

Guidance Note on Planning Applications for Wind Energy Developments



Aylesbury Vale District Council

March 2013

1. Purpose and role of this guidance note

- 1.1. This note has been prepared in order to provide information and guidance in relation to proposals for wind energy developments in Aylesbury Vale District. It is aimed at members of the public, local councillors, and community groups, as well as prospective developers of wind energy.
- 1.2. This guidance note sets out the key issues that will be taken into consideration by the Council when making decisions on planning applications for wind energy developments. The purpose is to help others understand these issues and how the impacts of proposals will be assessed. The note also sets out the information that developers will be expected to submit to the Council along with a planning application for a wind energy development.
- 1.3. This document has not been subject to public consultation, and has not been adopted as part of the statutory development plan. Its status is therefore only as an advisory note that provides guidance and information.

2. Introduction

- 2.1. Developments in wind energy technology and in the electricity market over recent years now mean that wind energy developments can be viable across the UK. This means that wind energy proposals can reasonably be expected in all regions of the country, including Aylesbury Vale District. In the last few years there has been an increase in interest from both individual land owners and energy developers in the potential of Aylesbury Vale to accommodate wind energy developments. There are particular challenges with regards to this technology in terms of its impact on local environments, as indeed there are with many of the other energy generating options. It is critical that the wider renewable energy benefits of wind energy are balanced with local issues such as its effect on the landscape and the amenity of residents.
- 2.2. This guidance note is intended to apply to all types of proposals for wind energy development. For example, these may be small-scale turbines for domestic use, single turbines for a specific user such as a school or business, or large scale commercial wind farms supplying energy to the national grid. Under permitted development rights, in some cases it is possible to install domestic wind turbines without the need for an application for planning permission, so long as specified limits and conditions are met. Full details of the limits and conditions can be found on the Planning Portal website¹. In all other cases, the installation of a wind turbine and associated infrastructure requires planning permission.
- 2.3. Appendix 2 sets out information relating to the calculation of planning fees for wind turbines.
- 2.4. A scheme with a generating capacity of more than 50MW is considered to be a nationally significant infrastructure project, and an application for such a scheme would be dealt with by the National Infrastructure Directorate, which is part of the Planning Inspectorate. This would mean a scheme for around 20 or more turbines, which is unlikely in Aylesbury Vale. Consequently most wind energy applications in this District will fall to be determined by Aylesbury Vale District Council.

¹ <http://www.planningportal.gov.uk/permission/commonprojects/windturbines>

- 2.5. There is a great deal of published guidance related to wind energy developments; much of it is lengthy, detailed and technical. It is not the purpose of this note to attempt to reproduce or summarise other published guidance, but references to other documents are included where appropriate.

3. Legislative and Policy Context

National context

- 3.1. Whilst all planning applications have to be determined in accordance with the Development Plan, national legislation and guidance will be a material consideration.
- 3.2. The **Climate Change Act 2008** introduced a statutory target of reducing carbon dioxide emissions to at least 80% below 1990 levels by 2050, with an interim target of 34% by 2020. The UK is also committed to sourcing 15% of its energy from renewable sources by 2020 (this target is in response to EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources). Both these targets will require a massive but necessary shift in the country's energy mix. The Digest of UK Energy Statistics 2011 showed that only 7% of electricity generation was from renewable sources. The largest projected increase in the mix will be wind turbine power. This corresponds with the planned reduction of coal fired power. The UK Renewable Energy Roadmap² (published in July 2011) states that there was more than 4GW of onshore wind power in operation and that there is the potential for this to increase to 13GW by 2020. The corresponding figures for offshore wind are 1.3GW in operation with the potential for this to increase to 18GW by 2020. Wind turbines must be considered as a key technology in the mix required to meet both national electricity security and demand.
- 3.3. The **National Planning Policy Framework**³ (NPPF) sets out the key national planning priorities for England. The NPPF is a material consideration in plan-making and development management decisions, which means that the guidance that it contains must be taken into account in the consideration of planning applications. The NPPF makes it clear that climate change is a core planning principle. It states (paragraph 17) that planning should encourage the use of renewable resources (for example, by the development of renewable energy). The NPPF is clear in paragraphs 97 and 98 that whilst local authorities should design policies to maximise renewable and low carbon energy development, they should ensure that adverse impacts are addressed satisfactorily.
- 3.4. The NPPF supersedes the Government's previous planning policy guidance PPS22 "Renewable Energy". This was supported by a companion guide, "Planning for Renewable Energy", which contains much useful material in its technical annex on wind energy, and is likely to remain a reference point for developers and local authorities until it is replaced.
- 3.5. The **National Policy Statement for Renewable Energy** was published by the Government in July 2011, and it sets out national policy against which proposals for major renewable energy projects will be assessed by the Planning Inspectorate. It

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http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/re_roadmap/re_roadmap.aspx

³ <http://www.communities.gov.uk/publications/planningandbuilding/nppf>

covers onshore installations of wind energy of over 50MW. The NPPF states that planning authorities should follow the approach set out in the National Policy Statement when making decisions on planning applications for renewable energy (for all sizes of development).

Regional context

- 3.6. Although the Government has announced its intention to abolish regional spatial strategies, at the time of publishing this guidance note they remain part of the statutory development plan, and so the policies in them must be taken into account when determining planning applications. For Aylesbury Vale, the regional spatial strategy is the South East Plan, adopted in May 2009.
- 3.7. Policy NRM14 of the South East Plan seeks an increase in the land based renewable energy generation from 140MW in 2010 to 209 MW in 2016 for the Thames Valley and Surrey sub region which Buckinghamshire falls into. Policies NRM15 and NRM16 of the plan basically require planning authorities to encourage and support renewable energy developments.

Local context

- 3.8. The Aylesbury Vale District Local Plan (adopted in January 2004) does not contain any policies specifically related to renewable energy. It does however contain a number of general policies which are pertinent to the consideration of proposals for wind energy development. These are referenced under the individual topic sections later in this note.
- 3.9. The Aylesbury Vale District Local Plan will eventually be replaced by the Vale of Aylesbury Plan. The first part of this new planning policy document for the District is currently scheduled to be adopted in 2013 and will contain the broad strategy for development in the District up to 2031. Development management policies (including more detailed policies about renewable energy) will be included in a later document currently scheduled to be adopted in 2014. In the meantime, applications for planning permission will be assessed against the policies in the National Planning Policy Framework, the general policies in the Aylesbury Vale District Local Plan, and the policies in the South East Plan (until its abolition).
- 3.10. The Council's Environment Scrutiny committee reviewed the subject of renewable energy, and wind energy in particular, at its meetings between 14th September 2011 and 27th March 2012⁴. This culminated in the drafting of a proposed policy on wind energy to be included in the forthcoming Vale of Aylesbury Plan. It must be stressed that until the Vale of Aylesbury Plan is adopted, this draft policy can only carry very limited weight in the determination of planning applications. The currently anticipated policy wording is included in Appendix 1
- 3.11. Aylesbury Vale District Council has demonstrated its support for action against climate change by signing the "Nottingham Declaration" in March 2009. This declaration recognizes the central role of local authorities in leading society's response to the challenge of climate change. By signing the declaration the Council has pledged through its Climate Change Action Plan, agreed in December 2010, to actively tackle climate change in the District and help the UK deliver its national climate change targets.

⁴ <http://committees.aylesburyvaledc.gov.uk/committees/committees.aspx?commid=80>

4. Key issues

- 4.1. The following sections set out information related to each of the key issues pertinent to the consideration of applications for wind energy developments in Aylesbury Vale.

5. Contribution to renewable energy objectives

- 5.1. As set out in the previous section, the Government has set a target to significantly increase the amount of energy generated from renewable sources. All wind energy developments, once operational, will contribute towards meeting this target. The National Planning Policy Framework (paragraph 98) takes the need for renewable energy as a given, and states that: *“When determining planning applications, local planning authorities should not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions”*.
- 5.2. The contribution that a proposed wind energy scheme will make to renewable energy targets is a factor that weighs in its favour. Unless the adverse impacts of the scheme (from the types of issues covered in the following sections) outweigh the benefits, then the planning application will be looked upon favourably. The balance between the benefits and the adverse impacts is ultimately a matter of judgement by the local planning authority, or the Inspector for those applications that reach the appeal stage (which is generally when the applicant appeals against a refusal of permission by the local authority). There have been a number of appeal decisions where the appeal Inspector has allowed the appeal, judging that the benefit of the contribution to renewable energy outweighs the adverse impacts of the scheme. In other appeals however, the Inspector has concluded that the harm from the proposal outweighs the benefits.
- 5.3. Whether or not there is sufficient wind speed to produce adequate amounts of energy from wind turbines to make them an economic proposition is not a material consideration that can be taken into account in the assessment of a planning application. The decision to apply for planning permission for wind turbines is a commercial decision to be taken by the operator, and the economic viability of a scheme is not considered a sound ground for refusing planning permission by local planning authorities. Similarly, Government subsidies in the form of the feed-in tariff or other similar measures are not material considerations. It is also not possible to look upon a proposal less favourably simply because there may be other forms of renewable energy that are more efficient or less controversial, or because there may be locations (such as offshore) that are considered to be better suited to particular types of renewable energy.

6. Landscape and visual impact

- 6.1. Wind turbines are large structures and are likely to have an effect on the landscape in which they are situated, as well as having an effect on views both near and far. Of all renewable technologies, wind turbines are likely to have the greatest landscape and visual impacts. However, the impact of the



turbines on the landscape will vary according to the size and number of turbines and the type of landscape involved. The arrangement of wind turbines should be carefully designed within a site to minimise effects on the landscape and visual amenity. A balance must be struck between encouraging renewable energy and the effect upon the landscape. It is important to note that a proposed development cannot be refused planning permission solely on the basis that it introduces different and new elements into the landscape and into views. The key points are whether there is any harmful impact, and whether that harm outweighs the benefits of the scheme. The appeal decisions referred to in the previous section (see footnote on page 4) are examples where the Inspector acknowledged that the wind turbines would have a significant impact on the character of the landscape, but any harm would be outweighed by the benefits of renewable energy.

6.2. The NPPF states (paragraph 109) that the planning system should protect and enhance valued landscapes. It also states (paragraph 115) that great weight should be given to conserving landscape and scenic beauty in Areas of Outstanding Natural Beauty, and (paragraph 116) that planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest. Two areas in the south east of the District (near Wendover and near Pitstone) are within the Chilterns Area of Outstanding Natural Beauty (AONB). It will also be necessary for developers of proposed wind energy schemes to assess the impact of the development on the setting of the Chilterns AONB. Development proposals that affect views into and out of the AONB need to be assessed to ensure that they conserve or enhance the natural beauty and landscape character of the AONB. A development may have an impact even if some considerable distance from the AONB boundary.

6.3. All proposals for wind energy developments should be accompanied by an assessment of their impact upon the character of the landscape and of their visual impact (that is the effect upon views). There is a widely accepted methodology for assessing the landscape and visual impact of development proposals⁵ (this methodology applies to all types of development and is not specific to renewable energy schemes). Factors to consider in analysing the landscape and visual effect of individual applications include:

- national designations (presence or absence; nature and justification of designation);
- landscape character areas;
- landscape sensitivity;
- landscape and visual analysis; and,
- cumulative effects.

6.4. In addition, Scottish Natural Heritage have produced a number of practice and policy guidance notes which have become the generally accepted basis for the assessment of the landscape impact of wind farms.^{6 7 8}

⁵ 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA) 2nd Edition (2002), published by the Landscape Institute and the Institute of Environmental Management and Assessment

⁶ Siting and designing windfarms in the landscape <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1434>

⁷ Visual representation of windfarms: Good practice guidance <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=846>

⁸ Assessing the cumulative impact of onshore wind energy developments <http://www.snh.gov.uk/docs/A675503.pdf>

- 6.5. An Aylesbury Vale Landscape Character Assessment was undertaken in 2008⁹. This was followed by the publication of the “Aylesbury Vale Areas of Sensitive Landscape”¹⁰. These two studies provide comprehensive background evidence on the character and sensitivity of landscapes in Aylesbury Vale and should be used when assessing the landscape and visual impact of wind energy proposals.
- 6.6. AVDC has also prepared a guidance note¹¹ for assessing landscape character, sensitivity and visual impacts of development. This advises how the landscape evidence base (the two documents referred to above) should be used in the assessment of planning applications, and how to carry out a landscape and visual impact assessment (LVIA) (in accordance with the methodology referred to above).
- 6.7. The landscape impact assessment describes the likely nature and scale of changes to individual landscape elements and characteristics, and the consequential effect on the landscape character resulting from the proposed development. The assessment requires the identification of the sensitivity of the landscape resource and the scale or magnitude of the landscape effects of the proposed development. The determination of the sensitivity of the landscape resource (or receptor) is based upon an evaluation of each key element or characteristic of the landscape likely to be affected. The evaluation will reflect such factors as its quality, value, contribution to landscape character, and the degree to which the particular element or characteristic can be replaced or substituted.
- 6.8. The assessment of the visual effects of a proposed development will describe the changes in the character of the available views resulting from the development and the changes in the ‘visual amenity’ of the viewer (visual receptor). As with the landscape impact assessment, the use of clearly defined criteria as the basis for assessment will help in delivering an assessment that is both easily understandable and replicable.
- 6.9. The significance of the effects of a proposed development will be based on the combination of sensitivity of the receptor (landscape or visual) and the magnitude of the effect of the proposed development.
- 6.10. A number of methods can be used to illustrate the potential landscape and visual impacts of a proposal:
- photographs and sketches
 - diagrams showing the potential zones of visual influence of the proposed scheme: these will be of assistance in identifying the resources (e.g. designated areas, landscape units) and the locations of visual receptors (e.g. settlements, public access land and popular viewpoints), which may be affected by the proposal.
 - visualisations that show potential visibility from a specific viewpoint and aid an assessment of the magnitude of impact, typically in the form of computer-generated wireline diagrams and photomontages
 - computer generated simulations, fly-throughs and video-montage

⁹ <http://www.aylesburyvaledc.gov.uk/local-development-plans/planning-policy/withdrawn-core-strategy/avldf-evidence-base/environment-evidence/av-lca-may2008/>

¹⁰ <http://www.aylesburyvaledc.gov.uk/local-development-plans/planning-policy/withdrawn-core-strategy/avldf-evidence-base/environment-evidence/aylesbury-vale-areas-sensitive-landscape/>

¹¹ Guidance note for assessing landscape character, sensitivity and visual impacts of development, available from the Design & Conservation Team, AVDC.

6.11. The scope of the landscape and visual impact assessment should be agreed beforehand with the Council, including the location of the visual receptors to be used. AVDC encourages developers to work with local parishes and community groups to actively involve them in the process of selecting the representative viewpoints. These visual receptors should include dwellings in the locality of the wind turbines. The private view from a property is not a material consideration that can be taken into account in the determination of a planning application. However, there have been a number of appeal decisions (for example ¹² and ¹³) related to wind farms which have ruled that turbines would be unacceptable if they are so overwhelming and unavoidable that the property concerned would come to be widely regarded as an unattractive and thus unsatisfactory place in which to live. This has become known as the “Lavender test” after the name of the Inspector who stated that “it is not in the public interest to create such living conditions where they did not exist before” in his appeal decision relating to a proposal for wind turbines in Dover District¹⁴.

6.12. The landscape and visual impact assessment will play a critical role in judging the suitability or otherwise of wind energy proposals. When considering planning applications for wind energy developments, the Council will seek specialist advice as appropriate from AVDC landscape architects.

6.13. Mitigation measures should include:

- All turbines within a group should be of the same appearance and size to create visual harmony. This should apply to ‘extension’ of existing sites or proposals which are visually read as part of an existing group.
- Layout of turbines in ‘extensions’ of existing sites, or proposals which are visually read as part of an existing group, should be compatible to create a pattern of overall order, structure and conformity.
- Layout of turbines should respect the landform of the surrounding landscape.

7. Local amenity

7.1. Wind turbines have the potential to adversely affect those living in the vicinity of the turbines, and this aspect often causes great concern when proposals are put forward. The effects of a proposed development on residential amenity are always considered when assessing a planning application. Policy GP.8 in the Aylesbury Vale District Local Plan states that planning permission will not be granted where the proposed development would unreasonably harm any aspect of amenity of nearby residents when considered against the benefits (which can include wider benefits as well as any direct benefits) arising from the proposal. Policy GP.95 states that in dealing with all planning proposals the Council will have regard to the protection of the amenities of existing occupiers.

Visual intrusion

7.2. The presence of wind turbines in the vicinity of residential properties can have an adverse effect on residential amenity by appearing as a dominant presence in views from the property. The section above



¹² Appeal Ref: APP/D2510/A/10/2121089 Land at Chase Farm, Baumber, Horncastle, Lincolnshire.

¹³ Appeal Ref: APP/Y2430/A/09/2108595 Site at Palmers Hollow (Field No. 2700) Main Street, Normanton, Bottesford, Leics.

¹⁴ Appeal Ref: APP/X2220/A/08/2071880 Land west of Enifer Downs Farm and east of Archers Court Road and Little Pineham Farm, Langdon.

on landscape and visual impact assessment sets out how these potential impacts will be assessed.

- 7.3. Developers should include a detailed assessment of all residential properties (or groups of properties) within 1 km of the nearest turbine to determine whether there are significant visual effects and if these significant effects are serious enough to fail the Lavender test. This assessment should include a detailed description of the property, its orientation towards the turbines with respect to the main rooms and garden, the amount of shielding, the arc of view subtended by the outer turbines and wireframes of the view towards the turbines. If there are properties at a greater distance which have exceptional views then these should also be included in the assessment.

Noise

- 7.4. Well-specified and well-designed wind farms should be located so that increases in ambient noise levels are kept to acceptable levels in relation to existing background noise, especially around noise-sensitive developments (such as residential dwellings). This will normally be achieved through good design of the turbines and through allowing sufficient distance between the turbines and any existing noise-sensitive development so that noise from the turbines will not normally be significant. Noise levels from turbines are generally low and, under most operating conditions, it is likely that turbine noise would be completely masked by wind-generated background noise. The table below (taken from ¹⁵) indicates the noise generated by wind turbines, compared with other every-day activities.

Noise generated by wind turbines compared with other everyday activities

Source/Activity	Indicative Noise Level dB(A)
Threshold of Pain	140
Jet aircraft at 250 m	105
Pneumatic drill at 7 m	95
Truck at 30 mph at 100 m	65
Busy general office	60
Car at 40 mph at 100 m	55
Wind farm at 350 m	35-45
Quiet bedroom	20
Rural night-time background	20-40
Threshold of hearing	0

- 7.5. Wind-generated background noise increases with wind speed, and at a faster rate than the wind turbine noise increases with wind speed. The difference between the noise of the wind turbines and the background noise is therefore liable to be greatest at low wind speeds. Varying the speed of the turbines in such conditions can, if necessary, reduce the sound output.
- 7.6. The report 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97) ¹⁶, describes a framework for the measurement of wind farm noise and gives indicative noise levels calculated to offer a reasonable degree of protection to wind farm

¹⁵ Planning for Renewable Energy: A Companion Guide to PPS22

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<http://webarchive.nationalarchives.gov.uk/+/http://www.berr.gov.uk/energy/sources/renewables/explained/wind/onshore-offshore/page21743.html>

neighbours. The report presents the findings of a cross-interest Noise Working Group. Despite the fact that this document was published several years ago, the recommendations in it are still regarded as good practice, and it should be used by developers and planning authorities when assessing and rating noise from wind energy developments.

- 7.7. The recommendations set out in ETSU-R-97 involve applying noise limits at the nearest noise-sensitive locations. The noise levels recommended are determined by a combination of absolute noise limits and noise limits relative to the existing background noise levels around the site at different wind speeds. Separate noise limits apply for day-time and for night-time. Noise limits should relate to the cumulative effect of all wind turbines in the area and any existing turbines should not be considered as part of the prevailing background noise. In day-time, noise from the wind farm should be limited to 35-40 dB(A) or 5 dB(A) above the prevailing background noise, whichever is greater. At night-time, the noise should be limited to 43 dB(A) or 5 dB(A) above the prevailing background, whichever is greater. The locations to be used for monitoring the prevailing background noise should be agreed with the Council beforehand. These noise limits will be enforced by attaching an appropriate planning condition to any permission for wind turbines.
- 7.8. There is no evidence that ground transmitted low frequency noise from wind turbines occurs at a sufficient level to be harmful to human health.
- 7.9. During the assessment of planning applications, specialist advice in relation to potential noise impacts will be provided, as appropriate, by AVDC environmental health officers to the Council.

Shadow flicker and reflected light

- 7.10. Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as 'shadow flicker'. It only occurs inside buildings where the flicker appears through a narrow window opening. The seasonal duration of this effect can be calculated from the geometry of the turbine and the latitude of the site. Although problems caused by shadow flicker are rare, for sites where existing development may be subject to this problem, applicants for planning permission for wind turbines should provide an analysis to quantify the effect. A single window in a single building is likely to be affected for a few minutes at certain times of the day during short periods of the year. The further the observer is from the turbine the less pronounced the effect will be.
- 7.11. Shadow flicker can be mitigated by siting wind turbines at sufficient distance from properties likely to be affected. Flicker effects have been proven to occur only within ten rotor diameters of a turbine. Therefore, for example, if the turbine has 80m diameter blades, the potential shadow flicker effect could be felt up to 800m from a turbine. If a developer is not prepared to condition that the relevant turbines will be shut down at times when shadow flicker could occur then no turbine can be placed within ten rotor diameters of a potentially affected dwelling.
- 7.12. Modern wind turbines can be controlled such that the operation of individual wind turbines at the periods when shadow flicker has the potential to occur at a specific property or group of properties can be inhibited on sunny days, for those properties, for the specific times of the day, and on specific days of the year.

7.13. Turbines can also cause flashes of reflected light, which can be visible for some distance. It is possible to ameliorate the flashing but it is not possible to eliminate it. Careful choice of blade colour and surface finish can help reduce the effect. Light grey semi-matt finishes are often used for this. Other colours and patterns can also be used to reduce the effect further.

Separation distances from dwellings

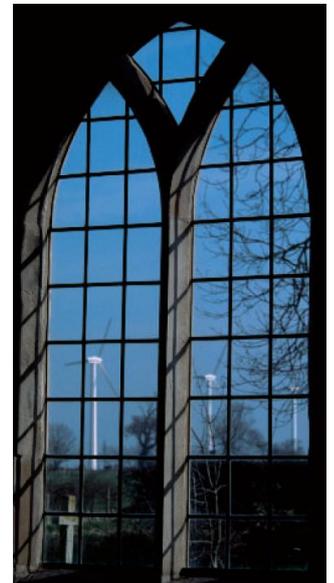
7.14. One of the main causes of concern related to proposals for wind energy developments is that the turbines will be located too close to dwellings. There is no minimum separation distance between a wind turbine and a dwelling in English planning law or guidance. The acceptable separation distance is largely determined by an assessment of the noise and the visual impact, and this will clearly vary on an individual case-by-case basis. The landscape impact will depend on topography and landscape context; noise will depend on the turbine details and the ambient noise level; shadow flicker will depend on orientation; and visual impact will depend on topography and any intervening features. A “one-size-fits-all” fixed distance policy could not be justified by evidence.

8. Cultural heritage

8.1. The impact of a proposed development on the cultural heritage will be taken into account in the determination of any planning application. The term “cultural heritage” is here taken to mean all aspects of the historic environment, such as archaeological remains, historic buildings, designed landscapes, and the historic character and associations of the wider landscape. This includes both sites and buildings that are specifically designated for their historic or architectural importance and sites that are not designated but are considered to be significant. The consideration of impacts will take into account both direct physical impacts and indirect impacts such as the effect on the setting of a historic site or building.

8.2. Direct physical impacts on heritage assets may result from the construction of the foundations for wind turbines, as well as associated structures such as anemometer masts, sub-stations, transformers, control rooms, access roads, and perimeter fencing. Construction of these features has the potential to damage underlying archaeological remains. However, the overall footprint of a group of turbines may be comparatively limited: for a typical development of six turbines covering a total area of 14 hectares, the actual footprint of the turbines and their associated infrastructure may be limited to 1% to 2% of the overall development area. Thus flexibility in the siting of individual structures can provide opportunities to avoid direct impacts on heritage assets.

8.3. Indirect impacts may be far harder to avoid because the visual impact of turbines can be wide ranging. Wind energy developments may impair the setting of historic sites and can compromise the visual amenity of the wider landscape, detracting from the historic character. The historic character of the landscape should be considered alongside other aspects of landscape character and visual impact when assessing wind energy proposals. Views from and into areas such as registered parks and gardens and conservation areas need to be taken into account. The Aylesbury Vale



Landscape Character Assessment (referred to in the section on landscape and visual impact) includes within it a Historic Landscape Assessment.

- 8.4. Designations that apply to heritage assets include scheduled monuments, listed buildings, registered parks and gardens and conservation areas. There are many such designated sites and buildings within Aylesbury Vale. The NPPF (paragraph 132) states that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Any harm or loss to the asset requires clear and convincing justification. The NPPF (paragraph 133) makes it clear that permission should be refused for development that will lead to substantial harm to a designated heritage asset, unless there will be substantial public benefits that outweigh that harm or loss. If the proposal will lead to less than substantial harm, then this harm should be weighed against the public benefits of the proposal.
- 8.5. Sites or buildings that have not been formally designated but are nonetheless considered to be significant may be listed on the Buckinghamshire Historic Environment Record¹⁷. As stated in the NPPF (paragraph 135) the effect of proposed developments on such assets will be assessed, and this will require a balanced judgement having regard to the scale of any harm or loss and the significance of the heritage asset.
- 8.6. In addition to the national policies set out in the NPPF there are also the following policies of relevance in the Aylesbury Vale District Local Plan:
- GP.53 New development in and adjacent to Conservation Areas
 - GP.59 Preservation of archaeological remains
 - GP.60 Development and Parks or Gardens of Special Historic Interest
- 8.7. English Heritage has published a document entitled "Wind Energy and the Historic Environment"¹⁸. This sets out English Heritage policy and guidance for evaluating the impact of wind turbines on the historic environment.
- 8.8. The English Heritage guidance document lists the following factors that should be particularly borne in mind when assessing proposals for wind turbines within the setting of historic sites:
- Visual dominance: Wind turbines can be far greater in scale than historic features. They may be inappropriate in locations adjacent to a visually dominant historic feature (such as a church spire).
 - Scale: The extent of a wind farm and the number and location of its turbines will contribute to its visual impact.
 - Intervisibility: Certain archaeological or historic landscape features were intended to be seen from other historic sites. Construction of wind turbines should respect this intervisibility.
 - Vistas and sight-lines: Designed landscapes invariably involve key vistas and sight-lines; the location of turbines within these key views should be avoided.
 - Movement, sound or light effects: Adequate distance should be provided between important historic sites and wind turbines to avoid the site being overshadowed or affected by noise and shadow flicker effects.

¹⁷ http://www.buckscc.gov.uk/bcc/archaeology/Historic_environment_record.page

¹⁸ <http://www.english-heritage.org.uk/publications/wind-energy-and-the-historic-environment/>

- Unaltered settings: Largely unaltered settings for certain types of sites, particularly more ancient sites, may be rare survivals and especially vulnerable to modern intrusions such as wind turbines.

8.9. An individual assessment must be made of all Grade I and II* listed buildings, registered parks and gardens, conservation areas, scheduled ancient monuments and registered battlefields within 5km of the site. This may be extended for heritage assets of international importance. All Grade II listed buildings or registered parks and gardens within 2km must be assessed individually.

8.10. All of the above considerations will be taken into account during the assessment of planning applications for wind turbines. Specialist advice will be provided to the Council as appropriate by AVDC historic buildings officers, AVDC conservation area officers, and officers from Bucks County Council's Archaeological Service.

9. Biodiversity

9.1. The impact of a wind farm on the local ecology should be minimal. A typical wind farm will usually leave the land between the turbines totally unaffected. There is little evidence that domesticated or wild animals will be affected by a wind farm – indeed, there are examples of cows and sheep grazing right up to the base of turbines.



9.2. However, it is important to recognise that the construction of turbines and associated infrastructure can potentially cause habitat and species disturbance and loss. Wind turbine operation and maintenance may disturb sensitive species, and there is a risk of bird and bat collision with moving blades and any additional overhead wires. The deposition of spoil or hazardous substances from construction and operation, or removal of trees or hedgerows can also have potential adverse effects.

9.3. There are various levels of designated sites that are recognised as important for biodiversity or ecological reasons. These range from international and national designations such as Special Areas of Conservation and Sites of Special Scientific Interest, to local designations such as Local Nature Reserves and Local Wildlife Sites. The protection given to these sites should be commensurate with their status, and appropriate weight should be given to their importance and the contribution that they make to wider ecological networks. There are many important habitats and sites outside these designated areas, and protected species can of course occupy many areas outside designated sites.

9.4. Proposals for wind energy developments will be assessed to ensure that they do not adversely affect the integrity of habitats or species of recognised importance. The National Planning Policy Framework (paragraph 118) makes it clear that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity. Planning permission will be refused if the adverse impacts outweigh the benefits of the development and cannot be sufficiently mitigated.

9.5. The effect of wind turbines on birds and bats is often a particular concern. However, the impact of an appropriately designed and located wind farm on the local bird life

should, in many cases, be minimal. The report “Common concerns about wind power” published by the Centre for Sustainable Energy¹⁹, presents evidence to show that wind turbines represent an insignificant fraction of the total number of bird deaths caused by man-made objects or activities (such as buildings, power lines, and domesticated cats). The most common concern is the risk of ‘bird strike’ i.e. birds flying through the area swept by the blades and being hit, causing injury or death. This is most likely to occur if a wind turbine is erected directly in a migration path, or where there are high concentrations of particular species (i.e birds feeding). Most sites will require at least a breeding bird survey (between late March and early June) and a winter bird survey (November to February). Others, where potential ornithological sensitivities are higher, may require substantially more survey work, including studies of wintering/passage birds and detailed observations to quantify bird flight activity across the site. Natural England have published an information note “Assessing the effects of onshore wind farms on birds”²⁰ This guidance identifies when and where detailed assessment of potential impacts on birds resulting from wind farm developments are likely to be required. It describes the data requirements and survey methodologies needed for such assessments. The impact of wind turbines can be significantly reduced through careful siting in response to survey data.

9.6. Natural England have also published guidance to help consider the potential adverse impacts on bats when assessing proposals for wind turbine development (“Bats and onshore wind turbines Interim guidance”²¹ and “Bats and single large wind turbines: Joint Agencies interim guidance”²²). This guidance mentions that little evidence is currently available to properly assess adverse impacts of wind turbines on bats in the UK. In order to assess the risk, appropriate surveys need to be carried out for proposed wind energy developments. Potential adverse effects on bat populations may be able to be mitigated by alterations to the location of the turbines in relations to roosts, hedges, tree-lines etc, or by limiting the use of the turbines to particular times of the day, year or weather conditions. More up to date guidance on survey standards are provided by The Bat Conservation Trust²³.

9.7. However it should be noted that best practise survey techniques, our understanding of impacts, and mitigation measures are a rapidly evolving field. AVDC will expect any survey and mitigation plan to be consistent with the latest consensus on survey standards when an application is submitted, unless otherwise agreed with AVDC Biodiversity Officers.

9.8. When considering planning applications for wind energy developments, the Council will as appropriate seek specialist advice in relation to potential biodiversity impacts from AVDC biodiversity officers.

10. Access and impact on local highways

10.1. Typical modern wind turbines have blades from 30m to 45m in length. They are generally the largest single item that is transported to a wind farm during construction. Some individual components of the wind turbines can weigh in excess

¹⁹ http://www.cse.org.uk/downloads/file/common_concerns_about_wind_power.pdf

²⁰ <http://publications.naturalengland.org.uk/publication/23024?category=40033>

²¹ <http://publications.naturalengland.org.uk/publication/35010?category=40033>

²² <http://publications.naturalengland.org.uk/publication/33013?category=40033>

²³ Hundt, L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition.
<http://www.bats.org.uk/pages/guidanceforprofessionals.html>

of 100 tonnes. Thus during construction of the turbines there needs to be road access to the site that is able to accommodate trailers carrying blades of up to 45 metres long. There will also be a need for heavy and wide loads (such as cranes) to access the site. In some rural locations these requirements can lead to significant impacts through the need to widen lanes or ease bends, necessitating in some cases the removal of boundary features such as walls or hedges or loss of roadside trees. Developers will need to submit information with the planning application which sets out the proposed route for transporting components to the site, with details of the impact of the large/heavy loads at junctions, roundabouts, bridges and so on.

- 10.2. Post-construction, there will be a need to access the site for maintenance purposes, but traffic movements to and from the site will be very light and will generally only require smaller vehicles. The need to replace machine components will generate heavier commercial vehicle movements, but these are likely to be infrequent. However, there may be a need to leave road alterations in place, as there will be a requirement to reach the site for decommissioning, and possibly for repairs in the case of major component failure.
- 10.3. On-site access tracks will similarly be required to accommodate large loads and vehicles.
- 10.4. There may be a need in some cases to control the number of vehicle movements to and from the site in a specified period and, where possible, the route of such movements, particularly by heavy vehicles. This can be done by imposing suitable conditions on planning permissions.
- 10.5. Buckinghamshire County Council, as the local highway authority, will be consulted on the highways aspects of proposed wind energy developments.
- 10.6. Concern is often expressed over the effects of wind turbines on car drivers, who may be distracted by the turbines and the movement of the blades. Wind turbines need not be treated any differently from other distractions a driver must face and should not be considered particularly hazardous. There are now a large number of wind farms adjoining or close to road networks and there has been no history of accidents at any of them.

11. Aviation

11.1. Wind turbines may have an adverse affect on two aspects of air traffic movement and safety. Firstly, they may represent a risk of collision with low flying aircraft, and secondly, they may interfere with the proper operation of radar by limiting the capacity to handle air traffic, and aircraft instrument landing systems.

11.2. Risk of collision is likely to occur close to civilian and military airfields, and in military low flying zones. Developments within a specified radius of major airports and aerodromes are subject to mandatory consultation with the Civil Aviation Authority (CAA) and/or the Ministry of Defence (MoD). The National Air Traffic Services (NATS) should also be consulted. In addition, all local airfields, whether licensed by the CAA or not, within 5 km should be consulted.



11.3. Any large structure is liable to show up on radar, but a wind turbine can present a particular problem as it can be interpreted by radar as being a moving object, which is only intermittently seen. Because of this, it might either be mistaken for an aircraft or interfere with the ability of the radar to track an aircraft in the same sector. The effect diminishes with distance, and hence there is a 15km consultation zone, and a 30km or 32km advisory zone around every civilian and military air traffic radar respectively. Because topography, intervening buildings and even tree cover can mitigate the effect of wind turbines on radar, it does not necessarily follow that the presence of a wind turbine in a safeguarding zone will have a negative effect. However, if an objection is raised by either a civil aviation or Defence Estates consultee, the onus is on the applicant to show that the proposal will have no adverse effect on aviation interests. AVDC will expect that all outstanding aviation objections from statutory consultees are satisfactorily addressed before any planning application is submitted.

11.4. A document has been published by the Wind Energy, Defence & Civil Aviation Interests Working Group, entitled "Wind Energy and Aviation Interests – Interim Guidelines"²⁴. This offers guidance on the issues to be taken into account in decisions on the siting of wind farms.

12. Public rights of way / countryside recreation

12.1. The presence of wind turbines in the countryside will rarely have a direct impact on public rights of way in the sense of the route being blocked or severed. However, they can have a significant impact on the users of public rights of way or those undertaking other recreational activities in the countryside. This impact will most likely be related to concerns over the effect of the turbines on the landscape, the visual dominance of the turbines, and noise. These issues are covered in earlier sections of this document. Policy GP.84 of the Aylesbury Vale District Local Plan requires the Council to have regard to the convenience, amenity and public enjoyment of public rights of way when considering applications for development.



12.2. Other concerns may be related to safety in the proximity of turbines. There is no statutory separation distance between a wind turbine and a public right of way but a minimum separation distance of the overall height of the turbine plus 10% should be employed from public rights of way. Horses, as flight animals, are more sensitive to the presence of turbines and a minimum separation distance of 200m, with a preferred distance of three times the overall height, from bridleways should be used in line with the British Horse Society guidance.

13. Telecommunications

13.1. Wind turbines can interfere with the transmission of electromagnetic signals, either by blocking or deflecting line of sight radio or microwave links, or by the scattering of transmission signals. This can cause interference with any system that relies on

²⁴ <http://www.caa.co.uk/default.aspx?catid=7&pagetype=90&pageid=1209>

electromagnetic signals, such as radio, TV, mobile phone networks, police and emergency service communications, and telemetry systems used by utility companies.

- 13.2. Generally, turbine siting can mitigate any potential impacts on line of sight links, as the separation distance required to avoid problems is generally a matter of a few hundred metres. In some cases, it may be possible to effectively re-route the signal around the development.
- 13.3. Scattering of signals mainly affects domestic TV and radio reception. Experience has shown that when this occurs it is of a predictable nature. Developers of any wind turbine proposals will need to establish if disturbance to reception is possible, and if so, to provide a mitigation method to reduce impacts. Careful attention to the siting and design of wind turbines can reduce problems with electromagnetic interference. If necessary there are other measures that can be implemented, such as the installation or modification of a local repeater station, or improved TV aerials or the provision of cable or satellite TV receivers for affected households.
- 13.4. Applicants for wind energy developments will be required to assess the likely impacts of the development on telecommunications and to indicate how they would deal with any adverse impacts should they arise.
- 13.5. Wind turbines will also produce electromagnetic radiation themselves, because they contain electrical machines producing power. This radiation is however at a very low level, and presents no greater risk to human health than most domestic appliances. Wind turbines and their components will need to comply with the Electromagnetic Compatibility Directive to ensure that the electromagnetic signals produced by wind turbines do not cause problems to other systems or equipment.

14. Grid connection

- 14.1. Unless a proposed wind turbine will be part of a stand-alone system (for example, providing power directly to an individual dwelling or business), then the proximity of the turbine to the electricity distribution grid is one of the factors to be taken into consideration in assessing the suitability of a potential site.
- 14.2. The connection of the wind turbine(s) to the electricity distribution grid is an intrinsic part of the development and should be considered alongside the turbines themselves. The connection can be achieved either by overhead power lines or by underground lines. Overhead lines will have a visual impact on the area, and in situations where this is significant, undergrounding of the lines is preferable, despite the higher costs. The distance to the connection point will be of critical commercial relevance because of the relative costs of overhead and underground lines and the impact such costs have on total site development costs. Developers should provide information on the most likely route and method for the grid connection to the turbines with their planning application. Whilst the commercial viability of a proposed development is not an issue that is material to the consideration of a planning application, the visual impact of overhead lines is a relevant consideration. Power from the wind turbines is taken via a cable to a transformer, which converts the electricity to a high voltage before connecting to the grid at a substation. The transformer and substation infrastructure also need to be considered as part of the overall assessment of the proposed development.

15. Safety

- 15.1. All sources of energy supply, wind power included, can present a hazard to human health, both to industry workers and, in rare instances, the public. The report “Common concerns about wind power” by the Centre for Sustainable Energy²⁵ presents evidence to show that the wind energy industry has one of the best safety records of any energy industry. Properly designed and maintained wind turbines are a safe technology.
- 15.2. Safety concerns include hazards to workers during construction or maintenance, and hazards during operation such as blade throw (a blade or piece of blade becomes detached and is thrown clear of the turbine), or ice throw (ice that has collected on the blade is thrown through the air). However, many blades are composite structures with no bolts or other separate components and blade failure is most unlikely.
- 15.3. The build-up of ice on turbine blades is unlikely to present problems on the majority of sites in England. For ice to build up on wind turbines particular weather conditions are required, that in England occur for less than one day per year. In those areas where icing of the blades does occur, fragments of ice might be released from the blades when the machine is started. Most wind turbines are fitted with vibration sensors which can detect any imbalance which might be caused by icing of the blades; in which case operation of machines with iced blades could be inhibited.
- 15.4. The minimum desirable distance between wind turbines and occupied buildings calculated on the basis of expected noise levels and visual impact will often be greater than that necessary to meet safety requirements. Fall over distance (i.e. the height of the turbine to the tip of the blade) plus 10% is often used as a safe separation distance. This is also an advisable distance for the turbines to be set back from roads and railways.
- 15.5. The effect on aviation and highway safety are covered in other sections of this document.

16. Cumulative effects

- 16.1. Any proposal for wind energy developments should not be considered in isolation, but must be assessed in the context of other existing or proposed²⁶ wind energy schemes. The effect of a single scheme may be limited, but when added to the effect of other schemes in the area, it may create unacceptable cumulative impacts.



- 16.2. Cumulative landscape effects and visual effects should be considered separately. The former refers to effects of a proposed development on the landscape fabric, character and quality and so concerns the degree to which renewable energy

²⁵ http://www.cse.org.uk/downloads/file/common_concerns_about_wind_power.pdf

²⁶ Proposals where a planning application has been submitted.

development becomes a significant or defining characteristic of the landscape. Cumulative visual effects concern the degree to which renewable energy development becomes a feature in particular views (or sequences of views), and the effect this has upon the people experiencing those views.

- 16.3. Cumulative effects may arise where two or more wind energy schemes are visible from the same point, or are visible shortly after each other along the same journey. Hence, it should not be assumed that, just because no other sites are visible from the proposed development site, the proposal will not create any cumulative effects. The developer should agree with AVDC which schemes should be taken into account in the assessment of cumulative effects.
- 16.4. Cumulative effects may also be an issue in the consideration of ecological impacts and noise impacts.
- 16.5. Scottish Natural Heritage have produced a comprehensive guidance document “Assessing the cumulative impact of onshore wind energy developments”²⁷
- 16.6. The consideration of cumulative effects should be included as part of the overall landscape and visual impact assessment of the proposed development (see earlier section in this document).

17. Supporting infrastructure and ancillary development

- 17.1. Whilst the turbines themselves will be the most obvious part of a wind energy development, the overall scheme will also include a number of supporting and ancillary elements. The required infrastructure of a wind farm consists of adequate road access, on-site tracks, turbine foundations, crane hard standings, one or more anemometer masts, a construction compound, electrical cabling and an electrical sub-station and control building. Some of these features are permanent and others are required only in the construction phase and as such are temporary. The anemometer masts are generally slender lattice masts built to the hub height of the turbines, with anemometers and wind vanes mounted at different heights. They are necessary to provide control information for the wind farm and to ensure the turbines are operating correctly. The construction compound will be of a temporary nature.
- 17.2. This infrastructure and ancillary development should be considered as part of the overall design of a scheme. Careful design and siting can reduce the visual impact of these elements of the scheme.

18. Siting & design of turbines

- 18.1. Good siting and design of wind turbines is important in helping to produce a development that is appropriate to the local landscape. The arrangement of wind turbines should be carefully designed within a site to minimise effects on the landscape and visual amenity. Scottish Natural Heritage (SNH) have published a comprehensive guidance document “Siting and designing windfarms in the landscape”²⁸. Whilst parts of the Scottish landscape are very different to Aylesbury Vale, the guidance and principles in the SNH document are still very relevant to

²⁷ <http://www.snh.gov.uk/docs/A675503.pdf>

²⁸ <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1434>

Aylesbury Vale. Policy GP.35 of the Aylesbury Vale District Local Plan requires the design of new development proposals to respect and complement the physical characteristics of the site and surroundings, the historic scale and context of the setting, the natural qualities and features of the area, and the effect on important public views and skylines.

18.2. Applicants for proposed wind energy developments should demonstrate how they have considered the following issues as part of their application:

- Turbine height
- Turbine colour
- Individual turbine design (make and model)
- Proportion of blade length to tower height
- Blade rotation speed (large slow-moving or small fast-moving)
- Turbine lighting
- Turbine scale in relation to other features in the landscape
- Pattern of turbine layout
- Turbine layout in relation to skyline, local topography, and existing natural and built features
- Siting and design of ancillary infrastructure
- Location and size of anemometer masts

19. Reinstatement of site

19.1. The expected lifetime of wind turbines is typically around 25 years, and planning permission is usually granted for this period. Decommissioning of the turbines at the end of this operational phase is often a specific condition of planning permission and is an important consideration when designing and assessing a windfarm.

19.2. It is therefore expected that provision will be made for the long-term protection of the landscape by requiring the remediation and restoration of wind farm sites and their infrastructure when they are decommissioned.

19.3. Applications should set out details of what will be decommissioned and removed from the site at the end of the operational life of the turbines. It would be expected that everything would be removed from the site to a minimum depth of 1m, with the exception of the access tracks where these can be used for agricultural use. Restorative landscaping will be required to return the site to the condition it was in before the development took place. Decommissioning bonds may be required in certain circumstances.

19.4. The time-limited nature of wind farms, and the extent to which the site will return to its original state, may be considerations when assessing impacts such as landscape and visual effects and potential effects on the settings of heritage assets.

20. Involving local communities

20.1. Wind energy developments can produce significant benefits, but they also produce impacts, most obviously on the local landscape. There is often a high level of public interest in applications for wind energy developments, so it is essential for there to be adequate community involvement. There is a need to address the concerns of local communities when a wind farm is proposed, and the community should be engaged from the start so that the pros and cons are fully discussed. In accordance with

Government policy, the Council strongly advises developers proposing anemometers or turbines to carry out public consultation with local communities, before any schemes are submitted for planning permission, including information about renewable energy, the need for renewables (including on and offshore wind) in the UK energy mix, its potential benefits and any potential negative impacts. Methods of community involvement will vary depending on the stage in the planning process. Good practice on consultation is set out in the Council's adopted Statement of Community Involvement.²⁹



20.2. Appropriate community involvement at different stages in the planning process can have considerable benefits for all parties involved. It can improve understanding of the issues facing developers, local communities and other stakeholders. It can help to make the process more transparent and understandable, it can provide an opportunity to engage local people actively in the development of schemes (thus resulting in a scheme which is more acceptable to communities), help to address concerns about the impacts of potential schemes, and help to explain the wider benefits of renewable energy.

20.3. As with all proposals for development, there may be actions that the developers will be required to undertake in order to make the proposal acceptable in planning terms. Such actions will be secured via a legal agreement between the Council and the developer. For a wind energy development, these necessary actions (either in kind or as payment towards the cost) may typically involve providing additional infrastructure (e.g. widening access roads), correcting losses to amenity (e.g. correcting for TV interference) or restoring or recreating wildlife habitats (to make up for any impact caused by construction or operation). The provision of these developer contributions is a relevant factor in the planning decision.

20.4. The developer of a proposed wind energy scheme may also wish to consider other community benefits along the lines of those discussed in the toolkit "Delivering community benefits from wind energy development" published by the Centre for Sustainable Energy³⁰. However, such community benefits are generally not considered legitimate material considerations within the planning decision making process as they do not relate to planning issues. The Government recently (September to November 2012) called for evidence³¹ on community engagement and benefits, to examine how communities can have more of a say over, and receive greater economic and /or social benefit from, hosting onshore wind farms.

21. Information required in the submission of wind turbine planning applications

21.1. Reference should also be made to the Council's general list of information required to validate a planning application, which is available on the AVDC website³².

²⁹ <http://www.aylesburyvaledc.gov.uk/local-development-plans/planning-policy/withdrawn-core-strategy/avldf-process/statement-community-involvement/>

³⁰ <http://www.cse.org.uk/downloads/file/Delivering%20community%20benefits%20from%20wind%20energy%20-%20a%20toolkit.pdf>

³¹ http://www.decc.gov.uk/en/content/cms/consultations/onwind_cfe/onwind_cfe.aspx

³² <http://www.aylesburyvaledc.gov.uk/planning---building/planning-and-building-control-applications/step-3-apply-for-planning-permission/supporting-documents/>

21.2. Applications will also need to be accompanied by a Design and Access statement, which will contain some of the information listed below. In addition, the design iteration process that was undertaken to mitigate the visual impacts must be shown clearly in the planning application with an explanation of why the final design was considered to be the most suitable. This should include consideration both of the layout of the scheme and the height and blade diameter of the turbines and how changes will affect the amount of electricity generated with reference back to the wind speed environment of the site determined by the readings from the anemometer mast.

21.3. Applications should include the information listed below. For those applications that will be subject to Environmental Impact Assessment (EIA) (see next section) the information to be submitted as part of the Environmental Statement should be in accordance with the detailed guidance in the EIA regulations, and much of the following information will be submitted as part of the Environmental Statement.

1. Technical Information

- Full technical details of the turbines (including construction details including the proposed foundations).
- Ancillary equipment/structures.

2. Site Infrastructure

- Details of permanent and temporary access requirements, including earthworks, for construction, maintenance and eventual decommissioning.
- Details of proposed landscaping.

3. Ecological Assessment

- Classification and evaluation of the natural habitat and species.
- Agricultural context.
- Hydrological impact.
- Determination of the ecological value within the area potentially affected the proposal.
- Evaluations of impacts and the scope of mitigation of those impacts.

4. Landscape Assessment

- This should include the classification and evaluation of the landscape setting, including quality, value, and scale of the landscape, and the impacts upon the landscape character

5. Visual Assessment

- Viewpoint analysis covering both long and short range visibility
- Determination of the zone of visual influence of the proposed development.
- Evaluation of the visual impact and the scope for mitigation of those impacts.
- Evaluations of impacts should include consideration of alternative siting and design of individual turbines and ancillary equipment.
- The application must include zones of theoretical visibility (ZTVs) at both hub and maximum blade tip height for distances of 5, 10 and 30km from the site. All ZTVs should be based on bare ground, excluding the impact of woodland and buildings. If the developer wishes to include ZTVs that incorporate woodland and buildings then these should be additional. All ZTVs should be shown at a minimum size of A3 to provide sufficient detail.

6. Noise Assessment

- To take into account the character and sensitivities of the area (including the prevailing winds and land form), and the individual and cumulative effects of the noise sources

7. Shadow Flicker Assessment
 - An assessment of potential shadow flicker throughout the year for all dwellings within a radius, equal to ten times the blade diameter, from the proposed location of each wind turbine.
8. Built and Cultural Heritage Assessment
 - A full assessment of any known or potential impacts on archaeological sites, listed buildings, conservation areas, historic gardens or other designated or undesignated heritage assets. The form and extent of the assessment should be discussed and agreed with the County archaeologist.
9. Tourism and Countryside Access Assessment
 - An assessment of any visual and amenity impacts on tourist and recreation facilities or tourism and countryside access, e.g. footpaths.
10. Public Safety
 - A risk assessment of the proposed development taking into account the proximity of surrounding development and risk of injury to humans and animals through equipment failure, lightning strike or ice throw
 - An assessment of any road safety including both capacity implications and possible effects of visual distraction.
11. Electro-Magnetic Interference (Aviation and Communication)
 - Consultations must take place with the relevant authorities and bodies. Details of possible adverse effects and appropriate measures to alleviate effects should be submitted.
12. Cumulative Impact Assessment
 - Assessment of the cumulative effects of the proposal and other installed/planned wind energy developments.
13. Grid Network
 - Details of the kVa and location of grid infrastructure near the site
14. Community Consultation
 - Results of consultation with details of the extent and methods used.
15. Pollution and Flood Risk
 - Details on how to prevent pollution during the construction phase of a development
 - Flood risk assessment
16. Traffic and transport
 - Details of proposed route for transporting components to the site
 - Details of proposed alterations to highways
 - Details of proposed on-site access tracks
 - Details of proposed traffic movements to and from the site, during construction, operation and decommissioning of the scheme
16. Other Issues
 - Local employment / business considerations.
 - Associated community benefits.
 - Decommissioning proposals

22. Environmental Impact Assessment screening and scoping requirement

22.1. Planning applications for certain types of development must be accompanied by an Environmental Impact Assessment (EIA). The EIA Regulations list the developments which need to be screened by the local planning authority in order to ascertain whether an EIA is required. In the case of wind turbines, if the proposal involves the installation of more than 2 turbines or the hub height of any turbine or height of any

other structure exceeds 15 metres, then the local planning authority must screen the proposal for the need for an EIA. If the proposal is deemed likely to have significant impacts on the environment, then the developer must prepare an Environmental Statement to accompany the planning application. The scope of this Environmental Statement will be agreed with the local planning authority, and will focus on those issues likely to have significant impacts. The EIA enables systematic examination of the environmental implications of a project (and its alternatives) and provides for public involvement in the process. The Environmental Statement describes the significant environmental effects of construction and operation, identifying beneficial and adverse effects, together with relevant mitigation measures.

22.2. Large wind turbines exert a significant visual impact on the surrounding countryside and there is little that can be done to mitigate this impact given their size and the rotation of the blades. Given that an EIA will be required if the proposal is deemed likely to have significant impacts on the environment then it is likely that even a single turbine of 50+m height will require a full EIA.

23. What cannot be taken into account

23.1. The planning system exists to regulate the development and use of land in the public interest. The material question is whether the proposal would have a detrimental effect on the locality generally, and on amenities that ought, in the public interest, to be protected. Fundamentally the planning issues – or ‘material considerations’ – must be related to the development and use of land in the public interest. This means that there are some issues, which whilst they may be legitimate concerns, cannot be taken into account by the Council when reaching a decision on a planning application. These issues include (but are not limited to):

- Need: All forms of renewable energy, be they large or small installations, will contribute towards the Government’s climate change targets and energy security requirements. There is no question of selecting preferred types of renewable energy on the basis that one is less controversial than another.
- House prices: The effect, if any, of a wind energy development on property prices in the locality is not material to the consideration of a planning application.
- Individual views: The loss of a particular view from a private property is not a material consideration (but note the comment in the landscape and visual impact section regarding turbines that would be unacceptably dominant or overbearing)
- Financial benefits: Government subsidies through the Feed-in Tariff, Renewables Obligation Certificates and other similar measures are not material considerations.
- Location of other schemes in adjoining areas: Whilst the cumulative impact of these schemes needs to be addressed, the presence of schemes elsewhere as an argument against granting a planning permission is not a material consideration.
- Setting a precedent: Each planning application is considered on its own merits, and the argument that granting permission might lead to another application is not sufficient grounds for refusal.
- View that offshore is better than onshore: The UK needs to continue increasing onshore wind capacity along with offshore development in order to meet the ambitious target of 15% of energy from renewables by 2020.

Appendix 1

(see also paragraph 3.10)

Wind energy developments – currently anticipated policy wording

Proposals for wind energy developments will be favourably considered, provided that the local and wider benefits of the proposal to the environment and the economy are not outweighed by the harm generated by the adverse impacts of the proposal.

When assessing the harm generated by the adverse impacts of the proposed development (including any ancillary development and supporting infrastructure), the following issues in particular will be taken into account:

(i) The immediate and wider impact of the proposed development on the landscape. This will encompass both the visual impact and the effect on the landscape character. In addition, proposals that are within, or will have an effect on, the Chilterns Area of Outstanding Natural Beauty should demonstrate that the proposed development will conserve or enhance the natural beauty of the designated area.

(ii) The impact of the proposed development on residential amenity. This will require a thorough assessment of any impacts on residential amenity including but not limited to, visual intrusion, noise, disturbance and shadow flicker. It will be necessary for the proposal to demonstrate that an adequate separation distance between the proposal and residential premises has been provided which ensures that no unacceptable impact upon residential amenity is caused.

(iii) The impact of the proposed development on heritage assets and the setting of those assets. Heritage assets include listed buildings, scheduled ancient monuments, historic parks and gardens, conservation areas, and any other assets of historic, cultural, or archaeological interest.

(iv) The impact of the proposed development on biodiversity interests, including habitats, species, and areas of ecological interest.

(v) The impact of the proposed development on the local highway network, during the construction phase, during the lifetime of the proposed development, and during any subsequent decommissioning of the facility.

(vi) The impact of the proposed development on aviation safety, including flight paths to airports and airfields and radar interference.

(vii) The impact of the proposed development on users of public rights of way.

Proposals should demonstrate how any adverse impacts have been minimised through careful consideration of location, scale, design and other measures.

This should not be taken as representing the Council's planning policy relating to wind energy development. It reflects the outcome of the Committee's review, in the light of guidance pertaining at that time in relation to policy formulation in general and wind energy in particular, as well as subsequent experience. The detailed wording and content of the actual Council policy relating to wind energy applications will be prepared at the point where it is taken forward into the relevant part of the Vale of Aylesbury Plan, to ensure that it is consistent with the procedural and policy position at that time, including any new legislation, examples of policy "good practice" and the outcome of appeals etc.

Appendix 2

Calculating Planning Fees for Wind Turbines and Wind Farms

1 Policy Guidance

1.1 Guidance on planning fees is provided in Circular 04/2008 (The Circular) - Planning Related Fees. The legislation referring to fees is the Town and Country Planning (Fees for Applications and Deemed Applications) Regulations 1989, which has been amended several times. The most recent amendment is the Town and Country Planning (Fees for Applications and Deemed Applications) (Amendment) (England) Regulations 2008. The Circular is a guidance document, and cannot override anything set out in the fee regulations, which are statutory regulations.

1.2 The Circular states that wind turbines are to be treated as Category 5 - Plant and Machinery, except for small domestic turbines installed within the curtilage of an existing completed dwelling house which should be treated as Category 6 or 7(a).

1.3 Category 5 application fees are based on site area. The site area must be accurately stated on the application form and the area on which the planning fee is paid must match the site area covered by the red edge shown on the site location plan. Paragraph 61 of the Circular clarifies this and states that clarity is essential.

1.4 Paragraph 40 of the Circular states the following:

To calculate the fee for a new windfarm, add all the land over which the blades of each turbine can rotate to the area of the footprint of any ancillary structures and engineering works. It is not necessary to include within the red line(s) on an application to put up wind turbines any other land between the turbines if no development is proposed there. On a site of no more than five hectares, £335 should be charged for each 0.1 hectare. Over five hectares, a fixed sum of £15,565 is payable with an additional £100 for each 0.1 hectare in excess of the first five hectares, subject to a maximum in total of £250,000.

2 Interpretation

2.1 All development relating to a wind farm must be within a red edge shown on the site location plan. No development can be permitted outside the red edge, and this includes, but is not limited to:

- * Any area that could potentially be covered by the rotating blades of a turbine
- * Access tracks, roads or paths
- * Cable trenches
- * Control rooms, substations, transformers
- * Meteorological masts
- * Any other engineering works, buildings, construction compounds, material storage areas or structure ancillary to the windfarm.

2.2 The red edge for a wind farm need not be contiguous as the Circular states that it is not necessary to include land between turbines where no development is proposed.

2.3 Where a developer requires flexibility in the final positioning of turbines or any other element of the development (micrositing), the red edge must include those areas where turbines or structures could potentially be sited or where any other development could take place. This will inevitably increase the site area and consequently the application fee.

Development cannot be permitted outside of the red edge. If after an application has been submitted and validated a developer wishes to introduce any micro-siting of the positions of the turbines or any other element of the development then this would be considered a substantial alteration and would require a new planning application. Thus it is important that prior to a planning application a developer is clear about precisely what area could be the subject of development.

2.4 A clear and thorough explanation of how the red edge area has been calculated should accompany any planning application. The site location plan detailing the red edge must be at a sufficient scale to enable clear measurements to be made of all boundaries. There should also be a table identifying the specific measurements for every element of the development so that the total area on which the planning fee has been calculated can be easily verified.