Renewable Energy

Supplementary Planning Document

Draft for Consultation

March 2015

Introduction

Purpose and scope of this document

1. This Supplementary Planning Document (SPD) sets out Dudley's approach to renewable energy proposals. It also aims to assist land-owners, developers, builders and other relevant stakeholders to clarify how Policy ENV7-Renewable Energy should be applied.

National Planning Policy Framework (NPPF)

2. The National Planning Policy Framework (NPPF) sets out the key national planning priorities for England and is statutory guidance and is a material consideration in plan making and in determining planning applications. It should be noted that NPPF directly cites the 2008 Climate Change Act as a relevant consideration in decision making (in the footnote to paragraph 94).

3. The NPPF strongly reinforces the plan-led system as the key way to deliver sustainable development over the long term, allowing for proper engagement with communities. The presumption in favour of sustainable development is an operational principle for plan-making and development management.

4. The NPPF makes clear that climate change is a core planning principle of the NPPF. To be in conformity with the NPPF, local plans should reflect the principle, ensuring that planning policy clearly and comprehensively deals with climate change mitigation and adaptation.

5. The NPPF sets out a positive vision for local plans in order to *"secure radical reductions in greenhouse gas emissions"* (paragraph 93).

6. The core provision of this Act is the reduction of carbon dioxide emissions by 80% by 2050 in England and Wales. Local plans present a clear opportunity and obligation to contribute to the trajectory required to meet this standard by shaping the location and design of the development, by supporting energy efficiency in the existing buildings, and by setting local requirements for building sustainably so long as these are in line with national standards.

7. Various other paragraphs of the NPPF reinforce the need for low carbon economy (Para 17), reduction in greenhouse gases (Para 93), design considerations for renewable energy sources in new buildings (Para 96), climate change mitigation and adaptation (Para 99).

The Black Country Core Strategy (2011-2026)

8. The Black Country Core Strategy (the Core Strategy) was adopted on 3rd February 2011 and now forms part of the Development Plan for all four Black Country Councils ("the Councils" of Dudley, Sandwell, Walsall and Wolverhampton), together with saved policies in the Councils' Unitary Development Plans. The Council's Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs) have to be consistent with the Core Strategy.

   The Black Country Core Strategy can be viewed at: *http://blackcountrycorestrategy.dudley.gov.uk*

Policy ENV7: Renewable Energy

9. Core Strategy Policy ENV7: Renewable Energy requires residential development of 10 dwellings or more and non-residential development of 1000m^2 or more to secure at least 10% of their residual energy from renewable energy sources. Policy ENV7 replaces Dudley UDP (2006) UDP Policy EP10-Renewable Energy.

Policy ENV7: Renewable Energy

Proposals involving the development of renewable energy sources will be permitted where the proposal accords with local, regional and national guidance and would not significantly harm the natural, historic or built environment or have a significant adverse effect on the amenity of those living or working nearby, in terms of visual, noise, odour, air pollution or other effects. All non-residential developments of more than 1,000 square metres floor space and all residential developments of 10 units or more gross (whether new build or conversion) must incorporate generation of energy from renewable sources sufficient to off-set at least 10% of the estimated residual energy demand of the development on completion. The use of on-site sources, off-site sources or combination of both should be considered. The use of combined heat and power facilities should be explored for larger development schemes. An energy assessment must be submitted with the planning application to demonstrate that these requirements have been met. The renewable energy target may be reduced, or a commuted sum accepted in lieu of part or all of the requirement, only if it can be demonstrated that:

- ***a variety of renewable energy sources and generation methods have been assessed and costed;***
- ***achievement of the target would make the proposal unviable (through submission of an independently assessed financial viability appraisal); and***
- ***the development proposal would contribute to achievement of the objectives, strategy and policies of the Core Strategy.***

Renewable and low carbon energy-Planning Practice Guidance

10. The Government recently published a Planning Practice Guidance to give detailed information on some of the topic areas in the NPPF. The guidance on renewable and low carbon energy provides valuable information on topics and issues related to renewable and low carbon energy. The website link for the above guidance is set out below:

http://planningguidance.planningportal.gov.uk/blog/guidance/renewable-and-low-carbon-energy/

Detailed Application of Policy ENV7

11. Policy ENV7 sets out the minimum target in terms of new development. Dudley Council will apply this policy in terms of the **gross** level of development.

Table 1: Thresholds for Energy Assessment

Type of Development	Energy Assessment Required	
	Outline	Full or Reserved Matters
Residential Development 10 or more dwellings (major development) including conversions, subdivisions and changes of use	Design and Access Statement to set out a framework to show how the proposal will achieve the requirements of Policy ENV7. Best estimates of energy use at outline application stage will be acceptable	Yes-detailed Energy Assessment required
Non-residential Development Gross floor area of 1000m^2 or greater for new buildings (not extensions to existing buildings)	Design and Access Statement to set out a framework to show how the proposal will achieve the requirements of Policy ENV7. Best estimates of energy use at outline application stage will be acceptable	Yes-detailed Energy Assessment required
Residential Development less than 10 dwellings	No	No
Non-residential development less than1000m^2	No	No

Planning Conditions and Planning Obligations

12. The Council's preference is for renewable energy provision to be provided on-site by developers and incorporated into individual developments. However, in limited exceptional circumstances, where it is not appropriate or feasible for this to be provided on site, the Council may require an off-site contribution. This will usually be a financial contribution and will be secured through a S106 legal agreement.

13. In these instances the level of contribution will be calculated on a site by site basis to reflect the characteristics of the proposed development and the level of mitigation required. By using the approach to calculating 10% renewable energy provision as set out within this SPD, the developer will

be required to provide costed evidence to the Council, to be used as the basis of any requirements for a financial contribution.

14. Planning Obligations for Renewable Energy will only be sought where they are material to a planning decision and comply with the requirements for Planning Obligations as set out within the CIL Regulations 2010 (as amended). Further information on the Council's use of Planning Obligations can be found in the Planning Obligations SPD which is available to view on the Council's website:

http://www.dudley.gov.uk/resident/planning/planning-policy/local-development-framework/planning-obs-spd/

15. Planning conditions will primarily be used to secure the minimum 10% sustainable energy requirement, or an alternative agreed target following consideration of viability issues (see below). However, there may be some cases where the use of a Planning Obligation will be more appropriate, for example, where an off-site solution is proposed. For developments that involve Heritage Assets, conditions may be used to secure adequate assessment and recording in advance of installations that may impact features of significance.

16. The model condition is based on the "model condition" proposed by The Planning Inspectorate and has been modified slightly to incorporate new guidance.

17. The model condition proposed should read:

"At least 10% of the energy supply of the development shall be secured from renewable or low-carbon energy sources Details and a timetable of how this is to be achieved, including details of physical works on site, shall be submitted to and approved in writing by the Local Planning Authority [as a part of the reserved matters submissions required by condition x] prior to the commencement of the development. The approved details shall be implemented in accordance with the approved timetable prior to the commencement of the development and retained as operational thereafter or the use of the building, unless otherwise agreed in writing by the Local Planning Authority."

Monitoring

18. The Local Planning Authority will monitor information on actual energy use and energy generation collected from developments across the Borough and this data will be analysed and reported in the Authority's Monitoring Report. This analysis will be used to inform the implementation of Policy ENV7 and, potentially, future amendments to this SPD.

19. For the types of development that will need to provide an Energy Statement (See Table 1), accurate monitoring of the actual residual energy demand of the development and of energy production from sustainable technologies will be required for the first 3 years of operation. This information should be provided to the Council by the operators or site owners on at least an annual basis.

Financial Viability

20. The Council recognises that on some sites the requirements of Policy ENV7 may be difficult to achieve especially on development on small brownfield sites, or affecting Heritage Assets.

21. Where financial viability is an issue, a developer may put forward an argument for a reduced level of provision. This will only be considered in exceptional circumstances and should be submitted at the pre application or planning application stage. Developers will be required to demonstrate that the exceptions set out by Policy ENV7 on page 1 are applicable.

22. Where the applicant has identified a potential financial shortfall they will need to submit a sound and fully justified case for why the policy requirement cannot be met. The Council will expect a full explanation of why 10% target would render the development unviable or that standards cannot be achieved for technical reasons. This should also include the details of any rejected options.

23. Such a reduced level of provision will only be considered in exceptional circumstances (not including land purchase costs) which would render a scheme unviable if the full level of planning obligations were required in line with the Planning Obligations SPD. The detailed process on how to follow this process is set out in the Council's adopted Planning Obligations SPD which can be accessed using the following hyperlink:

    http://www.dudley.gov.uk/resident/planning/planning-policy/local-development-framework/planning-obs-spd/

24. ~~The onus is on the developer to demonstrate why meeting the requirements of this policy is not viable. A high purchase price for development land will not be regarded as sufficient justification. The likely timescale for the completions of the development will also be taken into account. Large schemes that will be built over several years will need to demonstrate a realistic viability case in order for the Council to consider any relaxation of the standards for those schemes, as these are the developments that will make the largest contributions to achieving the carbon and energy reduction objectives of the policy. Any viability assessment will need to take account of other requirements of the development plan (including affordable housing under Core Strategy CP5) and CIL requirements.~~

25. ~~Any Financial Viability Appraisal (FVA) will need to take account of all other planning obligations or CIL requirements associated with the development, such as affordable housing provision. A FVA is not appropriate at to be addressed at discharge of condition stage. The applicant will be expected to cover the Council's reasonable costs of having the FVA independently assessed.~~

Submitting an Energy Assessment

Calculating the Sustainable Energy Requirement

26. The "baseline", for a development will be used to establish what amount of energy the minimum 10% sustainable energy requirement relates to. Typical energy demands for new development arise from space heating, hot water, lighting, appliances, cooking and specialist equipment for commercial uses. The annual predicted baseline figure (kWh/year) is calculated as follows:-

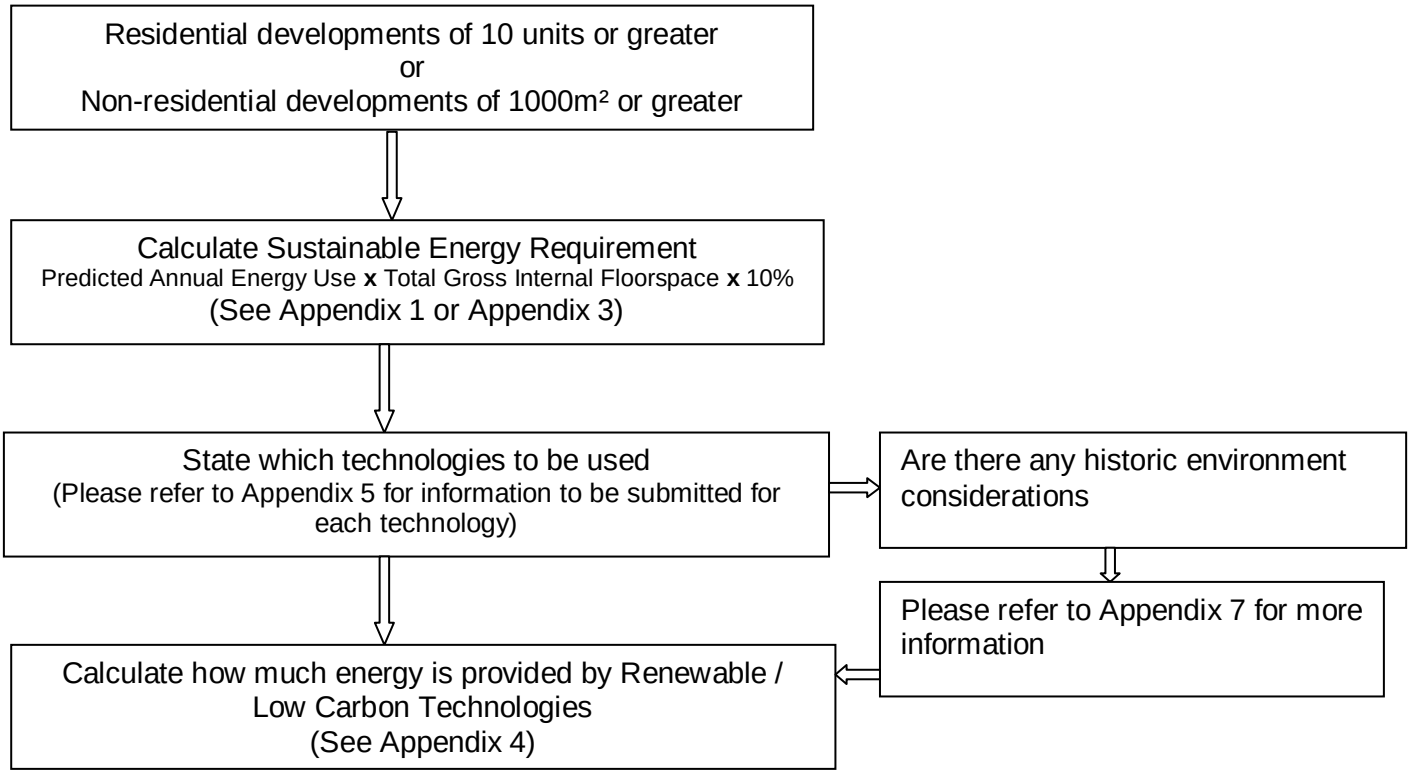
Predicted annual energy use of the dwellings/development (kWh/m^2)
x
Total gross internal floor area

27. The 10% requirement can be calculated using the following formulae

Predicted annual energy consumption (kWh/year)
x
Energy from renewables target (10%)

28. Further details on how to calculate 10% energy requirement for residential dwellings can be found in Appendix 1, the worked up example for residential development is included in Appendix 2 and the methodology to calculate 10% baseline energy requirement for non residential developments can be found in Appendix 3.

29. The flow chart below shows the requirements of an Energy Assessment.



APPENDIX 1: EXAMPLE TABLE FOR RESIDENTIAL DWELLING

N.B- This policy only applies to residential sites of 10 or more dwellings

1. Calculate baseline energy use of the development using benchmarks or own calculations

Use the Standard Assessment Procedure (SAP) calculation required by Building Regulations (which covers space heating, hot water and lighting). Model results can be obtained at outline planning stage by modelling a number of representative dwelling types based on a developer's standard specification or by using SAP's already calculated for existing developments with similar house/flat types. The final total annual energy demand calculated for a dwelling should include energy use for all end uses required for building regulation approval.

Calculation Methodology	Your calculation
(A) Predicted annual energy use of dwelling (kWh/m^2/year)	
(B) Total gross internal floor area of dwelling/s (m^2)	
Development's annual baseline energy use (kWh/year) (A) x (B)	

2. Determine the development's annual renewable energy target (kWh/year)

Calculation Methodology	Your calculation
Development's annual baseline energy use (kWh/year) x 10%	

3. Compare the annual energy from renewable/low carbon technologies with the annual energy reduction target

Annual energy saving rate of chosen technology (C)	
Area of development to which the chosen technology will be applied (m^2) For photovoltaics state area of panels For Wind state kW rating) (D)	
Predicted annual energy from renewable technology (kWh) (C) x (D)	

APPENDIX 2: WORKED UP EXAMPLE FOR A RESIDENTIAL DEVELOPMENT

Calculate baseline carbon emissions for the development using benchmarks or own calculations.

Calculation methodology	Your calculation
(A) Predicted annual energy use of dwelling (kWh/m^2/year)	60kWh/m^2/year
(B) Total gross internal floor area of dwelling/s (m^2)	15 dwellings (each 80m^2) = 1200m^2
Development's annual baseline energy use (kWh/year) (A) x (B)	72,000kWh/yr

Determine the annual renewable/low carbon energy target for the site (10%).

Calculation methodology	Your calculation
Development's annual baseline energy use (kWh/year) x 10%	7,200kWh/yr

APPENDIX 3: EXAMPLE TABLE NON RESIDENTIAL DEVELOPMENTS OVER 1000M^2

State the predicted baseline energy use of the development

Please fill in all the applicable sections in the table below. Along with your application, you should also state the method by which the figures have been obtained, including any assumptions made (for example list of inputs for SBEM calculations). All predicted energy uses for the development (electricity, fossil fuel uses etc) should be incorporated in the calculations.

Delivered energy-Fuels Specify fuel (i.e. gas).....		**Units**
Space heating		kWh/yr
Hot water		kWh/yr
Other fuel		kWh/yr
Total fuel (a)		**kWh/yr**

Delivered energy-Electricity		**Units**
Space heating electric		kWh/yr
Hot water electric		kWh/yr
Cooling (refrigeration) electric		kWh/yr
Fans, pumps and controls		kWh/yr
Other electricity (Humidification, Lighting and Office equipment, IT & Communications equipment etc.)		kWh/yr
Total Electricity (b)		**kWh/yr**
Total Predicted Energy Consumption (a+b)		**kWh/yr**

If it is not possible to carry out SBEM calculations; benchmark figures can be used relating to the type of development(s) proposed, however the benchmarks must be from a recognised source as agreed by the Buildings Control team in the Council. Benchmarks for a range of building types (corresponding to planning use classes) can be obtained from Section 4 of the London Renewables Toolkit. However it is advisable to calculate emissions in order to take account of energy efficiency techniques or technologies such as improved building insulation.

APPENDIX 4: DETERMINE WHETHER THE PROPOSED RENEWABLE/LOW CARBON TECHNOLOGIES PROVIDE 10% OF THE ENERGY REQUIREMENTS OF THE DEVELOPMENT

	Predicted kWh supplied per year
Solar Hot water	
Photovoltaics	
Wind	
Biomass	
CHP	
Ground source heat pump	
Air source heat pump	
Water source heat pump	
Other.....	
Total energy from renewable/low carbon sources	**kWh**
Total energy used in development	**kWh**
Percentage of total energy use of development to be supplied by renewable/low carbon sources.	**%** **This figure must be at least 10% in order to comply with Policy ENV7.**

APPENDIX 5: INFORMATION REQUIREMENTS FOR SELECTED TECHNOLOGIES

For each technology selected to deliver the minimum 10% target, the information listed below will be required to form part of the submission for relevant proposed development and set out within an Energy Assessment. The relevant information would need to be submitted as a part of the planning application to be assessed by the officer/s whether compliance with ENV7 is met.

Technology	Information Required
Solar Thermal Systems	• Description of the technology • Capacity i.e. number of panels or tubes, total area • Estimated energy generation (KWh/yr) • Elevations to show proposed location • Orientation/roof pitch • Roof plans and detail of roof mounting arrangements and methods of fixing, if applicable • Potential shading from trees and other buildings • Visual impact assessment
Photovoltaics	• Description of technology • Capacity- electrical output (KWp) • Estimated energy generation (KWh/yr) • Design of the module or array • Elevations to show proposed location • Orientation/roof pitch • Roof plans and detail of roof mounting arrangement and methods of fixing, if applicable • Potential shading from trees and other buildings • Visual impact assessment
Wind Turbines	• Description of technology • Capacity- electrical output (KW) • Estimated energy generation (KWh/yr) • Layout plan showing the site size, boundary and location of infrastructure (e.g. location of turbines, sub-station, access tracks) • Elevation plan • Roof plan to show location of wind turbine (if roof mounted) • Average site wind speed (minimum 12 months) and further information to fully demonstrate that the proposed wind turbine would actually

	deliver the wind output claimed • Grid connection • Proximity to the dwellings • Noise, vibration and visual impact assessment • For large wind turbines further information will be required, including topple zones, radar interference, microwave transmission buffers, archaeological assessment, consideration of impact on birds/bats etc & Air Traffic Control. • Evidence of consultation with Network Rail to establish if there would be any potential impacts on rail infrastructure e.g. topple zones, cabling, vibration impacts, radio/signalling impacts, shadow flicker.
Hydroelectric	• Layout plan showing location of turbine • Elevations and size of turbine • Capacity-electrical output (KW) • Estimated energy generation (KWh/yr)
Ground Source Heating/Cooling	• Description of technology • Capacity-for heating and cooling (KW) • Estimated energy generation (KWh/yr) • Number and location of boreholes/trenches • Location of pipe work • Connection details to the building • Plan showing tree locations and their potential rooting zones • Archaeological assessment, where applicable
Air Source Heat Pump	• Description of technology e.g. air-to air, air-to-water system • Capacity-for heating and cooling (KW) • Estimated energy generation (KWh/yr) • Elevations to show location and design • Visual impact assessment • Noise report (should be available from the manufacturer)
Use of canal water for heating or cooling buildings	• Description of technology and fuel supply • Capacity-boiler specification (KW) • Estimated energy generation • Number and location of canal extraction points • Location of pipe work • Connection details to the building • Evidence of consultation with the Canal and River Trust
Biomass	• Description of technology and fuel supply • Capacity – boiler specification (KW) • Estimated energy generation (KWh/yr) • Floor plans and elevations showing the location

	and design of the plant, flue and storage facilities; • Details of vehicle access to and from the plant and estimated vehicle movements • Source of fuel supply, principle transport routes to and from the supply • Landscaping and visual impact of plant • Details of noise emissions • Details of air pollution impacts and mitigation measures
Combined Heat and Power and District Heating	• Description of technology including fuel type to be used • Capacity – plant specification, electrical output (KWe), heat output (KWth) • Estimated energy generation (KWh/yr) for electricity and heat separately • Layout plan showing site size, boundary and location of infrastructure (e.g. location of boiler house, CHP units and boilers, storage area) • Floor plans and elevations • Details of connection to distribution network • Noise and visual impact assessment • Details of operation and management of installations • Where appropriate, source of fuel supply, principle transport routes to and from the supply • Details of vehicle access to and from the plant and estimated vehicle movements

APPENDIC 6- RENEWABLE ENERGY TECHNOLOGIES

Solar Thermal Systems

1. Solar collectors absorb the sun's energy and use it to heat water which is transferred to a hot water cylinder to meet the needs of the building. Three types of collectors are available; unglazed plastic, flat plate and evacuated tube, the suitability of which depends on the location and type of development. This technology is most suitable for schemes which have a year round hot water demand.

Photovoltaics (PV) (Solar Panels)

2. Solar Panels convert the sun's energy into electricity which can be used to power the energy needs of a development. The panels are made of PV cells which consist of two layers of semi conducting material available as panels or tiles which can be mounted on the roof, ground or as cladding. They are most effective on a south facing roof surface but can be used at most locations providing there is no overshadowing by nearby buildings. Solar Panels are suitable for most types and sizes of development and are low maintenance once they have been installed. It is also possible to feed excess electricity back into the power grid. Careful consideration in terms of siting and design is needed in the case of listed buildings (see Appendix 7) and within Conservation Areas.

Wind Turbines

3. Turbines use energy from the wind to produce electricity. The capacity for utilising large scale wind turbines or wind farms within Dudley is limited particularly within the urban areas. There may be potential for standalone micro turbines where they can be mounted away from other buildings and where consideration is given to:
   - any potential disturbance on neighbouring uses in terms of noise and vibration; and
   - the visual impact on the townscape.

Hydroelectric

4. Hydroelectric energy can be defined as a form of hydropower where the motion of running water (kinetic energy) is converted into electricity. The faster the water flows and the more water there is the more electricity can be generated. Small or "micro" hydroelectricity systems can produce enough electricity for lighting and electrical appliances in an average home. Feed in tariffs (FITs) are currently available for hydroelectricity.
5. Like PV and wind turbines, hydro systems can be connected to the grid. The systems need to be sited close to the point of use or to a suitable grid connection. If these systems are considered for a river or stream, an abstraction and/or impoundment license, flood defence consent and fish

pass approval will be required from the Environment Agency. Riparian ownership issues may also have to be considered.

Ground source heating/cooling

6. Underground pipes are used to absorb heat from the ground which is transferred to a heat distribution system that can provide heating as well as preheated domestic hot water. A large space is required for the pipes to be buried underground at a depth of around 1m with the majority of the heat exchanger under open land with exposure to sunlight. Alternatively vertical heat exchangers (bore holes) may be used at a depth of 15 to 150 m where space is limited.
    - Vertical heat exchangers are expensive and permission to drill boreholes may be required.
    - There may be archaeological reasons which would make this technology unsuitable in certain locations
    - Feasibility depends on the ground conditions

7. As underground temperatures remain fairly constant throughout the year and below peak temperatures in the summer, ground source pumps may also be used for cooling in offices and non domestic buildings.

Air source heating/cooling

8. Air source heat pumps extract the ambient heat energy in outside air and use this for heating or cooling and to produce domestic hot water. These systems can be retrofitted, used where the ground conditions and limited space preclude the use of ground source heat pumps and are most efficient in well insulated properties.

Biomass

9. Biomass technology uses organic materials, either directly from plants or indirectly from industrial, commercial, domestic or agricultural products to generate heat. Biomass does not include fossil fuels. Biomass products can include:
    - Woody biomass – such as logs, wood chips, wood pellets and energy crops;
    - Non woody biomass – such as animal waste, industrial waste and biodegradable products from food processing.
10. Biomass is considered to be carbon neutral as the energy released from biomass on burning is the same as that absorbed during its production. The most common forms of biomass technology are biomass boilers, where the fuel can be fed manually or automatically. Internal or external storage areas will be required to store biomass products.
11. Any biomass fuel used for biomass furnaces should be capable of burning smoke free and be compliant with current legislation and guidance to ensure that air quality and amenity is not adversely impacted. Biomass technology is not suitable for all locations. It is therefore

important that applicants considering such technology should contact the Council's Environmental Health Department to discuss the viability of the scheme at an early stage.

12. Use of locally sourced biomass is the most sustainable option. Growing plant material for biomass schemes, whilst potentially beneficial for biodiversity, may also be harmful where non-native species are used and semi-natural habitat is lost to grow biomass crops.

Combined Heat and Power (CHP)

13. CHP units burn gas or oil to generate both heat and power and are therefore a much more efficient way of producing energy. CHP can provide significant carbon emission reductions however unless it is powered by bio fuel it is not considered to be a renewable technology. The Council will particularly encourage schemes of 10 dwellings or 1000 sq m or more to consider the potential for CHP.
14. It is most suitable for large scale mixed use developments where there is a constant demand for heat and power. For example, a mixed development where offices would have a high energy demand during the day and residential units which would have a peak demand in the evening. Other uses which require a constant source of heat such as hotels (particularly those with a swimming pool) are particularly suited to this type of technology.

APPENDIX 7- RENEWABLE TECHNOLOGIES AND HISTORIC ENVIRONMENT

The following section provides specific guidance on implementing renewable technologies in the historic environment.

Photovoltaics and Solar Thermal

1. The installation of solar panels, tiles, slates and solar collectors (for solar thermal systems) can have an unacceptable impact on listed buildings and unlisted buildings in Conservation Areas which can detract from the historic integrity of the building / area. Many roof coverings on traditional buildings are comprised of small scale elements that cannot readily accommodate the visual impact of large scale panel installations. They may also result in the removal of historic fabric in the case of listed buildings which can be detrimental to the building.
2. Careful consideration should therefore be given to locating such equipment in the historic environment. They will not be acceptable to the Council unless hidden from public view or on rear or hidden roof slopes. However, possible locations on listed buildings could include high level flat roofs and discrete locations behind parapets and / or inner slopping roofs.
3. In certain cases, with both listed and unlisted buildings, it may be appropriate to locate installations on a contemporary extension. Where there is no suitable location on the building itself a free standing location on a garage, in the garden of the property or the use of roofs on outbuildings may be the best or only suitable location. A further consideration in the case of solar thermal systems would be the effect of the thermal store inside the building on the historic fabric of the building.

Wind Turbines

4. Wind turbines clearly need a certain height relative to their location to be effective and this means that they are particularly visible in any one location. In conservation areas and on listed buildings they can therefore be particularly intrusive and may significantly detract from the character of the building / area unless very sensitively located. There is also the need to ensure that a building is structurally capable of accommodating the turbine and the vibration that may be caused.
5. There may be locations to the rear of listed buildings and buildings in conservation areas where wind turbines could be located relatively unobtrusively, and these areas should always be investigated first when dealing with the historic environment. Detached locations may also be a means of accommodating a turbine in the historic environment for example within the ground or garden of the property, sometimes existing trees may act as a foil to the installation. With any

detached location the need to seek approval for the excavation of a historic site may be necessary particularly if the site is a scheduled ancient monument.

6. Turbines with horizontal blades are available but less widely used than vertical blades. These may be less obtrusive and have less overall height

Biomass Boiler and Combined Heat and Power

7. The burning of biomass fuels in a historic building may have a similar function to the historic heat source in that building .The location of biomass boilers needs to take account of the impact on the historic fabric of the building and in the case of listed buildings may require listed building consent even if located entirely within the building. The location of any new flues will clearly also require listed building consent and may in some unlisted buildings in conservation areas require planning permission. Any new chimneys need to be sensitively located and constructed from traditional materials. Adequate storage buildings need to be provided for the fuel, these need to be sensitively designed and may also require separate consent. If the biomass fuel is to be grown on site the impact on the landscape particularly if it is a registered park or garden needs to be considered.
8. The impact on a historic building of using a combined heat and power system may be similar to biomass boilers where care needs to be taken in the location of the units internally and the location of any flues that may be needed.

Ground Source Heat Pumps

9. Ground source heat pumps rely on either a system of pipes directly under a building or a single deep bore where space is restricted. These can be the least obtrusive form of renewable energy in the historic environment especially where a single deep bore can be accommodated. In listed buildings and scheduled ancient monuments care is needed not to disturb archaeology below the surface.

General Advice

The use of any of the above systems may require Listed Building Consent, or Planning Permission and/or Scheduled Monument Consent dependent on the location. Appropriate advice should always be sought. It is recommended that an energy audit is carried out on any traditional property whether listed or in a conservation area to ascertain if the proposal is the most cost effective as well as the most visually appropriate for the location. We would encourage applicants to engage in pre application discussions with the Planning Policy Team who can be contacted using the main switch board on 01384 810300.