

# Appendices

Planning Guidance: Small Wind

November 2011





RenewableUK is the trade and professional body for the UK wind and marine renewables industries. Formed in 1978, and with over 700 corporate members, RenewableUK is the leading renewable energy trade association in the UK. Wind has been the world's fastest growing renewable energy source for the last seven years, and this trend is expected to continue with falling costs of wind energy and the urgent international need to tackle CO<sub>2</sub> emissions to prevent climate change.

In 2004, RenewableUK expanded its mission to champion wave and tidal energy and use the Association's experience to guide these technologies along the same path to commercialisation.

Our primary purpose is to promote the use of wind, wave and tidal power in and around the UK. We act as a central point for information for our membership and as a lobbying group to promote wind energy and marine renewables to government, industry, the media and the public. We research and find solutions to current issues and generally act as the forum for the UK wind, wave and tidal industry, and have an annual turnover in excess of five million pounds.

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# 1. Issues in Determining Small Wind Planning Applications

**1.1.1** As with other types of development, there are a range of issues that need to be considered for small wind development proposals.

**1.1.2** The following sub-sections present an overview of the key issues that need to be considered when assessing small wind applications. Guidance for the following individual topic areas is provided, particularly with a view to assisting determining authorities in identifying when environmental impacts may require more detailed evaluations to accompany an application. The Environment Assessment sub-section outlines the current guidance relating to environmental impact assessment and how to approach applications where environmental impact assessment is not required:

- Landscape and Visual Issues
- Noise
- Ecology
- Shadow Flicker
- Aviation
- Electronic Communications
- Archaeology and Heritage
- Transport
- Hydrology
- Contaminated Land
- Environmental Assessment

The majority of small wind turbine applications are unlikely to require a formal environmental impact assessment to accompany the application.

Nevertheless, it is important to follow the procedures for formally assessing whether or not an EIA is required, as set out in the EIA Regulations, to ensure that an application proceeds correctly.

This process is known as Screening and is set out in the final sub-section of this chapter. The fundamental basis for the test as to whether or not an EIA is necessary relates to whether or not the impacts arising from the proposed development are considered likely to be significant on the environment.

**1.1.3** Planning policy from Central and Local Government encourages renewable energy initiatives. Whilst this cannot influence the judgement as to whether or not significant impacts would be likely to arise from small wind proposals, determining authorities should bear in mind that requiring an EIA to accompany a proposal for a micro, small or small-medium wind proposal will potentially make preparing a planning application financially unfeasible for many applicants. The Screening decision should therefore be made carefully and considered proportionally to the impacts anticipated to arise from the development proposals.

**1.1.4** In accordance with this principle, the scope of documentation requested of applicants should be relevant and concise.

## 2. Landscape and Visual Issues

**The requirement for a Landscape and Visual Impact Assessment (LVIA) is dependent upon the scale of the proposed turbine and the sensitivity/capacity of the receptor environment. LVIA is most likely to be required when a turbine is proposed in or near to a sensitive environment.**

### Introduction

**2.1.1** The purpose of the Landscape and Visual Impact Assessment (LVIA) is to understand how the proposed wind turbine is likely to affect existing sensitive assets such as landscape features, landscape character and visual amenity of the surrounding environment.

**2.1.2** The flow chart at the end of this sub-section summarises the criteria for requiring a LVIA.

**2.1.3** Documentation requested as part of the LVIA process should be proportionate to the landscape/visual issues identified.

### Building Mounted Micro/Small Scale Turbine

**2.1.4** Turbines can be fixed to buildings in a number of ways: wall bracket, wall braced, parapet edge or flat roof. Given that it is not located in a sensitive environment that is, such as attached to or within the setting of a listed building, or located within a Conservation Area or its setting, it should not require an LVIA. Application drawings should illustrate the proposal and how it will relate to the attached building.

**2.1.5** Given the turbine is located within a sensitive environment such as Conservation Area or attached to a listed building or falls within their setting, a LVIA should assess the key principal visual receptors likely to be affected. Any assessment should include elevational drawings of the turbine and its location on the building.

Free standing Micro Scale Turbine (Swept area <6m<sup>2</sup>, < 11m hub height) (Centre of Rotation)

**2.1.6** Given a free standing turbine is located outside any statutory protected landscape a LVIA should not be required. A plan indicating the location of the turbine in an urban context shown relative to nearby buildings together with elevational drawings of the turbine is an appropriate level of information given the lack of visual and landscape sensitivity in such an environment. Where a turbine is located within a sensitive environment such as statutory landscape designation, e.g. Registered Park and Garden, the LVIA should specifically address likely effect upon character, landscape features and visual amenity, up to a range of 2km.

### Small Wind

**2.1.7** A free standing turbine is typically under 70m<sup>2</sup> in swept area and typically up to 25m in hub height. This height would be comparable to a mature tree which is typically 20-25m height. Given the turbine is not within a statutory protected environment or its setting, and is located away from residential properties a LVIA may not be required. A plan showing the location of the turbine in relation to nearby structures or landscape features together with an elevational drawing of the turbine should be an appropriate level of information.

**2.1.8** Small medium wind turbines can typically have a hub height of up to approximately 40m and an overall height of approximately 50m to blade tip. Beyond 2km, such a turbine would not be significant in visual terms.

**2.1.9** Where a turbine is located near to residential properties and/or is within a sensitive environment such as: protected landscape area; designated as a heritage asset; registered landscape or its setting; Green Belt, a landscape

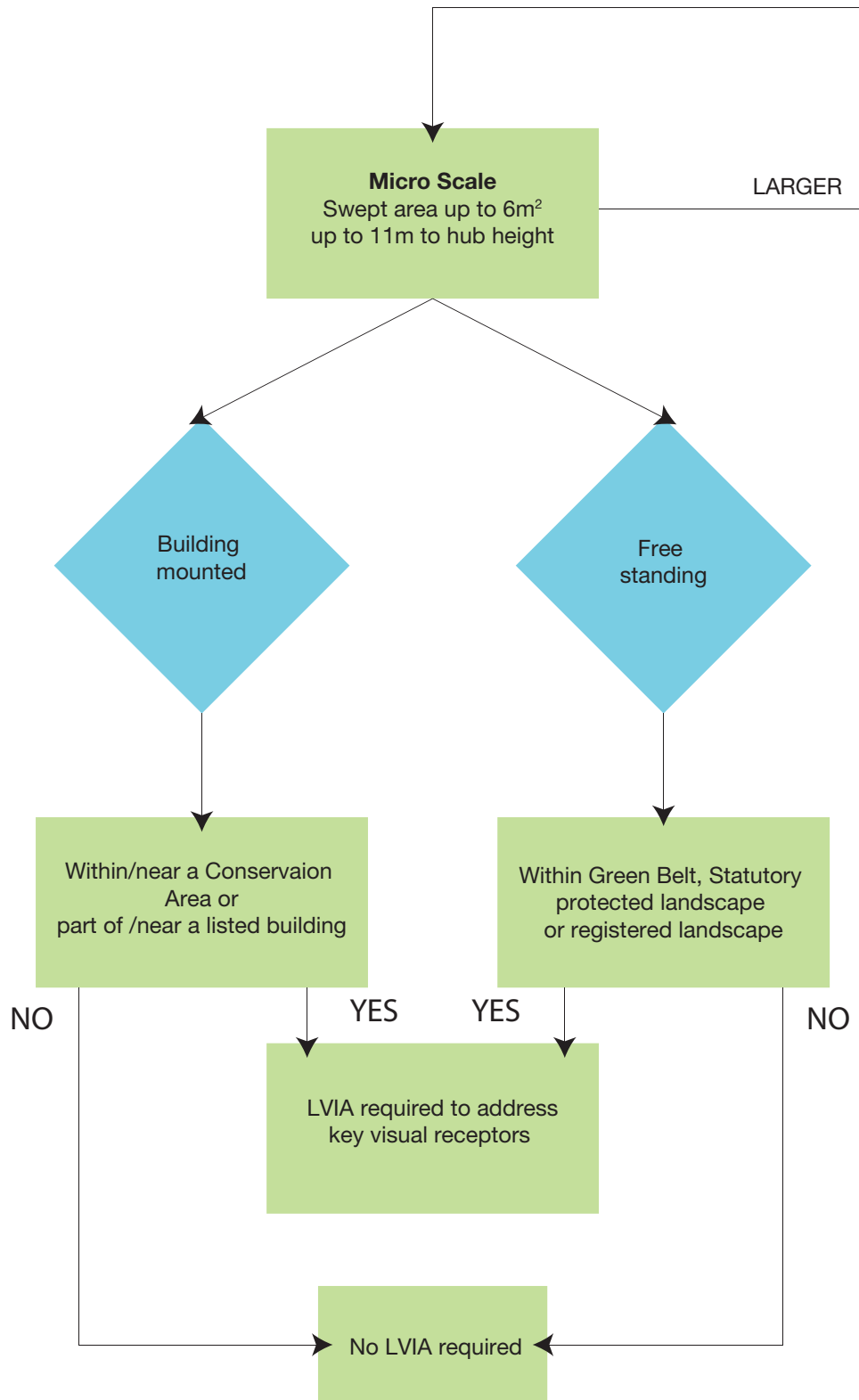
and visual assessment should address the likely effects upon the key visual/landscape receptors. Any LVIA undertaken should address only specific key environmental aspects. Within a sensitive environment, turbine size will mean that it is typically not visually prominent beyond a 2km distance. Analysis of key visual receptors should also be limited within this geographical extent together with any analysis of landscape character and environmental capacity.

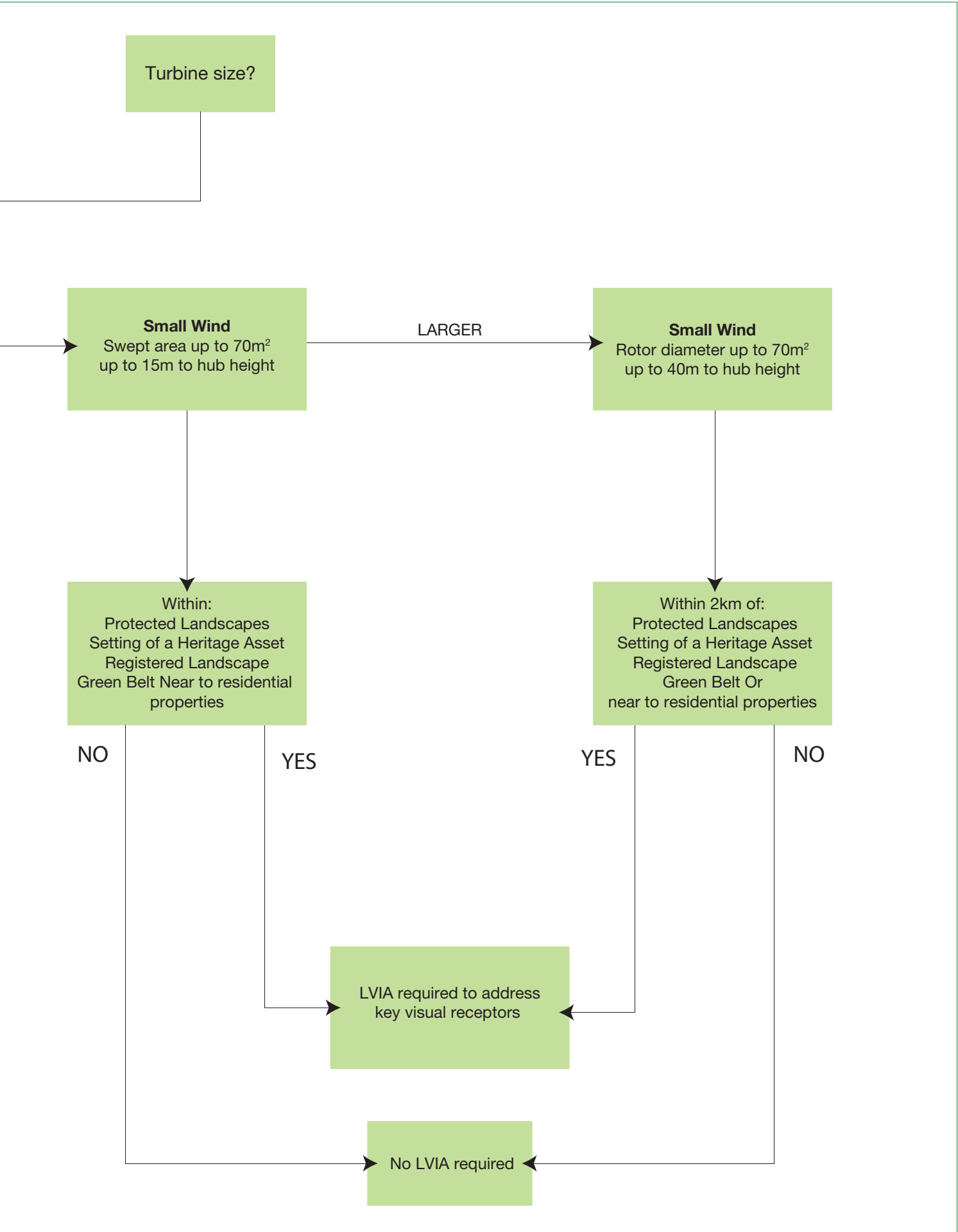
**2.1.10** Analysis should only identify any landscape features which lie within the immediate vicinity distance equivalent to overall height of the wind turbine and any ancillary aspects of the development such as siting of switch gear and access tracks. Only key receptor viewpoints should be photographed to illustrate the landscape and visual characteristics of the environment. Photographs should illustrate the proposed location of the wind turbine as well as annotating any significant features evident from the viewpoint. The viewpoints should be agreed between the local planning authority and the applicant and each viewpoint illustrated by means of a panoramic photograph and photomontage if required.

**2.1.11** The LVIA analysis may address landscape capacity, character, and visual amenity within the zone of theoretical visibility (ZTV) of 2km. There should be agreement with the applicant to address key visual receptors in close proximity, dependent upon the turbine height and landscape type.

**2.1.12** Urban and despoiled environment and landscapes which exhibit significant visually prominent structures are likely to be less visually sensitive and therefore should not warrant detailed landscape analysis given their low landscape amenity value.

## Requirement for Landscape and Visual Assessment





## 3. Noise

**3.1.1** RenewableUK (previously BWEA) recommends that the installation of a specified microgeneration installation should not cause an external noise level, due to the specified microgeneration installation alone, in any mode of operation or wind speed that will not be exceeded more than 10% of the time on the given site, above 45dB<sup>1</sup> LAeq, 5 min at 1 meter from the façade of any neighbouring building, and in the case of small wind turbines, measured in accordance with BWEA Small Wind Turbine Performance and Safety Standard (Feb 2008).

### Why 45dB LAeq, 5 min is an appropriate external noise level for small wind system?

#### Empirical data shows low level of historic complaints

**3.1.2** A freedom of information request to all local councils in the UK in 2008 revealed a very low complaint rate for both ASHPs and MWTs over the last 5 years suggests 45dB is an appropriate level of acoustic protection. Of the 5426 micro-wind turbines installed between 2005 and 2007, fewer than 5 complaints were upheld – 0.001% of installations have resulted in upheld complaints.

#### Inherent industrial interest to provide robust acoustic protection

**3.1.3** Industry has a natural interest to adopt levels of noise protection that will prevent the cause of nuisance, and that will uphold consumer confidence and industrial reputation. In short, it is not in industry's interest to use inappropriate protective noise levels. The widespread market support for 45dB as a level of acoustic protection that will not harm industrial reputation is a point that should provide comfort to policy in adopting 45dB;

#### Industrial precedent for 49dB

**3.1.4** 45dB is a more robust level of acoustic protection than applied to other domestic appliances – the flue noise for oil fired boilers must not exceed 49 dB(A): 4 dB(A) higher than currently proposed levels for small wind systems;

#### Empirical data supports 45dB - desk based theoretical studies are demonstrated to be inaccurate

**3.1.5** Significant volumes of empirical data demonstrate 45dB is a far more robust level of noise protection than that currently provided through current UK planning system requirement. Despite current practice offering less robust protection than is proposed for GPDO, little to no complaints are being experienced.

#### BWEA quantitative analysis on sample of current installation

**3.1.6** BWEA quantitative analysis of a sample of approximately 500 micro-wind turbines shows current planning practice is less robust than proposed non-domestic GPDO noise levels and is delivering negligible rates of complaints.

**3.1.7** This study revealed that:

- 75% of sampled turbine installations exposed the facade of the nearest neighbouring building to noise levels in excess of 45dB.
- 51% of turbine installations exposed the facade of the nearest neighbouring building to noise levels in excess of 55dB.
- Of the 25% of the studied installations that exposed the facade of the nearest neighbouring building to noise levels of less than 45dB, the overwhelming majority were sited in rural settings with 67% of the installations being located at least 100m from the nearest neighbouring buildings.

- All sampled turbine installations were granted planning consent.
- None of the sampled turbine installations resulted in complaints on the grounds of acoustics.
- BWEA quantitative analysis show not only are micro-wind turbines not causing nuisance, but they are not causing nuisance when exposing neighbours to far higher than noise levels than those being proposed by industry for inclusion within GPDO.

**3.1.8** In summary, thousands of small wind systems installed with the permission of the local authority are exposing neighbouring dwellings to noise levels in excess of 45dB(A) (and indeed 55dB(A)), and are resulting in no complaints.

**3.1.9** RenewableUK has already provided Department for Communities and Local Government (DCLG) with copies of this analysis but, if requested to do so, we would welcome the opportunity to discuss the details further.

#### Robust protection provided by a plethora of "in-built" safeguards

**3.1.10** The proposed noise level is further supported by a number of "in-built" safeguards within the proposed MCS/BWEA methodology. These include:

- A tonal penalty of 5 dB for any turbine exhibiting tonal characteristics during distinct testing;
- MCS/BWEA Product testing uses a "Declared Apparent Emission Sound Power Level" - in laymen terms this means any product's stated noise level is topped up by a set proportion so to account for any possible error/variance - this adds 1.5 dB onto the product noise level, thus providing additional protection and system confidence;
- A V90 windspeed is used so to protect beyond the host property for windspeeds not experienced

more than 10% of the time. The consequence of this component of MCS/BWEA noise mapping methodology should not be underestimated - for the vast majority of the system's the separation distances to neighbouring buildings required to satisfy the V90 windspeed criterion will offer protection to noise far lower than 45dB over the range of typically encountered wind speeds;

- GPDO policy is supported by robust, world leading standards (MCS/BWEA). The BWEA small wind turbine performance and safety standard currently forms the basis of new international small wind turbine standards, with the product acoustic test methodology having already been preliminarily adopted by the international community (IEC61400-2 Edition 3 Review Committee);
- Accredited installers enact the necessary processes, enforce the policy, and ensure best practice is maintained to the benefit of all.
- The proposed approach will stimulate innovation, and the speedy evolution of product design brought forward by market growth, without the latter the former will not be achieved.

**3.1.11** The UK small wind industry is world leading but at a very fragile and early stage in its development. RenewableUK would suggest the agreement of inappropriate noise limits would irreparably, and terminally, jeopardize the global competitiveness of UK manufacturing at this early stage in the technology's development.

## 4. Ecology

**Key concerns relating to the effects of wind turbines on ecological resources include possible collision risks for bats and birds; habitat loss; displacement and disturbance of legally protected species. The likelihood of effects on ecology from wind turbines should be considered with a precautionary approach but on a proportionate basis.**

### Introduction

4.1.1 This guidance incorporates checklists that can be utilised to determine the likelihood of significant effects on ecology resulting from a wind project and to determine the scope of ecological surveys likely to be required for a given turbine application, based on a proportionate and precautionary approach.

4.1.2 This approach includes consideration of:

- Current legislation in relation to legally protected wildlife sites at the International level (Special Protection Areas and Special Areas of Conservation – SPAs and SACs), National level (Sites of Special Scientific Interest - SSSIs), together with other non-statutory designated wildlife sites;
- Habitats features utilised by fauna potentially susceptible to effects of wind turbines (primarily birds and bats colliding with moving blades along with displacement, barrier effects as well as cumulative and in-combination impacts);
- Other faunal species affected by habitat disturbance and loss during construction of wind projects and related infrastructure, e.g. protected species such as Great Crested Newts, for which a licence would be required to permit activities that would otherwise be illegal under domestic and European wildlife legislation;
- Other habitats of 'biodiversity importance' (non-designated).

### Designated Sites

**Presence of statutorily protected and non-statutorily designated sites.**

4.1.3 In general terms the closer the turbine to a designated site, the greater the likelihood of a significant adverse impact. In addition, the higher the level of protection afforded to a designated site the greater the potential significance of an adverse effect. This does depend on i) the reason for designation, ii) species at risk.

#### Checklist Criteria 1

- **Turbine not within or adjacent to a statutory designated nature conservation site (e.g. SAC, SPA or SSSI)** – Go to Checklist Criteria 2.
- **Turbine is within or adjacent to a statutory designated nature conservation site (e.g. SAC, SPA or SSSI)** – Consultation recommended with relevant Statutory Nature Conservation Authority particularly if the project location is designated for bats or birds. Consultation would determine if further survey is required and, if so, allow the scope of surveys to be agreed. Minimum requirement for work prior to consultation would be desk-based assessment (bat/bird data and other relevant information) and an appraisal of habitats and species likely to be present.

#### Checklist Criteria 2

- **Turbine not within or directly adjacent to a non-statutory designated nature conservation site (e.g. ancient woodland, Wildlife Site)** – Go to Checklist Criteria 3.
- **Turbine is within or directly adjacent to a non-statutory designated nature conservation site (e.g. ancient woodland, Wildlife Site)** – undertake desk-based assessment (bat/bird data and other relevant information) and an appraisal of habitats and species likely to be present in order to determine whether additional surveys required.

Surveys should be in proportion to likely risk posed by location and operation of the turbine. The survey aim is not to provide information on all bats/birds at the site but rather a risk assessment to guide turbine siting. As such, in many cases a single survey at an appropriate time of year (time of highest risk preferable) during reasonable weather conditions will be appropriate. In certain circumstances (e.g. the probability of bats/birds is very high; usage is considered to be seasonal or surveys not carried out at optimal time) then more than one survey may be required.

### Habitat Features used by Bats & Birds

**Presence of features utilised by birds**

4.1.4 Potential collision risks with turbines are increased by the increased proximity of habitat features which can be used as migration routes, feeding and roosting areas for birds. Regular flightlines between feeding and roosting grounds can increase the risk of adverse effects. Raptors, in particular, are less likely to be affected by small wind turbines.

4.1.5 Given micro/small wind turbines are located away from habitats, these are likely to have little or no impact on bird species. Common species such as Swifts, House Sparrows, House Martins and Starlings fly close to/nest within buildings there is little research or anecdotal evidence of effects from locating turbines on buildings.

4.1.6 It should be noted that preceding criteria is not geared towards an avoidance of bird mortality entirely but rather the avoidance of impacts on bird populations, i.e. surveys do not need to be implemented as a matter of course in line with guidance as for large wind turbines and surveys may only be required where assessment justifies such effort.

4.1.7 The RSPB published a report in March 2009 entitled 'Positive Planning for Onshore Wind' which recognises the importance of providing energy from wind power in the UK in the coming years and seeks to balance nature conservation concerns with this requirement. To assist with this aim, bird sensitivity maps have been produced by the RSPB. These sensitivity maps are aimed at large wind turbines. If micro/small wind turbines were to be located in 'sensitive areas' this would not necessarily result in requirements for detailed survey across the year. The maps will help highlight areas where small/micro turbines could be sited without likely risk to sensitive bird species, albeit the maps are not fully comprehensive with inevitable gaps in the dataset. Therefore, consideration may need to be given to presence of features such as coastal and floodplain grazing marsh habitat and the presence of bird reserves not necessarily covered by designations particularly for areas where bird sensitivity maps are not available.

#### Checklist Criteria 3:

- **Turbine does not require installation works to building/structure (or similar) or clearance of vegetation** – Go to Checklist Criteria 4.
- **Turbine requires installation works to buildings/structure (or similar) or clearance of vegetation** – Work to be undertaken outside bird nesting season (March to July inclusive) or check survey prior to installation to ensure absence of nesting birds.

#### Checklist Criteria 4 (Micro/Small turbines up to 15kW)

- **15-50kW Wind Turbine Proposed** – Go to Checklist Criteria 5.
- **Micro / Small Wind Turbine (up to 15kW) Proposed** – Further Bird survey is unlikely to be required although siting should be precautionary and avoid known nesting sites in or on buildings/close to turbine (distance less than turbine height).

#### Checklist Criteria 5 (15-50kW Turbines)

- **Turbine not located in area of Bird Sensitivity/Flyways based on available spatial planning guide maps** – Go to Checklist Criteria 6.
- **Turbine located in area of Bird Sensitivity/Flyways based on available spatial planning guide maps** – Consultation recommended with relevant Statutory Nature Conservation Authority to determine if further survey is required. Regard should be had for relevant survey guidance by various statutory nature conservation authorities.<sup>2/3</sup>

#### Checklist Criteria 6 (15-50kW Turbines)

- **Project is not within/on or directly adjacent to ridgelines, coastal and floodplain grazing marsh habitat and/or bird reserves protected by designations** – Bird survey unlikely to be required. Desk-based assessment should be undertaken if there are known records of high-risk bird species, such as raptors, in vicinity. Surveys required on case-by-case basis if high-risk species present. Survey effort to be limited to single survey. Go to Checklist Criteria 7.
- **Project is within/on or directly adjacent to ridgelines, coastal and floodplain grazing marsh habitat and/or bird reserves not protected by designations – If presence of birds undertake** desk-based assessment of habitats and species likely to be present. Specific field work may be required dependent on the findings of the desk-based assessment.

#### Presence of features utilised by bats

4.1.8 In general collision risks with turbines may be increased by Presence of certain habitat features such as woodland, ditches and hedgerows, which can be used as foraging areas or commuting routes by bats to/from roosting sites (buildings or trees). The presence of a roost within the vicinity might also generally increase

likely effect on this group. Logic dictates that as distance from such features/roosts increases the risk of adverse effect declines.

4.1.9 With regard to micro/small wind turbines, to date there are no known studies which have demonstrated increased collision risk in or near hedgerows, or similar, although there is anecdotal evidence held by the Bat Conservation Trust (BCT) of collisions with micro-turbines sited within such features.<sup>4</sup> Notwithstanding the latter, many thousands of micro turbines have been installed by UK authorities over the past two decades for powering road traffic signs and other street furniture, and therefore, in comparison the number of reported cases is considered negligible in relative terms. Based on the relatively small number of reported incidents it seems likely that bats are capable of recognising and avoiding micro and small wind turbines.

4.1.10 It should be noted that criteria below is not geared towards an avoidance of bat mortality entirely but rather the avoidance of impacts on bat populations. Surveys do not need to be implemented as a matter of course and only where assessment (or similar) justifies such survey.

#### Checklist Criteria 7

- **Turbine does not require installation works to building/structure** – Go to Checklist Criteria 8.
- **Turbine requires installation works to buildings/structure** – If building has potential to support roosting bats assessment needed to determine presence of a roost therein would be required to ensure a potential criminal offence is avoided.

Such installation works would include:

- works within roof spaces (including provision of flues, cabling and pipework),
- works affecting chimney stacks, or
- works that may block potential access points for bats.

2. Natural England Technical Information Note TIN059 – Bats & Single Large Wind Turbines: Joint Agencies Interim Guidance

3. Scottish Natural Heritage Guidance (November 2005) – Survey Methods for use in assessing the impacts of onshore windfarms on bird communities

4. www.bats.org.uk/publications\_download.php/431/07.06.05\_microturbine\_mort\_v3.pdf

### Checklist Criteria 8 (Micro/Small turbines up to 15kW)

- **15-50kW Wind Turbine Proposed** – Go to Checklist Criteria 9.
- **Micro / Small Wind Turbine (up to 15kW) Proposed** – Siting should be precautionary and avoid locations with potential to support bat roosts. Bat survey is unlikely to be required. If turbine is to be sited in a 'high risk' location, bat survey would likely be required to assess if location acceptable.

### Checklist Criteria 9 (15-50kW Turbines)

- **Turbine is not within/on or directly adjacent to following:**
  - Building/Feature/Structure providing a potential bat roost (includes bridges and mines)
  - Woodland
  - Hedgerow
  - Rivers or Lakes

Bat survey unlikely to be required.

- **Site is within/on or directly adjacent to above features:**

Site assessment (bat data species) for appraisal of habitats and species likely to be present to guide whether additional surveys are required. Given the presence of features, further 'Bat Survey & Risk Assessment' is likely to be required.<sup>5</sup> Guidance documents provide information on siting of turbines to reduce risk and other mitigation.<sup>6</sup> Whilst the majority of existing guidance is primarily aimed at large turbines some principles will be equally applicable to smaller 15-50kW turbines.

located at a distance (SNH recommends a distance of 200m from SPAs, known nest sites (of sensitive species) or flight corridors). Depending upon the nature of the surrounding habitat and the size of the turbine and infrastructure proposed, the potential for effects during construction may need to be considered.

### Other Habitats of 'Biodiversity Importance'

4.1.12 Micro and small wind turbines are unlikely to cause adverse effects on other habitats of biodiversity importance where turbines are sited appropriately. Presence of habitats considered to be of 'Biodiversity Importance'

4.1.13 Some habitats noted to be of 'biodiversity importance' will be covered by some level of designation. Natural England has produced a dataset to include areas of non-designated peatlands. Sensitivity Maps for Peat Soils<sup>7</sup> should be reviewed in peat locations.

### Habitat Features used by Other Fauna

4.1.11 Micro and small wind turbines are unlikely to cause adverse effects on other protected or notable species during operation given turbines are

5. Natural England Technical Information Note TIN059 – Bats & Single Large Wind Turbines: Joint Agencies Interim Guidance

6. Natural England Technical Information Note TIN051 – Bats & Onshore Wind Turbines

7. Youngs (2008) Wind Turbines and Peat Soils: A Spatial Planning Guide for on-shore wind farm developments in Cumbria. RSPB.

## 5. Shadow Flicker

**The majority of turbines at the smaller end of the scale will not cause shadow flicker on the basis that any such installation is too small to cause significant effects.**

**5.1.1** Given the distance between the turbine and the nearest building (receptor) or office is more than 10 rotor diameters of the turbine, there is little potential for shadow flicker.

**5.1.2** With separation distances shorter than 10 rotor diameters and under certain combinations of geographical position, time of day and year, wind speed and wind direction, the sun may pass behind the rotor and cast a shadow over nearby buildings and their windows. As the blades rotate, shadows pass across window. For a person within that room the shadow appears to flick on and off. This effect is known as the shadow flicker. It occurs only within buildings where the flicker appears through a narrow window opening and only buildings within 130 degrees either side of north relative to a turbine in the UK.

**5.1.3** If there is the likelihood of shadow flicker been generated it is possible to calculate the number of hours per year that shadow flicker may occur at a building for the relative position of the turbine to the building, the geometry of the wind turbine, the latitude of the wind turbine site and the width of the windows potentially affected. Shadow flicker can be avoided through fitting a sensor module to switch off the turbine during the relevant times.

**5.1.4** The flickering effect caused by shadow flicker can have the potential to induce epileptic seizures, through a condition known as photosensitive epilepsy. The common frequency at which photosensitive epilepsy might be triggered varies from person to person though generally, it is between 5 and 30 flashes per second (hertz (Hz)) (The National Society for Epilepsy, 2007).

**5.1.5** Information specific to shadow flicker may be found in Planning for Renewable Energy: A Companion Guide to Planning Policy Statement PPS22 Renewable Energy.

**5.1.6** Within the UK there is no standard for the assessment of shadow flicker and there are no guidelines which quantify what exposure levels would be acceptable. However, it is possible to calculate the number of hours per year that shadow flicker may occur and regulate through a control mechanism.

**5.1.7** The likelihood of shadow flicker occurring and the duration of such an effect depends upon the following factors:

- The direction of the building relative to the turbines;
- The distance from the turbines;
- The turbines hub-height and rotor diameter;
- The time of year;
- The proportion of day-light hours in which the turbines operate;
- The frequency of bright sunshine and cloudless skies (particularly at low elevations above the horizon); and
- The prevailing wind direction;
- The normal hours of occupation of the building.

**5.1.8** The calculations assume a ‘worst case’ scenario which includes the following assumptions:

- The sun always shines in a clear sky, i.e. no account of climactic conditions (such as clouds or precipitation) has been made;
- Objects surrounding the windows that may block the view to turbines such as trees, buildings have been disregarded;
- The turbines rotors are always aligned face-on to the window, providing the maximum opportunity for shadow flicker; and
- The rotors are always turning, i.e. no account has been taken of calm winds or shut-down periods.

**5.1.9** When the sun is close to the horizon, at dawn and dusk, the intensity of the sun’s rays is reduced and is less likely to cast distinct shadows. It is also generally considered that when the sun is lower than 2° above the horizon, that shadow flicker is unlikely to occur to any significant extent.

**5.1.10** Turbines can also cause flashes of reflected light, which can be visible for some distance. It is possible to ameliorate the flashing. 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 can be used to reduce the effect further.

**5.1.11** Information regarding shadow flicker is documented in Annex 1 of the Northern Ireland draft PPS18.

## 6. Aviation

### The majority of small wind turbines will not affect radar/aviation assets on account of their small scale.

6.1.1 Wind turbines can potentially affect aviation interests in two principal ways:

- Impacts on radar used for air traffic control, air defence and meteorological purposes, and on radio navigation aids;
- Turbines can present a physical obstruction to safe operations at a given civil or military aerodrome or within the UK Military Low Flying System.

6.1.2 To ensure that aviation stakeholders are consulted about developments that may affect their operations, a process known as safeguarding is in place. This takes several forms:

- The larger civil airports, most military airfields, radar installations and radio navigation aid sites operated by NATS En Route Ltd all have statutory safeguarding arrangements established under Office of the Deputy Prime Minister (ODPM) Circular 1/2003 and its Scottish and Northern Ireland equivalents. Under this procedure, the operator of the airport or technical site lodges an official safeguarding map with the relevant local planning authorities. The map depicts areas where developments above a specified height, or those meeting other criteria (such as wind turbines) require the planning authority to consult the operator.
- At licensed civil aerodromes other than those which are “officially” safeguarded, the aerodrome licence holder is obliged to ensure that the airspace in the vicinity is free of obstacles as defined by a set of internationally-specified Obstacle Limitation Surfaces. These airports may or may not have a procedure in place which ensures that they are informed of relevant planning applications.

- The Civil Aviation Authority (CAA) publishes guidance – CAP 764 – which sets out criteria for the radius around aerodromes of different sizes and activities within which any proposal for a wind turbine development should be referred to the operator of the aerodrome. While CAP 764 acknowledges that wind turbines can affect radar/radio aids and form a physical obstruction, it offers no specific guidance on the criteria to be applied in relation to small wind turbines.
- Established wind industry practice for consultation with aviation interests is based on a standard consultation proforma for submission to the MoD. The CAA no longer responds to pre-planning inquiries. The MoD response is based on assessment of the impact on aerodrome obstacle limitation surfaces, radar line-of-sight and military low flying.

6.1.3 In relation to obstacle clearance, there are some clear criteria which can be applied which would limit the geographical extent of any consultation requirements for wind turbines below specified heights. These are set out in CAP 168 – Licensing of Aerodromes - for civil aerodromes and JSP 554 - Military Aviation, Aerodrome Standards and Criteria – for military aerodromes. Both are based on international civil criteria.

6.1.4 In relation to radar and radio navigation aids, the key determinant of the potential for small wind turbines to generate adverse effects is radar cross-section (RCS).

6.1.5 Although evidence exists to support the view that impact is likely to occur less than 15km from a radar, aviation stakeholders ‘safeguard’ radar operations out to a distance of 30km and this should be used as the consultation figure.

6.1.6 The International Civil Aviation Organisation (ICAO) has established

safeguarding criteria for use around aeronautical radio navigation aids in Europe.<sup>8</sup> While many such facilities are located on aerodromes and will therefore be encompassed by the aerodrome consultation radii, a number are located on greenfield sites away from aerodromes. The maximum radius of the safeguarded zones for these facilities is 3km. A consultation radius of 3.5km for small to medium wind turbines will be sufficient to ensure that developments meet the ICAO criteria.

### Tactical Training Areas

6.1.7 With regard to military low flying, the charts used by pilots for low flying do not show obstacles less than 45.7 metres above ground level in the normal low flying areas, or 24.4m above ground level in the three Tactical Training Areas in Central Wales, Northern England/ Southern Scotland, and the North West Highlands. There should therefore be no special requirement for reporting of wind turbines less than those heights to blade tip (see typical examples of scale of turbines – Section 2).

8. ICAO, European Guidance Material on Managing Building Restricted Areas, ICAO EUR DOC 015, September 2004.

## 7. Electronic Communications

**In most cases it is unlikely that small wind turbines will affect electronic communications networks and services.**

**7.1.1** There are many forms of electronic communications, but this guidance only refers to wireless communications as that is the type which is most prone to potential interference from wind turbines. Radar and aviation systems are addressed separately.

**7.1.2** Wireless communications include terrestrial radio and television broadcasting, mobile communications and other wireless networks, such as Airwave, which is dedicated for use by the emergency services. They therefore support and deliver significant public services which have almost universal use and, in some cases, can be life saving in their nature.

**7.1.3** Tall structures, including wind turbines can impact upon wireless communications in a variety of ways. These are explained in a document published by OFCOM dated 26 August 2009 and entitled "Tall Structures and their Impact on Broadcast and Other Wireless Services". Developers and local planning authorities are referred to this document.

**7.1.4** Interference with electronic communications is a material planning consideration (see paragraph 102 onwards of the Supporting Guidance to PPG8 – Telecommunications). The planning advice sent to all local planning authorities in connection with the Digital Switchover of the terrestrial television network specifically informs planning authorities of the national importance of broadcasting and about the potential of wind turbines to interfere with those services.

**7.1.5** The emphasis within policy across the UK is not to prevent the development of otherwise acceptable proposals for wind turbines, but to ensure the issue is properly explored and any identified problems resolved.

**7.1.6** As wireless communications are invisible and may include links that cross several kilometres the potential for causing interference may not be immediately obvious. It may be appropriate to carry out certain investigations to establish whether there is real potential for causing interference. All wireless systems tend to have the same basic characteristics, e.g. a set of antennas to provide signal coverage over a given geographical area and dish antennas to provide fixed links with other sites that form part of the network.

**7.1.7** Section 6 of the OFCOM document (2009) provides various contact details and other information to assist in establishing the potential for interference. This includes the service it operates for establishing clearance for fixed links and the BBC wind turbine assessment tool to assess television reception or coverage. For small to medium turbine size it may be appropriate to review this information at an early stage and contact any potentially affected operators to explore in more detail the extent of any problems and possible solutions.

**7.1.8** Provided a small turbine is no closer than 100 metres to an electronic communications installation, such as a mast or on a rooftop, and less than 15 metres to hub height it is unlikely to cause interference.

**7.1.9** For turbines within 100 metres and/or that exceed 15 metres to hub height it will be appropriate to follow the guidance and consultations recommended in the OFCOM document (2009).

**7.1.10** OFCOM maintains a Sitefinder database of mobile phone installations which can be interrogated alongside approaching operators of any nearby base stations. The Sitefinder database is not, however, comprehensive and so if unsure from any visual inspection of the area, it may be prudent to approach the mobile operators.

**7.1.11** The identification and resolution of any issues at an early stage can make it easier to address potential problems than have to seek alterations to an electronic communications network. Paragraph 67 of Section 8 of the Technical Annex of the Companion Guide to PPS22 – Renewable Energy explains this would have to be at the turbine applicant's expense and in most cases is likely to render any small scheme unviable. If issues with interference are raised, it will therefore be far better to design the issue out by resiting of antennas, reducing height and/or using a vertical instead of horizontal turbine type.

**7.1.12** Small to medium size turbines can trigger the requirement for an Environmental Impact Assessment and the scoping stage of such assessments normally includes consideration of the potential affects on electronic communications.

### **Prior Consultation**

At the outset of any discussions, the local planning authority should check that the turbine proposal adheres to the best practice set out in the OFCOM advice.

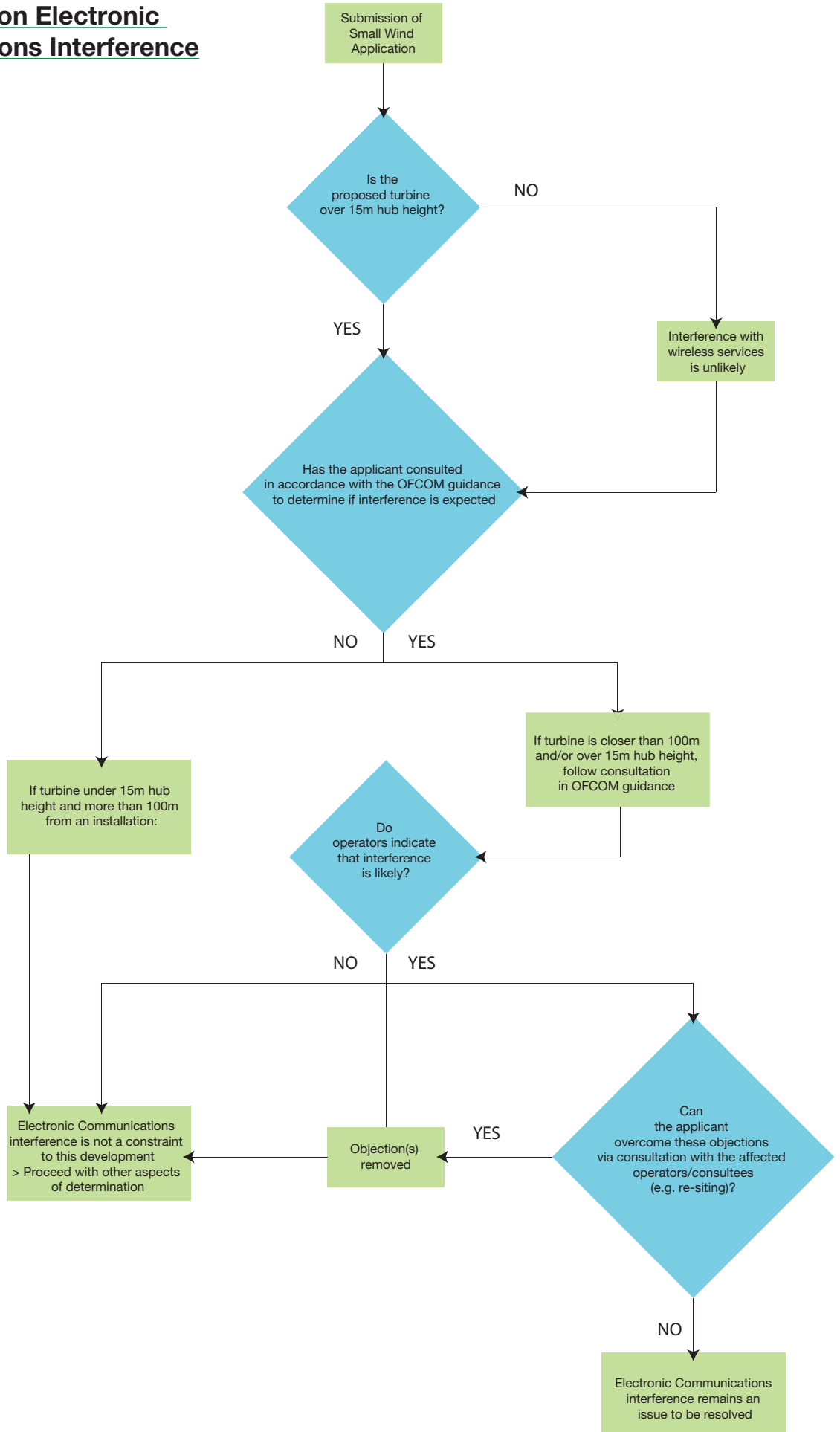
### **Planning Application**

In assessing a planning application, the local planning authority should:

- Ensure that full information is given about the investigations and checks made to ensure any potential problems are avoided
- For turbines which exceed 15 metres in hub height, consult in any event with the operators of the broadcast and mobile networks, including Airwave.

**7.1.13** Planning conditions can ensure measures to overcome any identified issues are secured, but it is best if the issues are designed out.

## Consultation on Electronic Communications Interference



## 8. Archaeology and Heritage

**A staged approach towards gathering information on heritage assets through scoping and assessment, in line with government guidance, will normally allow heritage issues to be effectively managed.**

### Introduction

**8.1.1** Climate change presents a potential threat to some heritage assets through such effects as sea level change, storms and flooding, vegetation change and soil erosion.<sup>9</sup> Wind energy projects have the potential to reduce carbon emissions and address climate change and hence have the potential to deliver indirect benefits for the cultural heritage resource.

### Key Considerations

**8.1.2** Small to medium size turbines have relatively small footprints and limited groundworks associated with their construction, and their physical impact upon below-ground archaeological remains is often limited.

**8.1.3** Non-physical effects can comprise visual changes, noise and shadow flicker on the settings of heritage assets. Visual changes can include turbines interrupting important vistas or sight lines associated with heritage assets. Due to the finite life spans of turbines the non-physical impacts on cultural heritage resources are considered temporary in nature.

### Main Issues

**8.1.4** The following represent the key issues within the current guidance regarding wind turbines and cultural heritage resources.

#### General:

- Pre-application discussions with the archaeological advisor to the Local Planning Authority can establish if any heritage assets are present that may be considered a constraint to a proposed turbine location. Historic

Environment Records are maintained by Local Planning Authorities and contain up-to-date information on known heritage assets.

#### Physical Impacts:

- Designated heritage assets include Scheduled Monuments and Listed buildings and are protected by statutory controls. No works (including archaeological investigation) are permitted within a Scheduled Monument without Scheduled Monument Consent (SMC). The presence of designated heritage assets within a development area may be easily established at an early stage of the planning process. The siting of turbines on Listed Buildings (micro turbines) or within the associated curtilage of Listed Buildings would require Listed Building Consent. Siting of turbines within the general environs of a Listed Building would not require Listed Buildings Consent.
- Planning Policy Statement 5 (PPS 5) requires that sufficient information on heritage assets within the development area is provided with any planning application, and that it is 'proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset'. This includes information on the potential for currently unrecorded archaeological remains that may be within the site.
- The potential loss or disturbance of archaeological remains needs to be weighed up against other factors. If archaeological remains are thought to exist, field investigations to gather more information on the significance of these may be required. Such investigations may sometimes be required prior to the determination of a planning application, and can include geophysical survey and evaluation trial trenches. If there is thought to be a lesser potential for archaeological remains, mitigation measures such as an archaeological

watching brief secured by condition may be appropriate. The scope and timing of any such works is best determined in consultation with the archaeological advisor to the Local Planning Authority.

#### Non-Physical Impacts:

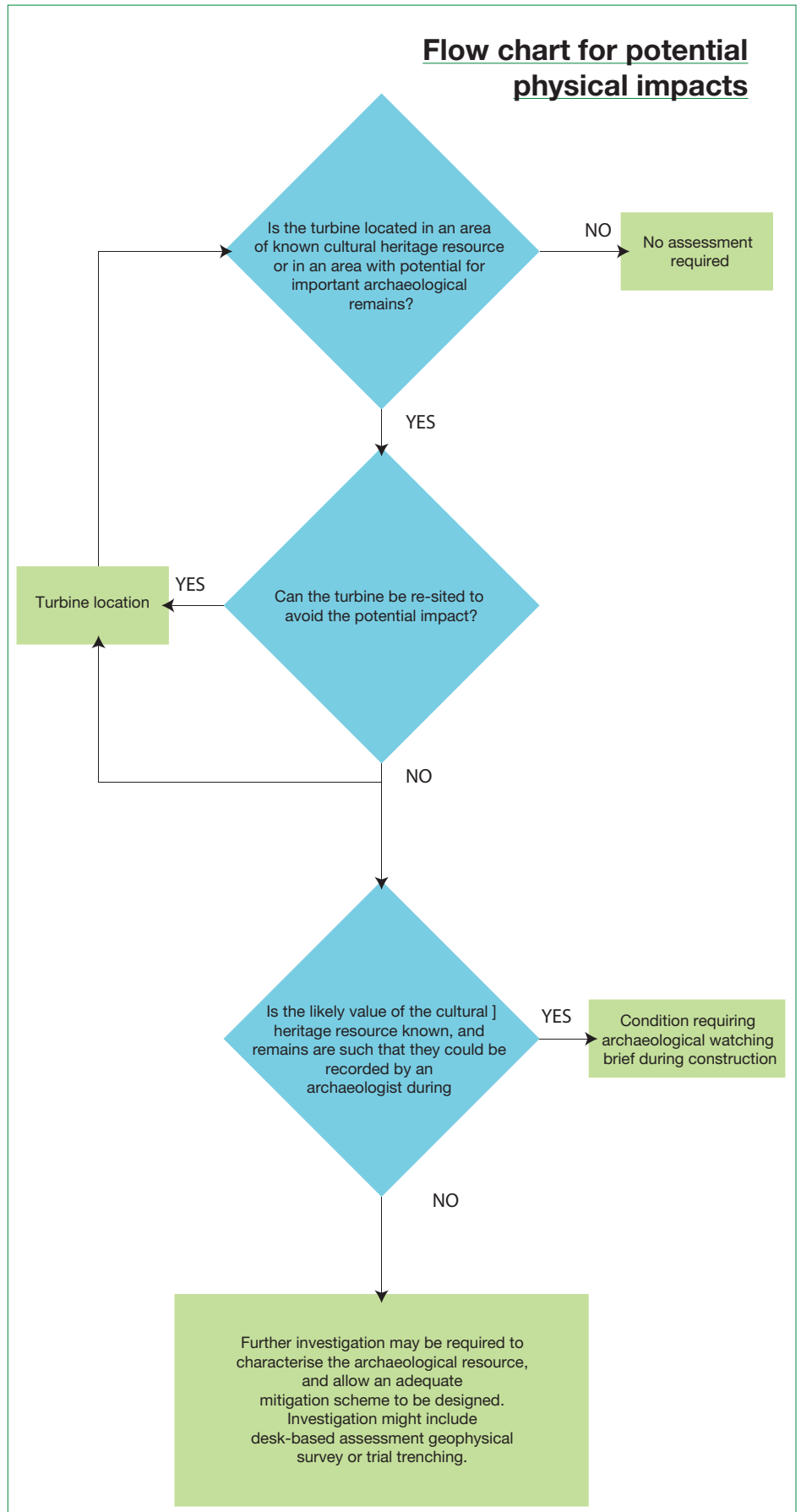
- Potential effects on the setting of heritage assets should be considered. Assessment of non-physical impacts may be required where significant effects are anticipated upon the settings of cultural heritage resources such as World Heritage Sites; Scheduled Monuments; Listed Buildings; Conservation Areas; Registered Parks and Gardens (England and Wales); resources on the Inventory of Gardens and Designed Landscapes (Scotland); Registered Parks, Gardens and Demesnes of Special Historic Interest in Northern Ireland; Registered Historic Battlefields and Battle Sites (England); and sites on the Inventory of Historic Battlefields (Scotland).
- The requirement for further assessment of potential visual effects should be considered on a case by case basis, dependent upon whether:
  - A turbine is located in key sight lines or vistas of a designated heritage asset, or otherwise may affect its setting.
  - A turbine is in the setting of a designated cultural heritage resource and of a scale greater than the elements of built and natural environment around it, e.g. higher than trees and built form in vicinity.
  - A turbine is likely to visually dominate a heritage asset in the landscape.
  - A turbine is of a scale and location that its siting interrupts the intervisibility between designated cultural heritage resources.
- Development within Landscapes of Outstanding or Special Historic Interest in Wales may sometimes require a detailed assessment of non-physical impacts known as ASIDOHL assessment. Early consultation with Cadw will clarify this requirement.

- Separate Conservation Area consent in addition to planning permission is not needed for the erection of turbines in Conservation Areas, but the need to preserve and enhance the character of such areas will need to be considered.

**Mitigation**

8.1.5 If a cultural heritage asset is affected, options for mitigating the impact to lessen its magnitude and/or duration are available for consideration:

- If the proposed development results in the disturbance of archaeological remains and preservation in situ is not feasible, preservation by record may be acceptable, although preservation of important remains in situ is nearly always preferred. A watching brief during construction may be suitable mitigation, although important archaeological remains will warrant recording prior to the commencement of works.
- Mitigation for non-physical impacts following construction is often difficult to achieve. The best mitigation for these potential effects is the sensitive siting of the turbine, in order to reduce and minimise the visual and noise effects on sensitive cultural heritage resources.
- In the longer term, visual effects can be mitigated through conditions requiring future decommissioning of a turbine through planning conditions.



## 9. Transport

**Access and transportation are unlikely to be an issue for the implementation of micro, small and small-medium wind turbines.**

### Proximity to Highways

**9.1.1** Turbines generally need to be set back from roadways, including motorways and trunk roads wherever possible. Minimum set back distances from the carriageway are often applied by highway authorities for safety reasons. For small wind systems this should be less critical than for larger turbines.

### Access and Transportation

**9.1.2** For small wind proposals, the component parts of the turbine(s) will not normally present issues regarding transport to the site using the existing road network and normal size loads.

**9.1.3** For the larger sized turbines route analysis may be required to accompany a planning application where access issues are anticipated due to the delivery route proposed. Analysis may consider vehicles size and capacity for carrying outsized components transported from

factory or port to the site, including swept path analysis and consideration of street furniture locations, to determine if any temporary road widening or removal of signage is required to facilitate access.

**9.1.4** Where required, a route analysis can form a technical supporting information to accompany the planning application. In most instances, given the small scale of the turbines, such analysis is unlikely to be required.

## 10. Hydrology

**Effects upon flood risk are only likely to be relevant where a turbine proposal is located within a floodplain or adjacent to a watercourse.**

### England

**10.1.1** Wind turbines are considered as 'Essential Infrastructure' in flood risk guidance for England (PPS25). Flood risk will not need to be assessed if the turbine is located outside the 'High Probability' or 'Functional Floodplain' flood risk areas (Flood Zones 3a and 3b respectively). However, wind turbines would be permitted in Flood Zones 3a and 3b provided the 'Exception Test' can be passed, i.e.:

- The sustainability benefits they would provide would outweigh the flood risk.
- The turbine is designed and constructed to remain operational and safe for users in times of flood.
- The turbine and associated infrastructure are designed and constructed to result in no net loss of floodplain storage.
- The turbine and associated infrastructure are designed and constructed to not impede floodwater flows.

**10.1.2** Small wind systems (Category A and B under the proposed GPDO) would be classified as a 'Householder' development as defined by footnote 7 of PPS25 and as such would be defined as 'Minor Development' in PPS25 Paragraph 20. As confirmed by Paragraph D15 of PPS25, the Sequential and Exception Tests do not have to be applied. However, technically, a Local Planning Authority could ask for a Flood Risk Assessment to be submitted, but not if they fall within the GPDO tolerances.

**10.1.3** It should also be noted that 'Land Drainage Consent' will be required for any turbine or associated works within 8m of a watercourse or 15m of a flood defence. However, these 'standoffs' are subject to variation by local Bylaws and it is always advisable to check with the Environment Agency when considering site layouts.

### Scotland

**10.1.4** Guidance applicable for Scotland is set out in SPP. For areas within a less than 1:200 year flood risk, infrastructure development will normally be considered appropriate. For areas with a flood risk greater than 1:200, infrastructure may be permitted providing that an alternative lower risk location is not achievable.

### Wales

**10.1.5** The relevant guidance for Wales is set out in TAN15 Development and Flood Risk published in 2004. Much like guidance elsewhere in the UK, the primary aim is to direct new development away from those areas which are at higher risk of flooding.

**10.1.6** As elsewhere, small wind turbines in Flood Zones A and B is appropriate, but for Zone C which is defined as 0.1% risk of flooding or greater, then a Flood Consequence Assessment will be required but the assessment should be proportionate to the nature and scale of the development.

### Northern Ireland

**10.1.7** PPS15 Planning and Flood Risk is the relevant guidance in Northern Ireland. A flood risk assessment will be required for turbines within a floodplain (which is defined as a 1% annual probability of exceeding the peak floodwater level for a river, and a 0.5% annual probability of exceeding the peak floodwater level for the coast).

# 11. Contaminated Land

For the majority of small wind turbines, contaminated land will not be an issue, given the greenfield nature of many of the sites. Contamination

risks will only need to be considered where intrusive ground works are required on contaminated or potentially contaminated land.

# 12. Environmental Assessment

**Most small wind schemes should not normally be deemed Environmental Impact Assessment (EIA) Development. Consideration of whether EIA is required will be determinant upon the likelihood of significant effects been caused by the project and secondly the sensitivity of the receptor environment.**

**12.1.1** The Local Planning Authority as the competent authority should consider the potential effects which a wind turbine proposal may have on the surrounding environment whilst recognising that an environmental impact assessment (EIA) is not always appropriate particularly where non-significant effects are anticipated.

**12.1.2** This section provides guidance on the following aspects of environmental assessment for micro, small and small-medium wind turbine proposals:

- Introducing the Environmental Impact Assessment (EIA) Regulations and the updated 2011 EIA Regulations for Scotland and for England (new Regulations are expected for Wales at the end of 2011 and early 2012 for Northern Ireland).
- How and when do the EIA Regulations Apply to Wind Power Development Proposals?

- The Screening Process (determining whether or not a formal environmental impact assessment (EIA) is required).

**12.1.3** It is not the case that an Environmental Impact Assessment (EIA) is always required to accompany a planning application where environmental impacts are considered likely to arise from a development proposal. Indeed, for the majority of micro and small wind applications, EIA will not be necessary. The test for whether or not an EIA is necessary is set out in the EIA Regulations and relates to whether or not the impacts are considered likely to be significant on the environment.

**12.1.4** For micro, small and small-medium wind proposals, the EIA Regulations for England and Wales, Scotland and Northern Ireland (three separate Statutory Instruments) provide the starting point for understanding in what circumstances an EIA may be required, when a determining authority should consider if an EIA is required, and when an EIA is not required. By using the EIA Regulations as a basis, this does not imply that micro, small and small-medium wind turbine applications will generally require EIAs.

## Introducing the Environmental Impact Assessment Regulations

**12.1.5** EU Directive 85/337/EEC and the subsequent amendment 97/11/EC required the UK to transpose into national law a set of regulations which form an extended requirement to the Town and Country Planning laws and stipulate that applicants for planning permission may be obliged to provide an assessment of the environmental impacts of the development they are proposing, where those impacts are judged as likely to be 'significant'.

**12.1.6** The Regulations are intended to ensure that the competent or determining authorities consider relevant environmental information when making decisions about whether to permit the implementation of such projects. For the purposes of small wind power development, the following are the relevant statutes for each country of the United Kingdom:

Country	EIA Regulations
England	Statutory Instrument 2011/1824 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011
Wales	Statutory Instrument 1999/293 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended)
Northern Ireland	Statutory Rule 1999/73 The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 (as amended)
Scotland	Scottish Statutory Instrument 2011/139 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011

### How and When do the EIA Regulations Apply to Wind Power Development Proposals?

**12.1.7** Each of the EIA Regulations contain identical thresholds for considering wind power applications. It must be borne in mind that the inclusion of ‘wind power’ development in the Regulations does not imply that an EIA will always be required or even is likely to be required.

**12.1.8** “Installations for the harnessing wind power for energy production (wind farms)” are referred to in Column 1 of Schedule 2 in all of the above Regulations, under Section 3 ‘Energy Industry’. This includes micro, small and small-medium turbine proposals.

**12.1.9** Development types included in Column 1 of Schedule 2 of the Regulations should be Screened with

the determining authority to determine whether or not an EIA is required to accompany a planning application when they meet one of both of the following criteria:

- any part of that development is to be carried out in a sensitive area; or
- any applicable threshold or criterion in the corresponding part of Column 2 of Schedule 2 is respectively exceeded or met in relation to that development.

**12.1.10** If either of the above criteria are met, the proposal is said to qualify as ‘Schedule 2 development’. Schedule 2 development will require an EIA if the development is considered likely to have significant effects on the environment by virtue of factors such as its nature, size or location. The process by which this decision is made is called Screening.

**12.1.11** It is important to note that the criteria above should be used as a guide and not interpreted rigidly as some proposals which exceed these thresholds do not always require EIA and vice versa. The EIA screening relates to whether Schedule 2 development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

**12.1.12** If the proposal is not within a sensitive area (as defined by the Regulations, see below) and/or does not meet or breach the relevant threshold, (refer to the table overleaf), then an EIA will not be required.

**12.1.13** The Column 2 thresholds referred to above for wind power installations are as follows:

Schedule 2: Column 1 Description of Development	Schedule 2: Column 2 Applicable Thresholds and Criteria
Installations for the harnessing wind power for energy production (wind farms)	(i) the development involves the installation of more than 2 turbines; or (ii) the hub height of any turbine or height of any other structure exceeds 15 metres.

12.1.14 With reference to Regulation 2, ‘sensitive areas’ including the following:

Country	
England	<ul style="list-style-type: none"> <li>• Sites of Special Scientific Interest</li> <li>• Land within 2km of a SSSI and which the LPA has been notified of by Natural England</li> <li>• National Park</li> <li>• The Broads</li> <li>• World Heritage Site</li> <li>• Scheduled Monument</li> <li>• An Area of Outstanding Natural Beauty</li> <li>• Special Area of Conservation</li> <li>• Special Protection Areas</li> <li>• A site of Community importance which has been placed on the list referred to in the third sub-paragraph of Article 4(2) of the Habitats Directive; or a site hosting a priority natural habitat type or priority species in respect of which consultation has been initiated under Article 5(1) of the Habitats Directive, during the consultation period or pending a decision of the Council under Article 5(3)</li> </ul>
Wales	<ul style="list-style-type: none"> <li>• Sites of Special Scientific Interest</li> <li>• Land under a Nature Conservation Order</li> <li>• Land within 2km of a SSSI and which the LPA has been notified of by Countryside Council for Wales</li> <li>• National Park</li> <li>• World Heritage Site</li> <li>• Scheduled Monument</li> <li>• An Area of Outstanding Natural Beauty</li> <li>• Special Area of Conservation</li> <li>• Special Protection Areas</li> <li>• A site of Community importance which has been placed on the list referred to in the third sub-paragraph of Article 4(2) of the Habitats Directive; or a site hosting a priority natural habitat type or priority species in respect of which consultation has been initiated under Article 5(1) of the Habitats Directive, during the consultation period or pending a decision of the Council under Article 5(3)</li> </ul>
Northern Ireland	<ul style="list-style-type: none"> <li>• Areas of Special Scientific Interest</li> <li>• Areas of Outstanding Natural Beauty</li> <li>• National Park</li> <li>• World Heritage Site</li> <li>• Scheduled Monument</li> <li>• Special Area of Conservation</li> <li>• Special Protection Areas</li> <li>• A site of Community importance which has been placed on the list referred to in the third sub-paragraph of Article 4(2) of the Habitats Directive; or a site hosting a priority natural habitat type or priority species in respect of which consultation has been initiated under Article 5(1) of the Habitats Directive, during the consultation period or pending a decision of the Council under Article 5(3)</li> </ul>
Scotland	<ul style="list-style-type: none"> <li>• Sites of Special Scientific Interest</li> <li>• Land under a Nature Conservation Order</li> <li>• World Heritage Site</li> <li>• Scheduled Monument</li> <li>• Special Area of Conservation</li> <li>• Special Protection Areas</li> <li>• A site of Community importance which has been placed on the list referred to in the third sub-paragraph of Article 4(2) of the Habitats Directive; or a site hosting a priority natural habitat type or priority species in respect of which consultation has been initiated under Article 5(1) of the Habitats Directive, during the consultation period or pending a decision of the Council under Article 5(3)</li> <li>• National Scenic Area</li> </ul>

Please note that the table above has been taken as a direct extract from Schedule 2 of the EIA Regulations which came into force in 1999, pre-dating the recent expansion of the small wind power industry. As such, the reference to ‘any other structure’ in Column 2 is seen as a legacy from that period and lends a certain ambiguity to the hub height threshold of 15m. Although the threshold height for wind turbines from 15m to 18m was proposed within the 2010 EIA Regulations consultation, the

2011 EIA Regulations has not included for these changes.

12.1.15 Micro and Small Wind: Given that the thresholds refer to a structure height of 15m and the erection of 2 or more turbines, the great majority of single micro turbine applications and many single small turbine applications will not require an EIA by virtue of the fact that they do not meet the thresholds for even requiring Screening of the proposal. The exception to this is when

the proposal is located within a ‘sensitive area’, as defined by the Regulations. Any installation for the harnessing of wind power for energy generation which is located within a sensitive area should be Screened to determine whether or not an EIA is required. However, being located within a sensitive area is not in itself a determinant that an EIA is required to accompany the application. The Screening judgement on this issue relates to whether any impacts are considered likely to be significant.

**12.1.16 Small-Medium Wind:** Given the size of machinery involved, proposals for small- medium wind are more likely to fall within the thresholds given in Column 2 of Schedule 2 and therefore require Screening with the determining authority. Even if these thresholds are not breached, as with micro and small wind proposals, any installation for the harnessing of wind power for energy generation which is located within a sensitive area should be Screened to determine whether or not an EIA is required. However, being located within a sensitive area is not in itself a determinant that an EIA is required to accompany the application: the Screening judgement on this issue relates to whether any impacts are considered likely to be significant.

**12.1.17** The Screening procedure is explained in full in the next section. Following this, guidance is given on how to proceed if an EIA is required and how to proceed with respect to environmental assessment if an EIA is not required. The Screening Process (refer to Regulation 5 for England and Wales; Regulation 6 for Scotland and Northern Ireland)

**12.1.18** Where a wind power application is classed as Schedule 2 development, (by meeting either of the above criteria), the applicant is advised to Screen the proposals with the local planning authority (England, Scotland, Wales)/ Department of the Environment (Northern Ireland) to determine whether or not an EIA is required.

**12.1.19** Screening a Schedule 2 project under Regulation 5 or Regulation 6 prior to the submission of an application is not compulsory. If pre-application Screening of a Schedule 2 development is not pursued by the applicant, the local authority must make a screening decision at the time of submission of the application.. Failure to Screen a Schedule 2 proposal either at the pre-application stage or at the submission stage will invalidate any subsequent grant of permission.

**12.1.20** The Regulations stipulate that local planning authorities should provide a Screening Opinion within 3 weeks of receipt of the applicant's request for England, Wales and Scotland and within 4 weeks of receipt of the applicant's

request for Northern Ireland. If required, an extension to this timescale can be agreed in writing with the applicant. Screening Directions (refer to Regulation 6 for England & Wales. Refer to Regulation 7 for Scotland only)

**12.1.21** Where a local planning authority fails to issue a Screening Opinion within the timescales specified in the Regulations or within an agreed extended timeframe, or adopts an Opinion stating that an EIA is required, the applicant is entitled to request a Screening Direction from the Secretary of State for the Environment/Scottish Ministers which is a final decision on the matter.

**12.1.22** Similarly, Regulation 6(10(b)) allows applicants in Northern Ireland to seek a hearing with the Planning Appeals Commission where they do not accept the Department of the Environment's Screening Opinion.

#### Making a Screening Decision

The Screening decision should be informed by the guidance given in: i.) Schedule 3 of the Regulations 'Selection Criteria for Screening Schedule 2 Development' Schedule 3 provides 3 broad categories for considering a development proposal at the Screening stage, with further sub-categories to

Country	Guidance accompanying Regulations
England	DETR Circular 02/99
Wales	Welsh Office Circular 11/1999
Northern Ireland	Development Control Advice Note 10 (Revised 1999)
Scotland	Scottish Planning Series: Circular 03/2011

guide the decision-making process:

- Characteristics of development
  - Location of development
  - Characteristics of the potential impact
- ii.) Circulars and Advice Notes accompanying each set of Regulations.

The defining element of whether or not an EIA is required is set out in Regulation 2(1) and specifically relates to whether

or not the proposals are 'likely to have significant effects on the environment'. It is not therefore the case that every wind power proposal classed as Schedule 2 development will require an EIA to accompany the planning application.

**12.1.23** Planning policy from central and local government encourages renewable energy initiatives. Whilst this can not influence the decision as to whether significant impacts would be likely to arise from a small wind proposal, determining authorities should bear in mind that requiring an EIA to accompany a proposal for a micro or small/small-medium wind turbine will potentially make preparing a planning application financially unfeasible for many householders and landowners otherwise wishing to contribute towards the drive for renewable energy usage in Britain. The Screening decision should therefore be made carefully and considered proportionally to the impacts anticipated to arise from the development proposal.

**12.1.24** Each case should be judged on the circumstances specific to its location and characteristics, and the critical test is whether or not the proposal is anticipated to give rise to significant effects on the environment.

**12.1.25 Micro Turbines:** given the Screening criteria set out above, particularly the indicative guidance given in the circulars regarding when EIA is likely to be required for wind development, it is unlikely that a micro turbine proposal, even when situated within a 'sensitive area', would require an EIA to accompany the application, however, this is not categorically the case and in some circumstances EIAs are required. As with all Schedule 2 development, the test is whether or not the proposal is anticipated to give rise to significant effects on the environment.

**12.1.26 Small Turbines:** similarly, with respect to small turbines the guidelines given in both the Regulations and the accompanying circular documents also indicate that it is unlikely that small wind proposals which breach either the Column 2 thresholds or fall within a sensitive area will require an EIA to accompany an application. As with all Schedule 2 development, the

test is whether or not the proposal is anticipated to give rise to significant effects on the environment.

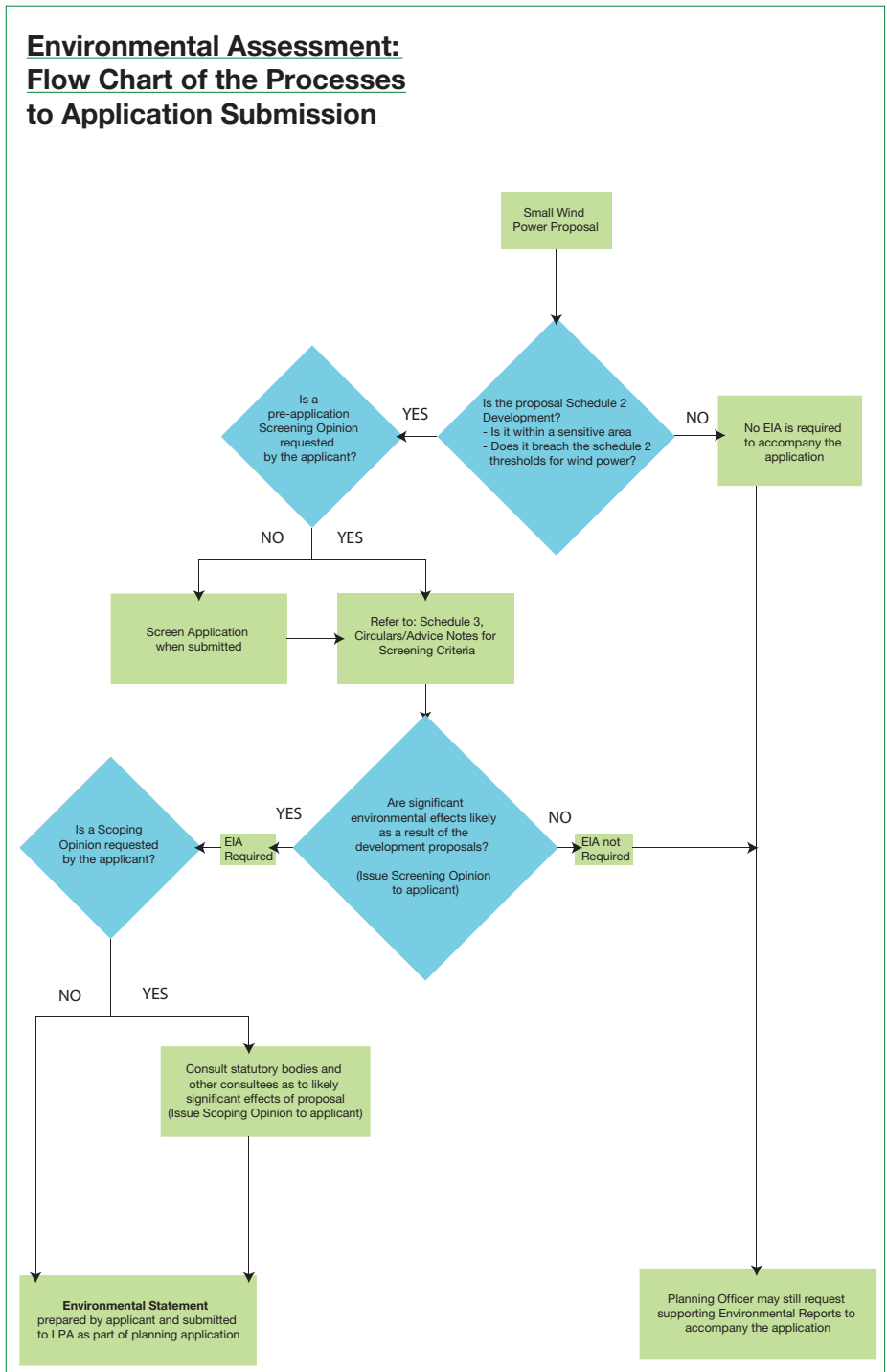
**12.1.27 Small-Medium Turbines:**

proposals for small-medium sized turbines are recognised as more likely to breach the height thresholds given in Column 2 of Schedule 2 and also recognised as more likely to be visible in their surrounding environment. The guidance in the circulars as it relates to these larger structures however, does not indicate that a taller structure should in itself give rise to an increased likelihood that an EIA is required, and proportional to the guidelines given small-medium turbines will not necessarily require EIA either.

**Cumulative Considerations**

**12.1.28** It is also relevant to consider any significant effects which can be reasonably predicted as likely to arise from the development proposals in combination with other proposals in the vicinity. These are known as cumulative effects and referred to within Schedule 4 of the EIA Regulations.

**12.1.29** Cumulative effects are not easy to deal with but many environmental problems exist because cumulative effects have been ignored. Cumulative effects require an attempt to gain an understanding about the capacity of the receiving environment and whether critical thresholds have been or are likely to be breached. One of the key cumulative issues to consider for wind development is intervisibility effects and the proximity of the wind proposals together with other turbines which are either operational, under construction, consented or the subject of a full planning application. Depending on the height of the turbine proposals varying buffer areas are required to consider intervisibility issues in terms of landscape. Other criteria apply for consideration of ecological and hydrological issues for example. Even small wind systems may be subject to cumulative considerations depending on their proximity to other schemes and consultation on this issue should take place at an early stage with the relevant planning authority.





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