



# **Sheirdrim Renewable Energy Development**

## **EIA Report Non-Technical Summary**



**SCOTTISHPOWER  
RENEWABLES**

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# Sheirdrim Renewable Energy Development

## Preface

1. This document is the Non-Technical Summary of the Environmental Impact Assessment Report (EIA Report) and has been prepared to accompany the Section 36 consent application for the proposed Sheirdrim Renewable Energy Development. The proposed Development is located approximately 11 km south of Tarbert, 2 km east of Clachan and 2.6 km southwest of Whitehouse and is located immediately to the east of the A83, as shown on **Figure 1**. The proposed Development would be known as the Sheirdrim Renewable Energy Development.
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. Hard copies of this NTS are available free of charge from:

SLR Consulting Limited  
Floor 2  
4/5 Lochside View  
Edinburgh Park  
Edinburgh EH12 9DH  
Tel: 0131 335 6830
4. Hard copies of the EIA Report may be purchased by arrangement from the above address for £1,000 per copy, or £15 per DVD/USB. The price of the hard copy reflects the cost of producing all of the Landscape and Visual photographs at the recommended size. As such, a DVD version is recommended.
5. A copy of the NTS will be made available for download from the ScottishPower Renewables corporate website at:

[https://www.scottishpowerrenewables.com/pages/arecleoch\\_windfarm\\_extension.aspx](https://www.scottishpowerrenewables.com/pages/arecleoch_windfarm_extension.aspx)
6. A hardcopy of the EIA Report is available for viewing by the public during normal opening hours at the following locations:
  - Whitehouse Community Hall, Whitehouse, PA29 6XR;
  - Argyll and Bute Council, 1A Manse Brae, Lochgilphead, PA31 8RD; and
  - Scottish Government Library, Victoria Quay, Edinburgh, EH6 6QQ.
7. 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](mailto:representations@gov.scot)

Web: [www.energyconsents.scot/Register.aspx](http://www.energyconsents.scot/Register.aspx)

# EIA Report Non-Technical Summary

## 1 Introduction

8. This Non-Technical Summary (NTS) summarises the Environmental Impact Assessment (EIA) Report for the proposed Sheirdrim Renewable Energy Development. The EIA Report accompanies an application for planning permission under Section 36 of the 1989 Electricity Act. The proposed Development will constitute a Schedule 2 development as provided for by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).
9. Sheirdrim 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. The proposed Development comprises 19 three-bladed horizontal axis wind turbines, 16 up to 149.9 m tip height and 3 up to 135 m tip height, with a combined rated output of around 114 megawatts (MW) and around 20 MW of ground mounted solar arrays producing a combined output of around 134 MW or 360 to 380 GWh of electricity annually. Around 38 MW of battery storage would also be installed to store energy and so provide flexible balance of energy and the delivery of the full potential of renewable energy to meet the demands of the national grid.
10. The selected Site is part of the Achaglass and Gartnagrenach Estates and is located at the northern end of the Kintyre Peninsula, located approximately 11 km south of Tarbert, 2 km east of Clachan and 2.6 km southwest of Whitehouse within Argyll and Bute, centred on NGR 181302, 657098, as shown on **Figure 1**.
11. 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, likely significant environmental effects and measures proposed to protect the environment, during site preparation, construction, and the operation of the proposed Development.
12. 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 Section 4 of this NTS.
13. The proposed Development would produce between approximately 360 and 380 GWh of electricity annually. This equates to the annual power consumed by approximately 99,200 average UK households (which is more than the 41,630 homes in Argyll and Bute (based on National Records of Scotland 2018)). The proposed Development is described in further detail in Chapter 3.
14. ScottishPower Renewables 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 renewable energy. ScottishPower now only produces 100% green electricity – focusing on wind energy, solar, smart grids and driving the change to a cleaner, electric future. The company is investing over £4m every working day in 2019 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.
15. ScottishPower Renewables 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 as part of an international pipeline of projects across Europe and the USA.
16. With over 40 operational windfarms, ScottishPower Renewables manages all its sites through its world leading Control Centre at Whitelee Windfarm, near Glasgow. ScottishPower Renewables has long been involved in the region and currently owns and operates the Beinn an Tuirc windfarm cluster.

## 2 Renewable energy policy

17. 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.
18. A new Scottish Climate Change Bill (2018) was passed by the Scottish Parliament on 25 September 2019, which will amend the Climate Change (Scotland) Act 2009. The Bill introduces a legally binding target of net-zero greenhouse gas emissions by 2045 at the latest, with Scotland becoming carbon neutral by 2040. Scotland will not only have to meet the net-zero target for 2045, but also has to reduce emissions by 56% by 2020, 70% by 2030 and 90% by 2040. These are currently the most ambitious statutory targets in the world.
19. Furthermore, in 2007 the Scottish Government set a target for the supply of 50 % of Scotland's electricity from renewable sources by 2020, and in May 2011 revised its targets and now aims to provide 100 % of Scotland's electricity generation from renewable sources by 2020.
20. In December 2017, the Scottish Government published the Scottish Energy Strategy. The Scottish Energy Strategy advises that for Scotland to meet the domestic and international climate change targets, the Government will set a new 2030 'all-energy' 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 by 2050 and brings opportunities which underpin the vision to grow a low carbon economy and build a fairer society.

## 3 Environmental Impact Assessment

21. Under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations), the proposed Development is considered likely to have significant effects on the environment and must undergo the process of EIA and an EIA Report must be submitted with the application.
22. Potential environmental effects have been assessed to identify any that may be significant in the context of the EIA Regulations. Mitigation is proposed where possible to prevent, reduce or offset significant 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 caused by past, present or reasonably foreseeable actions together with the proposed Development.

## 4 Site selection, alternatives and design strategy

### 4.1 Site selection

24. The site selection process of ScottishPower Renewables 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.
25. ScottishPower Renewables 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. ScottishPower Renewables is also committed to not considering sites that 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.
26. Site selection work by ScottishPower Renewables 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.
27. The proposed Development Site was short-listed due to a number of factors, including the following:
- there are no international or national statutory designations for landscape and nature conservation in, or within close proximity of, the turbine area of the Site;
  - there are no planning policies which, in principle, preclude wind energy development. The Site is partly located within an area which the Local Development Plan has identified as having potential for windfarm development. Further information on this is provided in **Chapter 4 of the EIA Report: Renewable Energy and Planning Policy**;
  - initial desk-based studies and wind monitoring onsite suggest that there is likely to be a good wind resource and the Site is available for wind energy development;
  - there were opportunities for ground mounted solar development based on a review of site topography and ground conditions;
  - potential connection options to the electrical grid system which have available generation capacity;
  - it has good access from the public road network particularly for longer blades which allows consideration of larger turbines to make the best use of the expected wind resource; and
  - the Site is a reasonable distance away from the nearest residential properties.
28. In addition, 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"*.
29. 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."* In response to these policy requirements Argyll and Bute Council (A&BC) has undertaken a landscape capacity study (2018) to identify those landscapes which, in principle, have the capacity to accommodate wind turbines. The Site is an area where A&BC has identified the capacity to accommodate wind turbines <150m if set well into the centre of the peninsula and occupying more contained sites which would minimise the effects on the coastal fringes of Kintyre and on views from Arran and Gigha.

### 4.2 Design approach and alternatives

30. The purpose of a renewable energy development is to harvest energy from a range of possible renewable sources such as wind and solar and convert this to electricity. The process of designing a development to combine wind and solar starts with wind turbine siting. Wind turbine siting seeks to minimise potential for adverse landscape and environmental effects whilst maximising the potential energy output. Landscape and visual effect and peat are the principle influencing design aspects, but other factors such as ornithology, noise and ecological effects can also influence the layout and position of turbines. The

same aspects are also important and influence the design and layout of ground mounted solar arrays. The solar development areas have been located in areas accessible from the wind turbines but on the perimeter of the wind turbine area.

31. This combination of environmental, design and technical parameters has, through the iterative process of the environmental assessment, resulted in the proposed layout. It is considered that the proposed Development represents an optimum fit within the technical and environmental parameters of the project. A range of alternative layout options were refined through an iterative process of design. Alternative height wind turbines were also considered with the final design being based on turbines at 149.9 m to vertical wind blade tip height as this height created the best fit in the landscape. Landscape studies also concluded that 3 turbines should be reduced in height to 135 m to reduce localised visual impacts.
32. Based on analysis and field work observations, a design concept for the proposed Development was generated identifying the preferred areas for wind turbines and solar areas within the Site. The main design objectives were as follows:
- limit proximity, size and scale with respect to the closest residential receptors;
  - limit impacts on priority peatland and carbon areas;
  - respect other environmental constraints;
  - consideration of the form of the underlying landscape and its scale and provides balance alongside neighbouring windfarm;
  - create a scheme which maximises the potential of the Site to generate and store renewable energy; and
  - uses existing infrastructure (tracks and borrow pits on the Site) as far as practicably possible.
33. The main landscape and visual design factors that were identified comprised the following:
- achieve a reasonably consistent and balanced relationship with the large scale and simple landform of the Site when seen from the surrounding area;
  - demonstrate a satisfactory relationship with the adjacent operational Freasdail Windfarm by being perceived as a discrete group of larger wind turbines adjacent to Freasdail Windfarm, which minimises visual confusion between the different sized turbines;
  - provide reasonable degree of setback from the sensitive receptors; and
  - minimise the visual amenity effects for nearby settlements including Clachan, Whitehouse and Skipness, as well as the dispersed properties in proximity to the site.
34. For the development of solar arrays, a similar approach to the wind turbine layout by applying technical and environmental constraints to the Site has been used. The principle criteria for solar development is flat land and ideally south facing slopes. The design parameters used have been as follows:
- aspect excludes all areas that are not within 135 and 210 degrees from north);
  - slopes to meet the criteria of <12° for south facing slopes and <5° for north facing slopes;
  - watercourses have a 20 m buffer where no development takes place;
  - avoids the most sensitive habitats including habitats important for birds and other protected species; and
  - peat greater than 1 m in depth is avoided.



## 5 Proposed Development

### 5.1.1 Description of the proposed Development

35. The layout of the proposed Development is shown on **Figure 2**. It would comprise up to 19 three-bladed horizontal axis wind turbines, 16 up to 149.9 m tip height and 3 up to 135 m tip height, with a combined rated output of around 114 megawatts (MW) and around 20 MW of ground mounted solar arrays producing a combined output of around 134 MW or 360 to 380 GWh of electricity annually. Around 38 MW of battery storage would also be installed to store energy and so provide flexible balance of energy and the delivery of the full potential of renewable energy to meet the demands of the national grid.
36. The layout of the proposed Development is shown on **Figure 2** which includes:
- wind turbines;
  - wind turbine crane hardstandings;
  - transformer/switchgear housings located adjacent to wind turbines;
  - solar arrays;
  - new and upgraded access tracks including watercourse crossings where necessary;
  - underground electrical cabling;
  - substation compound including control building, external equipment and battery storage;
  - two temporary Power Performance Masts;
  - close circuit television mast(s);
  - communication mast(s);
  - site signage;
  - search areas for up to five borrow pits;
  - new recreation paths, providing access from the Kintyre Way into the Site, to a viewing point, bird hide and a number of archaeological features; and
  - one construction and maintenance compound area.
37. The proposed Development would also require some forest restructuring works to enable construction and operation of the windfarm. An area of approximately 23 ha of forestry would require to be felled during the construction phase to accommodate the proposed turbines and associated infrastructure. There would be an approximate 50 ha net loss of stocked woodland area as a result of the proposed Development. In line with the Scottish Government's Control of Woodland Removal Policy, compensatory planting of an area equivalent to the net loss would be undertaken.
38. There is no proposal to limit the lifetime of the proposed Development. Therefore, the EIA Report considers the effects of the operational phase of the proposed Development, without limitation to a defined period of time. Should consent be granted, it is anticipated that there would be a condition which would deal with the requirement to remove turbines if they become non-operational for a defined period of time.
39. The grid connection point for the proposed Development is subject to confirmation by the network operator/owner. The precise route of the grid connection cabling has not yet been determined and the assessment of its effects are not identifiable because it has yet to be designed and applied for.
40. 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 application. The grid connection application would be made by Scottish Hydro Electric Ltd who are the network owner in the area of the proposed Development and who would own assets beyond the Site substation.
- ### 5.1.2 Construction activities and site access
41. Stone aggregate would be required for construction of the proposed Development. It is anticipated that stone aggregate would be sourced from up to six onsite borrow pits and used for the construction of the proposed Development including access tracks, crane hardstandings, substation compound, construction compound and laydown areas. This includes suitable capping material to form a hard wearing surface on the access tracks. However, for the purposes of considering the worst case traffic impact within this EIA Report, it has been assumed that 100% of the required aggregate would be imported.
42. 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 micro-siting tolerance from turbines and other infrastructure would be applied to the proposed Development and that within this distance any micro-siting would be agreed in advance with specialist advisors such as ecologists and/or archaeologists. However, this 50m micro-siting would be restricted at some turbines to protect the residential amenity at some nearby properties.

43. 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.
44. It is proposed that the wind turbine components would be likely delivered to Campbeltown. Wind turbine towers could also be sourced from the CS Wind UK manufacturing factory in Machrihanish, as is the case for ScottishPower Renewable's nearby Beinn an Tuirc 3 windfarm. The turbine components would be moved from either the port or the Machrihanish factory along the A83 to the Site under escort. This route has previously been used during the construction of other windfarms including Cour Windfarm which is also accessed at the same point.
45. Other vehicles, including articulated lorry deliveries for construction materials and for the delivery of solar panels, would mainly use the access from north and the road network from Glasgow onto the Kintyre Peninsula.

### 5.1.3 Proposed access and recreation enhancement

46. ScottishPower Renewables is also keen to promote and enhance the recreation value of the proposed Development. Therefore, the proposed Development includes a range of measures that improve access and recreation features, and these include the following:
- access tracks for users of the Kintyre Way to enter the site with signage for a circular walk;
  - viewing point upon Cruach nam Fiadh;
  - stone seating, using locally cut rock from the Site borrow pits;
  - shelter for walkers close to the entrance to the Site from the Kintyre Way;
  - access and information boards to several archaeological features near to the Kintyre Way; and
  - bird hide located north west of Lochan Fraoich, accessible from the Kintyre Way.

## 6 Legal and policy framework

### 6.1 Legislative context

47. The application exceeds 50 MW of capacity and therefore an application under Section 36 of the Electricity Act is being made to the Scottish Governments Energy Consents Unit. Furthermore, ScottishPower Renewables 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.
48. Schedule 9 of the Electricity Act imposes duties on licensed generators when formulating generation proposals in excess of 10 MW. The Applicant is a licensed generator and therefore the duties imposed by Schedule 9 apply. This requires the Applicant to have regard to a range of factors in developing the proposals. These are 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, the Applicant is also under a duty to do what he reasonably can to mitigate any effects which the proposal would have on these assets. The Scottish Ministers are obliged to have regard to these matters and also consider the extent to which the Applicant has fulfilled their duty in respect of providing mitigation.
49. The proposed Development is Schedule 2 development as provided for by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations). The Applicant had sought and has been provided with a Scoping Opinion from the Scottish Ministers. The Applicant has undertaken an Environmental Impact Assessment and the outcome of the process has been reported through an Environmental Impact Assessment Report accompanying the application.

### 6.2 Development Plan

50. 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. The test set out in Section 25 of the Town and Country Planning (Scotland) Act 1997 which sets out that development must accord with the terms of the Development Plan is not engaged in the case of a S36 application. The Development Plan is nonetheless material to the determination of the application.
51. The Site is located within the administrative area of Argyll and Bute Council. The Development Plan for the Site is the Argyll and Bute Local Development Plan which was produced in 2015.

#### 6.2.1 Argyll and Bute Local Development Plan

52. Argyll and Bute Council adopted the Local Development Plan (LDP) in March 2015 and is accompanied by Supplementary Guidance adopted in March 2016. The key policy for the proposed Development is Policy LDP 6 – *Supporting the Sustainable Growth of Renewables*, which states that “*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 is no unacceptable significant adverse effect, whether individual or cumulative, including on local communities, natural and historic environments landscape character, visual amenity and that proposals would be compatible with adjacent land uses.*”
53. Policy LDP 6 states that the Council will prepare a spatial framework for windfarms and wind turbine developments over 50 m high as supplementary guidance, in accordance with SPP. This guidance was adopted in December 2016 in the form Supplementary Guidance 2: Renewable Energy. The spatial framework has identified the area as having the potential for windfarm development subject to other policy considerations. Policy LDP 6 also sets out the criteria against which new windfarm applications will be assessed, one of which is the ability to provide opportunities for incorporating energy storage, which this proposed Development includes.

#### 6.2.2 Argyll and Bute Renewable Energy Action Plan

54. The Renewable Energy Action Plan has been developed to assist Argyll and Bute Council in realising its vision for the development of the renewable energy sector. The vision states “*Argyll and Bute will be at the heart of renewable energy development in Scotland by taking full advantage of its unique and significant mix of indigenous renewable resources and maximising the opportunities for sustainable economic growth for the benefit of its communities and Scotland.*”

- 55. With respect to renewables, the interactive document acknowledges that *“with over 1GW of operational and consented renewables, both onshore and offshore, renewable energy is an important economic sector within Argyll and Bute and plays an import role in delivering renewables nationally.”*
- 56. It advises that the *“existing supply chain businesses as well as key renewables sites, ... mean that Argyll is well placed to benefit from future renewables all supported by a continually improving infrastructure and a growing skills base.”*
- 57. The Renewable Energy Action Plan also states that renewable energy developments in the Argyll and Bute Council area have contributed around £200,000 of funding per annum to local communities.

## 7 Scoping and consultation

58. 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.

### 7.1 Scoping

59. In April 2019, an EIA Scoping Report was prepared and submitted to the Energy Consents Unit to accompany a formal request for ECU to provide a Scoping Opinion. The request for Scoping Opinion formed the basis for early consultation with a number of organisations, who were asked for relevant information, opinions on the proposed Development and views on the proposed assessment methodologies. The Scoping Opinion was received from the Energy Consents Unit in June 2019 and this has been taken on board and informed the EIA Report.

### 7.2 Consultation

60. 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.

61. 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 2019, and consultation with a range of statutory bodies, non-statutory bodies, community councils and landowners.

62. Public consultation is seen as a key element of the Environmental Impact Assessment process. Further information on this is contained in the **Pre-Application Consultation Report** that is provided alongside the application for consent.

## 8 EIA Assessments

### 8.1 Summary of Environmental Effects

63. Section 8 of this Non-Technical summary outlines the predicted environmental effects of the proposed Development. In summary, the EIA assessments show that through the design of the proposed Development, the use of good industry practice applied during construction and through site specific mitigation and compensation there would be no significant environmental effects, with the exception of some significant landscape effects.
64. The following sections 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.

### 8.2 Landscape and visual

65. The proposed Development is located within the Upland Forest Moor Mosaic Landscape Character Type and has been carefully sited and designed to fit into the landscape and to present a coherent relationship with the existing Freasdail Windfarm adjacent to the Site. The proposed Development adheres to much of the design guidance within the Argyll and Bute Landscape Wind Energy Capacity Study for very large wind energy development relevant to this landscape. Whilst there would be some noticeable differences in turbine size compared to the adjacent to Freasdail and Cour Windfarm located 8 km away, this would not be readily apparent from areas to north of the proposed Development. The areas where this would occur to the south would be limited or more distant where the effect would not be so noticeable. There are limited additional areas affected by the proposed Development, which are not already influenced by renewable energy development.
66. The extent of operational effects upon landscape character would be limited by the topography of the Kintyre peninsula and Significant effects would be contained within approximately 6 km from the proposed Development. This would include a Significant effect upon localised parts of the Landscape Character Type 6 Upland Forest Moor Mosaic and Landscape Character Type 20 Rocky Mosaic which are considered to be of medium or high/medium sensitivity and both of which are already influenced of renewable energy development. Beyond this there would be no significant effects on landscape character in the wider parts of these Landscape Character Types or any other landscape character type.
67. There would be a significant effect on part of West Loch Tarbert within the national coastal Landscape Character Type 9: Sounds, Narrows and Islands. Effects within other parts of the national coastal Landscape Character Type 9 would be not significant.
68. In terms of visual effects, the significant operational visual effects would be contained within a 6 km to 7 km radius of the proposed Development, mainly to the north and west. These would include receptors in Whitehouse and surrounding area, and in the areas of scattered settlement to the north, near Gartavaich, and to the west along parts of the South Knapdale peninsula. Whilst there would be views from a few properties in Clachan, most views would be screened by extensive tree cover in the valley and significant effects are not predicted. There would be open views from parts of North Arran, but at over 10 km away these views would not be considered to have a significant effect. Views from Gigha would be intermittent and not significant.
69. In terms of transport routes, there would be a significant visual effect on users of the A83 between Whitehouse and Ronachan and on the first 5 km of the route of ferry from Kennacraig. Users of other ferry routes would not experience a significant effect. Recreational users on the Kintyre Way would also experience a significant effect between the Site and the A83 at Ronachan, but elsewhere the effect would be minor and not significant. Users of the National Cycle Network would not be significantly affected. There would also be a significant effect on views from Dun Skeig, but not on other specific viewpoints in the study area.
70. No significant effects would occur on any designated landscapes.
71. In terms of the cumulative effects with the other proposals with submitted planning applications, a significant effect upon the Upland Forest Moor Mosaic Landscape Character Type was identified with High Constellation. There was also an increased scale of change for both landscape and visual receptors near the B8001 in connection with the Inverary – Crossaig OHL but these did not result in an elevated level of effect due to the addition of the proposed Development.

72. The changes arising from a project may engender positive or negative responses depending on individual perceptions regarding the merits of renewable energy. The same project may be seen by some as attractive, acceptable and contributing to the well-being of the natural environment, while others may take a negative stance regarding the renewable energy development. 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, not all people would consider the effects to be adverse and this may not be the case in every landscape situation.

73. It should be noted that an effect may be locally significant or significant with respect to a small number of receptors, but may not be significant when judged in a wider context. The conclusion that some effects are 'significant' must not be taken to imply that they should warrant refusal in any decision making process. Overall, the scale and topography of the receiving landscape is considered appropriate to accommodate the proposed Development. Whilst there would be some significant effects identified on both landscape and visual receptors within the study area, it is evident from this assessment that due to the site selection and careful design the extent of significant landscape and visual effects has been minimised as a result.

### 8.3 Ecology

74. The potential effects of the proposed Development on habitats and non-avian animal species during the construction and operation have been assessed.

75. Information relating to protected and notable species and habitats in the vicinity of the Site, and designated nature conservation sites is provided. A radius of 10 km was applied for records of bats and for Internationally Designated Sites, 5 km radius for sites of National Importance, and 2 km for non-statutory sites and 5 km for recent records of legally protected or otherwise notable species.

76. Baseline surveys were conducted during the period May 2018 and June 2019. Surveys undertaken included bat surveys, surveys for a range of terrestrial mammal species, vegetation surveys and fish habitat assessment surveys.

77. There are four Internationally Designated sites within a 10 km radius of the Site, and eight Sites of Special Scientific Interest (SSSI) within 10 km of the Site, that are designated for their habitats or non-avian species. However, there is no potential for significant effects upon any of these sites due to distance (the closest of these sites is located 1.7 km from the Site boundary) and lack of hydrological connection or other pathways for effects.

78. There are five Local Nature Conservation Sites within 5 km of the proposed Development; all have been scoped out due to distance and lack of hydrological pathways. One area of Ancient Woodland is located within 200 m.

79. The Site is predominantly characterised by blanket bog and modified bog with areas of marshy grassland, with a large area of coniferous plantation also present. Smaller areas of neutral semi-improved grassland and unimproved acid grassland were present. Habitats, including those to be lost were identified as being potentially groundwater dependent but a detailed assessment, presented in **Chapter 10 Hydrology, hydrogeology, geology and soils**, confirmed that these habitats were sustained by incidental rainfall and surface water rather than groundwater.

80. The proposed Development has been designed to minimise the loss of blanket bog habitat where possible. The proposals would result in the direct loss, and indirect/temporary loss, of up to 14.90 ha of regionally important blanket bog and up to 29.07 ha of locally important modified bog habitat. The loss will be compensated for through measures aimed at restoring up to 84 ha of degraded bog habitat via ditch blocking, which would be delivered via a Habitat Management Plan (HMP). It is considered that the peatland restoration would lead to a net positive impact and likely net gain in biodiversity in time once the peatland restoration has succeeded.

81. The loss of running water habitat through the creation of new watercourse crossings and the enhancement of existing watercourse crossings would be small and is not considered to be significant.

82. No species listed on Schedule 8 of the Wildlife and Countryside Act were identified within the Site. A stand of the Schedule 9 species Japanese Knotweed was identified adjacent to the proposed Site entrance preferred, as shown on Figure 8.1.1.1-8.1.1.5 within **Technical Appendix 8.1**.

83. The Clachan Burn and Clachan Burn NE were considered to provide medium habitat suitability for migratory fish. The Allt Mor catchment closest to Loch Ciaran was also considered to be of medium suitability for migratory fish, although this is not



located in a catchment draining from the proposed Development. All other watercourses within the study area were of low habitat suitability for migratory fish. Except for watercourse crossings, suitable buffer distances have been maintained between all infrastructure and watercourses. Following the implementation of good practice pollution prevention measures, the likelihood of a pollution event within downstream watercourses is considered low. Therefore, no significant effects upon salmonids are considered likely. However, as a precaution, pre and post construction fish monitoring would be carried out.

84. The assessment of impacts on bats was undertaken in accordance with SNH (2019) guidelines. Bat surveys identified at least six species of bat at the Site. Two species considered to have high population vulnerability to wind turbines, Leisler's bat and Nathusius' pipistrelle, were recorded, although neither was recorded close to proposed turbine locations, levels of activity by both species were low and no significant effects on either species are predicted. Moderate to High levels of activity by common and soprano pipistrelle bats, which are considered to have Medium population vulnerability to wind turbines, were recorded in some of the woodland habitats within the Site (with lower activity recorded in open habitats) but following the implementation of the proposed mitigation measures significant effects on these species are unlikely.
85. The proposed Development would result in the loss of up to 49.27 ha of potentially suitable habitat for common lizard, adder and slow worm although this is not considered significant, given the extensive availability of similar habitats within the surrounding area. Good practice mitigation measures would be employed during construction to prevent the injuring or killing of individual lizards and no contravention of the relevant legislation is likely.
86. There would be a small loss of habitat which could be used by otters due to the creation and upgrading of watercourse crossings for the proposed Development. This is not considered to lead to significant effects. No holts or other resting places were identified. Following the implementation of good practice measures, no significant effects upon otter are likely.
87. Evidence of pine marten presence was recorded although no dens were identified. There would be a loss of suitable habitat for this species although similar habitat is available in the surrounding area. Following the implementation of good practice measures, no significant effects upon otter are likely.
88. No significant effects are predicted for any other protected or notable animal species, and no potential significant cumulative impacts were identified.

#### 8.4 Ornithology

89. An ornithological assessment has evaluated the bird species and populations to study their Nature Conservation Importance on the Site. The ways in which birds might be affected (directly or indirectly) by the construction and operation of the proposed Development are explained and an assessment is made with regards the significance of these effects.
90. Desk-based studies and field surveys between 2014 and 2019 were carried out in and around the proposed Development over respective 'study areas' to establish baseline conditions and the species and populations present.
91. It was possible to 'scope out' the effects on a number of species of high Nature Conservation Importance by virtue of their ecology, absence, distance from the proposed Development, small numbers, low levels of activity and the nature and location of this activity.
92. Four bird species were included in the assessment, red-throated diver, Greenland white-fronted geese, hen harrier and black grouse. Three species, red-throated diver, Greenland white-fronted geese and hen harrier were considered to be of high Nature Conservation Importance due to their listing as Annex I (Birds Directive) and Schedule 1 (Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004) and one species, black grouse, of moderate Nature Conservation Importance.
93. Habitat loss arising from the construction of tracks, borrow pits and turbine bases is unlikely to result in adverse impacts upon any bird species. Any impacts are likely to be negligible and not significant. Population reductions due to habitat loss, displacement and/or collision mortality are also likely to be minimal. Any impacts are likely to be negligible and not significant for all bird species.
94. The contribution of adverse effects accrued by the proposed Development to regional populations would be undetectable and so cumulative effects of the proposed Development with existing and planned windfarm developments in the region are



judged as being unlikely to have a significant effect on existing bird populations. Overall, it is concluded that construction and operation of the proposed Development would not have a significant effect on birds under the terms of the EIA Regulations.

95. Information is presented to allow the Scottish Ministers to conduct an assessment of potential effects of the proposed Development on the integrity of the Kintyre Goose Roosts Special Protection Area (SPA) which is located 5 km to the south west. This information demonstrates that the proposed Development would not have an adverse effect on the integrity of the SPA.

96. The proposed Development would not result in any significant effects on ornithology.

### 8.5 Hydrology, hydrogeology, geology and soils

97. The proposed Development has been assessed in relation to the potential impact on geology, hydrogeology and hydrology during the construction and operational phases.

98. Information on the study area was compiled using baseline information from a desk study and verified by an extensive programme of field work. The assessment was undertaken considering the sensitivity of receptors identified during the baseline study and considering any mitigation measures incorporated as part of the Site design.

99. A detailed programme of peat depth probing has been completed and the results have been used to inform the site design. A Peat Landslide and Hazard Risk Assessment (PLHRA) and Peat Management Plan (PMP) has been prepared which show that areas of deep peat have largely been avoided and peat resources safeguarded.

100. The Site lies outside of any floodplains and no private water supplies or drinking water protected areas have been identified near the Site. No designated sites, that are dependent on water have been recorded near or in hydraulic continuity with the Site.

101. 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 so as not to increase flood risk. The proposed SuDS measures allow the quality of water to be managed at source prior to any discharge being made. Further, the proposed habitat management proposals include a programme of ditch blocking in the headwaters of the Clachan Burn which would reduce both the rate and volume of peak water flows in the burn, providing a flood risk benefit when compared to existing conditions.

102. The proposed Development would not result in any significant effects on geology, hydrogeology and hydrology.

### 8.6 Archaeology and cultural heritage

103. The archaeology and cultural heritage assessment has assessed the direct impacts from the construction of the proposed Development and the indirect impact upon heritage assets from its operation within their setting. The assessment follows relevant planning policy and guidance documents of Historic Environment Scotland and the Chartered Institute for Archaeologists. Historic Environment Scotland and the West of Scotland Archaeology Service were also consulted to agree the assessment methodology and to identify specific assets of concern. To inform the assessment, a baseline and targeted walk over survey was undertaken to assess direct impacts on all heritage assets within the Site.

104. Indirect impacts upon a heritage asset have been assessed for those designated as regional or national importance within 5 km of the proposed turbines; selected heritage assets of national importance within 5 km to 10 km where a change to the landscape in long-distance views from the asset has the potential to impact upon the asset's setting; and heritage assets of national and regional importance within 1 km of the solar arrays. In addition, Dun Skeig, duns and a fort (record number SM2491) beyond 1 km from the solar areas were assessed for indirect impacts upon its setting from the solar arrays.

105. There are no predicted direct impacts upon known heritage assets by the proposed Development. A baseline study, incorporating data from land within 2 km of the Site, was compiled in order to predict the potential for direct impacts from the proposed Development upon unknown heritage assets. The potential for direct impacts upon unknown heritage assets of prehistoric periods was assessed as low to moderate, with moderate potential in proximity to two sites of standing stones. The potential for unknown assets of the Roman and medieval periods is considered low. The potential for unknown remains of the post-medieval period is considered high, particularly with reference to agricultural settlement and associated enclosures along the Larachmòr Burn to the east of the Site.

106. Following analysis of the terrain to identify assets where there would be no intervisibility with the proposed Development, and where no key view of the heritage asset include the proposed Development, the EIA report has assessed indirect impacts: upon 12 scheduled monuments and one Category A listed building of national importance; and seven Category B listed buildings and 17 Historic Environment Record sites of regional importance. No significant effects are expected from the operation of the proposed Development. Some slight to very slight effects are predicted on nine heritage assets, including: Dun Skeig, duns and fort, Dun Mor fort and Bar na Cour, galleried dun; and slight effects upon some Neolithic cup marked stones.
107. As part of the proposed Development, ScottishPower Renewables would install access and information boards to a number of features of the post-medieval agricultural landscape found along the Larachmòr Burn. This would be completed in order to further enhance the appreciation and understating of these locally important sites and stimulate interest in the historic landscapes of Kintyre.
108. The proposed Development would not result in any significant effects on archaeology and cultural heritage.

### 8.7 Access, traffic and transport

109. An assessment of the changes to access, traffic and transport as a result of the proposed Development has been completed. The assessment is based on discussions undertaken with Argyll and Bute Council, Transport Scotland and West Kintyre County Council (WKCC) and the collection of traffic survey data and road traffic accidents for the surrounding area.
110. Access to the Site is only via the A83 which runs past the northern and western ends of the Site. The B842 runs along the eastern side of the peninsula between Campbeltown and Cloanaig and the B8001 which runs northeast to Kennacraig from Cloanaig. National Cycle Route (NCN) 78 also follows the B842 and the B8001. The Kintyre Way passes directly adjacent to the south of the Site. These B roads and the Kintyre Way will not be used by any construction vehicles.
111. For the 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 ScottishPower Renewables, is for 100% of access track aggregate to be sourced from the onsite borrow pits, thereby reducing the total number of heavy goods vehicle movements. Both scenarios result in increases in heavy goods vehicles movements on the A83, but the second scenario at a lower rate (57% average increase) compared to the first (103% average increase).
112. The delivery of the wind turbines would be from Campbeltown along the A83. The vehicles would be regarded as abnormal loads and be around 5 m in width. Each delivery would take between 1 hour 20 minutes to 2 hours to reach the Site. It is planned to make these deliveries at night to minimise road user impact which is subject to approval by Police Scotland. Some upgrades may be needed to the A83 to enable the safe delivery of the wind turbine components in agreement with Transport Scotland.
113. The proposed Development also includes two access point. The first is the existing access to the forest and Cour Windfarm. However, a new Site entrance is proposed and preferred by ScottishPower Renewables as deliveries would be directed away from a property (Glebe Cottage) avoiding any disturbance and visual intrusion for the residents of the cottage, and also providing better alignment for the delivery of the larger components to enter the Site.
114. With the absolute worst case (and highly unlikely scenario of all construction materials coming by road) the maximum vehicular traffic associated with the construction of the proposed Development, including three other windfarm construction projects (High Constellation, Airigh and Eascairt) occurring simultaneously, would be a 25% increase on baseline traffic flows on the A83. This assessment predicts no significant effects from this maximum increase in traffic with respect to driver delay, noise and vibration, road safety and community severance. However, the increase could be significant without mitigation for vulnerable road users, such as pedestrians and cyclists, and due to dust and dirt brought on to the public highway. These potential impacts would be controlled by best practice measures which would be outlined in a Construction Traffic Management Plan (CTMP).
115. Consequently, no significant effects are predicted to occur as a result of the access, traffic and transport impacts.

## 8.8 Noise

116. Noise would be emitted by equipment and vehicles used during construction and operation of the proposed Development. The level of noise emitted by the proposed Development and the distance from noise sources are the main factors determining levels of noise at nearby properties.
117. Construction noise has been assessed by a desk-based study of a potential construction programme and by assuming the proposed Development is constructed using standard and common methods. Noise levels have been calculated for properties closest to the areas of work and compared with guideline and baseline values. Construction noise, by its very nature, tends to be temporary and highly variable and, therefore, much less likely to cause adverse effects. Various mitigation methods have been suggested to reduce the effects of construction noise, the most important of these being suggested restrictions of hours of working. It is concluded that noise generated through construction activities would have a minor effect.
118. The noise generated by the ground mounted solar arrays, battery storage and the substation at the nearest residential locations was considered negligible and not significant given the separation distances involved.
119. Operational wind turbines emit noise from the rotating blades as they pass through the air. The amount of noise emitted tends to vary depending on the wind speed. When there is little wind, the turbine rotors will turn slowly and produce lower noise levels than during high winds when the turbine reaches its maximum output and maximum rotational speed. Background noise levels at nearby properties will also change with wind speed, increasing in level as wind speeds rise due to wind in trees and around buildings.
120. Noise levels from operation of the proposed Development have been predicted for properties around the Site most likely to be affected by noise. Surveys have been performed to establish existing baseline noise levels at four properties. Noise limits have been derived from data about the existing noise environment following the method stipulated in national planning guidance. Predicted noise levels take full account of the potential combined effect of the noise from the proposed Development along with the operational Freasdale, consented Eascairt and proposed High Constellation Windfarms. Other, more distant windfarms were not considered as they do not make a contribution to cumulative noise levels. Predicted operational noise levels have been compared to the limit values to demonstrate that turbines of the type and size which would be installed can operate within the limits so derived. It is concluded, therefore, that operational noise levels from the proposed Development would be within levels deemed, by national guidance, to be acceptable for developments of this nature.
121. The proposed Development would not result in any significant effects due to noise.

## 8.9 Socio-economics and land use

122. An assessment of the socio-economic effects of the proposed Development and the likely significance of these on tourism, recreation, employment generation, land use and other indirect effects has been undertaken.
123. The proposed Development would offer opportunities for provision of goods and services from the local area as well as direct and indirect employment during construction and operation. The assessment of the proposed Development's economic impact found that expenditure during the construction phase is estimated to be approximately £148 million, approximately £24 million spent in the local economy and approximately £55 million spent in Scotland as a whole. During the 22 months' construction phase, the proposed Development is expected to support, in net terms, 117 person-years of employment benefiting local residents. Nationally (for Scotland as a whole), the proposed Development would be expected to support approximately 315 person-years of employment;
124. During the operational phase, the proposed Development would require between 3 and 5 new full time employees (engineers and technicians) locally and further posts would be created elsewhere in Scotland. Additional benefits would accrue to the local supply chain as a result of services supplied to the operation of the Renewable Energy Development;
125. The local economy would be expected to be boosted by a total of £9.5 million of net Gross Value Added (GVA) during the construction period. The Scottish economy would benefit by some £36.8 million net GVA. Although this application is for consent in perpetuity, during the operational phase (over a nominal 40 year life) the proposed Development would contribute lifetime GVA of some £60.4 million to the local economy through direct, indirect and multiplier effects, and over £170 million to the economy of Scotland as a whole.

126. Information from other projects developed by ScottishPower Renewables indicates that a wide selection of supply chain businesses could expect to benefit from the investment in the local and Scottish economy, including haulage, aggregates supply, forestry services, building services, fencing, and security. ScottishPower Renewables is committed to employing good practice measures with regard to maximising local procurement and would adopt established good practice measures such as 'Meet the Developer/Contractor Days'.
127. In terms of the tourism and visitor economy, a number of published studies have been reviewed which indicate that the presence of the proposed Development would not have a deterrent effect on people visiting the area. This is supported by the fact that tourism in Argyll and Bute has increased in recent years.
128. With regard to recreation and tourism assets, no significant effects are expected during construction of the proposed Development subject to appropriate good practice management of construction traffic effects along the access roads to the Site and within the Site. Beneficial effects (also not significant) may be experienced by some businesses, such as accommodation businesses and shops that supply goods and services to construction workers.
129. The proposed Development includes a creative and considered package of enhancement measures to support recreational and tourism uses within the Site based on extensive consultation with stakeholders, in particular focusing on users of and connections to the Kintyre Way. Taking account of the proposed measures, no significant adverse effects have been identified during the operational phase. Whilst the primary use would remain as agriculture and commercial forestry, the potential to extend the recreational use of the Site is considered to be beneficial.
130. ScottishPower Renewables is working with local communities throughout Scotland and is committed to offering a package of community measures to local communities that would include the opportunity for community benefit payments to be made and for communities to invest in the proposed Development. To date, ScottishPower Renewables has voluntarily awarded over £1.6 million in community benefit funding to communities in Argyll and Bute, supporting initiatives such as community facilities, environmental projects, heritage projects 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.
131. Benefits accruing from the scale and nature of the proposed income streams could, as on previous projects, have a positive effect on the physical and mental well-being of local residents as well as economic benefits. The long term nature of the income would allow the community to plan ahead, to draw in other sources of match funding to maximise the benefits and investment projects could be designed to match local priorities.
132. Overall the proposed Development is expected to have a positive economic effect and no significant adverse effect on land use, tourism and recreation are predicted. 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.

#### 8.10 Other Issues

133. A number of other issues associated with the proposed Development are considered in the EIA Report (**Chapter 15**), including potential effects on aviation and defence, telecommunications, television reception, air quality, shadow flicker, population and human health, risk of accidents and natural disasters and carbon balance.
134. No significant disruption to telecommunications and television reception is anticipated as a result of the proposed Development, and no effects on aviation safety have been identified that cannot be mitigated by technical solutions.
135. Shadow flicker can arise from the moving shadow of the turbine rotor blade passing over a narrow opening such as the window of a nearby residence. A nearby holiday house with planning permission has been assessed as having potential to receive up to 29.2 hours of shadow flicker per year, just less than the 30 hours deemed to be the acceptable limit stipulated in guidance and, therefore, is not significant. Other properties record less than 12 hours of shadow flicker per year.
136. The potential for adverse effects on local air quality during construction is considered to be minor, temporary and not significant. During operation, the proposed Development would contribute to a beneficial effect on local and global air quality, by avoiding emissions due to the generation of electricity by burning fossil fuels. A carbon assessment has been undertaken to estimate the potential savings in carbon dioxide (CO<sub>2</sub>) emissions by the proposed Development replacing other electricity sources. The proposed Development has a payback time of approximately 1.6 years and displacement of around 265,201

tonnes of CO<sub>2</sub> per year over a fossil fuel mix of electricity (10.6 million tonnes assuming a 40 year lifetime for the purposes of the carbon calculator). This would positively contribute to meeting Scotland's targets for reducing greenhouse gas emissions.

- 137. The potential for adverse effects on human health during construction and operation, such as noise, pollution and amenity issues have been assessed in **Chapters 7 to 14** and are considered to be minor, and not significant once the proposed mitigation is in place.
- 138. With regards to the potential for accidents, the vulnerability of the proposed Development to major accidents and natural disasters, such as flooding, sea level rise, or earthquakes, is considered to be low and all relevant risk factors are considered to be negligible.
- 139. Waste and environmental management would be controlled through a Construction Environmental Management Plan, site specific waste management plan and the mitigation proposed in **Chapter 16, Schedule of Commitments**.

## 9 Environmental Management

140. 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 environmental discipline Chapter of the EIA Report. These measures and 'commitments' made in the EIA Report are set out in **Chapter 16, Summary of Commitments**. Furthermore, the environmental mitigation and commitments would be formalised within a Construction Environmental Management Plan. An outline Construction Environmental Management Plan can be found in **Technical Appendix 3.1 Construction Environmental Management Plan**.
141. ScottishPower Renewables 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.

# 10 Benefits of the proposed Development

142. The proposed Development will deliver the following key benefits:

## Renewable energy generation and carbon dioxide emissions

- Production of around 360 to 380 GWh of electricity annually which equates to the annual power consumed by approximately 99,200 average UK households<sup>1</sup> (depending on the actual turbines installed);
- Battery energy storage to store energy from the 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 CO<sub>2</sub> emissions due to the replacement of other electricity sources over the lifetime of the proposed Development and displacement of carbon-emitting generation after 1.6 years of operation.

## Community and Environmental benefits

- The offering of a package of community benefits to local communities that could include the opportunity for community benefit and to invest in the operational development, providing a long-term, flexible revenue which could be used to support community projects;
- Enhancement of recreation within the Site by the creation of access from the Kintyre Way, enhancement of archaeological features including information boards, a viewing point, and bird hide;
- Habitat Management Plan which would restore 84 hectares of modified and drained blanket peat bog using methods successfully used by ScottishPower Renewables on windfarm developments resulting in a likely net gain in biodiversity; and
- Replanting of broadleaf tree species to compensate for the loss of commercial forest within the Site. This would offer many biodiversity opportunities.

## 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 some businesses, such as accommodation businesses and shops, that supply goods and services to construction workers;
- Total direct construction spend estimated of £148 m which would result in an approximately £36.8 m contribution to Scottish economy;
- Peak construction employment of around 150 jobs on site, with around 268 FTE jobs created during the wider construction phase;
- Support, in net terms, for approximately 117 person-years of employment benefiting Argyll and Bute; and
- Support for approximately 315 person-years of employment nationally for Scotland as a whole.

## Operational employment and economic benefits:

- £170.8 m contribution to the Scottish economy during the operational phase through direct, indirect and multiplier effects, with around £60 m contribution to the Argyll and Bute economy;
- Around 4 to 7 net additional FTE jobs over its operational life in Argyll and Bute; and
- Expectation for between 3 and 5 new full time employees (engineers and technicians) to be employed locally during operation.

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<sup>1</sup> Calculated using the most recent statistics from the Department of Business, Energy and Industrial Strategy (BEIS) showing that annual UK average domestic household consumption is 3,781kWh (RenewableUK, 2018).

# 11 References

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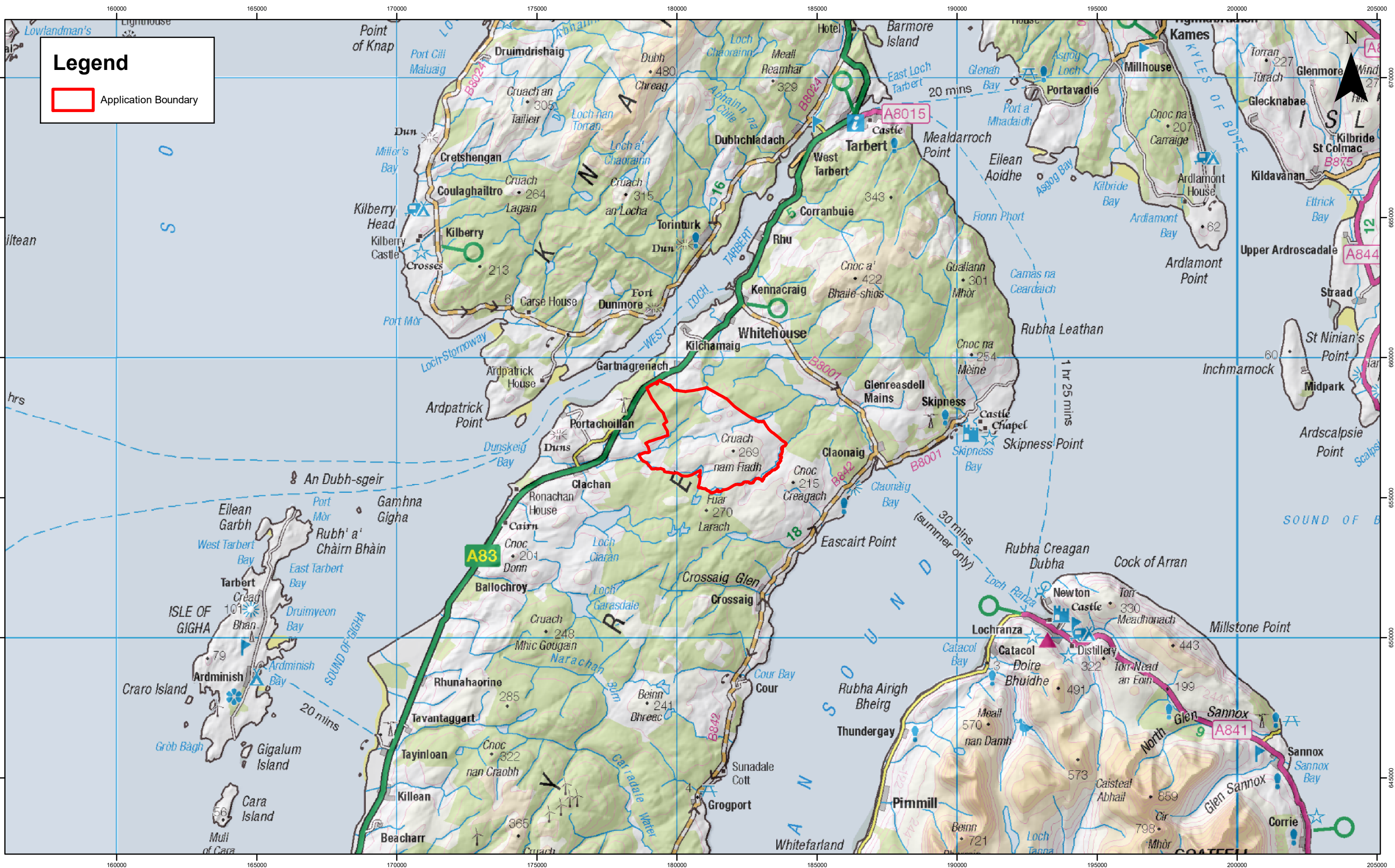
The Climate Change (Scotland) Act 2009.

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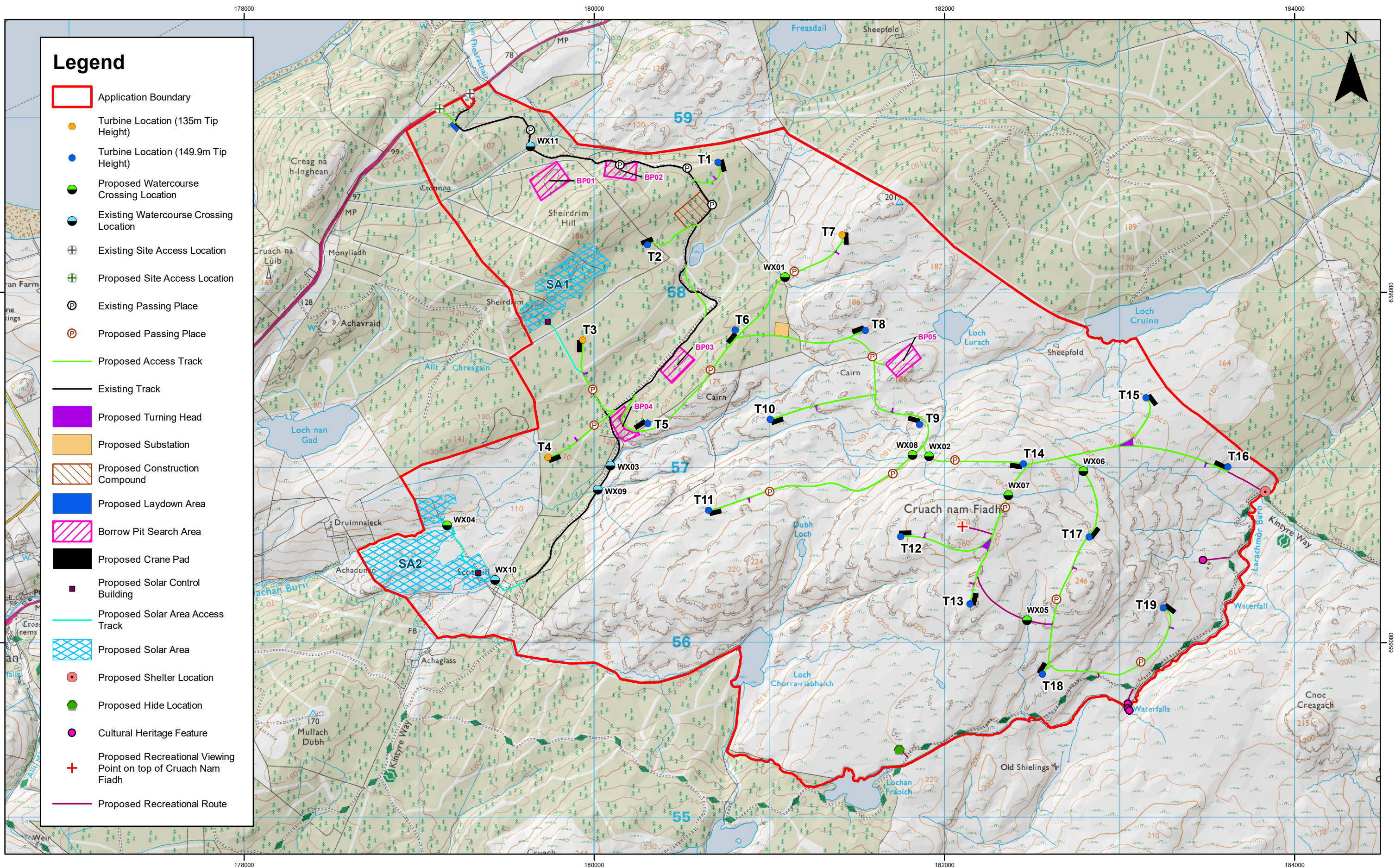
The Electricity Act 1989.



# FIGURES









**ScottishPower Renewables**

320 St Vincent Street  
Glasgow  
G2 5AD

T 0141 614 0451

[Sheirdrimrenewables@scottishpower.com](mailto:Sheirdrimrenewables@scottishpower.com)

