Alveston

Wind Park

The site is located on agricultural land off Old Gloucester Road, Earthcott Green, Alveston, South Gloucestershire. The Alveston Wind Park would be a 3 turbine project that would generate approximately 16.75 million units of electricity annually[1].

The Alveston Wind Park would offset thousands of tonnes of carbon dioxide per year[3]. The Alveston Wind Park would repay the 'carbon debt' (i.e. the energy used in manufacturing and installation) in approximately 3-12 months (compared to its expected lifetime of up to 30 years).

The Alveston Wind Park would provide enough energy for approximately 5,077 average UK homes[2].

Project Details
Site address: Agricultural Land off Old Gloucester Road, Earthcott Green, Alveston, Bristol.
Status: Currently at public consultation
Turbines: 3
Capacity: 6.9 MW

Estimated electricity output
Generation: Typically generate 16.75 million kWh per year[1].
Equivalent homes: 5,077[2]

Turbine Dimensions
Hub height: 64m
Rotor diameter: 70m
Blade length: 35m

Annual emissions savings
Carbon dioxide (CO2): over 6,100 tonnes[3]

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What size would the turbines be?
▪ The Alveston Wind Park turbines would be 64m to the hub and 99m in height to the blade tip.

Does the electricity generated come directly to my home?
▪ No, the turbines would be connected to the existing National Grid system.

What wind speeds are needed to produce power?
▪ The proposed Alveston Wind Park turbines are designed to generate electricity in wind speeds of between of 2.5 m/s (5.6 mph) up to 28-34 m/s (62-76 mph).

If the turbines are not moving would the supply of electricity be affected?
▪ No. The turbines feed directly onto the National Grid. There will be no disruption to your service as the Grid is designed to deal with fluctuations in demand.

Would there be any danger if there were strong winds?
▪ The Alveston Wind Park turbines are designed to shut down in the event of mean wind speeds of up to 28-34 m/s (62-76 mph) in order to protect the internal and external structure of the turbine.

What would happen if the turbines broke down?
▪ The Alveston Wind Park turbines would be remotely controlled. In the event of any technical problems software inside the turbine would notify Ecotricity immediately via email.

How long would the turbines last?
▪ Turbines are designed to be operational for up to 30 years. They can be decommissioned quickly and easily at the end of their operational life span and the land can be returned to its original use.

Who has been consulted?
▪ To date, Ecotricity has consulted many bodies about the proposed development, some of which are listed below. Consultations are ongoing and anybody can comment on the planning application by writing to South Gloucestershire Council.

The Environment Agency – South Gloucestershire Council - RSPB - Natural England – Ofcom - Crown Castle - CSS - Orange - T-Mobile - BT - BBC – Avon Wildlife Trust

How noisy would the wind turbines be?
▪ Using background noise surveys and computer modelling we are able to accurately calculate noise levels in order to ensure that the project will comply with standards set out and enforced by the Council. Potential noise problems are minimised through careful site selection. We ensure that our sites are located at a distance from properties where any noise does not exceed recommended noise limits. Typically this means that turbines are not placed closer than 400m to residential properties, but this depends on background levels and may be sited closer. The best measure of the noise produced is to go and actually listen to one of our turbines.

Would the construction of three new turbines spoil the landscape?
▪ The study area is located outside any nationally or internationally designated landscape, although it is located within the Bristol/Bath Green Belt. It is not predicted however, that the development will significantly impact this designation. The proposed development is also not expected to have significant impacts on any of the nearby Conservation Areas, Scheduled Ancient Monuments or on nearby Listed Buildings or their settings.

I have heard about 'shadow flicker', would this affect me?
▪ Shadow flicker occurs under a special set of conditions when the sun passes behind the hub of a wind turbine and casts a shadow. When the blades rotate, shadows pass over the same point causing an effect called 'shadow flicker'. The seasonal timing and duration of this effect can be accurately calculated using computer software. By using this software Ecotricity chooses the sites and layouts for wind parks which minimise the risk of shadow flicker occurring at residential properties. In the unlikely event that shadow flicker does affect properties, we will undertake measures to rectify the problem.
Ecotricity would monitor the situation carefully and if local residents' homes are affected, an independent technical expert would be brought in to assess the impact and determine what mitigation strategy would be best to rectify the issue.

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How would the lorries gain access to the site during the construction phase?

▪ Access on to the proposed site at Alveston is through the existing farmer's access off Old Gloucester Road and then on newly constructed internal access tracks to the proposed location. A survey undertaken by Ecotricity and Enercon has confirmed that all the roads along the proposed route are wide enough (wider than 4m) to deliver the turbine components without any permanent improvements being made. The transportation would be timed to avoid rush hour traffic within the area.

Why not build offshore?

▪ The main problem is that it costs more money. So that we can continue supplying our customers with energy at the same cost as their regional supplier we need to keep our installation costs to a minimum. However, in order to meet our energy needs (and targets) in a way that minimises the chances of dangerous climate change, all forms of renewable energy will be required including solar, hydro and onshore and offshore wind.

Where can I view copies of the planning application?

▪ Copies of the application will be on display at South Gloucestershire Council, Civic Centre, High Street, Kingswood, Bristol for a 16 week period after submission.

Details will be available on the Ecotricity website (www.ecotricity.co.uk/projects/alveston). You can send any questions via email to Alveston@ecotricity.co.uk. Or by post to:

The Alveston Development Team,
The Planning Department,
Ecotricity,
Axiom House, Station Road,
Stroud, Gloucestershire.
GL5 3AP

Please contact Ecotricity if you wish to buy a copy of the main application documents. Charges will be as follows:

▪ Paper copy £150
▪ CD copy £25

Notes:

1 - This figure is based on the average performance (capacity factor) between 2002 and 2006 of UK onshore wind energy projects deduced from the "onshore wind" "load factors on an unchanged configuration basis" in table 7.4 of the Digest of UK Energy Statistics 2007, from the Department of Business, Enterprise and Regulatory Reform (BERR, formerly DTI). Please note that the actual performance of the Alveston Wind Park may vary.

2 - This figure is based on a "medium" UK domestic electricity consumption of 3,300kWh/pa used by OFGEM and Energywatch. Future changes in average domestic electricity consumption means this figure may change over time.

3 - This figure is based on an assumption that the proposal would offset only gas-fired electricity generation and is therefore likely to be conservative; the offset figure is derived from the BERR document Digest of UK Energy Statistics 2007, table 5C at 101 tonnes of carbon per GWh electricity supplied (equivalent to about 370gCO2/kWh) for gas-fired generation. However, it should be noted that future changes in the power generating mix and fuel costs in the UK over the life of the wind farm means this figure may change over time.

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