

# Clashindarroch Wind Farm: Non-Technical Summary of the Environmental Statement

This document forms part of the information being presented in an Environmental Statement by Vattenfall Wind Power Ltd in support of its proposal to construct, operate and decommission a wind farm within Clashindarroch Forest in Aberdeenshire.

## OBTAINING COPIES OF THE ENVIRONMENTAL STATEMENT

A copy of the Environmental Statement may be obtained on a data CD or a copy of this Non-Technical Summary may be obtained free of charge by writing to Vattenfall Wind Power Ltd at the address below.

## WHERE TO VIEW THE ENVIRONMENTAL STATEMENT

The completed Environmental Statement may be viewed at the following locations during normal office hours:

Vattenfall Wind Power Ltd Bridge End Hexham Northumberland NE46 4NU	Forestry Commission Scotland Portsoy Road Huntly Aberdeenshire AB39 2DQ
Aberdeenshire Council Planning Department Viewmount Stonehaven AB39 2DQ	Aberdeenshire Council Huntly Area Office 25 Gordon Street Huntly AB54 8AN
Huntly Library Brander Library The Square Huntly AB54 8BR	

The purpose of this document is to present information which is contained in the full environmental statement in non-technical language. It includes a description of the proposal and a summary of the expected environmental impacts.

The document is divided into four sections:

- Section 1 provides a summary of the proposal
- Section 2 summarises the revised impact assessments
- Section 3 provides a conclusion
- Section 4 gives details of how to register your view

## SECTION 1 – SUMMARY OF THE PROPOSAL

### Background to the Proposal

An application was originally made to the Scottish Executive in 2003 for a wind farm comprising 47 wind turbines within Clashindarroch Forest. More environmental information was gathered and was submitted in 2005 to the Scottish Ministers to support the previous application. The number of wind turbines was reduced to 40 and then 37.

In September 2007 consent was refused for the 37 wind turbines on the Clashindarroch site. This decision was made following a Public Local Inquiry held in 2006. The Inquiry report made reference to the lack of supporting detail for that proposal.

This revised application takes on board the Inquiry Reporter's comments. It has also taken on the advice given by Aberdeenshire Council and local stakeholders at the Major Application Meeting held in February 2008.

This current proposal is for a wind farm of 18 wind turbines. Unlike the previous application this new proposal will now be decided upon by Aberdeenshire Council.

### The Proposal

Figure 1 presents a plan of the proposal. The site lies approximately six kilometres to the south-west of Huntly in Aberdeenshire. The application to Aberdeenshire Council is to construct a wind farm made up of 18 wind turbines in Clashindarroch Forest which could provide electricity to meet the domestic requirements of 27,670 households. The table below outlines the main infrastructure elements of the proposal.

Infrastructure	Summary Description
18 Wind Turbines	Wind turbines with a power output of up to 2.75 megawatts, with a maximum height to tip of up to 110 metres (350 feet)
18 Wind Turbine Hardstandings	An area at each wind turbine, needed for the crane and wind turbine delivery vehicles. Each area would be a maximum of 20 metres (65 feet) x 45 metres (146 feet)
18 Wind Turbine Foundations	Reinforced concrete foundations each measuring 15 metres (49 feet) x 15 metres (49 feet) x 2 metres (7 feet), buried beneath the ground
1 Permanent Wind Monitoring Mast	A 70 metre (230 feet) monitoring mast fitted with anemometry and monitoring equipment at various intervals
1 Electricity Substation Compound	A compound measuring 90 metres (293 feet) x 60 metres (195 feet) which contains a transformer and other electrical equipment
1 Control Building / Switchroom	A compound measuring 14 metres (46 feet) x 5 metres (16 feet) which contains a store/workshop, control room, switchroom and welfare provisions
30.5 km of Site and Access Roads (15.1 km new, 15.4 km upgraded)	Site roads would be 5 metres (16 feet) wide and constructed using a number of different techniques depending on environmental and technical conditions on site
1 Temporary Site Compound and Concrete Batching Plant and Permanent Welfare Facilities	A compound measuring 100 metres (325 feet) x 60 metres (195 feet) which contains a temporary concrete batching plant used to supply concrete for the foundation construction. This compound would also contain temporary site accommodation, permanent welfare facilities of typically 14 metres (46 feet) x 5 metres (16 feet), parking and bunded storage area

1 Temporary Site Compound	A smaller compound which contains temporary site accommodation, welfare facilities, parking and a bunded storage area for use during access road construction
6 Potential Borrow Pits	On-site sources of stone for the construction of roads and wind turbine foundations

## **Operation of the Wind Farm**

The electricity produced by each wind turbine would feed through an underground cable and into a switchroom on site. The connection to the local electricity network would extend from the switchroom in a north-easterly direction.

## **Construction Activities**

Construction of the wind farm would take approximately 14 months.

Stone would be required for the construction of roads, hardstandings and foundations. Using stone from within the site would reduce the construction traffic on public roads. Similarly, concrete for construction would be mixed on site in a temporary batching plant to reduce traffic.

The proposal is based on a 20 year operational lifetime for the wind farm, followed by decommissioning. Any further use of the site for wind energy generation would be the subject of a further planning application.

## **Development Context**

There is growing concern about the rise in levels of greenhouse gases and the changes they cause to the global climate. Burning fossil fuels is a major contributor to global greenhouse gas emissions, and reducing their use and increasing the amount of electricity generated from renewable energy sources is seen as a vital part of reducing these emissions.

The Scottish Government is committed to increasing the amount of electricity generated from renewable energy sources. In June 2008, they published a consultation paper entitled 'Adapting our Ways: Managing Scotland's Climate Risk'. The paper acknowledges that 'climate change is one of the most serious threats facing Scotland and the world today' and that 'It has the potential to impact significantly upon everyone living and working in Scotland'.

## **SECTION 2 – SUMMARIES OF ENVIRONMENTAL IMPACT ASSESSMENTS**

### **Landscape and Visual Amenity**

The design process that has been followed aims to reduce the overall potential landscape and visual effects associated with the wind farm. The new wind farm is made up of 18 wind turbines and when compared to the 37 wind turbine proposal has decreased visual effects. The views from Tillathrowie, Backside and Clashmach Hill are reduced to non significant.

There would be no significant cumulative landscape effects. There would be no significant landscape effects on designated landscapes, although significant visual effects (experienced by people) would be limited to Areas of Landscape Significance to the north and west and a limited part of an Areas of Great Landscape Value to the south and west. The Cairngorms National Park, Gardens and Designed Landscapes and Conservation Areas within the study area, would not be significantly affected.

Overall, the effects on landscape character are considered to be neutral as the wind farm would not lead to the loss of landscape character.

The sixteen properties within three kilometres would not be significantly affected by the proposal. There are a number of residential properties within three to five kilometres of the proposal and the Clashindarroch Wind Farm would have a significant effect on the views of approximately three of those properties. However, it is unlikely that there would be a significant effect on the overall visual amenity of these properties. The properties are located in an open landscape of Open Uplands and their overall character and amenity would not be altered due to the distance between the wind turbines and the properties.

Those undertaking recreational activities such as tourists and horse riders, would not be subject to significant visual effects and there would be no significant visual effects on most of the 'A' and 'B' class roads. Visual effects would not adversely affect or harm the sites and setting of features of cultural heritage including Wormy Hillock, the Tap o' Noth and Beldorney Castle.

However, road users on the B9002 and hill walkers on the summits of the Tap o' Noth, The Buck, and Clashmach Hill would experience significant visual effects, and they would also be cumulative.

The visual effects of the wind farm are considered to be neutral as it would not change the overall rural character of the views and would be located within the Clashindarroch Forest.

The conclusion of the landscape and visual impact assessment is that the proposal would give rise to a small number of significant, but not unacceptable, landscape and visual effects.

### **Ornithology**

An assessment has been made of the likely effects of the wind farm during the construction, operation and decommissioning stages. It is concluded that, provided best practice is followed to avoid disturbance to breeding birds, including exclusion zones, avoiding damage or destruction to their occupied nests, there will be no major

or moderate impacts on any valued ornithological receptor. The possible loss of foraging habitat and displacement of breeding goshawk are considered to represent no more than minor impacts on the regional population when mitigation measures are considered.

Common gulls from the Tipes of Corsemaul and Tom Mor Special Protection Area (SPA) pass through the wind farm area on a very infrequent basis and collision risk (estimated as one bird every 9 months at 95 % avoidance rate) is considered to be negligible compared to the population of the SPA. It is considered that the collision risk to greylag goose (estimated as one bird every 57 weeks at a 99 % avoidance rate) and goshawk (estimated as one bird every 6 years at 95 % avoidance) represents no more than a minor impact on the conservation status of each species when mitigation measures are accounted for.

For a number of raptor and wader species, such as hen harrier, merlin, short-eared owl and curlew, there will be gains in the creation of new open ground habitats. These must be weighed against an element of collision risk associated with exploitation of these new habitats. Taking into account the behavioural ecology of the species concerned, all of these positive impacts have been assessed as being of minor significance at most.

## **Ecology and Fauna**

The scope of the ecological assessment was determined through a combination of consultation and desk study to identify existing data relating to the site and surrounding area. Field surveys were undertaken across the site, in accordance with Scottish Natural Heritage guidelines.

The dominant habitat type within the main part of the survey area is coniferous plantation, although small areas of modified bog and dry shrub heath are present.

The semi-natural habitats present are locally common in northern Scotland and the proposal area does not fall within any statutory nature conservation designations.

The development of the proposal is not expected to give rise to any significant adverse effects on habitats. The felling required for the development would create an open area which could be positively managed with a Habitat Management Plan.

There would be no significant impacts on any protected species that are potentially present on the site, but it would be necessary to carry out pre-construction surveys if the proposal is consented.

## **Forestry**

The wind farm proposal lies entirely within the Clashindarroch Forest which is managed by FCS. Clashindarroch is one of Forestry Commission Scotland's largest and most commercially productive forests in the North of Scotland.

The wind turbines would be accommodated within an area totalling 511 hectares (8.6 %) of the total forest area. The amount of felling would be equal to that which would take place under normal forestry operations, therefore there will be no increase in felling because of the wind farm.

## **Fisheries**

The proposed development site in the Clashindarroch Forest is bordered by two main river systems. These are the River Bogie and the River Deveron.

The fishery management of both river catchments is under the control of the River Deveron District Salmon Fisheries Board and the Deveron, Bogie and Isla Rivers Charitable Trust. These organisations were used as the main source of data for establishing the current status of the fish populations, fish habitat and fishery.

The River Bogie and Deveron catchment support good populations of salmon and other fish species of conservation value. For the purpose of this application, all watercourses within the proposed development area have been considered as sensitive to potential impacts.

The potential impacts during wind farm construction, operation and decommissioning phases of the wind farm, mainly relate to drainage management and potential chemical and materials spillages. Many of these potential impacts have been addressed through the design of the wind farm. Any effects on fish populations and quality of their habitat would be protected from potential impacts by the protection of watercourses.

## **Hydrology**

The surface and groundwater environments of the proposed development site have been surveyed.

The two main areas that have been assessed are:

- the potential impacts upon any surface watercourses that could be affected by clear fell and the construction and operation of the wind farm
- the potential impacts of the development upon groundwater, and local water supplies

Any effects that have been identified would be mitigated by the design and construction proposals and therefore not significant.

## **Peat Stability**

The peat stability assessment has concluded the following:

- the proposed wind farm layout is generally located in an area of Low to Very Low risk of peat instability
- stability analysis has established that factors of safety against peat failure are generally above normally accepted values
- the combination of conditions leading to peat instability is extremely unlikely

A written programme of ongoing monitoring would be set out prior to the construction of the wind farm.

## **Cultural Heritage**

The Cultural Heritage assessment was made up of a baseline survey, documentary research and field survey.

The only Listed Buildings whose setting would be impacted upon by the proposed wind farm are those in Cabrach Parish. Previous concerns regarding Beldorney Castle have been addressed by removing or relocating all of the wind turbines that were in direct line of sight of the castle.

It is considered that there will be only a slight or negligible impact on the setting of the majority of the archaeological receptors.

## **Archaeology**

A desk-based archaeological assessment was undertaken on the area of the proposed wind farm site, and demonstrated that there are archaeological sites, including post-Medieval sites, within 1 kilometre of the proposed development area. The majority of these are more than 30 metres away from any proposed construction activities.

The impact of the proposed development upon unrecorded, buried cultural resource is unknown and can not be quantified. However, the archaeological potential of the proposed development area is judged to be low to negligible, especially in relation to pre-medieval period sites. Appropriate mitigation measures would be sufficient to identify and record any new discoveries that may come to light.

## **Socioeconomics, Tourism and Recreation**

An assessment has been carried out of the potential economic benefits from the proposed development to the local and regional economy, in terms of construction and operational employment. An overview is also provided of a Community Benefit Package linked to the development.

The assessment has concluded that the proposed Clashindarroch Wind Farm would have little or no impact on tourists and visitors to the area.

Accommodation providers, though concerned about the impact this, and other wind farm developments in the area, would have on the character of the area; appear unlikely to be affected by Clashindarroch development.

## **Transport & Traffic**

The transport and traffic assessment was carried out in line with relevant planning policy and guidance and looked at access routes to and from the site, existing traffic flows on local roads and the volume of traffic that would be generated by the proposal.

The main impacts of traffic associated with the wind farm construction would be experienced on the A96 and the A920.

At its peak, wind farm construction traffic is predicted to be 26 Heavy Goods Vehicles per day with 19 additional movements of cars and light vans in each direction. The

amount of increased traffic would be classified as 'low', and the associated effects from an increase in traffic (such as driver delay, noise, vibration etc) are taken to be 'low'.

The operation phase is considered to have no significant effect on traffic and the decommissioning phase would have similar impacts to the construction phase at worst, and is therefore considered to have no significant effect.

### **Carbon Savings**

The carbon emissions savings created by the wind farm are significantly larger than the potential emissions caused by its construction. Carbon emission savings would compensate for the development within around two to three years of wind farm operation assuming the energy produced displaces fossil fuel generated energy.

### **Aviation, Ministry of Defence and Electromagnetic Interference**

The proposal lies approximately 46 kilometres east of Aberdeen Airport. The airport is an International airport which also has a helicopter base for flights to and from North Sea oil rigs.

The proposal is not visible to the radar at Perwinnes Hill, which serves air traffic controllers at Aberdeen Airport.

The MOD responded to the Scoping document with no objection (this was based on the 22 wind turbine layout). This has recently been re-assessed based on the 18 wind turbine scheme but no response has been received. They request that if planning permission is granted that they must be informed of the following:

- the date construction starts and ends
- the maximum height of construction equipment
- the latitude and longitude of every wind turbine

Therefore, there are not likely to be any harmful effects on aviation, communications links or infrastructure services as a result of the Clashindarroch Wind Farm proposal. If any problems are identified during construction, operation or decommissioning, it is likely that these could be resolved quickly and satisfactorily.

### **Noise**

Predicted noise levels are within acceptable limits and there should be no loss of amenity as a result of the wind farm.

### **Shadow Flicker**

There would be no dwellings at which shadow flicker caused by the wind farm would be a problem.



## **Safety, Health and Environment**

Vattenfall Wind Power Ltd is committed to effective Quality, Health, Safety, and Environmental (QHSE) management as a core business principle. This commitment includes all work done in support of the Clashindarroch Wind Farm proposal.

Vattenfall screens all contractors and sub-contractors on their attitude to, and performance in QHSE management and carries out audits to ensure that those companies which pass this vetting process, deliver to the required standard.

The wind turbine industry has a good safety record. The industry has prepared health and safety guidelines in conjunction with the Health and Safety Executive (HSE).

At no time during the construction or operation of the wind turbines would public safety be compromised. Public access to potentially hazardous areas would be restricted. However once the wind farm was operational, normal access rights would be restored.

## **SECTION 3 – CONCLUSIONS**

The predicted environmental impacts of the Clashindarroch Wind Farm proposal are outlined above and presented in greater detail in the Environmental Statement. Where appropriate, mitigation measures have been proposed which would ensure these predicted impacts are minimised.

There are a small number of significant predicted impacts remaining, relating to landscape and visual effects, which it has not been possible to mitigate. The acceptability of change within the landscape is, however, affected by a number of wider issues which include public attitudes to wind farm developments, renewable energy and sustainable development.

Clashindarroch Forest currently supports only very limited ecological interests, and any negative impacts that could arise if the scheme proceeds would be insignificant. The proposals for a Habitat Management Plan would lead to a beneficial contribution to local biodiversity.

## **SECTION 4 – HOW TO REGISTER YOUR VIEW**

Written comments should be sent to:

Aberdeenshire Council  
Planning Department  
Viewmount  
Stonehaven  
AB39 2DQ