Oweninny Wind Farm Phase 3

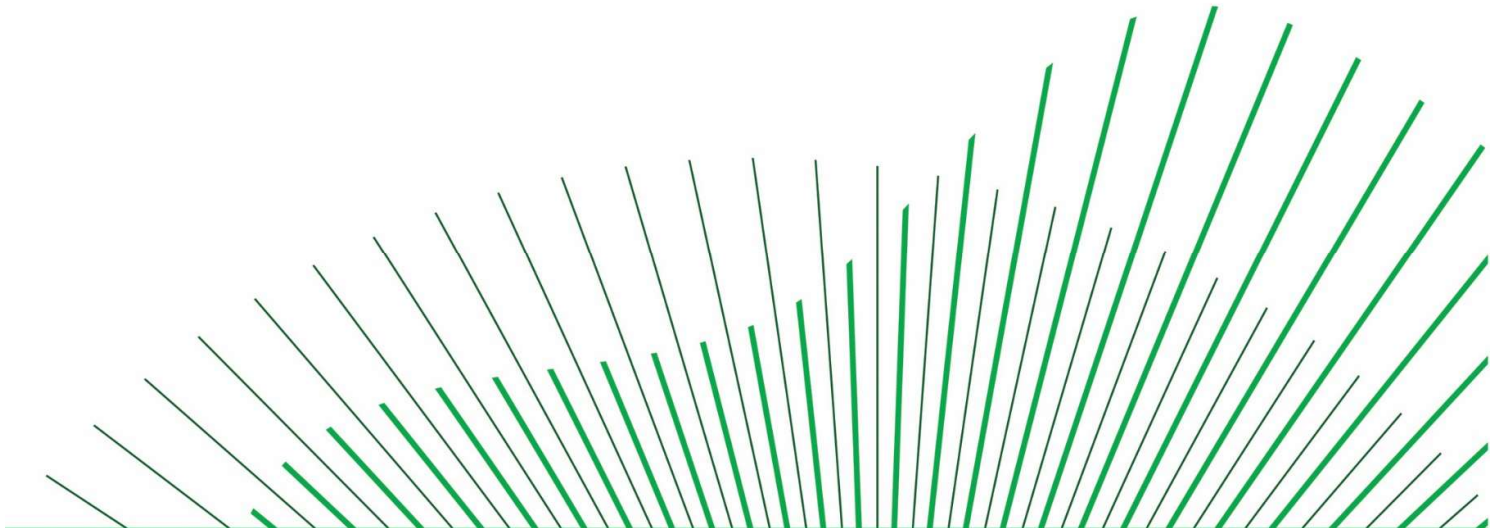
Environmental Impact Assessment Report

Appendix 3.2 Bellacorick Wind Farm Decommissioning Plan

Bord na Móna

Bellacorick Wind Farm

Decommissioning Plan



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Contents

Definitions & Abbreviations

Abbreviation	
BNM	Bord Na Móna
CBOP	Civil Balance of Plant
EIAR	Environmental Impact Assessment Report
MV	Medium Voltage
OEM	Original Equipment Manufacturer
OP3	Oweninny Phase 3 Windfarm
pNHA	proposed Natural Heritage Area
PSCS	Project Supervisor Construction Stage
PSDP	Project Supervisor Design Phase
SAC	Special Area of Conservation
SPA	Special Protected Area
WTG	Wind Turbine Generator

Decommissioning Plan

1. Introduction

This decommissioning plan has been by prepared by Bord na Móna for the decommissioning of the existing Bellacorick Wind Farm and associated infrastructure hereafter known as '*Bellacorick Windfarm'*. This document is being prepared, alongside an Environmental Impact Assessment Report (EIAR) for Oweninny Phase 3 (OP3), as part of an application for planning permission for OP3 to An Bord Pleanála (ABP). Decommissioning of Bellacorrick Windfarm will be scheduled to take place alongside the construction of the proposed OP3.

This report provides the construction steps and the environmental measures required during the decommissioning phase of Bellacorrick Windfarm and it incorporates mitigation measures for any possible environmental impacts that may or may not occur.

This plan will be reviewed and updated prior to the commencement of decommissioning works to take account of the relevant conditions of the planning permission and any changes to health and safety standards.

Decommissioning of Bellacorick windfarm will be carried out with reference to 'Decommissioning of Onshore Wind Turbines – Industry Guidance Document' WindEurope 2020.

1.1 Structure of Report

This decommissioning plan must adhere to EU & Irish legislation.

The key stages in the decommissioning of the infrastructure are the following:

- Extent of decommissioning
- Further use
- Planning Review
- Preparation and Planning
- Health and safety requirements
- Decommissioning of Wind turbines
- Dismantling of Wind Turbine
- Decommissioning and dismantling of Control Building
- Disposal
- Revegetation

The decommissioning of Bellacorick windfarm will be an element of the overall communications and Health and Safety plans for the site during the construction phase.

1.2 Location & Project Description

Bellacorick Windfarm is situated in Oweninny Bog which is owned by Bord na Móna Energy Ltd. Oweninny Bog is located in north County Mayo and encompasses a total of 5,140 hectares, which comprised primarily of rehabilitated cutaway bog, partly developed bog, yards, wind turbines and associated infrastructure, railway lines and areas of upland and undeveloped bog.

Oweninny Bog is situated approximately 12km west of Crossmolina, 8km east of Bangor Erris, and just north of the N59 National Road. The closest settlement to the site is Bellacorick village which is located at the southwestern extents of the bog. The area around the Oweninny Bog is a relatively sparsely populated area. There are a number of sensitive receptors located within 2km of the bog boundary including residential and commercial properties, Special Protected Areas (SPA), Special

Areas of Conservation (SAC), Natural Heritage Areas (pNHA) and recorded architectural heritage sites.

Bellacorrick Windfarm consists of 21 No. Northrop wind turbines and all associated works. 20 of the turbines have a blade tip height of 46.5m and an installed capacity of 300kW per turbine. The final turbine has a blade tip height of 53.5m and an installed capacity of 450kW. The total installed capacity of the windfarm is 6.45MW and produces enough electricity to supply approximately 3,000 households. See attached map showing Bellacorrick Windfarm in relation to OP3 proposed windfarm. The full description of the proposed development is as follows:

The Bellacorick wind farm was constructed in 1992 and continues to operate to this day. The owner is Renewable Energy Ireland Ltd. and it is currently operated by BNM. The decommissioning of the windfarm would form part of the civil works contracts for the construction of OP3.

It is intended that all above ground components and underground cabling (ducting left in-situ) will be removed from the site as part of the decommissioning. The following elements are included in the decommissioning phase:

- Wind turbines dismantling and removal off site
- Underground cabling removal (ducting left in-situ)
- Turbine foundation backfilling

The decommissioning phase works will be carried out to approved standards, which include specified materials, standards, specifications, and codes of practice. This decommissioning plan has taken into account environmental issues, which are addressed by the works proposals as part of decommissioning.
The key site targets are as follows:

- Ensure decommissioning phase is completed in accordance with mitigation measures in the Environmental Impact Assessment Report (EIAR) and any other planning documentation
- Ensure decommissioning phase has minimal effects on landowners and the locality
- Ensure decommissioning phase has a minimal impact on the flora/fauna
- Adopt a circular economy approach to decommissioning
- Environmental training and awareness is to be provided for all project personnel

The key site objectives are as follows:

- Utilisation of recycled materials where possible
- Utilisation of local sources for materials supply
- Expert care given when working around or close to streams with contingency in place
- Protecting steams during construction from construction waste etc.
- Implement best practice SUDs drainage design principles
- Industry standard fuel storage to be adhered to
- Site to remain tidy
- Industry standard air and noise pollution prevention

1.3 Further Use

At some point there will need to be an exercise carried out to determine of further use of the dismantled wind turbines. In this case a decision on whether the wind turbines are of sufficient robustness for sale for reuse as a turbine or not is required as this will influence the nature of the dismantling phase.

Factors such as the type of technology will need to be considered here. Given the nature of the turbine type and the fact that it is 30 year old technology it could be the case that this windfarm and turbines will be dismantled and deconstructed on the ground for disposal or for recycling depending on the materials contained therein. Secondary uses will also be considered for some parts if possible. Some full turbines can be sold on and re-used in commercial settings or other areas in some cases.

2. Planning/Legislation Review

Firstly, a review of existing restrictions, limitations, conditions, obligations will need to be conducted.

A review of the following will need to be conducted prior to construction:

- planning conditions that arise from this application
- local permitting requirements
- grid connection conditions
- EU legislation such as laws, regulations, rules, technical norms, standards, specifications, guidelines, directives

3. Preparation and Planning

3.1 Wind Turbines

As a first step turbines will be disconnected from the grid by the site operator in conjunction with the relevant authorities. The work associated with dismantling and removal of wind turbines requires specialist expertise and will be carried out by a competent subcontractor. The turbines will be dismantled in reverse order to that when constructed. Cranes will be erected on hardstand areas left after the construction phase. The dismantling of turbines is subject to the same safety considerations as during construction. Works will not be undertaken during adverse weather conditions or during high winds or those set by crane company.
The turbines will be removed from site by articulated trucks as part of the proposed Traffic Management Plan and Transport Management Plan which will be finalised post consent. The Transport Management Plan will include safety measures, such as Garda escort if required, off-peak turning/reversing movements. The size and weight of load will much depend on the method of disposal be it whole or recycled in more manageable parts.

Turbine Foundations

Upon dismantling of turbines, the concrete foundation will remain in situ. This is standard practice and is considered to have the least effect in terms of environmental concerns. The 21 no. turbine foundations will infilled with peat and where the foundation is above ground locally that ground will be built up to cover the foundation.

3.2 Cabling & Transport

The MV cable will be removed from the ducting at joint bay locations and ducting will remain in the ground. The cable will be disposed of in an orderly fashion by an approved contractor and the joint bays will be backfilled after excavation and post cable removal.

All electrical equipment will be removed from the control building . The building structure will remain in-situ and will be maintained as part of the operational maintenance of the Oweninny Phase 3 wind farm.

The transport route for turbine components will be assessed and subject to that assessment any required temporary modifications will be agreed with the local authority in advance of works. The outcome f the assessment will be influenced by the nature of the dismantling and subsequent reuse or recovery. A tender will be commenced to separately contract a company to decommission or else it will be included in the main CBOP contract for OP3.

4. Environmental Management

The following sections give an overview of the main areas of environmental concern be it drainage, dust and noise, waste management and the associated environmental mitigation measures.

4.1 Drainage

The site drainage has revegetated over the last 30 years and so any runoff in these areas is being naturally attenuated. Decommissioning will not interfere with this natural drainage system. Environmental measures outlined for the construction of the wind farm to minimise possible run -off into the existing drainage system will be applied as required such as silt fencing.

4.2 Fuel & Noise/Dust

Plant and machinery and the fuelling of same during the decommissioning phase will be subject to the same environmental mitigation measures as the construction of Oweninny Phase 3 . It is likely this decommissioning will be carried during or just before the main civil works for OP3 and therefore will form part of this overall works. Please refer to Chapter 16 of the EIAR for all environmental mitigation measures.

As above the control of noise and dust during construction work for decommissioning will be the same as that utilised during the main OP3 contract.

4.3 Invasive Species

It is planned that any backfilling required will utilise on site material from construction excavations. If there is any import of soil required as part of the foundation backfilling this will be checked to ensure it is free of any invasive species (listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). A competent ecologist will carry out surveys of any possible invasive species.

4.4 Waste Management

Waste on the site will be managed in accordance the Waste Management Act 1996 and under the relevant EU legislation.

The components involved in decommissioning will be re-used, recycled or sent for waste disposal and these include, but not limited, to cables, metals, fibreglass and hydrocarbons. A waste management plan will be produced prior to works commencing on site.

4.5 Environmental Management

As part of appointing the contractor to decommission the windfarm BNM will appoint an Ecological Clerk of Works (ECoW). This person in tandem with Site Manager for the contractor will be the key personnel for decommissioning-related environmental issues.

5. Health & Safety

5.1 General

All the normal health and safety measures for this construction project will be employed to ensure the safety and health of those working on the project. This will include appointing the roles of Project Supervisor Design Phase (PSDP) and Project Supervisor Construction Stage (PSCS) roles either separately or as part of the OP3 Civil Balance of Plant works (CBOP) project. Risk Assessments and Method Statements will be drafted up and utilised on site for checking ground conditions and for any prep work.

A lift plan for dismantling will be drafted and approved and the dismantling company or crane company must familiarise and instruct their employees on this prior to works. Before starting their work on construction a site-specific risk assessment will be carried out and the dismantling or removal instructions must be made clear to all. An Emergency Response plan will also be drawn up and employees given this.

6. Dismantling of WTGs

The responsibility for decommissioning is normally divided between the following parties:

- Renewable Energy Ireland Ltd. REIL (Owner)
- Bord Na Móna (Operator)
- Dismantling & Waste Management Company (TBD) – likely to be the main contractor for OP3
- Original Equipment Manufacturer (OEM) or suitable subcontractor

Prior to physical works starting on site this plan will be updated to reflect any changes arising during the consenting process or changes to above responsibilities. Any planning condition associated with the development and decommissioning will need to be met and Mayo County Council requirements

during and after works will need to be considered. It is expected the duration of these construction works could be circa 6 months.

The dismantling of the Wind Turbine Generator (WTGs) and the general plan will need to be considered well in advance. Factors such as reuse or complete disposal will need to be considered. This will heavily affect the sequence of the works. In general, the sequence of dismantling will be as follows:

Turbine to be dismantled fully from blade tip to top of foundation. Firstly the rotor blades and hub will be taken down and then the nacelle (incl. generator) will be taken down. Depending on Original Equipment Manufacturer (OEM) requirements the generator may need to come down first and temporary works are sometimes utilised to hold hub and blades in place whilst it comes down. Therefore, the sequence above might alter slightly from above depending on OEMs requirements and crane company's lift plan. Then the tower sections will be removed section by section and lowered to the ground. Finally all parts will be transported by road to its final destination either wholly intact or in more transportable components and will be either properly disposed or reused. The waste fractions resulting from the dismantling of the wind turbines and equipment from the control building will be transported in accordance with the waste management plan. This plan will be drawn up by the specialist waste management companies appointed as part of the contract.

7. Substation & Reinstatement

7.1 Substation

As described above it is intended that the substation building for Bellacorick will be left intact, but the components will be removed from inside the building. The building may then be re-purposed for other uses.

7.2 Reinstatement

All crane pads will be either reinstated using excess peat and overburden from build of OP3 or left insitu.