

30 April 2009

Our Reference – 24421/GY/001

Eamon McDowell  
Planning Officer  
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NN11 4FP

Dear Mr McDowell

## **WINWICK WARREN WIND FARM, SCOPING REQUEST**

### **1. INTRODUCTION**

E.ON Climate and Renewables (EC&R) has identified a site adjacent to Winwick Warren Farm, located approximately 1.5km to the north east of Winwick and around 2.6km north east of West Haddon in Northamptonshire, which is considered to have the potential to support a wind farm development.

The application site predominantly comprises arable agricultural land. The field boundaries are predominantly hedges and ditches and there are small pockets of woodland comprising both well established and less established trees. The application site is situated in relative isolation in an area of low population density with the closest villages being Cold Ashby just north east of the site boundary, and Winwick approximately 1.5km to the south west. There are two residential dwellings within the application site; Winwick Warren located in the southern part of the site and Lichfield Farm found within the northern part of the site. Other surrounding dwellings tend to be interspersed farmhouses. Cold Ashby Golf Course lies adjacent to the north western boundary of the site. The site is situated within the jurisdiction of Daventry District Council. **Figure 1** shows the application site boundary and its wider context.

Feasibility and pre-scoping studies have indicated that there is potential for a scheme comprising up to eight turbines to be accommodated within the site adjacent to Winwick Warren Farm. The exact number, location and specification of the turbines are still to be confirmed but they will be located within the application site boundary shown on Figure 1.

If following a series of ongoing technical and environmental studies and public consultation a viable scheme can be accommodated, EC&R will submit a planning application for the development to Daventry District Council. Since the proposed wind farm falls under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 consideration needs to be given to whether any planning application needs to be accompanied by an Environmental Statement.<sup>1</sup> Based on experience and at least the potential

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<sup>1</sup> Wind farms that involve the installation of more than two turbines or where the hub height of any turbine or height of any other structure exceeds 15 metres are a Schedule 2 development. For all Schedule 2 developments where it is decided that the particular development is likely to have significant effects on the environment, either positive or negative, on account of factors such as its nature, scale or location, an Environmental Impact Assessment (EIA) is required.

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for significant effects to occur, albeit that these may be entirely mitigated through the scheme design process, EC&R anticipates any application being required to be accompanied by an Environmental Statement (ES) summarising an Environmental Impact Assessment (EIA). EC&R also recognise that the EIA process can play an important role in developing the wind farm design to minimise any adverse effects and capitalise on positive effects resulting from the wind farm development.

EC&R has commissioned Entec to assist it in progressing studies to investigate the nature of the potential scheme and if the site is considered appropriate and an application required to complete an EIA for the proposed wind farm. This letter is a request for Daventry District Council to provide a formal “scoping opinion” in accordance with Part IV Section 10 of the Town and Country Planning (EIA) (England and Wales) Regulations 1999. To assist in this process Entec have provided a summary of the development and our proposed assessment scope based on some research undertaken to date.

**2. PROPOSED DEVELOPMENT****2.1.1 Development Context**

The UK Government recognises that renewable energy sources provide low-carbon energy whilst increasing the diversity of our energy mix and bringing about key business and employment opportunities. In June 2008 the Government published the UK Renewable Energy Strategy for consultation. The strategy states that achieving the UK share of the 2020 EU target of 20% of energy consumption from renewable sources could require a third or more of our electricity to be generated from renewable energy sources compared to 4.5% in 2006. It has been highlighted that the East Midlands is the region with the lowest installed capacity of renewables in 2006 equating to 2% of the region’s energy consumption. It is anticipated that the Winwick Warren Wind Farm could accommodate a scheme that enables a significant proportion of the regional and Northamptonshire renewable energy targets to be met.

**2.1.2 Turbine Number and Layout**

Initial design work indicates that the site has the potential to accommodate 8 turbines, however the number of turbines, their layout and positioning of ancillary elements will be developed through mapping of environmental and technical constraints along with aesthetic considerations to ensure an appropriate landscape and visual fit is achieved seeking to balance environmental effects with renewable energy generation.

**2.1.3 Turbine Specification**

The wind turbine parameters (height to upper blade tip) will be developed as part of an iterative design process taking account of potential environmental effects. At this stage, and to aid your consideration of the scope the wind turbines being considered will be similar to a Siemens SWT-2.3-93 (2.3MW) machine which has a hub height of 80m, a rotor diameter of 93m and a maximum height to upper blade to tip of 126.5m. This is a typical modern horizontal axis design comprising a rotor (consisting of a hub and three blades) and a nacelle (containing the generator and also often a gearbox) to which the rotor is mounted. Each wind turbine requires a

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foundation measuring about 15m x 15m square and an adjacent area of hardstanding measuring about 20m x 40m to provide a level and stable base for construction. Each wind turbine also requires its own transformer to step the voltage produced by the generators up to that required for transmission around the site. This will either be mounted internally or externally in a small kiosk located next to the tower.

#### 2.1.4 Ancillary Elements

On-site access tracks, crane pads, a control building (sub-station) and a temporary construction compound measuring approximately 50m x 50m in size would also need to be constructed. Owing to the size of some of the turbine components all on-site access tracks will have to be a minimum of 5m wide with some additional localised bend widening and temporary passing places provided to facilitate traffic movement. The control building will comprise a single storey building located within a compound, turbines will be connected to it via underground electrical cables and to minimise ground disturbance these cables will be routed along the side of the access tracks where practicable.

#### 2.1.5 Grid Connection

The proposed wind farm will need to be connected to the electricity distribution network via overhead or underground electricity transmission cables. In the case of the Winwick Warren Wind Farm the means by which the site will be connected to the distribution network is yet to be confirmed. The grid connection is subject to a separate consenting regime and will be the responsibility of the electricity grid network operator. Summary details will be provided within the EIA for the wind farm development.

#### 2.1.6 Construction Process

The construction process is likely to take between 12 and 24 months and will involve:

- Import of roadstone and construction of access tracks and remedial works to public highway to facilitate delivery of turbines;
- Formation of site compound and crane hardstanding areas to facilitate erection of turbines;
- Construction of turbine foundations;
- Construction of control building and excavation of trenches and cable laying adjacent to the access tracks;
- Connection of on-site distribution and signal cables;
- Delivery and erection of wind turbines;
- Commissioning and performance testing of site equipment; and
- Site reinstatement.

**Eamon McDowell, Daventry District Council****2.1.7 Decommissioning**

The wind farm will be designed with an operational life of 25 years and at this time it is expected that the site will be decommissioned. Decommissioning is expected to comprise the dismantling and removal of turbines and other above ground structures, though the access tracks are expected to be left in situ.

**3. ENVIRONMENTAL IMPACT ASSESSMENT**

The proposed scope of the EIA for the Winwick Warren Wind Farm is outlined in Table 1 and described in more detail in the attached document. The EIA process will identify the significant environmental effects arising from the construction, operation and decommissioning phases of the proposed wind farm unless otherwise specified in Table 1. Effects in relation to other environmental topics not specified in Table 1 are considered to be not significant and are therefore scoped out of the EIA.

Different methodologies based on recognised good practice and guidelines specific to each technical area will be used to assess the significant environmental effects relating to each of the environmental topics in Table 1.

**Table 1 – Proposed Scope of Assessment**

<b>Environmental Topic</b>	<b>Scope of Assessment</b>	<b>Elements to be “Scoped Out”</b>
Landscape character and visual amenity	<p>Landscape Assessment:</p> <ul style="list-style-type: none"> <li>▪ Direct effects upon landscape elements and landscape patterns within and immediately around the application site.</li> <li>▪ Direct and indirect effects upon landscape character as defined in extant landscape character assessments within 10 km radius of any turbine i.e. within the detailed study area.</li> <li>▪ Indirect effects upon local landscape designations within the study area (e.g. the extensive Special Landscape Area (SLA) in Daventry District within which the application site is located). There are no national landscape designations within the study area.</li> </ul> <p>Visual Assessment:</p> <ul style="list-style-type: none"> <li>▪ Visual effects to be assessed by comprehensive selection of visual receptors within the study area (30 km</li> </ul>	<p>Landscape Assessment:</p> <ul style="list-style-type: none"> <li>▪ Direct and indirect effects upon defined landscape character areas or types that are completely outside the detailed study area.</li> </ul> <p>Visual Assessment:</p> <ul style="list-style-type: none"> <li>▪ In some instances receptors will be grouped together where they are attributed the same visual sensitivity and they are in close geographical proximity to one another. This amalgamation will be applied mostly to more distant visual receptors.</li> <li>▪ It is intended to produce a maximum of 14 photomontages and 9 wireframes. The wireframes would be used for more distant visual receptor locations (e.g. those outside the detailed study area).</li> <li>▪ There may be some residential properties where the absence of public access will not allow a detailed</li> </ul>

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Environmental Topic	Scope of Assessment	Elements to be “Scoped Out”
Archaeology and cultural heritage	<p>radius from the closest turbine), concentrating in particular on those in the detailed study area. Receptors to be categorised by visual sensitivity in accordance with guidance in Guidelines on Landscape and Visual Impact Assessment. With regard to cultural heritage designations such as historic parks and gardens and listed buildings, potential effects upon their setting will be assessed within the Cultural Heritage chapter, however the visual assessment will consider the effects upon the views and visual amenity of visitors and/or residents (i.e. in listed properties).</p> <ul style="list-style-type: none"> <li>▪ The visual changes likely to be experienced by a selection of these visual receptors will be illustrated by wireframes and photomontages. An initial selection of visual receptors and brief justification for their selection is provided in the attached document.</li> <li>▪ Potential effects upon the visual amenity of nearby residents (i.e. the ability of residents to enjoy the facilities and attributes of their property) will be assessed for all residential properties within 3km of any of the turbines.</li> </ul> <p>Cumulative Assessment:</p> <ul style="list-style-type: none"> <li>▪ Assessment of potential cumulative visual effects that could be generated by the interaction of the proposed Winwick Warren Wind Farm and other existing, consented and proposed (i.e. a planning application has been submitted) wind farms within 60km of the application site. This distance is selected to be in accordance with Scottish Natural Heritage (SNH) guidance which is widely accepted as being the template applied to cumulative assessment of wind farm proposals throughout the UK.</li> </ul> <p>Direct Effects:</p> <ul style="list-style-type: none"> <li>▪ An initial appraisal has identified the remains of medieval ridge and furrow cultivation within the site. Otherwise no specific archaeological potential has been identified, although prehistoric remains are recorded to the north of the site.</li> </ul>	<p>assessment of all their relevant visual attributes.</p> <p>Cumulative Assessment:</p> <ul style="list-style-type: none"> <li>▪ Any proposals, which whilst in the public domain, have not yet formally submitted a planning application and accompanying ES, on the basis that there is insufficient certainty that such proposals will ever become operational.</li> </ul> <p>Direct Effects:</p> <ul style="list-style-type: none"> <li>▪ Aerial photography of the area appears to have been comprehensively studied as part of the National Mapping Programme and other county-based studies. It is not intended to replicate this work during the assessment and it is not expected that aerial photographs</li> </ul>

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Environmental Topic	Scope of Assessment	Elements to be “Scoped Out”
Geology, hydrology and hydrogeology	<ul style="list-style-type: none"> <li>▪ It will be important to further establish the archaeological potential of land within the site. To this end the ES will include a desk-based assessment of official registers, primary and secondary records, including those held in Northamptonshire Sites and Monuments Record (SMR) and County Record Office, and the National Monuments Record. This will inform design iteration and any evaluative work which may be needed prior to construction of the wind farm.</li> <li>▪ A site visit and walkover will also be undertaken. Mitigation is likely to include the siting of turbines in order to avoid known features and areas of potential, along with measures incorporated into the scheme to record any previously unidentified features.</li> </ul>	<p>held as part of the SMR or those at Cambridge University Library will need to be consulted. However, a check will be made for any available photographs not included in studies undertaken.</p> <p>Indirect Effects:</p> <ul style="list-style-type: none"> <li>▪ Initial appraisal of likely receptors has concluded that no cultural heritage receptors more than 5km from turbines will be significantly affected.</li> </ul>
	<p>Indirect Effects:</p> <ul style="list-style-type: none"> <li>▪ A number of designated cultural heritage features, including a scheduled monument and numerous listed buildings, lie in the vicinity of the site. Naseby Battlefield lies some 3.2km to the north east of the site and the registered park and garden of Cottesbrooke Hall lies some 4.5km to the east of the site. An assessment will be made of the potential for the scheme to affect the settings of these cultural heritage features. A brief account of the assessment of effects on designated cultural heritage features within a 5km radius of turbines will be presented in the ES.</li> <li>▪ This assessment will be made in close cooperation with the landscape character and visual amenity assessment and will include wireframe and photomontage viewpoints from key cultural heritage receptors as required. Key cultural heritage receptors identified for further detailed assessment during the EIA are given in the attached document.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Impacts on geology and land contamination are scoped out. Geological information will be used to put into context the hydrological environment.</li> </ul>

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Environmental Topic	Scope of Assessment	Elements to be “Scoped Out”
Terrestrial and aquatic ecology	<p>District Council.</p> <ul style="list-style-type: none"> <li>▪ The desk based assessment will be supplemented by a site visit to develop a conceptual understanding of river flow, drainage connectivity and water quality.</li> <li>▪ The desk based assessment will enable the importance of hydrological receptors to be identified and this will be taken into account in determining the impacts on water quality and quantity.</li> <li>▪ A separate Private Water Supply Risk Assessment may be required if small local supplies are identified close to the site.</li> </ul> <p>Impact on habitats and protected species present within the application site boundary. This will be supported by:</p> <ul style="list-style-type: none"> <li>▪ Extended Phase 1 habitat survey (already completed).</li> <li>▪ Great crested newt surveys of ponds within the application site boundary and, where access is possible, within 500m of the site boundary.</li> <li>▪ Badger survey of suitable habitat on site as identified during the Phase 1 survey.</li> <li>▪ Water vole surveys along the wet ditches and small stream on site within 50m of working areas.</li> <li>▪ Bat activity surveys along pre-determined transects across the site taking in key features of potential value to bats. Survey effort to follow Natural England guidelines.</li> <li>▪ Assessment of trees (not buildings) on site for bat roost potential followed, if appropriate, by bat emergence surveys.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flood Risk Assessment is scoped out as the site lies within the lowest flood risk zone, Flood Zone 1. However, consideration will be given to surface water drainage to prevent flood risk increasing downstream of the development.</li> <li>▪ No additional surveys for other protected species are considered necessary (e.g. otter, reptiles) given the habitats on site and the nature of the works.</li> <li>▪ No additional vegetation surveys are considered necessary.</li> </ul>
Ornithology	<ul style="list-style-type: none"> <li>▪ Vantage Point Surveys covering a full 12 months to identify use of the air space by target bird species.</li> <li>▪ Winter field counts to establish the numbers of waders and other species using the arable and pasture land for foraging etc (already undertaken).</li> <li>▪ Common bird census (using a three</li> </ul>	<ul style="list-style-type: none"> <li>▪ None.</li> </ul>

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<b>Environmental Topic</b>	<b>Scope of Assessment</b>	<b>Elements to be “Scoped Out”</b>
	visit strategy) to determine the make-up of the breeding bird community.	
Socio-economics and public attitudes	<p>Desk based assessment to determine:-</p> <ul style="list-style-type: none"> <li>▪ Benefits in relation to the alleviation of climate change.</li> <li>▪ Generation of employment opportunities.</li> <li>▪ Direct/indirect effects on economic activity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Effects on local residents and the local community due to visual impact, shadow flicker and noise will be dealt with in detail within other technical assessments.</li> </ul>
Public access, safety and shadow flicker	<p>Desk based assessment to include:-</p> <ul style="list-style-type: none"> <li>▪ Effects on recreational access with particular reference to Public Rights of Way and their use by walkers and horse riders in accordance with Planning Policy Statement 22: Renewable Energy (PPS22).</li> <li>▪ Shadow flicker assessment for properties situated within ten times turbine rotor diameter.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In accordance with the Companion Guide to PPS22, properties greater than ten rotor diameters from a turbine will not require a shadow flicker assessment.</li> </ul>
Transport	<p>Desk based assessment to determine:-</p> <ul style="list-style-type: none"> <li>▪ Transportation impacts associated with the movements of Heavy Goods Vehicles travelling to and from the site during construction.</li> <li>▪ Consideration will be given to the following potential effects on the identified receptors (access route): <ul style="list-style-type: none"> <li>- Severance;</li> <li>- Driver delay;</li> <li>- Pedestrian delay;</li> <li>- Pedestrian amenity;</li> <li>- Fear and intimidation; and</li> <li>- Accidents and safety.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Once the wind farm is operational, it is envisaged that the amount of traffic associated with the scheme would be minimal. It is considered that the effects of operational traffic would be negligible and therefore further consideration does not need to be given to operational traffic.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>▪ Construction noise.</li> <li>▪ Noise from construction traffic.</li> <li>▪ Operational noise.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Noise from operational traffic.</li> </ul>
Infrastructure, telecommunications, utilities, and air safeguarding issues	<p>Desk based assessment to include:-</p> <ul style="list-style-type: none"> <li>▪ Potential for interference with radar and electromagnetic signals determined in</li> </ul>	<ul style="list-style-type: none"> <li>▪ None</li> </ul>

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Environmental Topic	Scope of Assessment	Elements to be “Scoped Out”
Dust and Air Quality	<ul style="list-style-type: none"> <li>▪ N/A.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dust can be controlled through the adoption of environmental best practice during construction and has therefore been scoped out of the assessment.</li> <li>▪ Emissions from construction and operation traffic are considered to be negligible.</li> </ul>

**4. CONCLUSION**

Entec believe that the above represents a comprehensive scope for an Environmental Impact Assessment of the proposed development. We therefore request Daventry District Council to provide a formal “scoping opinion” for an Environmental Statement in accordance with Part IV Section 10 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.

We look forward to receiving your response but meanwhile if you have any queries please do not hesitate to contact me.

Yours sincerely

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