance, 2017. Supplementary guidance that comprises part of the Highland-wide Local Development Plan
PMP	Pollution Management Plan. Addresses the requirement for excavation of peat and peaty soils during the construction process
PSRA	Peat Slide Risk Assessment. Addresses the potential risk of induced instability within peat.
SAC	A Special Area of Conservation (SAC) protects one or more special habitats and/or species – terrestrial or marine – listed in the Habitats Directive.
SPA	Special Protection Areas (SPAs) are selected to protect one or more rare, threatened or vulnerable bird species listed in Annex I of the Birds Directive, and regularly occurring migratory species.
SPP	Scottish Planning Policy. A statement of Scottish Government policy on how nationally important land use and planning matters should be addressed.
SPR	ScottishPower Renewables, the Applicant.
SSSI	Site of Special Scientific Interest is a statutory designation made by Scottish Natural Heritage under the Nature Conservation (Scotland) Act 2004.
SuDS	Sustainable Drainage Systems. Refer to drainage systems that manage surface water that factor in water quantity and quality, biodiversity and amenity
THC	The Highland Council, the local planning authority
WCA	Wildlife and Countryside Act 1981. The primary legislation which protects animals, plants and habitats in the UK.

ScottishPower Renewables

320 St Vincent Street
Glasgow
G2 5AD

T +44 (0)141 614 0451

EarraghailRenewableEnergyDevelopment@scottishpower.com

