



**Lochluichart Wind Farm Extension II
Draft Decommissioning Statement**



September 2018

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1 Introduction

- 1.1 This draft Decommissioning Statement (DS) for Lochluichart Wind Farm Extension II (hereafter known as 'the Proposed Development') has been produced by Infinergy to comply with the request from SEPA in response of 11th May 2017:

"..We consider that the following key issues must be addressed in the Environmental Impact Assessment process. To avoid delay and potential objection, the information outlined below and in the attached appendix must be submitted in support of the application..i) Decommissioning Statement.."

- 1.2 The purpose of this plan is to provide further detail on how the DS will be implemented in order to satisfy this request.
- 1.3 Due to estimated advances in technology and changes in working methods and good practice guidelines over the next 25 years, this plan does not stipulate precise methods or specific guidance to be followed during the decommissioning and restoration process.
- 1.4 This plan is a live document that may be altered in agreement with The Highland Council, Scottish Natural Heritage (SNH), Scottish Environment Protection Agency (SEPA) and other regulatory bodies where necessary during the operational lifetime of the development.

2 Site and Project Description

- 2.1 The Proposed Development site boundary lies approximately 18 km north-west of Dingwall and immediately due south of the A835. It comprises of upland moorland located between Meall Mhic Iomhair to the south-west and Sidhearn nan Cearc to the east, and is south of Loch Glascarnoch. The elevation of the site ranges from 260 m to 500 m above ordnance datum (AOD). The site occupies an area of 2.3km² and the central grid reference for the site is 232984 (Eastings) 868776 (Northings).
- 2.2 The site includes the proposed main access track from the A835 in the north, which then follows the existing access track built for the Operational Lochluichart and Corriemoillie Wind Farm schemes on Loch Luichart Estate, crossing an area of moorland and additionally crossing the Allt Giubhais Mòr and Allt na Beinne Lèithe Bige.
- 2.3 The final layout of the Proposed Development is illustrated in Appendix A and the locations of the turbines are listed in Table 2.1 below. The Proposed Development will comprise 9 wind turbines with a maximum tip height of 133m. The potential turbine dimensions and operational attributes have been established as a maximum development scenario. These assume a maximum tower height of 75m, a maximum rotor diameter of 105m, and a combined maximum generation capacity of 39MW.

Table 2.1: Wind Turbine BNG Co-ordinates

Turbine No.	Easting	Northing
2	233832	869578
3	234036	869306
4	234009	868766
5	233268	868761
6	232668	868596
7	232633	868934
8	232183	869027
9	232158	869399
11	232633	869609

- 2.4 The wind turbine foundations will be a concrete base, with steel reinforcement. Each standard concrete foundation will have a diameter of approximately 15m and a depth of approximately 2m.
- 2.5 To enable the erection of the turbines, a crane hardstanding area and turning circle at each turbine location will be required to accommodate assembly cranes and construction vehicles. This will comprise of an area measuring 1,100m² during the construction phase. Following completion of construction, the area of the hardstanding will be reduced to 950m².

- 2.6 Vehicular access to the site is from the A835. On leaving the A835, approximately 5km of new permanent access tracks will be created within the site. The access tracks within the site boundary will be approximately 5m wide, with some extra width provided on bends, gradients, junctions, passing and turning places.
- 2.7 A variety of track designs will be adopted:
- Upgrade of internal track;
 - Floating track;
 - Excavated track; and
 - Rockfill track.
- 2.8 There are watercourse crossing points on the access tracks. These are summarised below:
- Watercourse Crossing 1 (WC1) - Allt Giubhais Mòr Burn;
 - Watercourse Crossing 2 (WC2) - Allt na Beinne Lèithe Bige Burn;
- 2.9 The electrical power produced by the individual turbines will be fed to an onsite substation via underground cables. The substation is located immediately north of turbine T5. The cables will be laid in trenches, typically approximately 1.0m deep and 600mm wide, adjacent to the access tracks, on the downslope side. The substation compound area will measure a maximum of 130m by 60m, including the substation buildings and a hardstanding area for vehicle parking.
- 2.10 One temporary construction compound measuring approximately 100m by 50m will be required during the construction and decommissioning periods.
- 2.11 To enable the construction of the Proposed Development, two borrow pits are proposed on site. One borrow pit will be located in the north of the site, south of the A836 as you enter the site (E 233172, N 870017), a second borrow pit will be located in the south, south of Allt na Beinne Lèithe Bige (E 233062, N 868921). These are likely to be restored upon completion of construction.
- 2.12 The above proposed layout and infrastructures will be discussed in the following section with regards to decommissioning and restoration.

3 Decommissioning and Restoration

- 3.1 Any material left on site which does not have a use, for example the turbine bases and cables, will be considered as waste. Therefore, any proposed decommissioning works will need to comply with the relevant waste management legislation applicable at the time of the works.

Turbines

- 3.2 Decommissioning of the turbines will be a reverse of the installation process, likely to involve:

- Stripping out of turbine internals and removal of transformer; and
 - Dismantling of the turbines.
- 3.3 The removal of turbines will involve similar vehicular movements as for during the construction phase and similar traffic management plans will be in place for the decommissioning phase. Given that road widenings are unlikely to be necessary (i.e. the site access junction joins with the A836, which is a major road and along which turbines and their components have already been transported for the Lochluichart and Corriemoillie Wind Farms), this is not required for decommissioning. As for the construction period, appropriate pollution prevention measures will be adhered to, to ensure that the increase in traffic does not impair on water quality or surface runoff. In addition, any mitigation required due to ecological sensitivities will be adhered to.
- 3.4 Due to the infrastructure, traffic management of this decommissioning vehicle movement is likely to focus upon site traffic being directed south along the A836 from the access junction as per the construction phase.

Turbine Bases and Crane Pads

- 3.5 Turbine bases and associated hardstanding (crane pads etc) represent the largest areas for reinstatement. These will likely require significant volumes of soils/peat to aid restoration.
- 3.6 In order to minimise this, it is likely that only the top 1m of hardstanding will be removed and disposed away from the site. However, if required by future waste management legislation, all material will be removed. The exposed layer will be restored with soils/peat.
- 3.7 Reinstatement/Restoration of these areas will aim to achieve ground and habitat as near to, and sympathetic to, natural conditions on the site. To this end, surface cover material (soils and peat) will be required. Reinstatement will, as far as possible, mirror the surrounding ground depths and profiles at each turbine location.
- 3.8 Previously excavated soils and peat are the preferable materials to use for restoration, and additional material from restored on-site borrow pits could also be used.
- 3.9 An assessment of the available soils and soil forming resources on the site with which to form restoration layers will be carried out prior to any decommissioning activity. This assessment will consider the quality and composition of soils that may be available, whether suitable substrates (which can support the target ecosystem) will be need to be imported and if propagules for restoring vegetation are required.
- 3.10 Consideration of aspects such as ecological sensitivities and risks to environmental receptors (such as landscape and visual, hydrology) will be assessed prior to decommissioning and updates to the DS made following review.

Access Tracks

- 3.11 The requirement for the removal of all access tracks will be discussed with the landowner, with the possibility that some tracks will be retained.
- 3.12 In order to allow access for the required vehicular traffic during the decommissioning process, it is anticipated that the access tracks will require widening to 5m, as per the construction phase. Once the infrastructure has been taken off site, the reinstatement and re-profiling of the tracks can commence.
- 3.13 Reinstatement and re-profiling will consider all environmental risk prior to decommissioning, with a particular emphasis on ensuring no deterioration to the current hydrological regime. This is likely to involve taking cognisance of the post-construction vegetation and habitat monitoring data, especially in areas adjacent to blanket bog restoration zones.

Watercourse Crossings

- 3.14 It is anticipated that watercourse crossing will be left in-situ for amenity or to provide landowner access. The maintenance and upkeep of these structures will be passed over to the landowner and agreements reached on the actions required in order to prevent instances of flooding as a result over blockages of crossings etc.
- 3.15 Should watercourse crossings require to be removed, strict mitigation measures as required for construction will be adhered to ensuring hydrological continuity is maintained. Throughout the operational phase of the wind farm, cognisance of future improved mitigation measures and developments in "best practice" will be reviewed and implemented into the live DS.

Cable Trenches & Network

- 3.16 The underground cabling network will be cut off at ground level and left in place. Given that trenches will be restored after construction, and that no fluids or toxic materials are contained within the cables, no further decommissioning works would be required. However, if required by future waste management legislation, all material will be removed.

Substation and Compounds

- 3.17 All above ground infrastructure will be removed from their locations and disposed of away from the site. All areas of hardstanding will be restored using similar methods used for restoring the turbine bases and crane pads.

4 Schedule and Review of DS

- 4.1 Decommissioning will not commence for 25 years following the start of installation of the first turbines.
- 4.2 The most important steps in the decommissioning process involve forward planning and selection of the best decommissioning options which are likely to evolve over the operational period with improvements in technology, changes in working methods, good practice guidelines, and political and social opinion on the most

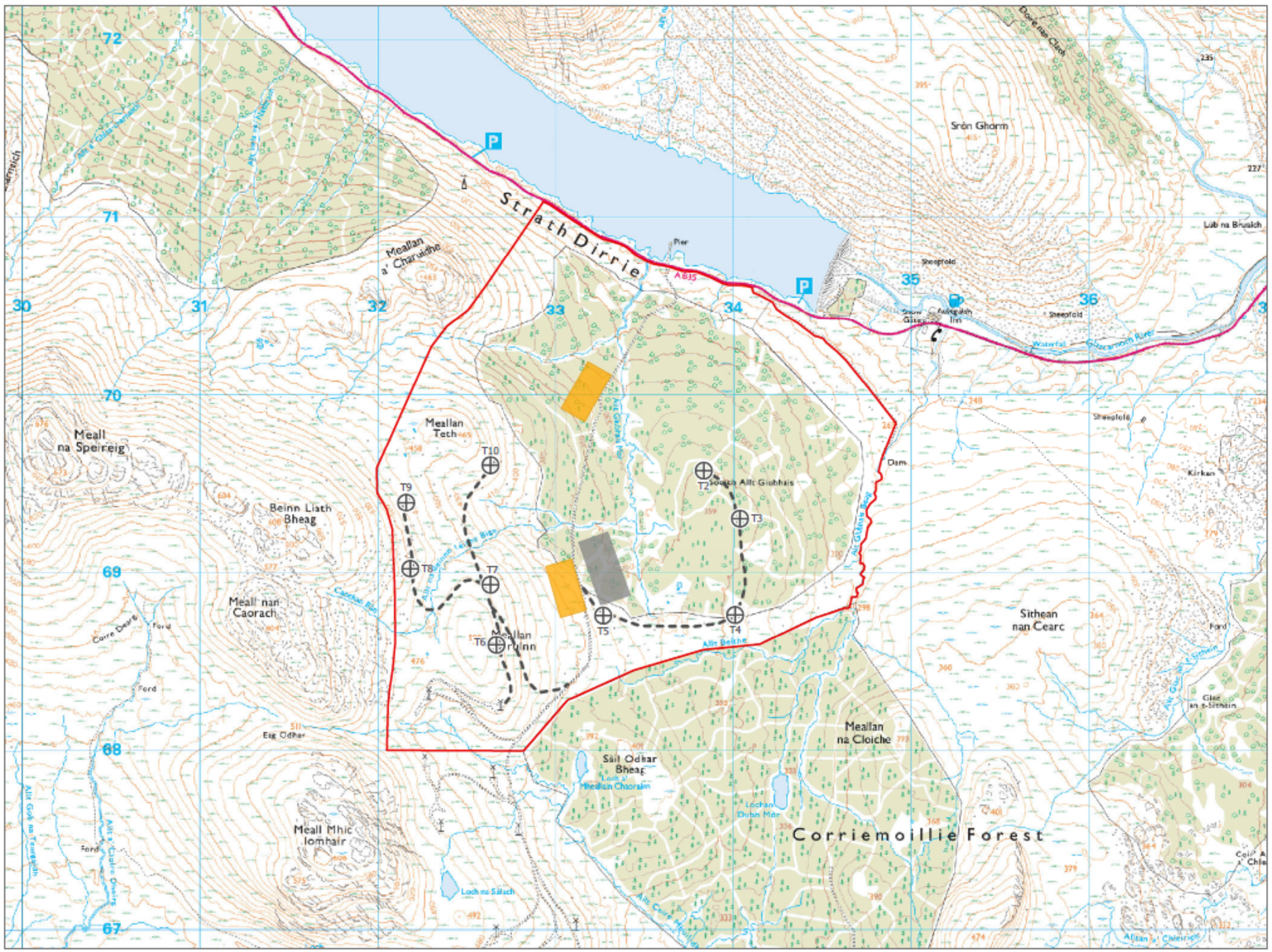
effective strategies for renewable energy sites. Therefore, decommissioning options will be reviewed and assessed over the lifetime of the project.

4.3 It is anticipated that formal review processes, along with regulatory bodies, are undertaken at the following times:

- 5 years following commencement of generation;
- 10 years following commencement of generation; and
- 15 years following commencement of generation.

4.4 A final review should be undertaken 2 years prior to the end of operation to finalise the detail of decommissioning provisions, ensuring the timing of works do not impacts on ecological sensitivities, ensure that impacts have been appropriately assessed and to consult with relevant regulatory bodies on the need for further assessment/provisions.

APPENDIX A PROPOSED DEVELOPMENT LAYOUT



Legend:

- Site Boundary
- Borrow Pit
- Sub-station / Control Building
- Indicative Access Track
- + Proposed Turbine Location

Title:
Site Layout

Project:
Lochluichart Wind Farm Extension II

Source:
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Client:
Infinergy

Drawn by: HW	Checked: AG
Date: 09/10/2018	Figure: 3.1
Scale: 0 0.1 0.2 0.4 Kilometres	Revision No: 3

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