

Lethen Wind Farm

NON-TECHNICAL SUMMARY
DECEMBER 2021

 Fred. Olsen Renewables

 ITPENERGISED



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Figure 1 Site Location Plan

Figure 2 Proposed Development Layout

Full size versions of all figures are available in the accompanying EIA report

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Background

1. This document is a Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) Report which accompanies an application made by Fred..Olsen Renewables Ltd. (the Applicant).
2. The Applicant is applying for a Section 36 (S.36) consent and deemed planning consent, under the terms of the Electricity Act 1989, to construct and operate Lethen Wind Farm (hereafter referred to as the “Proposed Development”), located approximately 10 km north-west of Grantown-on-Spey and 14 km east of Tomatin (refer to **Figure 1**) in the Scottish Highlands.
3. Renewable energy is a key factor in helping Scotland reach its target of Net Zero by 2045. The Proposed Development would make a meaningful contribution to those national targets for the generation of renewable energy and reduction in greenhouse gas emissions and contribute towards sustainable economic growth in the Highlands and Scotland as a whole.

Purpose of the Proposed Development EIA Report

4. ITP Energised was appointed by the Applicant to assess the environmental impacts of the Proposed Development in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
5. The EIA process is reported in an EIA Report, which describes the methods used to assess the beneficial and adverse environmental impacts predicted to result from the construction and operation of the Proposed Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if possible, offset any significant adverse environmental impacts. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented. This document is intended to present a summary of the findings of the EIA Report in non-technical language.

Availability of the Proposed Development EIA Report

6. Hard copies of the EIA Report are available by request from:
Fred. Olsen Renewables
Ochil House
Springkerse Business Park
Stirling
FK7 7XE
Email: communities@fredolsen.co.uk
Website: www.fredolsenrenewables.com/windfarms/lethen/
7. Electronic copies of the EIA Report can be accessed at <http://www.energyconsents.scot/>
8. The Non Technical Summary (NTS) is available free of charge from the Applicant. The cost of a hard copy of the EIA Report Volumes 1 to 5 is £1,250. In addition, all documents are available (as a PDF for screen viewing) on a DVD/USB for £15. 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/USB version is recommended.
9. Due to COVID-19 pandemic and in-line with The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020) no physical copies of the EIA Report are available for viewing at the point of submission.

Representations to the Application

10. Any representations on the S.36 application should be made directly to the Scottish Government Energy Consents Unit as follows:

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

Site Location and Description

11. The Proposed Development is located approximately 10 km north-west of Granttown-on-Spey and 14 km east of Tomatin in the Scottish Highlands (**Figure 1**).
12. The site comprises an area of approximately 1,458 hectares (ha) of land and varies in topography from 290 m Above Ordnance Datum (AOD) in the northern section of the site to 460 m AOD in the southern section of the site.
13. The site is located in an area of open moorland, bounded to the east by the B9007 and to the west by the Leonach Burn. A number of tributaries to the Tomlachlan Burn intersect the site, with the Tomlachlan Burn running south to north through the centre of the site.
14. No residential properties lie within the site boundary or within 2 km of the proposed turbine locations. The principal settlement in the nearby locality surrounding the site is Granttown-on-Spey, which lies around 10 km to the south-east of the site. Inverness, the nearest city to the site, lies around 25 km to the north-west.

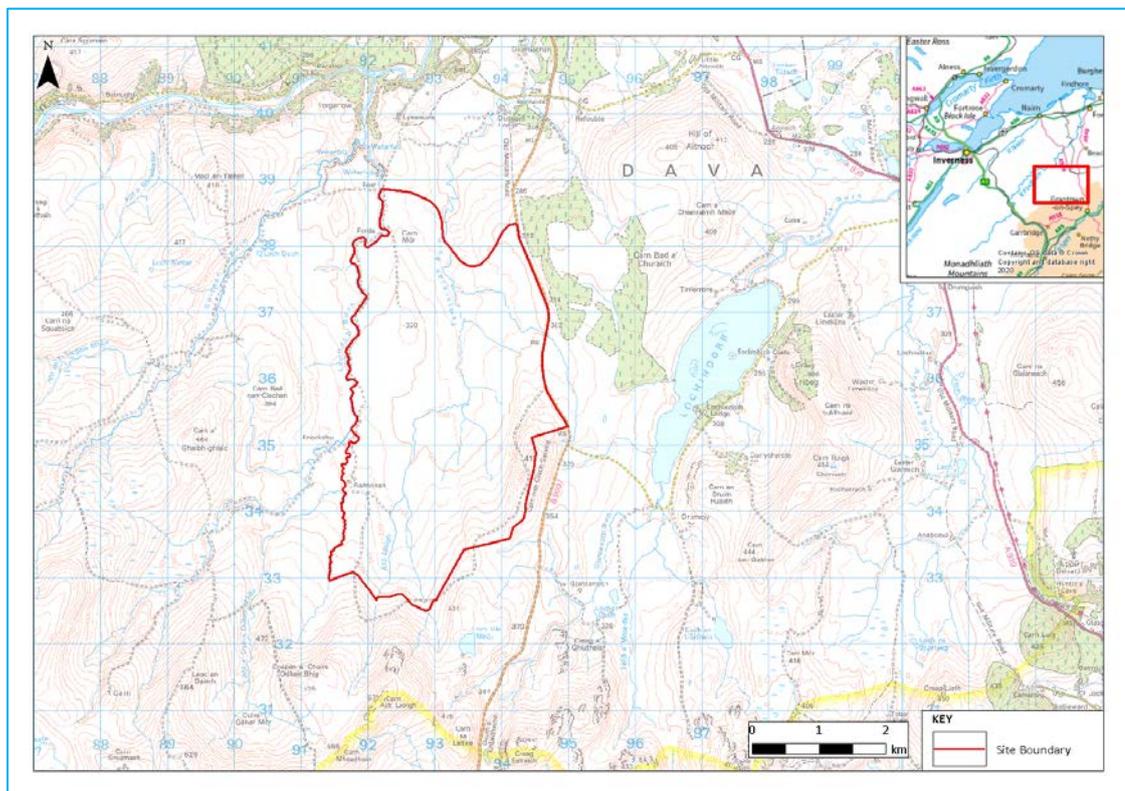


Figure 1 Site Location

Site Selection and Design

Site Selection

15. In identifying a suitable site, the following technical and environmental factors that influence the feasibility of a potential wind energy development were taken into account:
- Strong wind resource;
 - Suitable terrain and topography;
 - Access to the electricity grid system;
 - Feasibility of access by abnormal loads;
 - Visibility within sensitive areas;
 - No residential properties in close proximity;
 - No international or national statutory designations for landscape or nature conservation within or in close proximity to the site;
 - Appropriate ground conditions; and
 - Cumulative effects with other wind farm developments.
16. The Proposed Development site is considered an appropriate and viable location for a wind energy project due to its:
- Remoteness from communities;
 - Good average wind speeds and generation capacity;
 - Ability to re-use existing wind energy infrastructure as well as on-site access tracks, with some minor upgrading;
 - Positively contribute to regional and national renewable energy and carbon reduction targets; and
 - Provision of real social and economic benefits to the local area.

Design Process

17. As part of the EIA process design iterations were prepared and considered for the turbine locations and on-site infrastructure, including access tracks and the construction compound and substation/energy storage locations. The following principles were adopted during the design iterations made by the Applicant to ensure that the final design of the Proposed Development was the most suitable for the site:
- Avoid inconsistent turbine spacing, such as relatively large gaps, outliers or excessive overlapping turbines to minimise visual confusion and ensure a balanced / compact array from key views;
 - Minimise effects on the Cairngorms National Park (CNP) as far as possible;
 - Limit turbines within the far eastern extents of the site, away from the B9007 and Lochindorb;
 - Consider the position of existing and consented wind farm developments in the local area from key views;
 - Consider how to utilise the existing topography to reduce the visual impacts of the development from key views;
 - Avoid of areas of deep peat wherever possible;
 - Consider location of watercourses and ground conditions/topography;
 - Create a scheme which maximises the potential of the site to generate renewable energy;
 - Use of existing infrastructure as far as practicably possible; and
 - Respect other environmental and technical constraints and associated buffers.

Alternatives

Turbine Layout and Scale

18. The Applicant has considered a number of alternative turbine layouts for the Proposed Development (refer to Chapter 2 of the EIA Report). The finalised layout is the seventh iteration of the Proposed Development.
19. The layout of the Proposed Development has been an iterative process which started early in 2020, each time taking into consideration information gathered at the site or comments from consultees, as well as the professional judgement of technical experts.
20. The final Proposed Development layout has been informed by a robust design iteration process, taking into account potential environmental, landscape and visual impacts and their effects, physical constraints, and health and safety considerations. The information used to inform the design iteration process included baseline data, review of preliminary visualisations, ongoing impact assessments and wind yield optimisation.
21. The final turbine layout and scale has been designed to maximise renewable energy generation from the site, whilst keeping within acceptable limits for potential impacts on the environment.

On-site Infrastructure Layout Iterations

22. The site benefits from existing access direct from the B9007, used as the site entrance to the operational Tom nan Clach Wind Farm. The Applicant has therefore sought to use the existing infrastructure as part of the development layout where feasible. Proposed new tracks have been designed to take into account existing site topography, ground conditions including peat depth, and to minimise and appropriately locate water crossings. Comments from consultees, such as SEPA, were also taken into consideration and the layout amended to incorporate their suggested changes.
23. Borrow pits are required as a source of rock to be used in the construction of the tracks, hardstandings and foundations. Potential locations for the borrow pits were identified based upon a review of geological mapping and site reconnaissance. The total number and size of borrow pit search areas was selected to meet the estimated volume of rock required to construct the tracks, crane hardstands and foundations. If the Proposed Development is consented, further intrusive geotechnical investigation would be carried out.
24. The location of the construction compounds and substation and energy storage facility are shown on Figure 2. These have also been considered through the iterative design process and have been sited to avoid watercourses, areas of deep peat and to minimise impacts on sensitive habitats. The northern construction compound has also been located for practical purposes; to control traffic entering the main body of the site, to be located close to the wind turbines and to facilitate construction of the substation and energy storage facility.



The Proposed Development

25. The Proposed Development (**Figure 2**) will comprise 17 wind turbines up to 185 m blade tip height when vertical, each being around 6 megawatt (MW) in power rating. The combined generation capacity of the turbines will be approximately 102 MW, supported by additional energy storage provision with an output capacity of around 10 MW. The associated infrastructure will include: site access, access tracks, crane hardstandings, underground cabling, on-site substation and maintenance building, energy storage facility, temporary construction compounds, laydown area, potential excavations/borrow workings and a permanent meteorological mast.
26. The total power output of the Proposed Development would be around 102 MW. Based on a calculated capacity factor, the annual indicative total energy output for the Proposed Development would be approximately 261.2 gigawatt (GW) hours per annum, indicating the Proposed Development would generate enough electricity to power over 72,500 average UK households. The Proposed Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions.
27. Grid connection will be subject to a separate application. The electrical power produced by the individual turbines will be fed to an on-site substation and energy storage compound via underground cables. The substation and control room building will accommodate all the equipment necessary for automatic remote control and monitoring of the Proposed Development. The design of the substation building and energy storage unit on site is flexible and detailed design will be provided nearer to construction.
28. To enable the construction of the turbines, a crane hardstanding area at each turbine location will be required to accommodate assembly cranes and construction vehicles. This will comprise a crushed stone hardstanding area measuring approximately 100 m long by 45 m wide with a typical thickness of approximately 1 m. The actual dimensions will be subject to the specifications required by the selected turbine manufacturer and crane operator and following detailed site investigations prior to construction commencing. The crane hardstandings will remain in place during the lifetime of the Proposed Development to facilitate maintenance work.
29. There will be a steel lattice tower meteorological monitoring mast located within the site boundary at the location shown in **Figure 2**. The mast will be used to record wind speeds across the site and it will measure up to 110 m in height.
30. There are two proposed site access points, both from the B9007. The access to the north will utilise the existing access track for Tom nan Clach Wind Farm and enters the site just after crossing the Tomlachlan Burn. The southern existing access is located approximately 2.5 km further south at the eastern part of the site boundary.
31. A transport assessment (Volume 1, Chapter 12 of the EIA Report) has been undertaken in support of the S.36 application for the Proposed Development and this provides greater detail on access routes to the site and provides an estimate of vehicle trip generation during construction. The transport assessment includes a review of the proposed construction route, and construction traffic impacts.
32. Existing onsite access tracks will be retained, re-used and upgraded (as necessary) wherever possible, however some additional areas of new access tracks will be required. This will include

Number of Turbines: 17

Dimensions: Maximum height of 185m to blade tip

Operational Lifespan: 35 years

Generation Capacity: Around 6 MW per turbine or around 102 MW total

Energy Storage: On-site energy storage facility of around 10 MW output

Community Benefit: £510,000 per year or £17 million in total*

Energy Generated: Provide electricity for approximately 72,500 households*

Principal Access: Via the B9007

*based on 17 x 6MW turbines being installed

approximately 14.5 km of new access tracks of which approximately 1.5 km would be floated over deep peat if, following detailed site investigations, deep peat cannot be avoided by micro-siting.

33. Two secure construction and material storage compounds will be required during the construction period. The locations of these compounds are shown in **Figure 2**. Each compound will comprise an area of approximately 100 m by 100 m. The detailed location, size and engineering properties of the construction compounds will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed. On completion of construction works, it is proposed that all temporary structures be removed and the compound areas be restored for forestry purposes.

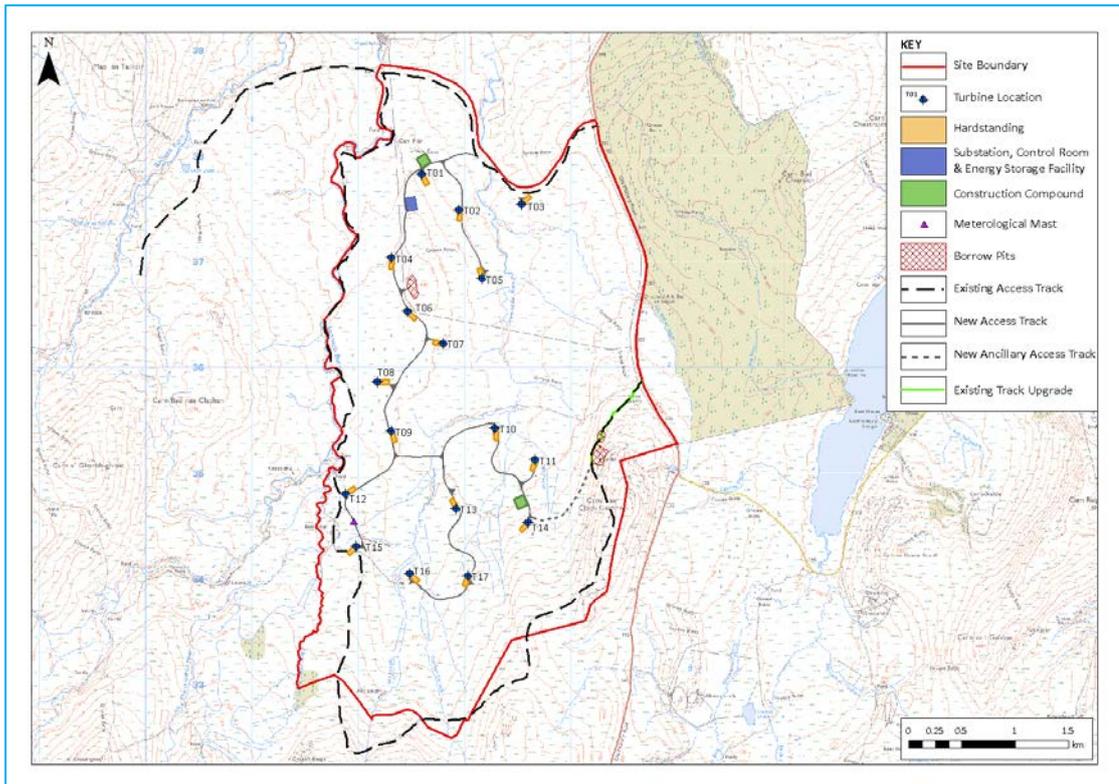


Figure 2 Proposed Development Layout (main site area)

Forward Strategy & Community Benefits

34. The Proposed Development would provide community benefit funding for the local area of up to £510,000 annually and a total of **£17 million over its 35-year operation**. Some of this fund would be used to address fuel poverty, which affects around a third of households, with a fifth in extreme fuel poverty. Local households would be given grants directly to make improvements to their home, increasing energy efficiency and reducing their fuel bills, delivering a substantial benefit for the local area.
35. The Proposed Development represents a significant investment in the region and the Applicant has committed to taking a number of steps to ensure that benefits from the Proposed Development are maximised locally. The Applicant is committed to a local supplier approach that will endeavour to source supplier contracts locally wherever possible, sustaining local businesses and providing employment opportunities for local people.
36. The Applicant is proposing **The Lethen Wind Farm Energy Efficiency Programme** (Appendix 13.1). It is envisaged that the fund will:

- Employ an energy efficiency officer locally to provide advice, information and hands on support;
- Address energy efficiency and fuel poverty in local households;
- Make energy saving easier;
- Provide additional support over and above existing financing mechanisms – plugging the gap;
- Help to bring forward energy efficiency measures for individual households;
- Support a community-wide energy conservation strategy;
- Lift households in the area out of fuel poverty;
- Improve domestic energy infrastructure; and
- Contribute towards the national net-zero carbon journey;



Programme

37. The on-site construction period for the Proposed Development is expected to be approximately 18 months as shown in **Table 1**.

Table 1 Indicative Construction Programme

Task	Month Number																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Mobilisation	█																	
Access & Site Tracks		█	█	█	█	█												
Foundations				█	█	█	█	█	█									
On-site Cabling		█	█	█	█	█												
Substation civils works		█	█	█	█													
Substation construction					█	█	█	█	█	█	█	█	█	█	█	█	█	█
Crane Hardstanding						█	█	█	█	█	█	█						
Off-site Cabling										█	█	█	█					
Turbine Delivery										█	█	█	█	█				
Turbine Erection														█	█	█	█	█
Commissioning & Testing																		█
Site Reinstatement																		█

38. Normal construction hours will be between 07:00 and 18:00 Monday to Friday and 07:00 to 13:00 on a Saturday, no construction will take place on a Sunday. These times have been chosen to minimise disturbance to local residents. It must, however, be noted that during the turbine erection phase, operations may proceed round the clock to ensure that lifting processes are completed safely. A fully detailed construction programme will be provided in a Construction Environmental Management Plan (CEMP) prior to the commencement of construction (Appendix 3.1).

39. The operational lifespan of the Proposed Development would be 35 years, after which it would be appropriately decommissioned. It is expected that decommissioning would take approximately 18 months. If, after the operational lifespan of the Proposed Development has expired there is potential for re-powering the development, this would be subject to a new and separate application.

Consultation

Statutory Consultation

40. A formal EIA Scoping Opinion was requested from the Scottish Ministers in January 2021 through the submission of an EIA Scoping Report. The EIA Scoping Report contained details of the site baseline, the Proposed Development, proposed environmental impacts to be assessed in the EIA, and the assessment methodologies that would be used. The Scottish Ministers consulted with a variety of statutory and non-statutory consultees before providing an EIA Scoping Opinion in April 2021. A summary of how the Scoping responses were addressed in the final submission is presented in an EIA Gatecheck Report that can be found in EIA Report Appendix 4.3.
41. Beyond the formal engagement platforms, the Applicant continued to liaise directly with key stakeholders in order to refine the approach to the EIA Report and develop a design solution for the site which reflects the feedback received. Direct consultation has also been undertaken with specific statutory consultees, to confirm and agree the detailed approach to the technical surveys and assessments on a topic by topic basis.
42. Further information on the consultation process is given in Volume 1, Chapter 4 of the Proposed Development EIA Report.



Public Consultation

43. A programme of pre-application community engagement for the Proposed Development has been undertaken by the Applicant which has included various meetings, correspondence, and telephone discussions with local community groups, and neighbours, alongside a leaflet drop to properties within 10 km of the site and an online public consultation website which was advertised in the local press.
44. The Statement of Consultation which accompanies the S.36 submission details the findings of that work and illustrates the ways in which community engagement has helped identify potential issues arising from the emerging development proposal and, where appropriate, shape the final proposal which is now the subject of this application.
45. Due to the COVID-19 restrictions requiring social distancing, face-to-face consultation was not possible during the earlier stages of the consultation process. In lieu of holding in person events, the applicant held a number of virtual meetings with Community Councils and set up a Community Liaison Group in collaboration with the Community Councils. Following initial meetings, a round of face-to-face public exhibitions was held where members of the public could attend in person, meet and ask questions of the development team and view the exhibition materials.
46. In addition to virtual meetings and exhibitions, the project website (www.letenwindfarm.co.uk) has provided a constant point of contact and useful source of information containing information about the Proposed Development such as site location, proposed infrastructure, contact information (phone or email) and details of consultation events.

47. The pre-application consultation has helped identify the issues that are important to the local community and, where appropriate, shape the final proposal which is now the subject of this application. The Applicant is grateful to residents and local representatives for their input into the pre-application community engagement process and for their participation in the discussions.
48. The Applicant confirms that the company will continue to liaise with the local community during the S.36 application process and during the construction, operational and decommissioning phases of the Proposed Development.

Environmental Impact Assessment (EIA)

49. The EIA considers the effects of the Proposed Development during construction, operation and decommissioning on the following topics:
 - landscape and visual (effects on the character of the landscape and views from agreed locations);
 - ornithology (the effects on birds and protected bird habitats);
 - ecology (the effects on protected habitats, flora and fauna, excluding birds);
 - geology, peat, hydrology and hydrogeology (the effects on surface water, groundwater, rocks and soils);
 - noise and vibration (effects on local properties from noise and vibration arising from the Proposed Development);
 - cultural heritage (effects on the integrity and setting of historic sites and/or features);
 - traffic and transport (effects from traffic travelling to, and from, the Proposed Development on local roads and receptors);
 - socio-economics, tourism, and recreation (effects on the local and national economy, local tourism businesses, and recreation facilities);
 - aviation and radar (effects on civil and military aviation facilities and air space); and
 - other issues (including land use and telecommunications).
50. Volume 1, Chapter 4 of the EIA Report describes the EIA process in more detail.
51. For each topic the existing conditions (the baseline) was identified and the effects of the Proposed Development on these conditions assessed (the potential effects). Potential effects are assessed on a scale of negligible, minor, moderate and major, with effects of moderate or major deemed to be significant in the terms of EIA. Mitigation measures have then been proposed to minimise significant adverse effects where required. Following this, an assessment was undertaken of the effects of the Proposed Development on the existing conditions taking into consideration the proposed mitigation (the residual effects).
52. In addition to the above, the cumulative effects of the Proposed Development, i.e. effects considered in conjunction with other developments in the local area, primarily other wind farms, were assessed.
53. A summary of the baseline conditions, the proposed mitigation, the resulting residual effects and the cumulative effects for each topic is provided below. Full details of the EIA for each of the topics are provided in Volume 1, Chapters 6 to 15 of the EIA Report.

Landscape and Visual

54. The full assessment of the effects on landscape and visuals receptors is provided in Volume 1, Chapter 6 of the Proposed Development EIA Report.
55. The Proposed Development is located in the Highlands of Scotland. The nearest main settlement is Grantown-on-Spey, located approximately 10 km to the south-east. The nearest roads are the B9007 that passes along the eastern boundary of the site and the A939,

approximately 5 km to the east at its closest point and the A940, approximately 7 km to the east.

56. The design of the Proposed Development is the result of a considered iterative process which has sought to minimise landscape and visual effects whilst achieving the technical and commercial requirements to ensure project viability without public subsidy. Appropriate offsets from all properties and settlements have been maintained to ensure that no property would experience an overbearing visual impact. Mitigation has been designed into the proposed aviation lighting to reduce the intensity of the 2000 candela steady state lights in certain atmospheric conditions by reducing their intensity and attenuating the amount of vertical downwards lighting in order to reduce the visual impact experienced by receptors below the lights.
57. This Landscape and Visual Impact Assessment (LVIA) identifies the likely significant effects arising from the Proposed Development on landscape character and visual amenity. In terms of effects on landscape character, the Proposed Development would result significant effects on parts of Landscape Character Type (LCT) 291 Open Rolling Upland and LCT 286 Narrow Wooded.

58. In relation to visual effects, it is accepted that the Proposed Development would be visible from some nearby properties, settlements as well as the surrounding road network and the nearby Dava Way. It has been assessed that there would be a significant visual effect at 7 of the 16 representative viewpoints during daylight hours, namely:



- Viewpoint 1 – Carn Glas-choire;
- Viewpoint 3 – B9007 near Lochindorb;
- Viewpoint 4 - Creag Ealraich;
- Viewpoint 6 – Shore Road, Lochindorb;
- Viewpoint 9 – Gorton Hill;
- Viewpoint 13 – Minor road, near Dunearn Fort; and
- Viewpoint 16 – Knock of Braemoray.

59. Of these viewpoints, it has been assessed that Viewpoint 1; 3; 4; 13; and 16 would also experience a significant effect during the hours of darkness.
60. There are no residential properties located within 2 km of the Proposed Development. Fourteen residential properties have been identified within 2 to 5 km of the Proposed Development. Of these Banchor, Drumlochan, Milltown, Dunearn Lodge, Lochindorb Lodge, and Refouble would experience significant effects during daylight hours and it has been assessed that only one of these, Banchor would experience significant effects during the hours of darkness.
61. The assessment of routes found that there would be no significant effects on recreational routes or the A940 or A939. However, road users travelling north along the B9007 would experience significant effects over a distance of approximately 2.9 km, while road users travelling south would experience significant effects over a distance of approximately 4.3 km, in the vicinity of the site.

62. In relation to cumulative landscape and visual effects, when each of the other consented wind farms (excluding Cairn Duhie which has been assessed as an in-planning scheme) are added into the assessment such that they are considered to already form part of the baseline it is considered that there would be no change to the previous assessment of the effects on landscape character which the Proposed Development would bring about. When other schemes in planning are also considered if the revised Cairn Duhie scheme were already present in the landscape, the extent of the significant effect brought about by the Proposed Development would reduce in a north-easterly direction down to approximately 4 km, as beyond that point the existing influence of the revised Cairn Duhie scheme would be such as to render the additional effect of the Proposed Development non-significant.
63. In terms of the totality of effect on landscape character, were Proposed Development and each of the additionally proposed schemes consented alongside the existing Tom nan Clach scheme, the character of LCT 291 Open Rolling Upland area would become one which could be described as 'Open Rolling Upland with wind farms'. However, wind energy would not become the single dominant characteristic of LCT291, nor LCT 286 such that wind energy would become the single dominant characteristic these LCTs.
64. In relation to cumulative visual effects, when each of the other consented wind farms are added into the assessment such that they are considered to already form part of the baseline it is considered that there would be no change to the previous assessment of the effects on visual amenity which the Proposed Development would bring about. When other schemes in planning are also considered, there may be the potential for views of the Proposed Development in one direction and Cairn Duhie Wind Farm in the opposite direction, however this would be limited to a very small number of dwellings. The two schemes may also be seen successively, from locations along the A939, A940, the B9007 and the Shore Road Lochindorb, where significant 'sequential' cumulative visual effects are also identified for a short section of the routes if the Cairn Duhie Wind Farm were also to be constructed, above that which was reported in the main assessment of the route. There would be no significant sequential cumulative visual effects as a result of any of the other in planning schemes.
65. In terms of the totality of effect on visual amenity, it is not considered that the addition of the Proposed Development would be such as to result in the overall cumulative impact of turbines being dominant or oppressive in views from this area.
66. It is noted that localised significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in the UK. Whilst the LVIA identified some significant landscape and visual effects it is considered that the landscape has the capacity to accommodate the effects identified.

Ornithology

67. The full assessment of the effects on birds is provided in Volume 1, Chapter 7 of the Proposed Development EIA Report.
68. In order to inform the EIA, 18 months of ornithological survey work was undertaken at the Proposed Development between March 2018 and August 2019 (two breeding seasons and one non-breeding season). Surveys comprised of VP flight activity surveys, BBS, raptor and black grouse surveys.
69. An assessment has been made of the predicted significance of effects of the Proposed Development on Important Ornithological Features (IOFs). This assessment predicted no significant effect, on all of the IOFs recorded. In addition, six capercaillie (Tetrao urogallus) Special Protection Areas within 25 km of the Proposed Development have been taken forward for Appropriate Assessment. These are dealt with in a separate HRA Screening document.

70. Habitat enhancement measures targeted at hen harrier (*Circus cyaneus*), merlin (*Falco columbarius*) and short-eared owl (*Asio flammeus*) (heather management to encourage areas of deep heather) and curlew (*Numenius arquata*) and golden plover (*Pluvialis apicaria*) (blanket bog restoration) are proposed. Embedded mitigation measures are proposed to minimise impacts of the construction and operation of the Proposed Development on IOFs, and to prevent a breach of legislation. A Species Protection Plan (SPP) is proposed and good practice guidance regarding breeding birds will be followed, with an Environmental Clerk of Works (ECoW) employed during construction. It is considered that implementation of these embedded mitigation and habitat enhancement measures will reduce the likelihood of significant adverse effects on IOFs at the appropriate biogeographical scale.

Ecology and Nature Conservation

71. The full assessment of the effects on flora and fauna at the site is provided in Volume 1, Chapter 8 of the Proposed Development EIA Report.
72. In order to inform the Ecological Impact Assessment (EclA), baseline ecology surveys were undertaken in 2019. These included Phase 1 and National Vegetation Classification (NVC) habitat surveys, protected mammal surveys and bat surveys (roost assessment and activity surveys) following standard NatureScot guidance. Additional Phase 1 and NVC habitat surveys were undertaken in 2021 in areas not previously surveyed in 2019 that were within 300 m of the Proposed Development infrastructure (at the design chill stage).



73. An assessment has been made of the predicted significance of effects of the Proposed Development on ecological interests. This assessment predicted no significant effects on all of the Important Ecological Features (IEFs) recorded and no significant cumulative effects on any IEFs.
74. Habitat enhancement measures targeted at wet heath and blanket bog are proposed. Embedded mitigation measures to minimise impacts of the construction and operation of the Proposed Development on IEFs, and to prevent a breach of legislation. A Species Protection Plan (SPP) is proposed and good practice guidance regarding protected species and pollution prevention will be followed, with an ECoW employed during construction. Further mitigation in the form of a Habitat Management Plan (HMP) to restore blanket bog and wet heath habitats is proposed. It is considered that implementation of these mitigation and habitat enhancement measures result in minor beneficial effects on IEFs at the appropriate biogeographical scale.

Geology, Peat, Hydrology and Hydrogeology

75. The full assessment of the effects on hydrology, hydrogeology and geology is provided in Volume 1, Chapter 9 of the Proposed Development EIA Report.
76. The assessment study area is larger in extent than the Proposed Development and includes the upper and lower reaches of watercourse catchments. The assessment has taken into account Scoping Direction and Gate Check responses and is supported by four Appendices.
77. A desktop assessment and series of site investigations have been undertaken to identify and characterise the hydrological, geological and hydrogeological environment within the vicinity of the Proposed Development.

78. Deep peat and areas of Class 1 & Class 2 peat are present within the site boundary and were identified as a key sensitivity. An extensive peat depth and condition survey campaign was undertaken to reduce impacts on peat as far as possible through site design and avoidance. The peat slide risk assessment demonstrates that there is low risk, with the Proposed Development having been characterised in the lowest peat slide risk categories. The peat management plan demonstrates that there are opportunities to reuse all excavated peat as part of the site reinstatement.
79. The sensitivity of receptors has been assigned through the completion of the baseline assessment. The significance of residual effect has been determined taking into account embedded mitigation, standard good practice and any additional mitigation.
80. The mitigation measures to avoid or reduce impacts on the identified receptors, include the implementation of a Construction Environmental Management Plan (CEMP), specific mitigation relating to peat management and maintaining water flow to groundwater dependent terrestrial ecosystems (GWDTE).
81. Drainage management provisions and a watercourse crossing assessment have been presented to demonstrate appropriate control and treatment of run-off and to maintain flows within the watercourses. Detailed design of the drainage will be agreed with the Scottish Environment Protection Agency (SEPA) and THC prior to the commencement of construction.
82. It has been concluded that with good practice design and construction of the Proposed Development delivered through a skilled team of competent workers, with mitigation and compliance monitored in collaboration with SEPA and The Highland Council and other engaged stakeholders, residual effects are considered to be not significant in terms of the EIA Regulations

Noise and Vibration

83. The full assessment of the potential noise and vibration effects from the Proposed Development on local receptors is provided in Volume 1, Chapter 10 of the Proposed Development EIA Report.
84. The assessment has considered potential noise impacts associated with the Proposed Development. The levels of noise and vibration likely to occur at local residential properties as a result of the operation of the proposed wind turbines have been assessed in respect of the Proposed Development in isolation, and cumulatively with other local wind farm developments.
85. The consideration of construction noise and vibration, including construction traffic noise, has been scoped out through consultation with THC on the basis that it is unlikely to be significant and will be controlled by implementation of Best Practicable Means.
86. The assessment showed that the Proposed Development will meet all the conditions regarding noise and vibration, and it is concluded that there will be no significant effects on nearby residential properties in terms of noise emission or ground-borne vibration.
87. The noise from the Proposed Development turbines over that already occurring or likely to occur from cumulative operational and consented wind farms in the locality was assessed to be within acceptable limits and therefore not significant.

Cultural Heritage

88. The full assessment of the effects on cultural heritage is provided in Volume 1, Chapter 11 of the Proposed Development EIA Report.
89. The assessment identifies the archaeological and cultural heritage value of the site and assesses the likely significant effects on archaeological features and heritage assets resulting from the construction, operation and decommissioning of the Proposed Development. The

assessment also identifies measures that should be taken to mitigate predicted likely significant adverse effects and reports on the residual effects of the Proposed Development on heritage assets.

90. Impacts upon the setting of designated heritage assets have generally been mitigated through the iterative design process. A significant effect has been identified on the setting of Allt Laoigh, Lochindorb and Dunearn hill fort. However, it is concluded that these assets' key landscape relationships would still be appreciable and that there would not be an adverse effect upon the integrity of the assets' setting.
91. This assessment has identified a total of 45 known non-designated heritage assets within the site, all of which date to the post-medieval period and later. Two of the non-designated assets could potentially be directly impacted by the construction of the Proposed Development. Both assets are considered to be of Negligible importance and impacts would at worst be of negligible effect. This is because the assets are of a common type with local interest only and there would not be a loss of information. As such, no mitigation is required.
92. The possibility of cumulative effects has been assessed. No significant cumulative effects were identified

Traffic and Transport

93. The full assessment of the effects on traffic and transport is provided in Volume 1, Chapter 12 of the Proposed Development EIA Report.
94. Access to the site will be taken directly from the B9007 using the existing priority T-junction access to the Tom nan Clach Wind Farm.
95. Existing traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.



96. The construction traffic will result in a temporary increase in traffic flows on the road network surrounding the Proposed Development. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in Month 7 of the construction programme. During this month, an average of 112 Heavy Goods Vehicles (HGV) movements is predicted per day and it is estimated that there will be a further 70 car and light van movements per day to transport construction workers to and from the site.
97. With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be slight or insignificant but as they will occur during the construction phase only, they are temporary and reversible.
98. Traffic levels during the operational phase of Proposed Development will be one or two vehicles per week for maintenance purposes. Traffic levels during the decommissioning of the proposed development are expected to be lower than during the construction phase as some elements may be left in situ and others broken up on-site.
99. The movement of Abnormal Indivisible Loads (AIL) traffic will require small scale and temporary remedial works at a number of locations along the identified delivery route.

Socio-Economics, Tourism and Recreation

100. The full assessment of the effects on socio-economics, tourism and recreation is provided in Volume 1, Chapter 13 of the Proposed Development EIA Report.
101. The local area (which is comprised of the electoral wards of Nairn and Cawdor, and Badenoch and Strathspey) has a higher proportion of people aged 65 and over compared to Scotland as a whole, as do Highland and Moray. The populations of both local authorities are expected to decline in the coming decades. This suggests that the local area around the Proposed Development and the wider region lack the economic drivers required to retain and attract working age people and consequently could benefit from economic opportunities associated with the Proposed Development.
102. During the development and construction phase, it is estimated that the Proposed Development could generate up to:
- £12.5 million Gross Value Added (GVA, a measure of economic activity) and 174 job years (a job year being equivalent to one person employed for a year) in the region (the local authority areas of Highland and Moray); and
 - £26.9 million GVA and 375 job years in Scotland (including Highland and Moray).
103. During each year of the operational phase, it was estimated that the Proposed Development could generate up to:
- £0.7 million GVA and 11 jobs in Highland and Moray; and
 - £1.0 million GVA and 17 jobs in Scotland (including Highland and Moray).
104. The Proposed Development would also provide community benefit funding for the local area of up to £510,000 annually. Part of this fund would be used to address fuel poverty, which affects around a third of households, with a fifth in extreme fuel poverty. Local households would be given grants directly to make improvements to their home, increasing energy efficiency and reducing their fuel bills, delivering a substantial benefit for the local area.
105. It was estimated that the Proposed Development would pay £0.7 million each year in non-domestic rates, so helping to support local government services.
106. The most recent evidence on the relationship between wind farms and tourism suggests that there are no adverse effects on the tourism economy resulting from the development of onshore wind. An assessment of the likely effects of the Proposed Development on specific local tourism assets, accommodation providers and routes found no expected adverse effects.
107. Overall, there were no significant adverse effects identified. Whilst the direct beneficial socio-economic effects are not significant in EIA terms, they would be important to the local, regional and national economy contributing to economic recovery and sustainable economic growth. The indirect effect of reducing fuel poverty in the local area has been assessed as significant.

Aviation and Radar

108. The full assessment of the effects on aviation and radar is provided in Volume 1, Chapter 14 of the Proposed Development EIA Report.
109. The site lies approximately 20 km south-east of Inverness Airport and over 40 km south-west of Royal Air Force (RAF) Lossiemouth. It is remote from all navigational aids and radio communication stations, in an area of low priority for military low flying. Studies have determined that there are no impacts to radar.
110. The aviation stakeholders consulted as a part of the Environmental Impact Assessment (EIA) were National Air Traffic Services (NATS) (En Route) plc, Highlands and Islands Airports

Limited (HIAL), the Civil Aviation Authority (CAA), the Ministry of Defence (MoD), the Scottish Ambulance Service and Police Scotland.

111. As structures over 150 m high there is a statutory requirement for aviation lighting on the Proposed Development. A proposed lighting scheme has been agreed with the CAA. No further mitigation is required and there are no residual impacts.

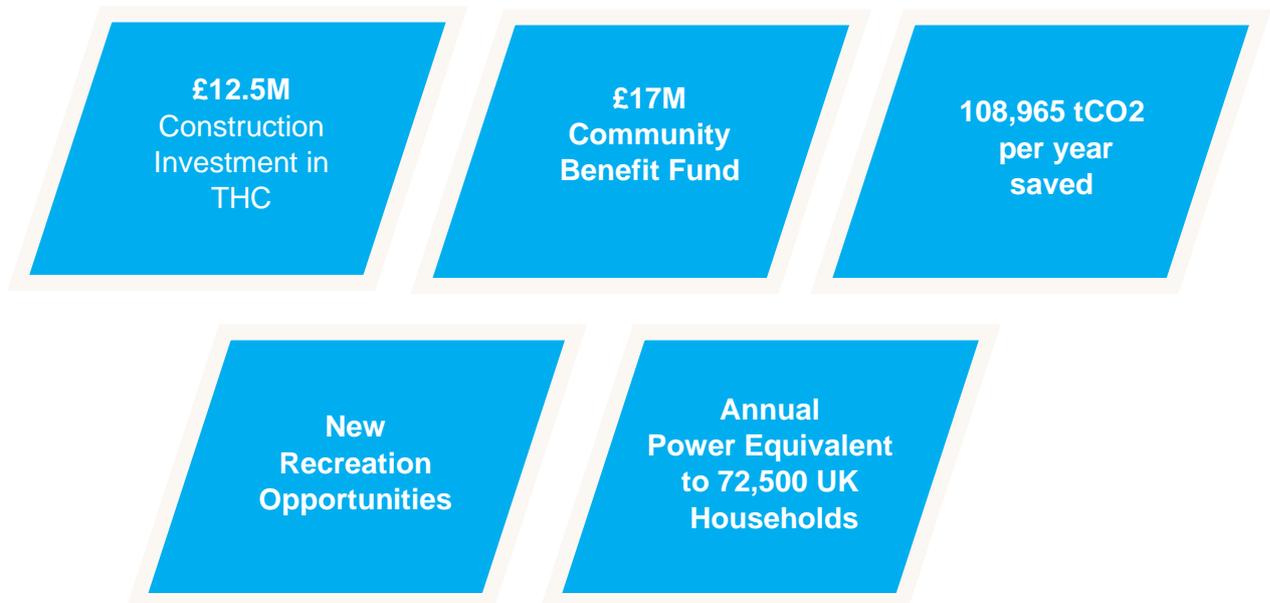
Other Issues

112. The full assessment of the effects on land use and telecommunications is provided in Volume 1, Chapter 15 of the Proposed Development EIA Report. An assessment of effects to television reception has been scoped out within the Scoping Report (refer to Appendix 4.1 of the EIA Report).
113. Site surveys have confirmed the land within the site boundary is used mainly for grouse moorland with some sheep grazing. Construction and operation of the Proposed Development is anticipated to have a no significant effect on agricultural land and grouse moorland land use within Scotland as a whole or the long-term land use of the site.
114. The telecommunications assessment, as informed by current guidelines and legislation, has been undertaken through consultation with the appropriate consultees. The consultation process identified two Microwave (MW) Radio links located within the site boundary operated by Airwave Solutions. No effects on telecommunications from the construction, operation or decommissioning of the Proposed Development were identified, following a detailed design review to produce the layout presented in this EIA Report that did not interfere with the links.
115. As the Proposed Development will not impact any telecommunication links, the Proposed Development will not have any cumulative effects on telecommunication links with other developments.

Benefits of the Proposed Development

116. The addition of the Proposed Development will deliver the following key benefits.
- The Proposed Development would contribute to the attainment of the UK and Scottish Government policies of encouraging renewable energy developments; and in turn contribute to the achievement of UK and Scottish Government targets for renewable electricity generation. The Proposed Development, with an installed capacity of approximately 102 MW, would make a valuable contribution to meeting such targets.
 - The Government has confirmed its long-term commitment to the decarbonisation of electricity generation and the Proposed Development would help advance this policy objective.
 - The Proposed Development would have a total capacity of 102 MW, generated by seventeen ~6MW turbines which together would produce around 261.2 GWh/year of clean power which would generate enough electricity to supply approximately 72,500 average UK households.
 - The Proposed Development is expected to save approximately 108,965 tonnes of carbon dioxide per year, resulting in a total saving of 3.8 million tonnes over the 35-year lifetime of the development, through displacing carbon-emitting generation.
 - Energy generated from renewable sources makes a significant contribution to Scotland and the UK's energy security. The Proposed Development will increase indigenous production of renewable energy in Scotland while reducing the country's reliance on foreign fossil fuels, generating wealth from our own natural resources and improving the country's energy security. This will occur at a time when the country's demand for electricity is set to soar with the move to electric vehicles; it is important that the additional generation capacity to meet that demand comes from renewable sources.

- Based on an installed capacity of 102 MW, the Proposed Development will deliver up to £510,000 per annum in Community Benefit Funding or up to £17 m in total over its 35- year operational life.
- The Lethen Wind Farm Energy Efficiency Fund proposed by the Applicant (Appendix 13.1), will ensure that local houses have the best opportunities to be lifted out of fuel poverty, assisted to become more energy efficient and supported in line with local and regional ambitions in relation to fuel poverty, energy efficiency and reducing carbon emissions.
- The Applicant is committed to a local supplier approach which aims to deliver a significant proportion of construction and operational contracts to local companies and has joined the Inverness Chamber of Commerce to engage the supply chain further.
- The Applicant proposes improving local recreational access through the creation of a new public path, 'Dunearn Footpath', leading from the B9007 to a viewpoint and picnic area from which there will be a view of Lochindorb Castle (a Scheduled Ancient Monument) An Outline Outdoor Access Plan is shown in Appendix 3.2 of the EIA and includes an indicative route which will be consulted upon prior to the construction of the Proposed Development. Currently there is no access to the loch or a view of the castle from the north western side of Lochindorb. The construction of this path will create a new visitor experience for the local area.



Conclusion

117. This Non-Technical Summary of the EIA Report provides an overview of the EIA undertaken for the Proposed Development. Within Chapter 16 of the EIA Report a schedule of commitments can be found which details the environmental mitigation measures, summarised above, which the Applicant has committed to implement.
118. Volume 1, Chapters 17 of the EIA Report summarises the potential effects, the mitigation to be implemented and the resulting residual effects. It also provides a summary of the cumulative effects of the Proposed Development in combination with other proposed, consented and operational developments in the local area.
119. The final layout has been informed by a robust EIA and lengthy design iteration process, considering potential environmental impacts and their effects, physical constraints, and health and safety considerations. The information used to inform the design iteration process included consultation responses received, baseline data and the impact assessment undertaken.
120. Consideration has been given to a range of design issues as well as various environmental, ecological and technical requirements. Predicted environmental effects arising from the Proposed Development have been mitigated as far as possible, if not eliminated during the iterative design process.
121. The Proposed Development site is considered an appropriate and viable location for a wind energy project due to:
 - Remoteness from communities;
 - Good average wind speeds and generation capacity;
 - Easily accessible
 - Ability to re-use existing wind energy infrastructure as well as on-site access tracks, with some minor upgrading;
 - Positively contribute to regional and national renewable energy and carbon reduction targets; and
 - Provision of real social and economic benefits to the local area.
122. Overall, the Proposed Development is an appropriately designed, and sensibly located wind farm which is in line with policies in the local and strategic development plans and conforms to national policy. The Proposed Development has been designed to maximise energy production from an existing wind farm landscape, within acceptable environmental limits. The Proposed Development will provide a valuable contribution towards the ambitious national targets for electricity generation from renewable sources and contribute towards sustainable economic growth the highlands and Scotland as a whole.



Fred. Olsen Renewables

communities@fredolsen.co.uk

www.fredolsenrenewables.com/windfarms/lethen/