

Design and Access Statement

Wind Turbine Power Generation Scheme

Weston Park Farms Limited

December 2007

This document forms part of the information submitted to North Hertfordshire District Council in support of a planning application for the construction of three wind turbines. Substantial additional material is included in the Environmental Information submitted in support of the application.

The application is made by Mr John Cherry and Mr Paul Cherry of Weston Park Farms Limited, farmers at Darnalls Hall Farm, Weston. The scheme proposed uses three wind turbines to generate electricity for use on the National Grid system. The electricity is therefore generated by renewable means.

This document is structured to present relevant information in a format consistent with that suggested by Commission for Architecture and the Built Environment for Design and Access Statements.

1. Assessment

1.1. Site Appraisal

The site selected for this development interfaces at many levels with local people.

Physically, the wind turbines are large, and they are placed on a hill. In practical terms, the major local community of Baldock is shielded from views by the escarpment in between, and the positioning of the turbines away from the escarpment edge.

However, the hill is subject to a Green Belt designation which would normally preclude many types of development. The turbines occupy a small physical area, some 30 sq m each with a track for access. They do not interfere in any way with the practical contribution of a green belt designation to the adjacent urban environment. The land will continue to be used for farming and continue to be a barrier to intensive development.

The use of the wind turbines - to provide renewable-sourced electricity - may be considered a special circumstance because the position on open hills is highly suitable for such a scheme. This area has also been identified by the Hertfordshire County Council Entec Study as one of the few areas in the whole of Hertfordshire that is suitable for wind power generation.

Wind turbines also interact with the visual amenity of the area. There is always an element of subjectiveness about visual impacts, however, these turbines are grouped to minimise their horizon take-up and many people are comfortable with their presence. It is also relevant that the turbines can be

removed after 25 years and their impacts are temporary, in contrast perhaps to a road which will be considered a permanent feature.

The visual impact of a wind turbine diminishes rapidly with distance as perspective and other obstructions compete with the impact. From many directions the turbines cannot be seen beyond 4 km. Many views are obstructed by vegetation, buildings and from the West and North by high voltage overhead pylons.

The site itself is currently farmland set in open countryside. The number of people who might expect to be affected in terms of visual or noise impact is low. Those in close proximity to the turbines are unlikely to be disturbed, and anecdotal evidence from other installations is that the permanent view is not distressing. The public meeting referred to above gave no indication that alternative uses for the land would be preferred.

There are two levels of economic contribution to the local economy. The current activity of farming is under great financial stress and farmers are urged by government to seek out diversification opportunities. Such opportunities should bring a regular long-term income that can be used to secure the farming activity. This motivation is strong in the farmers making this proposal. Their security brings local security.

Further, it is proposed that a fund be set up within the village of Weston, funded by income from the wind turbine scheme. Over time this is bound to have a positive effect on Weston community resources and facilities.

There are many planning policies at all levels which support farm diversification and renewable energy developments.

1.2. Involvement

North Hertfordshire District Council Planning Department have been approached for advice on the planning policy context of the proposal and the information that is required to validate the application.

In order to develop a comprehensive planning application a significant environmental information package has been submitted with the planning application. There are no elements of the consultations that have been carried out that indicate a concern, or negative conclusion.

These include:

Environmental specialist consultancy

Noise professionals

Visual impact photograph specialists

Ministry of Defence

Civil Aviation Authority

OFFCOM

Hertfordshire County Council Archaeology Department

Natural England

In 2006 at a public and local level, the scheme was described in the Weston Parish Magazine. A public meeting was held and attended by 120 people. The meeting found the people who attended to be supportive. Extensive media interest and many interviews by journalists have not identified any local negativity towards the project.

A further informal meeting was held in November 2007 which provided an opportunity for the public to discuss the project. The meeting was attended by 30 people who had mixed reaction to the project.

There are two families who live on the edge of Weston in Hatch Lane, at the closest residences. They have both been approached and their comments requested. In both cases there was concern about noise levels and the location.

1.3. Evaluation

In collating the material for the project, the positive public attitude may have led to the thought that a larger project would be preferred. But there are many constraining factors that limit what can be done on the land available.

The basis of sizing the project is sound and there are no conflicts that would lead to a change in scale.

The opportunity is therefore the farmers to diversify whilst making a serious contribution to the fight against global warming and allowing the local community to feel that they can make a difference.

1.4. Design

The design concepts have been shown through this process to be in tune with local wishes. The objective of reducing greenhouse gas emissions is achievable. The site selected is capable of hosting the wind turbines and the green belt status is not compromised.

2. The Design Component

2.1. Use

The wind turbines are intended to operate generating electricity for use on the National Grid electricity distribution system. The development of renewable energy systems supports government, regional and local policies. The applicants had received a proposal from a wind turbine developer to install 13 such turbines, but considered that a smaller scheme of three turbines would be more appropriate.

The production of electricity from wind is an objective that is actively propagated at all levels of government - national, regional and local. The electricity from the turbines displaces electricity generated from centralised gas and coal fired power stations and prevents emissions of greenhouse gases from those plants.

Some 15,300 tonnes of Carbon Dioxide greenhouse gas emissions per year will be avoided by this scheme. That is 375,000 tonnes over the 25-year life of the plant.

The public also supports the sourcing of electricity generation from renewable sources including wind power generation. This scheme has received extensive coverage on radio, television and in the press and this has identified a strong local support for the scheme amongst members of the public.

The scheme therefore meets a tangible local desire for renewable-sourced electricity and reduces carbon emissions.

2.2. Amount

Three 2 MW capacity wind turbines are proposed. The available land only has space for three turbines because they require 450m separation. The turbines will generate sufficient electricity to supply 3,300 homes, a significant amount in comparison to the size of Baldock which has some 4,500 homes. Larger turbines require greater separation distances and smaller ones would produce more visual clutter and create greater visual impact.

2.3. Layout

The options for the wind turbines proposed are limited. The site is constrained by microwave links, an overhead power cable existing hedgerows and existing trees. The turbines themselves need to have a separation distance to avoid turbulence damage. The three locations selected have little scope for rearrangement.

The turbines have been located as close together as possible in order to create the lowest level of visual impact.

Near the base of each turbine is a small housing for the electrical connection equipment. This will be painted to match the turbines.

Apart from a small amount of land for the base of each tower and a single track roadway to each wind turbine, the farmland will continue in agricultural operation throughout the life of the turbines. Only about 2 hectares will be removed from agriculture.

2.4. Scale

The wind turbines are mounted on towers, each of 80 m height. The blades are 40 m long giving a total height of 120 m. The reason that wind turbines are so tall is that the rotor has to be of a certain size to achieve movement and therefore generation in low winds. The rotor then needs to be positioned at a height where the wind is fairly constant across the length of the rotor to avoid excessive wear to the gearbox and other moving parts.

The size selected is a common size with many installations around the world, as well as in the UK.

The absolute scale of the wind turbines is compared with other structures nearby. There is a series of electricity pylons running near the site are 50 - 60 m high and their cables are highly visible across the landscape.

Within the built environment of Baldock, Letchworth and the villages, views are obstructed by trees and other buildings. Even a small tree in the foreground will diminish the apparent scale.

Although the structure is large, it may be considered graceful and is of a similar scale to other man-made structures.

2.5. Landscaping

The landscape character is open plateau. This is suitable for wind power generation. It is not appropriate to introduce landscaping and screening measures in many locations because the scale of the turbines means that they cannot be screened. Also, the turbines have to be exposed to the wind. Screening measures would interfere with performance. However it may be appropriate for a small number of residences close to the turbines, to have screening plants.

The roadways to the turbines will be rough local stone in order to blend into the surroundings. They have a very light traffic requirement through the life of the turbines.

2.6. Appearance

The paint finish of wind turbines is a common grey white that blends with the sky. The small electrical housings at the base of each turbine will be finished in the same colour.

It is relevant that the wind turbines visibility will be reduced during the night time and inclement weather. Their colour is designed to minimise intrusive visual effects in as many weather conditions as possible.

3. Access

The structures are not public buildings and public access will not be allowed. After construction, regular traffic will amount to less than one visit per month for maintenance purposes. There will be a hard access roadway to the base of each wind turbine. This will ensure the on-site safety of workers.

The roadway access is an existing field drive access and apart from construction, it will have light traffic with few movements per month.

There is no change to access onto existing public footpaths and highways.