



Brecon Beacons National Park Authority

UDP Planning Guidance Note

March 2011

This Guidance Note provides further detail on the practical interpretation and implementation of Part I Policy 8 and detailed Policies S9 - Hydro-electricity, S10 - Solar Energy, S11 - Biomass Energy and S12 - Wind Energy

This Planning Guidance Note will be used in the validation and determination of planning applications

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1.0 Introduction

- 1.1 This Planning Guidance Note is one of a series of Planning Guidance Notes that have been prepared to provide supporting information and advice on the implementation of the National Park Authority's (NPA) Unitary Development Plan (UDP).
- 1.2 The aim of this Planning Guidance Note is to help potential applicants through some of the requirements and considerations of the planning process in respect to the generation of heat and/or electricity from Renewable Sources or Low/Zero Carbon Technologies.

2.0 Purpose of this Planning Guidance Note

- 2.1 This Planning Guidance Note illustrates the NPA's position in relation to renewable energy schemes. When applicants and agents are considering applying for planning permission for developments which incorporate renewable sources or for a stand alone renewable source development it is advisable to consider the contents of this Guidance Note in order to:
 - assist in discussions with Officers of the NPA;
 - ensure submission of a high quality planning application with all the necessary the documentation to enable the NPA to determine the application; and
 - avoid delays in the processing of the planning application.

3.0 Status of this Planning Guidance Note

- 3.1 This Planning Guidance Note is **not** a statement of Policy. The contents amplify the Policies contained in the NPA approved Unitary Development Plan (UDP).
- 3.2 The Guidance will be considered a material consideration in determining planning applications.

4.0 Policy Context

- 4.1 The generation of renewable energy has an increasingly important role to play in responding to climate change, fuel poverty and in promoting sustainable development.

UK National Policy

- 4.2 The UK Government adopted the Kyoto Protocol in 1997. One of the targets of the Protocol is to reduce emissions of greenhouse gases during the period 2008 – 2012 by 12.5% from levels recorded in 1990. The Climate Change Act 2008 sets out a long-term target to reduce the UK's emissions to 80% below 1990 levels by 2050¹.

Wales National Policy

- 4.3 The Welsh Assembly Government (WAG) published a revised Planning Policy Wales (PPW) in July 2010. Section 12.8 of PPW Sustainable Energy established a specific renewable electricity production targets for Wales of 4 Terawatt hours (TWh) per annum by 2010 and 7 TWh per annum by 2020. Whilst the WAG considers the majority of renewable energy production will come from major developments, it is also considered that small and medium size developments

1. The Department of Environment, Food and Rural Affairs, (2010). Climate Change Plan 2010 available at < <http://www.defra.gov.uk/environment/climate/documents/climate-change-plan-2010.pdf> >

will provide the opportunity to generate cleaner and cheaper energy in the home, community or workplace and, therefore make a valuable contribution to these targets.

- 4.4 Technical Advice Note 8 – Planning for Renewable Energy (July 2005) provides more detail and additional information in respect to PPW.

The WAG’s website has downloadable copies of PPW July 2010 and all the Technical Advice Notes. The WAG website address is <http://www.wales.gov.uk> and follow the link for ‘Planning’ in the Topics section of the homepage.

Local Planning Policy

- 4.5 The Environment Act 1995 sets out the statutory purposes of National Parks to:
- (a) conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and
 - (b) promote opportunities for the understanding and enjoyment of the special qualities of those areas by the public.

Also, in pursuing these purposes, the National Park Authority has a statutory duty to foster the economic and social well-being of local communities within the National Park.

Where there is a conflict between these purposes the first purpose takes precedence.

- 4.6 The National Park Management Plan is underpinned by principles of sustainable development. In the context of this guidance note, the Park’s resources may be harnessed to generate sustainable, renewable heat and energy in an effort to combat fuel poverty and mitigate the effects of climate change. The challenge is to utilise local resources to satisfy local need in the most sustainable fashion whilst mitigating adverse affects.

- 4.7 UDP Part I Policy 8 - Sustainable Production and Use of Energy allows for the development of renewable energy schemes that are of a scale consistent with the National Park designation. Size, design, siting, noise generation, impact on landscape, wildlife, habitats and archaeology are examples of important considerations. The NPA will also consider the potential impact of each proposal on the quality of life of the local community, both in terms of amenity and in terms of its potential to make a positive contribution to local sustainability.

- 4.8 The detailed UDP Policies directly associated with Part I Policy 8 (contained in full at Annex I of this Guidance Note) are:

S9 - Hydro-electricity;
S10 - Solar Energy;
S11 - Biomass Energy; and
S12 - Wind Energy

These Policies are applicable to all areas within, and outside, the settlement boundaries identified in the UDP.

- 4.9 In addition to the UDP Policies listed above, the NPA recognises that since the publication of the UDP other Low/Zero Carbon Technologies have become available. This Guidance Note also addresses the requirements when considering planning applications for Heat Pumps (ground, water and air).

- 4.10 The NPA adopted publication 'Guidance for Sustainable Design in the National Parks of Wales (Spring 2009)' contains valuable advice in respect to greater energy efficiency and use of natural resources.
- 4.11 Proposals for development in the Brecon Beacons National Park will need to consider the contents of the NPA approved Planning Obligations Strategy 2008. Planning Obligations provide a mechanism to ensure contributions and where appropriate, mitigation, from developers are provided to offset any negative consequences of development, to help meet or secure local needs, or to secure benefits to make the development more sustainable. Further to this there is also a duty to seek biodiversity enhancement under the Natural Environment Rural Communities Act 2006.
- 4.12 It is imperative that before submitting a planning application applicants and agents consider the contents of all relevant Guidance Notes and UDP Policies.

5.0 Do you need planning permission?

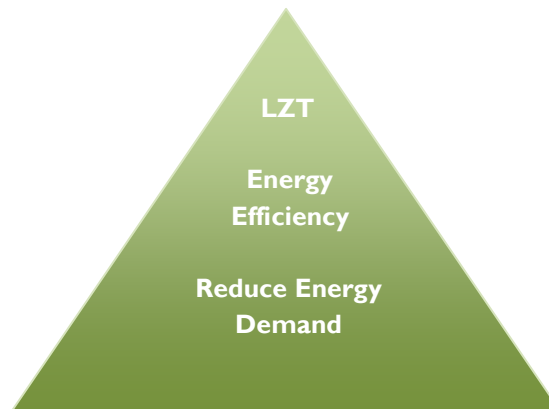
- 5.1 On the 1st September 2009 a number of Permitted Development Rights were made available for the **Installation of Domestic Micro-generation Equipment**. The title of the legislation is The Town and Country Planning (General Permitted Development) (Amendment) (Wales) Order 2009 ("the Order") The Order is available on-line at The Office of Public Sector Information.

IMPORTANT: Should a property's permitted development rights have been removed or exceeded it is likely that planning permission will be required even if the micro-generation equipment falls within the parameters of the Order.

- 5.2 The permitted development rights are restricted in variety of ways. Some restrictions relate to the location of a property, for example, in an area designated as a Conservation Area under Section 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990. Other restrictions relate to the visual impact of installing micro-generation equipment. It is important that the details in the Order are studied carefully to ensure the installation of new micro-generation equipment falls within the parameters of legislation. Brecon Beacons National Park Authority Planning Advice Note 20: Domestic Micro-Generation (2009) may assist you.
- 5.3 Planning Permission is not the same as Listed Building Consent and developments attached to or affecting the setting of Listed Buildings require special consideration. It is recommended that early contact is made with the NPA for advice regarding proposals that may directly or indirectly affect Listed Buildings.

6.0 Energy Efficiency

- 6.1 Before investing in micro-generation equipment, there may be cheaper and simpler alternatives to reduce your fuel bills and carbon footprint which could be very cost-effective and simple to undertake. The diagram below represents the Energy Hierarchy and illustrates that there are three steps that can be taken: 1. reduce demand; 2. become more energy efficient; 3. consider use of renewable technologies and Low/Zero Carbon Technologies (LZT).



- 6.2 All planning applications for renewable technology developments will be required to demonstrate that the above energy hierarchy has been considered. As part of your application you will be asked for factual information regarding the standard of current insulation, for example your roof insulation.
- 6.3 Applicants will need to demonstrate to the satisfaction of the NPA how alternative renewable energy technologies have been considered, and the reason(s) for the preferred technology. For example, a poorly sited wind turbine will generate little electricity, but may have a considerable visual impact, whereas the same site might achieve similar or greater energy yield from another technology, with lower visual impact (e.g. Ground Source Heat Pump).

7.0 Appropriate development in the National Park

- 7.1 The size and impact of developments should not conflict with the NPA's primary statutory purpose highlighted in paragraph 4.5 above. The following list, which is not exhaustive, shows which technologies are more likely to be compatible with relevant Policies:
- Solar photovoltaic
 - Solar thermal
 - Wind
 - Hydro
 - Biomass
 - Water, ground and air source heat pumps

8.0 Planning Considerations and Renewable and Low/Zero Carbon Technologies developments

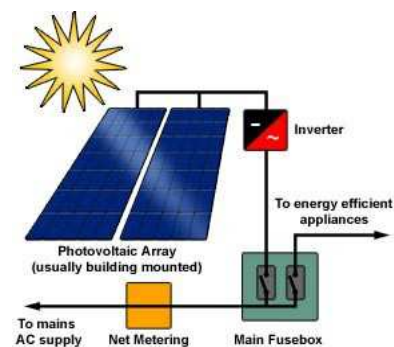
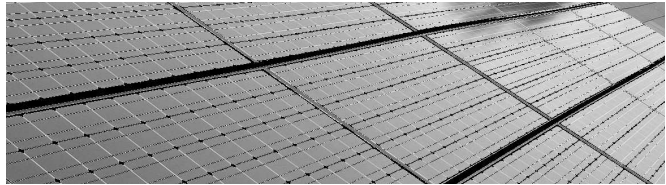
- 8.1 The purpose of this Section is to provide an overview of what information and considerations applicants should provide when applying for planning permission for renewable and Low/Zero Carbon Technologies developments. It is not the purpose of this Planning Guidance Note to provide an in-depth description of the technologies. There are a number of other Planning Advice Notes published by the NPA relating to renewable energy developments and Low/Zero

Carbon Technologies, however, given the rate of research and development into these technologies, other organisations may also provide you with additional valuable information.

Useful advice may be available from, for example, your Local Authority Building Regulations Department, The Green Valleys (Brecon), the Energy Saving Trust, the Building Research Establishment and the Code for Sustainable Homes.

8.2 Solar Photovoltaic

Solar photovoltaic systems (PV's) are generally located on or built into the roof of buildings or other structures but PVs can also be mounted standalone boards. These systems can also be static or have the capability to track the sun. The amount of electricity generated by these systems will be affected by the shade of trees or other buildings.



Planning applications for PVs should clearly explain and justify how the proposal meets with all relevant policies of the UDP. If mitigation is required to address any negative effects of such a proposal, this must be thoroughly assessed and recommendations made by a qualified professional who specialises in the relevant field.

Key considerations are likely to be:

- the effect that installing PVs is likely to have on the character and appearance of the building, townscape, archaeology and landscape. This could apply not only to the PVs themselves but also to the impact of the infrastructure used to link the PVs to a property or to the electricity network and the removal of trees and buildings;
- the effect on biodiversity and earth heritage, for example, if trees and/or buildings need to be removed or altered due to shading or works to put in the panels, for example what impact will the installation have on protected areas or species like bats already using the roof spaces.
- whether any excavations will be required, for example to site the PVs or to lay associated cables;
- the effect that reflections from the sun shining off the PVs could have on the character and appearance of the building, townscape and/or landscape; and
- that you may have to provide a Method Statement which clearly explains 'how, when and why' each stage of the development will take place and move forward, and provide a risk assessment if a specialist contractor is required. The Statement should also explain why and when they will be employed. The reason for these details is to ensure the development will be properly managed.

8.3 Solar Thermal

There are two main types of technology for delivering water heating: 1. flat plate; and 2. Evacuated-tube.

Planning applications will be required to clearly explain and justify how the proposal meets with all relevant policies of the UDP. Any mitigation that is required to



address any negative effects must be thoroughly assessed and recommendations made by a qualified professional who specialises in the relevant field.

Key considerations are likely to be:

- the effect that installing the equipment is likely to have on the character and appearance of the building, townscape, archaeology and landscape. This could apply not only to the equipment themselves but also to the impact of the infrastructure used to link the equipment to a property or to the electricity network and the removal of trees and buildings;
- the effect on biodiversity and earth heritage, for example, if trees and/or buildings need to be removed or altered due to shading or works to put in the equipment, for example what impact will the installation have on protected species like bats already using the roof spaces.
- whether any excavations will be required, for example to site the equipment;
- the effect which reflections from the sun shining off the equipment could have on the character and appearance of the building, townscape and/or landscape; and
- that you may have to provide a Method Statement which clearly explains 'how, when and why' each stage of the development will take place and move forward, and provide a risk assessment if a specialist contractor is required. The Method Statement should also explain why and when they will be employed. The reason for these details is to ensure the development will be properly managed.

8.4 Wind power

Wind turbines are available in many sizes and often work well in conjunction with solar based technologies. Examples of wind turbines include horizontal axis and the vertical axis turbines.

The most obvious location for wind turbines are exposed windy areas. Unfortunately, installing turbines in this type of location often comes into direct conflict with the NPA's primary statutory purpose (see paragraph 4.5 above).

Turbines are required to be located as close as possible to, and to be clearly associated with buildings. However, such siting can cause other problems for neighbours through, for example, noise and light flicker. Turbines which are seen as prominent or overly large within the landscape are potentially harmful to the character of the landscape and spoil its appearance are unlikely to be approved.



The height, design and colour of the wind turbine tower/column/structure will need to be carefully considered so to mitigate for its impact on the visual quality of the area where it will be located. Planning applications will be required to clearly explain and justify how the proposal meets with all relevant policies of the

UDP. Wind turbines tend to be the most visually prominent of the technologies associated with using renewable energy and they can have a detrimental impact on nearby residents. Applicants and agents will be expected to provide factual information from a qualified professional who specialises in the relevant field to explain why this type of technology has been chosen over others. A landscape impact assessment is likely to be required.

Key considerations are likely to be:

- the effect and cumulative effect that installing a turbine and/or any associated buildings might have on the character and appearance of the building, archaeology, townscape and/or landscape. These considerations also apply to the effects of the infrastructure to link the turbine and any associated buildings to a property or electricity network. The cumulative effect of the number of turbines will also be taken into account;

- the effect and cumulative effect on biodiversity and earth heritage, for example, if trees and/or buildings need to be removed or altered due to shading or works to install the equipment, for example what impact will the installation have on protected species like bats and birds. Turbines should not be sited in close proximity to bat roosts, hedgerows, or linear features likely to be used as flight-lines, or close to woodland edges likely to be important for bat foraging;
- whether any excavations will be required before submitting a planning application;
- that you may have to provide a Method Statement which clearly explains 'how, when and why' each stage of the development will take place and move forward, a risk assessment may be necessary. If a specialist contractor is required, why and when they will be employed. The reason for these details is to ensure the development will be properly managed.; and
- the effect on neighbours or the surrounding area caused by noise, light flicker and any issues of massing and scale caused by the turbine and/or associated buildings and/or associated infrastructure.

8.5 Hydro

This technology uses the power of water to generate electricity. Essential elements for a hydro scheme are:

- a suitable water catchment area;
- an hydraulic head;
- a method of transporting water from the intake to a turbine, such as penstock or leat;
- a turbine, generator, valve equipment and associated buildings;
- a tailrace or outflow (this returns the water to its natural course); and
- a link to local user(s) or the local electricity distribution network.

There are two main types of hydro technology: Low Head and High Head.

Low Head schemes are appropriate for valley bottom locations or where the land is slightly sloping. Low Head schemes sometimes need to store water above an intake but normally the water feeds directly into a generator. Rather than storing water, the natural flow of a river can also be used.



Potential Low Head System Site



Example of a Typical High Head System

High Head schemes are appropriate for valley sides, where the land slopes steeply. In some cases a reservoir is created above an intake and some of the water is diverted into a pipe (penstock). The water then flows down the penstock to the generator and the electricity is then transferred to the local user(s) or the local electricity distribution network. The water is then returned to its natural course.

The benefit of hydro power technologies is that, generally, they have a low visual impact. However, the effect on archaeology, flora and fauna needs to be considered. Turbine houses that are small scale and visually unobtrusive in their siting, and which are built with local

materials (for example, stone walls and slate roofs), are more likely to blend in as part of the agricultural landscape, particularly where existing agricultural stone walls, outbuildings, or enclosures are already on the site. Modern steel enclosed structures and substantial engineering to provide channelling, ancillary transmission cabling or access roads are unlikely to be permitted.

Planning applications will be required to clearly explain and justify how the proposal meets with all relevant policies of the UDP. Any mitigation required to address any negative effects of the development must be thoroughly assessed and recommendations made by a qualified professional who specialises in the relevant field. Key considerations are likely to be:

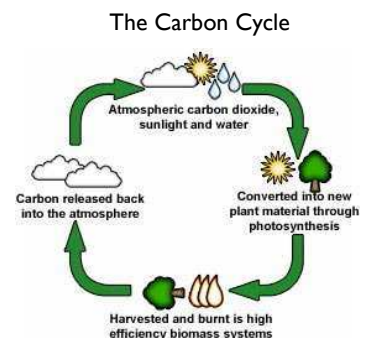
- the effect and cumulative effect that installing hydro power technologies will have on the character and appearance of the building, archaeology, townscape and/or landscape in locating reservoirs, penstock, plant and associated buildings and the impact of installing any infrastructure required to link the sections of the plant to a property or electricity network;
- whether any excavations will be required and impacts and mitigation considered before submitting a planning application;
- that it may be necessary to provide a Method Statement which clearly explains a 'how, when and why' each stage of the development will take place and move forward, a risk assessment and, if a specialist contractor is required, why and when they will be employed. The reason for these details is to ensure the development will be properly managed;
- the effect on archaeology, biodiversity and earth heritage both in and adjacent to the water course; and
- the effect and cumulative effect on neighbours and the surrounding area through the noise created by the generator(s).

We also recommend that you make early contact with Environment Agency Wales to discuss and permissions, permits or licences you may need to obtain from Environment Agency Wales before your development can be brought on line..

8.6 Biomass

This is a technology that uses the stored carbon to create energy or a make a resource which can, in turn, be used to create energy. Biomass fuels can be derived from:

- wet agricultural waste (anaerobic digestion of slurry);
- poultry litter (using the litter as a fuel);
- crops grown especially for energy production (using a crop like wood chip as a fuel); and
- public waste (both municipal and industrial)



There are a number of methods in which biomass fuels can be used. The size of the systems can also vary from domestic to industrial size. If you are considering installing a biomass scheme we strongly recommended that you make contact with the NPA as early as possible to discuss the proposed development. We also recommend that you make early contact with the Local Authority Building Regulations and Environmental Health Departments and with Environment Agency Wales as there may be issues arising from possible pollution in the form of spills and/or unpleasant odour.

In the National Park, applications for biomass schemes will be required to demonstrate that the product(s) to power the plant come from local sources and not from regional sources.

Planning applications will have to clearly explain and justify how the proposal meets all the relevant policies of the UDP, for example the Farm Diversification Policies. If mitigation is

required to address negative effects of the development this must be thoroughly assessed and recommendations made by a qualified professional who specialises in the relevant field.

Key considerations are likely to be:

- the effect and cumulative effect on the character and appearance of the building, archaeology, townscape and/or landscape resulting from the required plant, any ancillary development, or the provision of additional space on site for fuel storage and delivery and impacts of installing any infrastructure to link the plant to property, gas or electricity networks;
- the effect and cumulative effect on the character and appearance of the building, archaeology, townscape and/or landscape arising from harvesting the biomass;
- the effect and cumulative effect on character and appearance of the building,
- archaeology, townscape and/or landscape resulting from the infrastructure which is needed to link the sections of the plant and the electricity network for Combined Heat and Power schemes;
- whether any excavations will be required before submitting a planning application. You may have to provide a Method Statement which clearly explains 'how, when and why' each stage of the development will take place and move forward, along with a risk assessment. Should a specialist contractor be required you should say why and when they will be employed;
- the suitability of the highway infrastructure to carry any lorries transporting biomass to and from the site;
- that an Emergency Plan is likely to be required and, for example, if additional buildings or bunding are required details must be included in the planning application;
- the effect on neighbours and the surrounding areas caused by pollution or noise created by plant; and
- the effect and cumulative effect on biodiversity and earth heritage: you should show how you intend to deal with pollutants emitted on a day-to-day basis and, should any plant or equipment and transport carriers lose their contents or fail, worst case scenario needs to be provided for (this information will be part of an Emergency Plan). You should show that you have considered the impacts of such failures both on-site and off-site.

8.7 Heat Pumps

Heat Pumps collect heat from the water, air or ground and transfer it to buildings. Water source and ground source pumps can be located inside buildings. The pipes needed to transport the heat are sited underground. Air Source Pumps are usually located outside the host building.

Due to wider variations in air temperature, water or Ground Source Heat Pumps tend to function slightly more efficiently than Air Source.



An Example of a Vertical Ground Source Heat Pump



An Example of a Horizontal Ground Source Heat Pump

Planning applications will be required to clearly explain and justify how the proposal meets with all relevant policies of the UDP. Any mitigation needed to address negative effects resulting from the installation must be thoroughly assessed by a qualified professional who specialises in the relevant field.

Key considerations are likely to be:

- the effect and cumulative effect that installing the system(s) could have on the character and appearance of the building, archaeology, townscape and/or the landscape and by locating any associated buildings. This could also apply to the infrastructure needed to link the sections of the plant to a property or electricity network;
- whether any excavations will be required before submitting a planning application. You may have to provide a Method Statement which clearly explains 'how, when and why' each stage of the development will take place and move forward, and gives a risk assessment. If a specialist contractor is required it should state why and when they will be employed. The reason for these details is to ensure the development will be properly managed;
- the effect and cumulative effect noise will have on neighbours and the surrounding area (generally this is only a consideration for Air Source Pumps); and
- the effect and cumulative effect on archaeology, flora and fauna on or adjacent to areas requiring excavations, siting of plant, associated buildings and link to property.

Annex I

Policy S9: Hydro-electricity

Proposals for the generation of hydro-electricity will be permitted where, either through construction or operation, they would not:

- i) adversely affect the water quality or the amenity or wildlife value of the watercourse either at the site or downstream;
- ii) result in the loss of water flow or an increased risk of flooding upstream or downstream; and/or
- iii) result in an unacceptable impact on the landscape.

Policy SI0: Solar Energy

Generation of energy from the sun, whether by active solar heating or photo-voltaic cells will be permitted where the proposal:

- i) will not have a significant detrimental effect on a listed building or conservation area; and
- ii) can be satisfactorily incorporated into the fabric of an existing building without undue loss of amenity, or form an integral part of the design of a new building.

Policy SI I: Biomass Energy

Proposals for the generation of energy from biomass, whether an energy crop or farm waste, will be permitted where:

- i) the proposal would not cause loss of amenity to neighbouring properties by reason of noise, dust, smoke or smell; and
- ii) the site can be satisfactorily accessed and will not result in the large scale generation of additional traffic.

Policy SI2: Wind Energy

Wind energy development will be permitted where:

- i) there is no unacceptable impact either individually or cumulatively, either during or after construction, to the special built, historic or natural environment qualities for which the Park is designated;
- ii) it is sited and designed so as to minimise impact on the landscape;
- iii) it will not lead to nuisance by reason of noise, safety, shadow flicker, electro-magnetic interference or reflected light. Particular attention will be given to the impact on dwellings and other regularly occupied premises, unless they are part of a development served by that turbine;
- iv) ancillary works and structures are minimised;
- v) new links to the electricity grid are placed underground where they would cross visually prominent and sensitive areas; and
- vi) provision is made for the removal of redundant turbines and associated structures.