

Renewables Factsheet #1

# BIOMASS HEATING



SUPPORTED BY



CLASP.



Cheshire West  
and Chester



Cheshire East  
Council



Warrington  
Borough Council

## OVERVIEW

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Biomass heating is the burning of organic materials such as wood logs, wood chips, and wood pellets in appliances such as stoves or boilers. These may be part of a heat-only system or may also provide hot water for a property.

Although the burning of biomass results in the release of CO<sub>2</sub>, it is more environmentally friendly than burning fossil fuels such as oil or gas because the cycle of absorption of CO<sub>2</sub> while the biomass was growing and the release of CO<sub>2</sub> on burning is short.

Wood logs are the most basic biomass fuel, the cheapest but also the least efficient. Wood chips perform better than wood logs but are also more expensive. Wood pellets are high-end wood fuel derived from treated wood chips or wood shavings. They are the most efficient type of wood fuel but are also the most expensive.

Wood pellets are most suitable for automated feed systems from storage silos, minimizing manual handling. All systems require cleaning at intervals, to avoid ash build up and reduction in performance, together with gas (carbon monoxide) production.

Biomass heating requires space for delivery of wood fuel and storage.

## SUITABILITY

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Biomass is suitable for the generation of heat alone or heat and hot water. It's suitable in many geographic areas, but there are restrictions on its use in certain situations. The restrictions are:

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### a. Listed Buildings:

If a listed building is not already suitable for biomass heating with appropriate flue and fuel storage facility, making these changes could impact on the special character or interest of such a building and might not be acceptable.

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### b. Smokeless Zone:

Additional restrictions may apply in smokeless zones. You should check with your local authority on the implications of this designation on your biomass project.

The sourcing of suitable fuel at an acceptable price must be considered together with the cost and space required for a fuel storage facility and access for the delivery of fuel.

## SCALE OF INSTALLATION, COSTS AND SAVINGS

Biomass heating can be installed in varying sizes. It can be installed in homes, apartment blocks, office complexes, shopping complexes, and even industrial complexes. This factsheet relates to domestic installations.

Costs for a standalone pellet stove room heater are around £4,300 including installation, while a log stove will usually cost less than half this. A typical automatically fed pellet boiler for an average home costs around £11,500 including installation, fuel store and VAT at 5%. Manually fed log systems are slightly cheaper.

Savings in CO<sub>2</sub> emissions are significant – up to 9.5 tonnes per year when a wood boiler replaces a solid (coal) fired system or electric storage heating.

Fuel savings are less significant, and if you replace a gas heating system with a wood burning system you may end up paying more for your fuel. But if you replace solid fuel or electric heating you could save between £170 and £390 per year.

Wood costs often depend on the distance from the home to a wood supplier and wood can be delivered and stored in large quantities. If the household has its own supply of wood fuel then this can significantly reduce your costs. Typically, heating and hot water costs for a year will be around £1,000 in a detached property.

## PLANNING

Wood burning boilers are among the technologies covered by Permitted Development Rights on domestic properties, but this only applies to flues. There are also further caveats to this right. These are:

- a. Where the flue exceeds 1m above the roof height (excluding the chimney).
- b. Where the installation is on the principal elevation and visible from a road in buildings in Conservation Areas and World Heritage Sites.

Further information on the planning consideration associated with biomass boilers can be found later in this factsheet.



## SOURCES OF FURTHER INFORMATION AND ADVICE

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The following websites offer further information and advice on biomass heating:

**a. Energy Saving Trust:**

<http://www.energysavingtrust.org.uk/Generate-your-own-energy/Wood-fuelled-heating>

**b. DECC:**

[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/explained/microgen/biomass/biomass.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/explained/microgen/biomass/biomass.aspx)

**c. Direct.gov.uk:**

[http://www.direct.gov.uk/en/Environmentandgreenerliving/Energyandwatersaving/Renewableandlowcarbonenergy/DG\\_072634](http://www.direct.gov.uk/en/Environmentandgreenerliving/Energyandwatersaving/Renewableandlowcarbonenergy/DG_072634)

**d. Energy Saving Trust:**

<http://www.energysavingtrust.org.uk/Generate-your-own-energy/Getting-planning-permission>

**e. Local Government Improvement and Development:**

<http://www.idea.gov.uk/idk/core/page.do?pageId=23051802>

**f. The Microgeneration Certification Scheme:**

<http://www.microgenerationcertification.org/mcs-consumer/installer-search.php>

# PLANNING CONSIDERATIONS

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## Permitted Development Considerations

Planning permission is not normally needed when installing a biomass boiler in a house if the work is all internal. If the installation requires a flue outside, however, it will normally be permitted development, subject to certain conditions, principally that the flue does not exceed 1m above the roof height (excluding the chimney) and that it is not installed on the principal elevation and visible from a road in buildings in Conservation Areas.

However, planning permission may be required if the biomass project requires an outside or standalone building to store or feed fuel, or other related equipment, the same rules apply to that building as for other extensions and garden outbuildings.

For further information on permitted development rights, please refer to:

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### Planning Portal:

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

As yet the permitted development rights for biomass flues have not been extended comprehensively to non-domestic development, although these changes have been the subject of consultation and may be made in the future. Some permitted development rights exist for non-domestic development, but these can also vary according to the use class of the development in question, for example, offices, warehousing or industrial uses. It is therefore recommended that you consult your local planning authority when considering whether or not a biomass boiler would require planning permission on a non-residential site.

Planning permission will nearly always be required for community and large scale industrial biomass schemes.

Advice should always be sought from your local planning authority if you are unsure whether your development falls under permitted development rights. Your local planning authority will be able to advise you on the need to obtain planning permission.

If you want certainty that your renewable energy proposal is considered permissible (in that you do not need to make a planning application) you should apply for a Lawful Development Certificate (LDC).

## Development Management and Planning Policy Considerations

Where planning permission is required for a biomass boiler, the considerations that will be taken into account in determining an application will vary depending on the scale of the scheme, with community and larger scale biomass plants likely to be subject to more requirements and additional regulations.

On an existing developed site, if planning permission is required to either extend or erect a building to house a biomass boiler or associated fuel store, the main planning considerations could include the size, height and mass of the structure; its proximity to property boundaries; its location, scale and appearance in relation to the original building; its impact on its surroundings and surrounding land users; and any designations or allocations associated with the land, for example Green Belt, on which the development would occur. Where the installation is part of a new development, details of the installation should be submitted as part of the overall planning application.

If planning permission is required for a flue for a biomass system, the main considerations will be the location of the flue; its dimensions; how well it relates to the character of a building and its surrounding area, the visual impact on the building, the area where it is located and on neighbouring amenity.

For larger scale schemes and community plants, additional considerations to be taken into account when determining a planning application could include visual and landscape impacts, natural and built environment impacts, noise, transport impact associated with fuel delivery and air quality. There may also be additional planning considerations associated with distribution networks, if required for community schemes.





It is also important to note that proposals which would result in an output of less than 50MW are determined by local planning authorities and schemes with an output greater than 50MW are currently determined by the Infrastructure Planning Committee (IPC). Please note, as part of reforms to the planning system, the powers of the IPC are due to be transferred to the Major Infrastructure Planning Unit, when the Localism Bill receives Royal Assent. This new body will broadly carry out the same functions as the IPC, but decision making powers will be returned to Ministers, based on the recommendations of the Unit.

It should also be noted that additional regulatory requirements may apply to the installation or development of a biomass boiler, in addition to planning considerations, including air quality control regulations, water quality control regulations and landfill regulations.

Your local planning authority will be able to assist you in identifying the issues and planning policies that will be need to be taken into account for a particular proposal. Advice should always be sought from your Local Planning Authority before submitting an application.

## Conservation Area or Listed Building Considerations

Additional planning considerations will apply when determining proposals for biomass boilers that could affect a listed building, which are protected for their special architectural or historic interest. Generally, they may not be extended or altered, internally or externally, in any way which may affect this interest.

A proposal for a biomass boiler, to be installed either internally or externally by way of an extension or new building, together with associated infrastructure and flue, would be assessed against the extent to which it would interfere with the appearance, structure, design or character of a listed building.

When this would have a negative effect on a listed building's special interest, a proposal would not be allowed. Proposals for free standing buildings in the vicinity of a listed building may also be assessed against their impact on the setting of the building in question, any potential visual or physical damage they may cause to it, or any other adverse effect they may have on it.

It is more than likely that listed building consent will also be required when proposing development which could affect a listed building, This is in addition and separate to the granting of planning permission, but similarly seeks to ensure that any alterations to a listed building, whether internal or external, do not alter the special interest of the building.

You should always consult your local planning authority before submitting an application if you think it could affect a listed building.

Special planning considerations will apply when dealing with proposals in Conservation Areas, which are areas of special historical or architectural interest which have a character or townscape that it is desirable to preserve or enhance.







As a general rule development must preserve or enhance the character and appearance, setting and views into and out of a conservation area. Accordingly, when planning permission is required for development associated with a biomass boiler, this is unlikely to be appropriate within a conservation area where it would be visually intrusive or a prominent feature. Flues in particular will not be acceptable on the principle or side elevation of a building if they are visible from a highway. Proposals for development on sites or buildings which lie outside of a conservation area, but which would affect its setting or the views in or out of a conservation area, would also be required to preserve or enhance the character or appearance of the area in question.

You should always consult your local planning authority before submitting an application if you think it could affect a conservation area.

In addition to listed buildings and Conservation Areas, the development of biomass boilers could affect scheduled monuments, historic parks and gardens, historic battlefields and World Heritage Sites. There will be other considerations to take into account when proposing development within or in the vicinity of these sites and areas. Local designations may also apply to specific sites and buildings.

Advice should always be sought from your Local Planning Authority before submitting an application.

# PLANNING APPLICATION REQUIREMENTS

When planning permission is required, the following information will normally be required in support of a planning application for a biomass boiler in or on a domestic or non-domestic property. Listed building consent may also be required if the proposal involves installation on a listed building. Guidance on how to make a planning application can be obtained from:

**Planning Portal website at:**

<http://www.planningportal.gov.uk/planning/applications/howtoapply>

National requirements for all planning applications will apply to any proposal.

**These can be found at:**

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



Alternatively, this information can usually be obtained from your local planning authority, along with details of the application fee that will apply.

It is recommended that you contact your local planning authority for further advice before submitting an application.

Local planning authorities can set out local requirements for the information that will be required in support of a planning application and will usually be able to agree the information that is required in order for an application to be registered with a developer, before an application is submitted.

In most cases it is likely that the following information would be needed to support an application:

- Design and Access Statement
- Landscape and Visual Assessment
- Noise Impact Assessment
- Air Impact Assessment
- Conservation Statement and Heritage Impact Assessment
- Energy Statement

## BUILDING CONTROL REQUIREMENTS

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Please note that this is not an exhaustive list and additional information may be required to assess an application depending on the characteristics of a site. It is likely that additional information would also be required to support larger scale schemes.

It is recommended that you contact your local planning authority for further advice before submitting an application.

Where it is believed that equipment is permitted development and considered permissible (in that you do not need to make a planning application) you should apply for a Lawful Development Certificate (LDC). The fee for LDC applications relating to proposed development is half of that payable for a planning application.

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**Further information on LDCs can be found at:**

<http://www.planningportal.gov.uk/planning/applications/howtoapply>

or alternatively you should contact your local planning authority.

In addition to any planning related permissions, it is recommended that you ensure that your scheme meets any other regulatory standards or requirements as necessary, though these are only likely to apply to larger proposals.

It is recommended that you contact your local authority's planning department or environmental health team, who may be able to assist you in identifying such requirements.

Generally, if you are proposing to install a biomass boiler, plus associated flue and fuel storage, in a domestic property, it will be required to comply with Building Regulations Part J – Heat Producing Appliances, Part P – Electrical Safety and Part A – Structure, though the regulations that will apply will differ depending on the exact nature of the works being undertaken. Please note that some of these requirements may also apply to non-domestic developments, but it would be advisable to contact your authority building control section to check specific requirements in all instances.

If a new building is to be constructed to house a Combined heat and Power plant, this building may also need to comply with building regulations, but again it would be advisable to contact your authority building control section to check specific requirements in all instances.

It is recommended that you contact your local authority Building Control section for further advice when considering a particular proposal.

FURTHER INFORMATION ON PLANNING  
REQUIREMENTS WILL BE AVAILABLE FROM  
YOUR LOCAL COUNCIL.

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## CHESHIRE EAST COUNCIL

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Development Management

**T:** 0300 123 5014

**E:** [planning@cheshireeast.gov.uk](mailto:planning@cheshireeast.gov.uk)

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## CHESHIRE WEST AND CHESTER COUNCIL

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Development Management

**T:** 0300 123 7027

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## WARRINGTON BOROUGH COUNCIL

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Development Management

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