Heydon Grange Wind Farm Request for Scoping Opinion

Response by Heydon Parish Council

This document is the consultation response of Heydon Parish Council (HPC) to Volkswind's request for a scoping opinion relating to the planning application for an eleven turbine wind farm near Heydon.

Before moving onto specific issues, we would stress the fact that modern wind farms of the size proposed (126.5m high) are uniquely intrusive developments in rural areas. Not only are they, by an order of magnitude, larger than any other natural or man-made object in the landscape but, by virtue of their rotating blades which draw the eye, they are much more visually distracting than static objects. With no visual reference until they are built it is very difficult for anyone reviewing the application to truly understand the extent of their impact. There is a general tendency in EIAs to underestimate the visual impact on landscape character, cultural heritage and residential amenity. Evidence provided to Public Inquiries has shown that significant visual impact will be present up to 10km. It is thus very important that there is no attempt by the applicant to reduce the areas of study, as significant impacts may well be then missed.

As a parish council we are aware that a number of our parishioners are actively engaged in the formation of an action group to oppose any subsequent planning application submitted on the lines of this scoping request. Obviously as a parish council we will reserve any opinion until any planning application is submitted, we have studied all the arguments and voted on the proposal. However, we are aware that this action group is unlikely to be formally constituted until after the deadline for responses to the scoping request. Therefore, on their behalf, we would ask that in your scoping opinion you request that Volkswind provide to the action group a complete hard copy, as well as electronic versions, of all the EIA documents accompanying the planning application. It is a central tenet of the EIA regulations that full consultation is carried out with the local population and given that the action group will form a key consultee it is only right and proper that they should be provided with a full hard copy to work from given the scale and complexity of the proposed development.

On the specific areas we would comment as follows:

1. Site Selection and Design

It is acknowledged that the Supplement on Climate Change published in December 2007 states that "planning authorities should not require applicants for energy developments to demonstrate either the overall need for renewable energy and its distribution, nor question the energy justification for why a proposal for such a development must be sited in a particular location."

However, there is an overriding statutory requirement for alternatives to be presented as part of the ES for EIA developments under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999, No.293. Schedule 4 of the EIA Regulations requires Environmental Statements to include an outline of the main

alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects. The EIA Good Practice Guide (DCLG 2006) at Para 139 confirms this and advises that in the event that no other alternative sites are considered the ES should explain why.

In addition PPS22 in Key Principle (viii) requires developers to demonstrate how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures. The Scoping Request does make plain that the development of the design for the final scheme will be an iterative process and the ES should clearly show the different iterations and the reasons for the changes.

The ES should explain the site selection process, including the reasons for discounting any other sites that have been subject to consideration and the reason for the choice of the wind turbine numbers, size and type. It should show clearly the changes in the balance between benefits and adverse impacts arising from the use of different hub heights and blade lengths.

It should show the different iterations in the design process and the reasons for the respective changes.

It should also include an assessment of the impact of site layout (array and separation distances) on the operational efficiency of the wind farm.

2. Anemometer Mast

We note that Volkswind are only proposing to erect an anemometer mast if planning permission is granted. This is unusual as most wind farm developers will erect such a mast prior to applying for planning. By failing to erect such a mast there will be a significant reduction in the thoroughness of the resulting EIA. This will be in two main areas:

Wind Shear - wind shear has been shown to be a major potential factor in excess noise disturbance at neighbouring properties. It is also not taken into account in the ETSU-R-97 methodology. A recent report[1] in 2009, by the leading acoustic consultants who sat on the original government working group that devised the ETSU-R-97 methodology, stated clearly that reliance on 10metres measured wind speeds should be avoided where possible. It goes on to say that where background noise surveys are carried out for sites where wind speeds can only be measured at 10 metres height, then the noise assessment should take account of the wind shear variations using a method which should be clearly explained. This does not apply here as either an anemometer mast or equipment that measures wind speeds at various heights without the use of a mast (SODAR) could have been used. Volkswind should be asked to explain why no anemometer mast was used.

Benefits - the amount of electricity produced and CO_2 saved will be dependant on the specific wind profile of the site. Given that the determination of the application will be based on the balance between the benefits and adverse impacts it is vital that the

[1] Prediction and Assessment of Wind Turbine Noise - Acoustics Bulletin March/April 2009 pgs. 35-36

benefits claimed are accurate. With no anemometer mast and hence no wind data at blade height no accurate calculations can be made and any claims will merely be illustrative. Thus any determination will be based on inaccurate unverifiable assumptions. This is unacceptable.

No application should be determined until sufficient wind speed data at hub height, or close to it, has been collected.

3. Landscape Character and Visual Amenity

This will be one of the key issues in the decision whether or not to approve this application. It, therefore, requires the most thorough assessment to provide a complete picture for decision makers. We note that the LVIA will be carried out using the **Guidelines for Landscape and Visual Impact Assessment (2002) - Landscape Institute/IEAM** together with the relevant Scottish Natural Heritage (SNH) visual assessment guidelines for representation and cumulative impact. However, there is additional, more recent guidance from Highlands Council[2], shown as Appendix 1, produced this year which reflects their experience with many wind farm applications and which is being accepted as the best guidance for producing visualisations. We would ask that the photomontages and wireframes for any application are produced in accordance with this guidance.

It should be noted that the guidance stresses that access tracks, sub-station and any other substantial infra-structure, such as the anemometer mast here, should be included in photomontages. It also requires 70 or 75mm focal length images and provides detailed instructions on the size of images.

It is best practice to show for each photomontage, in addition to the normal panorama view, a single frame photomontage centred on the wind farm. This provides a better visualisation of what the eye would actually see and reduces some of the undervisualisation inherent in all photomontages. We would ask that Volkswind are required to provide this.

In the SNH guidelines a 35km study area is recommended for turbines of 101-130m height and a 60km cumulative study area. In the scoping request only 20km is used for both. This is unacceptable and against the guidance they say they are following. **A 30and 60km study areas should be used for visual and cumulative impacts respectively.**

The selection of the viewpoints is crucial in the analysis of the visual impact. They must cover residential amenity, landscape character, heritage buildings and sites, conservation areas, public rights of way and local roads. The majority should be within the area of major visual impact within 10km, with a preponderance within 5km. Photomontages should be used in preference to wireframes as they provide a better representation. The photomontages should meet the guidelines within the SNH 2006/ Highland Council guidelines particularly with regard to size (minimum A3 preferably A2) and a full set at the correct size should be provided to all consultees. **We would ask as a consultee HPC receives a hard copy set of the ES and all the**

[2] Visualisation Standards for Wind Energy Developments - Highland Council 2010

accompanying volumes so that we are in a position to respond effectively to the planning application. We have already requested the same for the nascent action group. Also the guidelines must be adhered to in terms of avoiding foreground clutter or prominent close range vertical objects.

We note that the Scoping Request does say that the applicant will agree representative viewpoints with all relevant stakeholders. **We assume that as the body representing the nearest residents HPC will be classified as one of the most important stakeholders with regard to visual impact and we will be consulted in the process of agreeing the viewpoints.** Representing many local residents, we are ideally placed to help identify how the surrounding countryside is used and valued and hence where representative viewpoints should be located. We see from the Scoping Request that apparently initial discussion regarding the selection of viewpoints has already started, but it does not say with whom, so, in the spirit of real consultation, we would expect to be consulted before the process has gone too far.

Where the visual impact is reduced by deciduous vegetation then both summer and winter photomontages should be produced to identify seasonal variations.

The methodology adopted in the assessment of the significance of visual impacts is very important. Five point scales for magnitude and sensitivity provide a much more balanced assessment of the significance of any impact. It is noted that the Scoping Request does not indicate the number of classifications to be used.

More importantly the decision only to classify substantial or substantial/moderate impacts as significant will introduce an element of underestimation into the assessment if a four by four grid or three by three grid is used. Normally a moderate impact would be classed as significant and this approach has been used by other wind farm developers. **We urge the Council to insist on a more balanced approach to avoid arguments at a later stage and also to require the applicant to explain clearly the reasoning behind his methodology and assumptions.**

In section 4.5 where the general evaluation and determination of significant effects is discussed there appears to be no account taken of any mitigation and residual effects. **This is obviously required**.

The question of cumulative assessment will be very important given the increasing number of schemes at various stages of the planning process in the surrounding area.

There is no specific English guidance on assessing the cumulative impact of wind farms. The normal guidance used is the Scottish Natural Heritage report on the Cumulative Effect of Wind Farms - Version 2 published in April 2005, which Volkswind says it is following.

The SNH guidance is very clear. In para.18 it states:

"An assessment of cumulative effects associated with a specific development proposal should be limited to the effects of the proposal in combination with:

** existing development, either built or under construction*

** approved development, awaiting implementation; and*
** proposals awaiting determination within the planning process, and thus for which design information is in the public domain. Proposals and design information may be deemed to be in the public domain once an application has been lodged, and the decision making authority has formally registered the application."*

Thus schemes for which a planning application has been submitted must be included in the cumulative assessment.

The guidance goes further in paragraph 19 where it discusses including more speculative proposals at scoping. Whilst it agrees that inclusion of such projects would render the assessment less certain it does accept that pre-application proposals could be regarded as a material consideration, especially where the proposals are already in the public domain as a result of developer publicity or a formal request for a scoping opinion, and where they are well articulated in terms of location and scale. It says the weight to be accorded to such speculative proposals is a matter for the decision making authority and where a pre-application proposal is to be regarded as an important material consideration then it is appropriate that it be included within a cumulative assessment.

Thus to summarise the guidance states categorically that schemes with valid planning applications should be included but goes further to accept that schemes at scoping can also be included in any cumulative assessment.

Whilst it is true that not all may proceed to a planning application **we would ask that those that have entered the planning process through an official scoping request are included in the cumulative assessment** alongside those that have submitted a planning application.

There is limited mention in the Scoping Request of the visual impact on users of Public Rights of Way. **It is important that a full impact assessment is made of all PROWs within 5km of the turbines and 10km for national trails.** The use of the countryside for recreational use is a key amenity for both local residents and visitors.

There is no mention of how the visual impact on residential amenity is to be carried out. **We would ask that every residential property within 3km is individually assessed for the impact on residential amenity**

It is very difficult to carry out an accurate visual assessment without a physical presence representing blade tip height. To aid in the accuracy of this piece of work we ask that **the Council requests that the applicant flies a blimp at 126.5m on a number of different occasions to enable local residents to understand what the potential level of impacts could be.**

3. **Cultural Heritage**

The presence of the Icknield Way running through the site shows that it lies on an important transport route in use for thousands of years and is likely to be rich in cultural heritage. In view of this **we would ask that trial trenching should be**

undertaken on the site of each turbine base to assess what impact may be caused. It is insufficient to rely merely on a site walkover.

The proposed wind farm development has the potential to impair the setting of historic sites and may compromise the visual amenity of the wider landscape, detracting from historic character and sense of place.

PPG 15, although now replaced by PPS5, was specific in the requirement to preserve the **setting** of a listed building, stating that *"The setting is often an essential part of the building's character",* and advising that this should not be interpreted too narrowly, *"the setting of a building may be limited to obvious ancillary land, but may often include land some distance from it.* PPG 15 continues *"A proposed high or bulky building might also affect the setting of a listed building some distance away or alter views of a historic skyline".*

English Heritage has published *Wind Energy and the Historic Environment*, guidance for developers of wind energy projects that may affect the historic environment. It lists a number of *"particular factors which should be borne in mind when assessing the acceptability of developments within the setting of historic sites",* the first of these is:

Visual dominance**:** *Wind turbines are far greater in vertical scale than most historic features. Where an historic feature (such as a hilltop monument or fortification, a church spire, or a plantation belonging to a designed landscape) is the most visually dominant feature in the surrounding landscape, adjacent construction of turbines may be inappropriate.*

The scoping request provides no information on the assessment of cultural features in terms of which will receive a full assessment or indeed anything else. For the sake of clarity:

The ES should individually assess the impact on the setting of all Grade 1 & II* listed buildings, scheduled ancient monuments, registered parks and gardens and conservation areas within a 10km radius of the wind farm site, and all Grade II listed buildings within 2.5km. Internationally important heritage sites outside this area should also be assessed. The settings of such cultural heritage sites should not be interpreted too narrowly given the planning policy advice given above.

3. Noise

Noise and the resulting health problems are one of the key issues resulting from the large modern wind farms. As turbines have got bigger and closer to houses then noise has become more of a problem. A report by Hayes McKenzie for the DTI[3] included a survey of all councils with operational wind farms and this showed that close to 20% of all wind farms had experienced noise complaints, even though the total sample would have included the original small wind farms miles away from habitation where

[3] Measurement of Low Frequency Noise at Three UK Wind Farms - Hayes McKenzie Partnership, 2006

there is no chance of noise nuisance. There is no official separation distance of houses from turbines in England but in Scotland SPP6 recommends 2km at site search and the National Academy of Medicine in France and the UK Noise Association recommend 1.5km and 1 mile respectively.

Adequate separation is the only way of ensuring the absence of noise problems. ETSU-R-97 was introduced in 1997 based on the experience of 40-60m blade tip height turbines and even then the members of the Committee recommended a review in two years. No review has ever been carried out. It cannot be relied upon to guarantee that there will be no noise issues.

We also have concerns about the specific topography of the site with the tubines at the bottom of a relatively steep slope up to the village of Heydon. The funnelling effect of this topography will not be considered under the ETSU-R-97 even though the turbines being built below Heydon will have their blades level with the village. Residents have always been able to clearly hear noise from the valley floor as can be evidenced from a piper who used to practice near the chalk pit and was clearly heard in the village.

Given the above it is obviously vital that a comprehensive noise assessment is carried out.

The background noise assessment in the ES should:

Cover the nearest properties in all directions, including the golf course, to take account of varying wind directions.

Take account of the specific effect of the local topography with regard to the relative heights of the turbines and the village of Heydon and the potential funnelling effect of noise, particularly from turbines 8 & 9.

Include measurements in both the winter and summer to take account of seasonal variations.

Be undertaken for sufficiently long a period to cover all wind directions and wind speeds up to 12m/s as required by PPS22. This should be for a minimum of six weeks for each of the two measurement periods.

The measuring locations should be agreed with the Council and photographs taken of the equipment in situ to show conformity with ETSU-R-97. HPC would ask that they are involved in the agreement of the representative measurement locations given their local knowledge.

The base noise data should be included in the ES, or made available, not merely graphs derived from the data. This data must be in accessible electronic format and must include the wind speed and direction correlated to each ten minute period.

Graphical analysis should include the time history charts, for each location, at ten minute intervals for LA_{eq} and LA_{90} with average wind speed for the period included and any noise data removed identified specifically.

Atypical noise should be excluded from the background noise data and an explanation provided as to how this was done and what data has been excluded.

The modelling of the projected noise output of the wind farm is obviously crucial. It is impossible, given the current state of knowledge, to accurately predict what the noise output from a specific wind farm will be before it is built and operational. There are a number of factors that ETSU-R-97 does not take into account and the ES needs to explain how these have been addressed within the conclusions.

The modelling of the noise output in the ES needs to consider:

Justification of choice of modelling programme (e.g. ISO 9613 Part II)
Full disclosure and justification of all assumptions
Low frequency sound
Aerodynamic modulation
Effect of turbine array
Wind shear
Tonal penalty
Climatic factors e.g. temperature/humidity
Reason for choice of turbine
Impact of any alteration of mode of operation on capacity factor

The scoping request states that (pgs36/37) that turbine noise is to be determined by a best-fit curve. This is wrong as it will be determined by a straight forward calculation.

The scoping request says a 37.5dB daytime limit will be assumed for the scheme. The detailed reasoning behind this assumption must be clearly argued given the lower limit of 35dB is available.

Given the WHO recent guidelines[4] stating that the maximum noise levels to avoid health problems at night is 40dB$L_{night,outside}$, equivalent to 38dBLA_{90} as specified by ETSU-R-97, the ES should explain how a 43dBLA_{90} night-time noise limit will protect residential health.

The proposed hours of work during the construction phase needs to be identified within the detailed assessment of construction noise impact.

Construction hours should be no more than 0700-1800 hours weekdays and 0700-1300 Saturdays. There should be no working on Sundays or Bank Holidays.

4. Ecology

There is no information about the area covered by the Phase 1 habitat survey.

The Phase 1 survey should extend at least 500m from the boundaries of the site.

[4] Night Noise Guidelines for Europe - 2009

The weakness of the scoping request can be seen in the fact that it was submitted in March 2010 and yet the Phase 1 Habitat Survey was carried out in January 2009. Thus the Scoping Request has been put in over a year after the EIA work commenced. The purpose of a scoping request is to establish what work is required for the EIA and to start the consultation process. The only conceivable reason why the scoping request was put in so late is that it was a deliberate attempt to avoid local people becoming aware of the scheme until as late as possible. This is the exact opposite of real consultation where the developer should be looking to involve stakeholders at the earliest possible stage.

One result of this lack of consultation is that the Phase I Habitat survey has been carried out at the wrong time of year without anyone being able to point this out. Given that this survey informs the rest of the ecological impact assessment then a error at this stage has knock on effects that compromise the rest of the ecological work. The guidance[5] on carrying out the Phase I survey says in section 2.6 covering survey preparation:

"*The work programme should be carefully planned at the beginning of the survey so as to cover the survey area within the field season..*

The field season should be considered as starting in late March/early April in the south and late April/early May in the north of England."

By carrying out the survey in January a large number of species would not have been evident and the findings would be flawed. **The Phase I survey must be redone within the field season and the resulting other ecological surveys also checked to ensure that they have covered all the important ecological features. In addition important sites such as the chalk pit, outside the site boundary, must be included.**

There is no mention in the Scoping Request about which guidelines have been followed in undertaking the various surveys. This is a serious omission and means no conclusions can be drawn regarding the proposed thoroughness of the surveys. No specific mention is made of any breeding bird surveys and only general comments are made of summer and winter walkover surveys and viewpoints. Greater clarity is required to understand precisely what has been or will be done.

For birds it is asked that the industry standard SNH guidelines[6] are followed.

The Scoping Request states that there was no evidence to indicate that the site was being used as a migration route. Yet there is local knowledge of the area being used as a migration stopover for Dotterels and this is recognised by one of the nearby houses being called Dotterel Hall.

Even with the limited information in the Scoping Request it is stated that eight bat species have been confirmed to be using the site. It is well known that bats travel

[5] Handbook for Phase I Habitat Survey - Nature Conservancy Council, 1990
[6] SNH Survey Methods for Use in Assessing the Impact of Onshore Windfarms on Bird Communities (2005)

several kilometres whilst foraging or travelling to and from roosts so clearly there is a potential problem with this highly protected species. With the recent research from Canada showing that bats can be killed by the pressure waves produced by wind turbines as well as direct collision with the blades it is vital that as comprehensive bat survey as possible is carried out. With the increasing size of turbines it is no longer acceptable to rely on handheld bat detectors used at ground level. It is accepted that these do not reach the heights swept out by the blades hundreds of feet above the ground and hence potentially miss the presence of bats flying within the danger area.

Bats:

The survey in the ES should be carried out in accordance with the following guidelines:

English Nature Bat Mitigation Guidelines 2004

Eurobats Wind Turbines and Bats: Guidelines for the Planning Process and Impacts Assessments 2006.

Bats and Onshore Wind Turbines - Interim Guidance, Natural England, 2009

In particular bat monitoring should be carried out at hub height to assess high flying bat species.

5. Transport, Traffic and Access

The ES needs to provide a comprehensive impact assessment of the likely traffic to flow from the scheme, including both construction and turbine delivery traffic. This should include effects on existing traffic, any alterations of the roads infrastructure to provide access, in particular the impact on hedgerows and trees, and whether any works required to the highway system will be reinstated at the end of construction. There should also be consideration of the risks of accidents caused by distraction from the turbines or blades.

If no existing traffic surveys are available for the proposed access routes then comprehensive traffic surveys must be carried out.

6. Hydrology, Hydrogeology and Geology

The ES should cover the following areas:

Effects on both groundwater and surface water quality
Changes to the natural drainage patterns
Effect on flow in surface waters
Effects on run-off rates and volumes
Effect on erosion and sedimentation
Effect on groundwater levels
Effects on public and private water resources
Effects on flooding

Pollution risk
Effects on local geology

7. Communication Systems

Analogue TV reception will be degraded by the wind farm for all properties where the turbines sit between the property and the transmitter. Even the loss of a signal for 24 hours can be a serious loss of amenity for many people, especially the elderly. A fix under a planning condition that takes weeks or even days is unacceptable, particularly as all the problems will occur at exactly the same moment when the wind farm starts operations.

A full survey of the current signal strength should be undertaken as part of the EIA so that an accurate picture can be established of the scale of the potential reception problems.

Mitigation in the ES needs to show a management plan for solving any problems caused together with firm timetables for corrective action.

8. Benefits

The determination of this application will rest on the balance between positive benefits and adverse impacts. The amount of electricity produced is a key factor in judging this balance and is totally dependant on the wind profile of the site. There is no mention in the Scoping Request of any quantification of the amount of electricity forecast to be produced or the CO_2 savings. Such quantification should be carried out together with the with background data and assumptions from which the conclusions are drawn.

Evidence must be provided to back up the claims the applicant will make for electricity produced, CO_2 saved etc. This will require publication of any wind data specific to this particular site.

9. Grid Connection

We note that the environmental effects associated with the grid connection will not be considered within the EIA. Better quality EIAs do undertake this assessment and it should be included in the Environmental Statement.

10. Aviation

PPS 22 is very clear that any aviation issues have to be satisfactorily addressed by the applicant before submitting a planning application. We understand that Duxford has significant problems with this application and as an important asset for the Region any adverse impacts on its operation, particularly on its Open Days would be unacceptable.

We ask the Council to refuse to validate any application where there are outstanding aviation issues.

11. Decommissioning

The Scoping Request does not mention decommissioning. This is a major omission and its impact must form a key part of the overall assessment. There is also no indication of the depth to which infrastructure will be removed. The principle should be to return the land to the same state as it was in prior to the construction of the wind farm.

We would ask that all infrastructure should be removed to a minimum depth of 1m and the topsoil reinstated.

12 Pipeline

There is a major pipeline crossing the site within the required separation distance of 120m from at least two turbines. **This must be assessed within the EIA.**

13 Site Plan

In a number of wind farm planning applications the site plan identifying the 'red line' area covered by the planning application is imprecise. We would ask that the site plan is sufficiently detailed to confirm that all vehicles can access all parts of the site, that any micrositing is included and that a clear explanation as to how the planning fee has been calculated.

April 2010

Appendix 1

Visualisation Standards for Wind Energy Developments - Highland Council, 2010