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GENERATING YOUR OWN ENERGY

BIOMASS

2E

Helpu Cymru i leihau
ei Hôl Troed Carbon

Help Wales reduce
its Carbon Footprint

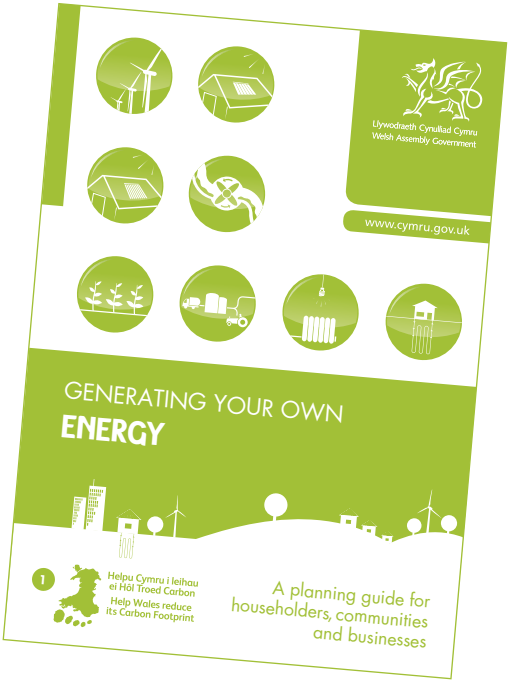
A planning guide for householders, communities and businesses

Introduction

This leaflet is part of an information pack for householders, communities and businesses who want to generate their own energy through small or community scale renewable energy technologies. This may be to benefit from the Clean Energy Cashback Scheme (also known as the Feed-in Tariff) and to help tackle climate change.

The pack is intended to give you some useful information on what issues you should be considering when installing a renewable energy technology, including the current planning regulations and ways in which you can install the technology to reduce any impact on you, your neighbours and the local built and natural environment.

Please read Leaflet 1 **Generating Your Own Energy – A Planning Guide for Householders, Communities and Businesses**.
This can be found at www.wales.gov.uk/planning



What is biomass?

Biomass is a form of bio energy which is the energy locked up in plant and animal matter (such as wood). It does not include fossil fuels, which have taken millions of years to produce.

Biomass (other than fossil fuel) is generally regarded as carbon neutral, because the CO_2 released during the generation of energy from biomass should be balanced by the CO_2 absorbed during the fuel's production.

What is a biomass plant?

- Biomass systems comprise of the following key components:-
  - Fuel delivery
  - Storage facilities
  - Stoves/Boilers – to provide heating and hot water to the building
  - Flue / ash extraction
  - Connecting pipework

- This leaflet deals with the type of dry biomass that is more commonly combusted either to generate heat or to produce electricity using advanced thermal treatments such as gasification or pyrolysis. Other types of biomass can also be anaerobically digested to generate biogas or used to produce a transport biofuel. If you are considering installing an Anaerobic Digester please see Leaflet **2F**.

- **Fuel type** – The most common types of biomass include woodfuel from forestry sources, energy crops or wood waste, agricultural residues and the biodegradable fraction of municipal solid waste. These may come in the form of logs, pellets or chips.

- **Storage** – A biomass plant (depending on its fuel source) may require a separate building for the storage of the fuel.
- Small/community scale biomass energy plants are virtually all designed as heat plants for domestic and small commercial use. These may comprise of standalone stoves used as room heaters or boilers.
- Using local fuel supply can reduce the impact of transport movements, help promote the local economy and reduce environmental impact.

Do I need planning permission for a biomass plant?

Details of the current planning regulations for biomass plants can be found in Leaflet 3 **Generating Your Own Energy – The Current Planning Regulations** that accompanies this pack.

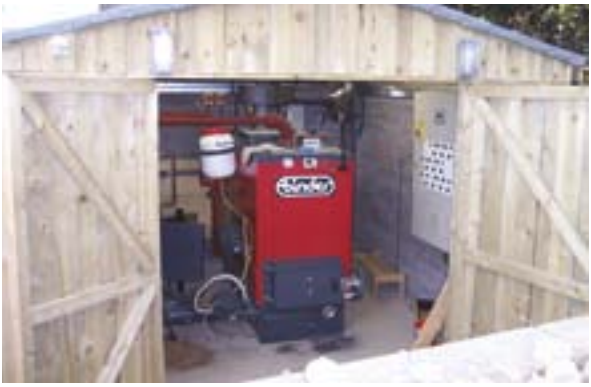
What planning issues should I be aware of when considering installing biomass plant?

- There are economic, social and environmental impacts that should be considered when installing a small/community scale biomass plant. Some of these impacts arise during the installation and construction phases, and there are a number of ways in which the design, location and installation of a small/community scale biomass plant can minimise these impacts.
- The checklist below provides some of the impacts that may arise and ways in which you can minimise them.

Biomass checklist		
Issue	**Impact**	**Ways to minimise the impact**
Landscape and visual	• Visual impact of a flue fitted externally (e.g. through roof if an existing chimney cannot be adapted).	• Sensitive design (including colour and appearance) and siting of flue to minimise visual impacts. • Sensitive design and siting of storage building to reduce impact.
Noise	• Increase in noise levels at nearby residences during operation (e.g. from deliveries, including loading and unloading, and plant operation).	• Set noise limits at site boundaries or at sensitive receptors. • Incorporate noise attenuation features (e.g. within roof and walls) to reduce noise break-out.
Ecology	• Disturbance to bats from new flues in attics.	• Appropriate siting of system.

Biomass checklist (cont.)		
Issue	**Impact**	**Ways to minimise the impact**
Air Quality	• Emissions from operational procedures (e.g. emissions from biomass fuel combustion). • Odour deriving from the storage of fuel and the digestion process. • Emissions from construction and operation vehicles (e.g. dust generation during loading and unloading operations.	• Incorporate proprietary air pollution control systems into scheme design. • Appropriate siting of the facility. • Site and plant management to minimise odour impacts. • Switch off engines when not in use and minimise delivery movements.
Traffic and Transport	• Increase in vehicle movements to and from the property during operation (e.g. transport of wood pellets, wood chips and wood logs).	• Ensure sufficient storage space for wood in scheme design to reduce delivery movements. • Safe access/turning for delivery vehicles.

Biomass checklist (cont.)		
Issue	**Impact**	**Ways to minimise the impact**
Historic Environment	• Visual impacts on the setting of heritage features and damage to structure of listed buildings.	• Sensitive design (including colour and appearance) and siting of flue to minimise visual impacts. • Positioning new flues away from principal elevations. • Make use of existing chimneys where possible. • Ensure colour and materials of built elements are in keeping with local landscape features. • Painting flues with a heat-resistant dark coloured paint with a matt finish. • Bring existing disused buildings back into use.



(Credit: Wood Energy Ltd)

Explanation of terms	
Landscape	Landscape includes the statutory landscape designations which are National Parks and Areas of Outstanding Natural Beauty.
Ecology	Ecology includes the statutory nature conservation designations of Sites of Special Scientific Interest (SSSIs), sites designated under the Ramsar Convention, Special Protection Areas (SPAs) or Special Areas of Conservation (SACs).
Historic Environment	Historic environment includes archaeology and ancient monuments, listed buildings, conservation areas and historic parks, gardens and landscapes.

Other approvals

There may be other kinds of approval that you may need such as:

- Listed Building consent if a building is listed.
- Conservation area consent if the development is in a conservation area.
- Trees – Many trees are protected by tree preservation orders which mean you need the council's consent to prune or fell them.
- Building Regulations – New building work will often need to comply with Building regulations.
- Wildlife – Some buildings may hold roosts of bats or provide a refuge for other protected species – these are given special protection.
- Environment Agency licences.

Please check with your local planning authority whether any of these apply to your site or your proposal.

Sources of further information	
Welsh Assembly Government	www.wales.gov.uk www.walescarbonfootprint.gov.uk
Environment Agency Wales	www.environment-agency.gov.uk
Countryside Council for Wales	www.ccw.gov.uk
Cadw	www.cadw.wales.gov.uk
Energy Saving Trust	www.est.org.uk Tel : 0800 512 012
Carbon Trust	www.carbontrust.co.uk Tel : 0800 085 2005
Microgeneration Certification Scheme	www.microgenerationcertification.org
Department for Energy and Climate Change	www.decc.gov.uk
Forestry Commission	www.forestry.gov.uk
Biomass Energy Centre	www.biomassenergycentre.org.uk
Micropower Council	www.micropower.co.uk
Renewable Energy Association	www.r-e-a.net

Publications available in this series	
1	Generating Your Own Energy – A Planning Guide for Homes, Communities and Businesses
2A	Wind
2B	Solar Electricity
2C	Solar Water
2D	Hydropower
2E	Biomass
2F	Biomass (Anaerobic Digestion)
2G	Micro-CHP
2H	Heat Pumps
3	Generating Your Own Energy – The Current Planning Regulations

These documents can be found on our website at:
www.wales.gov.uk/planning

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