

GUIDANCE NOTES
GENERAL AND TECHNOLOGY SPECIFIC
CRITERIA BASED PLANNING POLICIES

For use in the implementation of

PLANNING POLICY STATEMENT 22:
RENEWABLE ENERGY

Participating organisations logos

--	--	--	--	--

Introduction

This guidance document is intended to be read alongside the new Planning Policy Statement 22 (PPS22): Renewable Energy and to assist potential developers and members of the public to understand criteria based, planning policies for assessing renewable energy projects.

These guidance notes outline the general criteria based planning policies which will be used to assess planning applications for renewable energy projects. Certain technology specific criteria based planning policies are attached as appendices. It is intended that these appendices will be kept up to date as the technologies evolve and where further criteria based planning policies are found to be necessary.

These guidance notes are specifically intended for planning considerations for commercial renewable energy developments in England, where the electricity generation capacity is less than 50 MW.

In all cases, electricity generation plant having an electrical generation capacity of greater than 50 MW, the planning consent process for the project is covered by section 36 of the Electricity Act 1989 as administered by the Department of Trade and Industry. Should the DTI grant permission for the development, then no separate or additional planning permission is required as an automatic 'deemed consent' is then granted under the Town and Country Planning Act 1990.

The new Planning Policy Statement 22 (PPS22): Renewable Energy is part of a broader initiative by Government to review all of its planning policy guidance, as stated within the Government's Planning Green Paper, *Planning – delivering a fundamental change*, published in December 2001.

PPS 22 does not cover those renewable energy technologies which are developed offshore, but it should be recognised that, where relevant, any items of secondary plant or equipment which are constructed onshore, to facilitate the transfer and/or utilisation of the energy thus produced, should be deemed to be covered by PPS 22.

As previously stated, these guidance notes are intended primarily for use alongside commercial renewable energy generation developments, but it is recognised that very small scale, domestic renewable energy developments, will also require planning permission. Although PPS 22 does not make any specific recommendations relating to such small scale developments, a guide to small scale, domestic installations is included within these guidance notes.

In all cases, to ensure the rapid and efficient consideration of renewable energy planning applications, developers should ensure that they begin discussions with the local and/or regional planning authorities, as well as any local community groups at the earliest possible stages of the development and that these discussions continue throughout the development of the project up to the point that planning permission is applied for.

Renewable Energy

Planning Policy Statement 22: Renewable Energy covers the treatment of planning applications in England for all forms of electricity generation from renewable energy technologies where the total electrical generation capacity is less than 50 MW. Although PPS 22 recognises that these technologies may lead to the generation of heat, which may be utilised in combined heat and power projects, PPS 22 does not currently make any reference, or propose any specific guidance, towards the development or utilisation of the thermal energy thus generated.

Renewable energy is defined in PPS 22 as being “those energy flows that occur naturally and repeatedly in the environment – from wind, the fall of water, the movement of the oceans, from the sun and also from biomass.”

Biomass is further defined as being “the biodegradable fraction of products, wastes and residues from agriculture (including plant and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste”.

PPS22 is also very specific in that it is not intended for the consideration of offshore technologies or for those issues, such as “Waste”, which are already the subject of other planning policy statements or guidance notes.

Renewable energy technologies

This framework document covers the planning criteria applicable to the following renewable energy technologies:

- Solar
- Hydro
- Energy from waste
- Energy crops
- Biomass
- Renewable transport fuels
- Landfill and sewage gases
- Geothermal
- Wind

It is recognised that this schedule of technologies may not be complete, and that other technologies may also be considered to be classified as 'renewable energy' generation systems in the future.

For further information or clarification of the classification of the renewable energy technologies covered by the above list, the following web sites contain additional information regarding Government policy and legislation relating to renewable energy technologies and may provide additional guidance.

The Renewables Obligation Order 2002

<http://www.dti.gov.uk/renew/ropc.pdf>

The draft Renewables Obligation Order (Amendment) 2003

<http://www.dti.gov.uk/renewables/policy/roorderamend2003.pdf>

One renewable energy technology and associated 'green fuel' which requires special mention is the recovery of energy from municipal solid waste (MSW) and industrial and commercial waste (ICW). PPS 22 makes a very clear statement that it is not intended to cover "energy from mass incineration of domestic waste" and that it "excludes issues which are the subject of other planning policy statements or guidance notes which should be read with this one, in particular it does not replicate the policies in PPG10: Planning and Waste Management".

It is therefore suggested that the classification of the energy source in any applications which are considered to be 'energy from waste' projects are carefully considered and are verified as being a 'renewable energy' source by the relevant Government Department.

It should be considered that any renewable energy technology which is capable of being in receipt of 'Renewable Obligations Certification' (ROCs) will be covered by PPS 22 and these guidance notes. Clarification of the eligibility for renewable energy generation technologies and fuels which are eligible to receive ROCs is given in the above documents.

PPS 22 – Summary

Government recognise that renewable energy resources are vital to facilitating, and the delivery of, their commitments on both renewable energy and climate change. It is also recognised that *“Positive planning which facilitates renewable energy developments can contribute to all four elements of the Government’s sustainable development strategy.”*

PPS 22 requires local and regional planning bodies to develop and implement policies which are *“designed to promote and encourage, rather than restrict, the development of renewable energy resources”*.

PPS 22 requires both developers and planning authorities to clearly identify and recognise the wider social, economic and global environmental impact of any schemes or projects relating to renewable energy.

This document seeks to identify, where appropriate, reasonable criteria for the consideration and assessment of the various renewable energy technologies.

It is intended that these criteria would be applicable to all forms of renewable energy technologies. It is however recognised that certain technologies present unusual or unique issues that can only be addressed by technology-specific criteria.

Supplementary information guides, where required, covering the various technology specific planning criteria have also been prepared.

PLANNING CRITERIA

Siting and location

The developer should begin dialogue with the relevant local planning officers at the earliest possible stage in the development of their proposal.

Prior to the submission of the planning application, the developer should confirm with the local planning authority that the site is not designated as being a 'locally significant site' and if the site is considered to be designated at either a local, national or international level.

In all cases where the proposed development is to be sited in an 'International Designated Site', a 'National Designated Site' or a previously identified and notified 'locally significant site', it is also the developer's responsibility to clearly demonstrate that the integrity of the site will not be adversely affected, the objectives of the designation will not be compromised, no serious environmental detriment will be caused, and that the scale of the development is appropriate for the site.

In all cases, the developer shall be required to clearly identify the environmental, economic and social benefits which the project will deliver. All planning applications for renewable energy generation shall also contain a commercially confidential report outlining the commercial, technical and physical characteristics which led to selection of the site.

Visual impact and effects

All renewable energy projects will be required to provide detailed drawings outlining and clearly identifying the layout, height, form, structure and covering for all buildings as well as primary and secondary plant and equipment. The drawings shall indicate the proposed colour scheme(s) for the buildings, structures and plant. The drawings shall also clearly identify any landscaping or ground treatments treatment within the curtilage of the site and ancillary buildings.

The developer shall prepare and submit a plan and a photomontage which clearly identifies the 'Zone of Visual Influence', and indicates where the proposal may be visible from.

The developer and the local planning authority shall agree the radius of the zone of visual impact (up to a maximum radius of 10 km), which is agreed to be most appropriate for the type, size and location renewable energy technology being proposed, prior to the submission of the planning application.

The developer should also identify any elements of the proposed renewable energy development which the developer believes will act to mitigate the effects of the proposed project's visual impact.

There is no current agreed national standard by which visual impact or the effects of change on a landscape can be measured. Many local authorities have made steps towards developing landscape characterisation or other similar techniques, but the methodologies and forms of assessment being used are not uniform, nor do they produce truly comparable results.

It must be also recognised that the nature of the renewable energy project, in particular, the technology being considered, will produce differing results in each of the landscape and/or visual impact assessment techniques being applied.

When evaluating a potential renewable energy project the developers and the planning officers will need to address, as well as the issues already discussed, the landscape's sensitivity to change and capacity to accommodate the specific type of change required by the proposed project under consideration.

For example, when assessing a renewable energy project, the considerations when assessing the landscape's capacity to accommodate change will include a detailed understanding of the nature, type and size of the development under consideration, including any additional road or footpath networks involved. These will then be measured against:

The '**Landscape character sensitivity**', based upon judgements about sensitivity of aspects most likely to be affected e.g.

Natural Factors

Extent and pattern of semi-natural habitat.

Cultural Factors

Land use, enclosure patterns

Landscape Quality/Condition

Representation of typical Character of the affected and adjoining areas

Aesthetic Factors

Scale, Enclosure, Pattern, Form/Line, Movement

The '**Visual Sensitivity**', based upon the nature of change and interaction with visual aspects of landscape e.g.

General visibility

Land form influences

Population

Numbers and type of residents

Number and type of visitors

Mitigation Potential

Scope for mitigation potential visual impacts

The '**Landscape Value**' e.g.

Designations

International, National, Recognised local

Other Criteria Indicating Value

Tranquillity, Remoteness, Scenic beauty, Cultural associations, Conservation interests, Consensus on value

Visual sensitivity studies are more dependent upon:

The probability of change in a landscape being highly visible, based particularly on the nature of the landform and the extent of tree cover etc, both of which have a major bearing upon visibility.

The numbers of people likely to perceive any changes and their reason for being in the landscape, for example as residents, as travellers passing through, as visitors engaged in recreation or as people working there.

The likelihood that change could be mitigated, without the mitigation measures in themselves having an adverse effect.

When assessing renewable energy projects, the capacity studies and visual sensitivity studies identified above must be specific to the particular type of change or development under consideration.

Much of the above information on landscape character and visual impact is extracted from "*Landscape Character Assessment Guidance for England & Scotland. Topic Paper 6: Techniques and Criteria For Judging Capacity and Sensitivity*", produced for the Countryside Agency & Scottish Natural Heritage by Carys Swanswick.

This document is recommended for further reference and clarification and is available at www.countryside.gov.uk/livinglandscapes/countryside_character

Noise

Planning Policy Guidance 24 (PPG24) 'Planning and Noise' does not specifically include all of the technologies covered by PPS 22, but the requirements of PPG 24 should still be considered to be applicable for all renewable energy developments.

For all renewable energy developments except wind¹, the developer shall demonstrate, through submission of calculations from accredited experts, that the projected noise emissions, measured at the nearest dwelling or affected noise sensitive building(s), from the renewable energy plant shall, subject to any relaxation, be limited to 45 dB(A) between 23:00 and 07:00 and 50 dB(A) at all other times. These noise limits are to be measured in accordance with BS 4142: 1990 "Method for rating industrial noise affecting mixed residential and industrial areas". Projected/predicted noise measurements shall be taken at the location of the nearest dwellings or closest noise sensitive building(s).

¹ A technology specific criteria based planning policy which identifies the noise related issues associated with wind energy developments has been produced

Odour

Odour is an important subject for consideration in many renewable energy technologies, but is most likely to be a significant consideration in the various biomass and energy from waste technologies.

Odour is an issue that is already covered in the Integrated Pollution Prevention and Control (IPPC) legislation and the nature of the development may require the developers to apply for licences under other legislation.

Irrespective of the requirements of these licences, planning criteria relating to odour control are still considered to be relevant for the majority of biomass and/or energy from waste technologies.

The developer shall ensure that relevant storage areas, fuel reception halls and unloading areas should be located within buildings which are normally sealed, are maintained at negative pressure and are fitted with back-up devices to ensure negative pressure is maintained when the process is off-line and to demonstrate that effective odour removal technologies apply to all forms of emissions to air

The developer will be required to prove that odour from any stack emissions pressure relief valves or any other source of gaseous or liquid outlet point will be treated to ensure that it will not be detrimental to the inhabitants of surrounding buildings.

Traffic implications

For those renewable energy projects which require that the fuel or feedstock be delivered to the plant, the developer shall prepare a schedule which identifies the locations that the fuel/feedstock is grown and/or prepared, the size and type of transport considered appropriate for this fuel/feedstock and the number of traffic movements which are anticipated to and from for each location.

The developer and the relevant planning officer(s) will then agree the most appropriate route for the journeys, any methods which the planning officer(s), or other appropriate specialists, deem appropriate to ensure the safety and security of the fuel/feedstock while in transit, agree the times for the first and last deliveries which can be accepted at the plant for each day of the week.

It may also be appropriate to require that each delivery lorry is clearly identified by a sign which shows the name of the plant to which the fuel/feedstock is being delivered and the name of the haulage contractor.

Further consideration of proximity and traffic implications relating to biomass and energy from waste is outlined in the technology specific criteria based planning policy for those technologies.

Secondary plant and equipment and overhead power lines

Careful consideration should be given to the location and housings or coverings for any secondary plant and/or equipment to minimise the visual impact of the project.

With the exception of those short lengths of cable required to form a new connection from ground level of the new renewable energy development to the overhead 'grid' transmission cables, it is not generally considered acceptable for the proposed development to involve or require the construction of any additional overhead power cables on the site.

Environmental Impact Assessment

Under the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 293) and, where appropriate, as amended by directive 2001/42/EC, an environmental impact assessment will be required for all renewable energy projects with a declared net electrical generation capacity greater than 1MW.

Further, for the purposes of PPS 22, an environmental impact assessment will be required for any wind energy development with either; a declared net electrical generation capacity greater than 500 kW or, where the development consists of more than one wind energy generation turbine.

For the avoidance of doubt, wind energy developments where individual wind energy turbines are sited on adjoining sites shall be considered to be part of the same development and will require an environmental impact assessment for all sites if developed at the same time, or for the second and any subsequent wind energy turbines.

In certain circumstances, the use of uncultivated land for growing of energy crops and other works may also require the development and submission of an environmental impact assessment to comply with the Statutory instrument 'The Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) (England) Regulations 2001

Under the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulations 1999, it is also mandatory that an EIA be developed and presented for certain intensive farming developments (which may lead to the production of fuels for renewable energy projects) such as chickens (85,000 broilers or 60,000 hens) and pigs (3,000 production pigs ((over 30kg)) or 900 sows)

Environmental Impact Assessment study

In addition to the reporting and/or analysis required to comply with the issues raised in the General Renewable Energy Planning Criteria, the developer will prepare an Environmental Impact Assessment study which will include the following issues:

Visual and landscape assessment

In addition to those elements described in detail in the previous visual impact/appearance section, the existing landscape should be described, and the potential impact of the proposed changes to landscape and visual impact of the proposed development assessed and evaluated. For wind energy projects and any projects with tall structures, the movements of the sun should be taken into consideration. This is required to assess the location and movement of the shadow of the wind energy turbine and any other tall structures and produce shadow and shadow flicker effect predictions.

Noise assessment

A survey should be undertaken of the character and level of the background noise. Where and as required by the Planning Policy Guidance 24 (PPG24): 'Planning and noise' or the Local Planning Authority, noise prediction calculations or actual measurements will be carried out as detailed and/or required above.

Ecological assessment

The fauna, flora and animal life that are found at the proposed site (either year round or seasonally) should be considered in relation to the loss of habitat, to their sensitivity to disturbance and to their importance which may be identified by national and/or local bodies. It is important that ecological survey work is undertaken at the appropriate time of year to take account of the seasonal nature of some of the potential impacts under consideration.

Ornithological assessment

Careful and informed consideration must be given to protecting habitats, nesting sites and foraging sites for local and transitory birds. The Environmental Impact Assessment study should also clearly identify any known or suspected migration routes or local flight paths.

Archaeological and historical assessment

The developer will confirm the existence of any sites of significant archaeological or historical importance within or near to the site. The likelihood of further, as yet undiscovered, remains should also be considered. The physical impact of the proposal and the effect on the setting should be examined, where applicable and reported in the Environmental Impact Assessment.

Hydrological assessment

An assessment of the impact of the proposed development on watercourses, their quality and quantity may be required. An assessment of spring water supplies should also be undertaken where considered appropriate.

Traffic management and construction

Details of the construction of the renewable energy project should be included. The impacts of construction (including access roads) should be assessed as part of the visual, ecological, hydrological, and archaeological assessments. Any essential road improvements needed to accommodate the construction and/or operation of the renewable energy development should be discussed and agreed with the local authority before inclusion in the Environmental Impact Assessment study.

Electrical connection

The potential implication for overhead or underground electricity connections, sub-stations, transformers and any other forms of control, monitoring and metering systems must be incorporated in the Environmental Impact Assessment.

Effects on the local economy

The Environmental Impact Assessment may include an estimate of the number of temporary or permanent jobs created and the value of the contracts available locally.

Global environment

The Environmental Impact Assessment should include estimates of the amount of electricity the renewable energy project will produce, a schedule of all other emissions produced as a result of generating this electricity and the quantity of polluting emissions that would be produced from a conventional power station producing the equivalent power. Calculations shall be in accordance with the DEFRA Guidelines for the Measuring and Reporting of Emissions in the UK Emissions Trading Scheme.

(For details see <http://www.defra.gov.uk/environment/envrp/index.htm>)

Tourism and recreational effects

Public rights of way within the site should be identified and clearly shown on a plan. Any diversion or obstruction to any public rights of way must be clearly identified. Any existing and/or proposed visitor facilities within the site should be described and suitable recommendations for continued use fully incorporated within the Environmental Impact Assessment study. Existing nearby tourist and recreational facilities should also be identified.

Decommissioning and land restitution

The Planning application shall also include an anticipated project life cycle and a proposed decommissioning plan.

The decommissioning plan should give careful consideration to the existing site condition as well as restoration measures, including the removal of above and below ground equipment, access roads, landscaping, and as to whether the remaining roads or tracks on the site will re-seed naturally or will require removal and/or restitution or other additional treatment.

It may also be appropriate, depending upon the renewable energy technology concerned, to undertake chemical soil analysis of the site (and potentially surrounding areas if there is a concern relating to discharges to surrounding air or water) before the renewable energy development is constructed and after the decommissioning works have taken place.

Introduction

The following guidance notes identifies the technology specific planning criteria relating to:

PHOTOVOLTAICS & SOLAR HEATING PANELS

This guidance note refers to those renewable energy technologies which utilise the energy from the sun to either generate electricity and/or heat water or other liquids.

New Construction

If a local planning authority (lpa) receives a planning application for a new building incorporating PV or thermal panels and/or cells, it has to assess what visual impact, if any, the proposed solar system would have on local amenity. If minded to grant planning permission, the authority could impose conditions on the permission to prevent or limit any adverse impact.

Existing Buildings

If it is proposed to install PV or thermal panels and/or cells on an existing building, the lpa will have to decide if the proposed solar array would be a material alteration of the external appearance of the building. If the lpa considers it would **not** be a material alteration, planning permission will **not** be required (subject to the status of the building, see section relating to Listed Buildings). On the other hand, if the lpa considers it would be a material alteration, planning permission will be required. However, it may not always be necessary to submit a planning application. That is because there is a general planning permission or 'permitted development right' available in certain strictly limited circumstances, which may authorise a householder to install PV or thermal panels and/or cells.

Developers must recognise that 'permitted development rights' relate to individual properties and represent the owner's ability to carry out finite and defined alterations to a building. In certain circumstances, the construction of a porch or canopy, or even changing window frames can be carried out under permitted development, but once that work has been carried out, the permitted development rights have been used and ANY further changes to the property WILL require planning permission.

It should also be recognised that both the Secretary of State and the local planning authority have the right to withdraw permitted development planning rights in a number of circumstances.

Further information relating to permitted development rights can be obtained from the document "Review of Permitted Development Rights" September 2003 which is available through the website of the Office of the Deputy Prime Minister, www.publication.odpm.gov.uk

Listed Buildings

Installation of a PV or thermal array on a building listed for its special architectural merit or historic interest - or on another building or structure in its curtilage - is likely to require an application for listed building consent to the lpa. This will be so, even if specific planning permission is unnecessary. Lpas have to assess each case on its merits.

In considering a listed building, or a building within the curtilage of a listed building, it must also be recognised that PPG 15: 'Planning and the Historic Environment' will also apply. Similarly, if the building is sited in an area of 'historic or archaeological interest', then PPG16: 'Archaeology and Planning' will also apply.

Conservation areas, National Parks, Sites of Special Scientific Interest (SSSI) and Areas of Outstanding Natural Beauty (AONB)

If PV or thermal panels and/or cells are fitted in the roof of a dwelling house so that, in the lpa's view, they do not project significantly above the existing roof plane, a planning application may not be necessary. However, permitted development rights to clad the walls or enlarge the roofs of dwelling houses do not apply in AONBs, conservation areas, SSSIs and National Parks. When considering applications in conservation areas, lpas have a duty to consider the potential impact on the character or appearance of the area. In National Parks and AONBs, particular importance is attached to conserving the special character and natural beauty of the area.

Introduction

The following guidance notes identifies the technology specific planning criteria relating to:

BIOMASS & ENERGY FROM WASTE

This guidance note refers to those renewable energy technologies which convert biomass and/or the biodegradable fractions of municipal and industrial waste into electricity. For the purposes of PPS 22, biomass is defined as being the biodegradable fraction of products, wastes and residues from agriculture (including plant and animal substances), forestry and related industries.

There is no requirement to gain planning permission to grow any of the plant based energy crops for use as a fuel for renewable energy developments outlined in this guidance note.

Developers should be aware that a change in the type of agricultural use of land may require consent from English Nature in a 'Site of Special Scientific Interest (SSSI), or notification to the National Park Authority in a National Park, under the 'Wildlife and Countryside Act 1981', as amended by the 'Countryside Rights of Way Act 2000'

Planning permission will be required for any plant process or application of technology which converts this energy crop into energy or fuel.

Developers should also be aware that under the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulations 1999, it is also mandatory that an Environmental Impact Assessment be developed and presented for certain intensive farming developments (which may lead to the production of fuels for renewable energy projects) such as chickens (85,000 broilers or 60,000 hens) and pigs (3,000 production pigs ((over 30kg)) or 900 sows)

All of the renewable energy and 'green fuel' technologies considered to be biomass or energy from waste may require the transportation of some or all of the feedstock.

Transportation of the 'green fuels' from the areas in which they are grown and/or produced to the renewable energy plant will be a significant issue to be considered during the potential developer's site selection process. (See also 'Traffic implications' in the Guidance notes: Criteria Based Planning Policies for use in the implementation of Planning policy Statement 22: Renewable energy.

The fact that the 'green fuel' will need to be transported from outside of the area or region controlled by the planning authority should not be considered to be reason, or grounds, for determining the planning application. Nor shall the proximity principal, as laid down in PPG 10: Planning and Waste Management, be considered to be applicable in considering 'green fuels' which are also defined as 'Waste'.

The developer should be aware that they will be required to clearly identify the composition and provenance of the anticipated fuel for the biomass and/or waste to energy plant and that the planning permission may be conditional upon the nature of the fuel remaining unchanged

Industrial waste may, in certain circumstances be considered to be chemical waste, even if it is biodegradable. In these cases, the plant would usually be considered to be a chemical waste disposal plant, rather than a renewable energy development and, as such, PPS 22 may not be the appropriate or applicable planning legislation.

For example, while the residues from a sawmill are correctly defined as biodegradable, if the timber being sawn has been chemically treated with preservatives or is mixed with certain glues (as used in particle and chip boards) then the residues may be considered to be 'chemical wastes' and as such, the plant may be considered to be a chemical waste disposal plant and would not be governed by PPS 22.

Introduction

The following guidance notes identifies the technology specific planning criteria relating to:

WIND ENERGY

This guidance note refers to those renewable energy technologies which utilise the energy from wind to generate electricity.

Noise

It is proposed that the noise limits for wind turbine generation systems shall be limited to 45 dB(A) between 23:00 and 07:00 and 50 dB(A) at all other times. These noise emission limits are to be measured in accordance with BS EN 61400-11 'Wind turbine generation systems. Acoustic noise measurement techniques' and the noise immission and sound propagation should be measured in accordance with the ETSU document, ETSU W/13/00503/REP – 'NOISE IMMISSION FROM WIND TURBINES' at the location of the nearest dwellings or closest noise sensitive building(s).

Planning Policy Guidance 24 (PPG24) 'Planning and noise' shall also be deemed to apply even though the current guidance note does not specifically identify wind energy turbines as a potential noise producing source.

If requested, a relaxation of these requirements to 50 dB(A) between 23:00 and 07:00 and 55 dB(A) at all other times should be granted if all of the affected dwellings have a financial interest or involvement in the relevant wind energy project and a copy of the signed request(s) forms part of the planning application .

No relaxation will be granted for any buildings which are not private dwelling houses

Proximity

The proximity of dwellings, and other noise sensitive buildings is primarily related to noise and access for erection and maintenance. Research relating to electro-magnetic radiation etc has not identified any issues which are likely to affect even close proximity, contact or working.

It is proposed that the proximity limit for wind turbine generation systems shall be that no dwelling shall be closer than a distance equivalent to four times the difference in elevation between the base of the wind turbine and the centre of the wind turbine generator shaft or 300 metres, whichever is lower, to the nearest wind turbine generation system.

It is recognised that small-scale wind energy generation systems (less than 20 kW) for individual houses may not be able to comply with the proximity principle outlined above. In those cases, and/or in the case of the dwellings having a financial interest or involvement in the wind energy development, if requested, a relaxation of the proximity requirement may be granted providing

that the noise criteria, including any relaxation applied for and granted, are complied with,

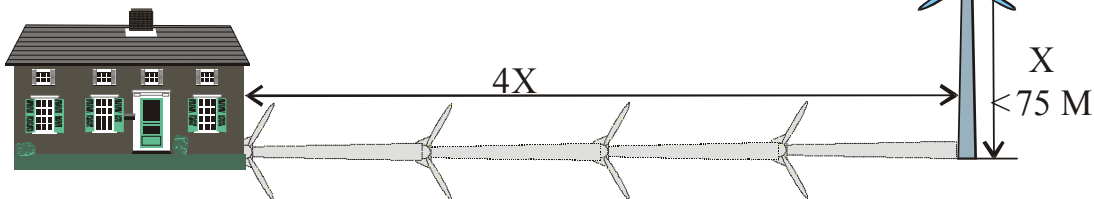
This relaxation will not be granted for any buildings which are not private dwelling houses

Except in those cases specifically outlined for small-scale systems for individual houses, the distance from the nearest dwelling house or noise sensitive building shall be dictated by either the distance required to achieve the necessary measured noise immission levels, or the proximity rules described above, **whichever is the greater**.

The following diagram illustrates the proximity rules for wind turbines (Excluding small-scale developments and/or those cases where the affected dwellings have a financial interest or involvement in the wind energy project)

PROXIMITY RULES

For wind turbines with a hub height of less than 75 metres



For wind turbines with a hub height greater than 75 metres



Shadow Flicker Effect

It is proposed that the shadow flicker effect limit for wind turbine generation systems shall ensure that the rotating shadows from wind turbine blades shall not create a shadow flicker effect over the windows or doors of any occupied building for more than 30 minutes during any day and on a total of not more than 17 days in any year.

Shadow flicker effect calculations should be submitted with all Planning applications where there is any occupied building within a distance of twelve times the rotor diameter from the wind generation turbine,

In all cases, the maximum shadow flicker effect shall not affect the occupants of any building, within a distance of twelve times the rotor diameter from the wind generation turbine, for more than thirty minutes per day over a total of 17 days in any year. All wind generation turbines shall be fitted with an automatic brake or control system which will prevent these limits being exceeded

Radiance or reflection of light

Rotor blades and hub shrouds shall be covered with light absorbing materials or coating layers. The measurement of reflective values shall be in accordance with ISO 28143 1978 "Paints and varnish measurements of specular gloss of non metallic paint films" at 20°, 60°, and 85°.

Visual Impact

As well as the physical description, layout and proposed colour scheme(s) for the wind energy turbines, and any landscaping or treatment of the site and ancillary buildings, the developer shall prepare and submit a plan or plans and photomontage which clearly identifies the 'Zone of Visual Influence', the extent and location of any buildings included in the shadow flicker effect calculations and identifies those locations from where the proposal may be visible.

The developer and the local planning authority shall agree the radius of the zone of visual impact (up to a maximum radius of 10 km), which is agreed to be most appropriate for the type, size and location of the wind energy project being proposed, prior to the submission of the planning application.

Introduction

The following guidance notes identifies the technology specific planning criteria relating to:

SMALL-SCALE RENEWABLE ENERGY

This guidance note refers to those small scale renewable energy technologies which utilise the a renewable energy source to generate electricity.

General

To classify as a small-scale development, the total electrical generation capacity should not exceed 20 kW and the electricity generated should be predominantly for the use of the building(s) on the same site.

Generally, no specific relaxations or exemptions of the criteria/guidance notes relating to PPS 22, or any other planning requirements, would be necessary for small scale Photovoltaic or solar heating panels and/or biomass developments. The scale of the developments would, under the terms of these guidance notes mean that an environmental impact assessment would not be required, but it must be recognised that planning officers and/or members of the public may have concerns which could only be adequately addressed by undertaking the relevant part(s) of an environmental impact assessment.

Wind

The technology specific planning criteria relating to wind energy (Appendix C) already make provision for noise and proximity issues for small scale wind turbines.

In considering wind energy turbines the planning officers will also need to take into account the visual impact of the tower or support structure for the wind energy turbine, the implications of the shadow flicker effect for other buildings, noise and, where it is proposed to mount the wind energy turbine onto the existing building's structure, the implications of transmitted vibration and/or noise to adjoining buildings.

It would be recognised that wind energy developments under 20 kW would not be required to provide visual impact studies, but consideration of the implications for radiance or reflection of light and shadow flicker effect on neighbouring properties may require the developer to provide further information at the planning officer's discretion.