

# Woodfuel in West Yorkshire

## Wood heating works – from city hall to classroom

### Bradford City Hall



This imposing Victorian building was adapted in 2008 to include a new biomass heating system, with the aims of ensuring efficient use of energy and natural resources, promoting renewable energy, minimising waste and reducing the district's impact on climate change.

Two Robey Lincoln gas steam boilers were replaced by Econergy with a Froling Turbomat 500 boiler.

Bradford Metropolitan District Council's parks and landscapes department supplies woodchip fuel. Logs are seasoned for a year then chipped into storage.

The system cost £341,000, which included design fees and asbestos removal. It is estimated that the costs will be recovered within five years.

It was found that limited access for fuel delivery and space for storage was a problem – incorporating biomass systems in new-build projects would have been preferable to retro-fitting them, with careful attention given to production, delivery and storage of woodchip.

[www.bradford.gov.uk](http://www.bradford.gov.uk)

### Bradford University



The University of Bradford installed a new woodfuel boiler in July 2008, to produce heat and hot water for a library and communal building.

The aim was to save money on energy, reduce carbon emissions and use a local source of fuel.

A 500kW Froling Boiler was installed to replace three gas boilers. Woodchip is delivered by hook lift bins into an internal fuel store.

The total cost was £500,000, with a Bio-energy Capital Grant of £143,000 supplementing the university's investment of £357,000. The estimated saving in energy costs of a 25-year lifespan is £1.1m, giving a cost payback in seven to eight years.

Carbon emissions have been cut by 500 tonnes per annum.

[www.brad.ac.uk](http://www.brad.ac.uk)

### Gibson Mill



Gibson Mill is a 19th-century cotton mill near Hebden Bridge.

It was renovated by The National Trust as a model of sustainable development.

The trust wanted to install a biomass system using woodfuel harvested as part of local conservation woodland management and to reduce fossil fuel use.

A 60kW Frohling SHE log-burning boiler was installed by Econergy to heat the hot water supply for a café. An estimated 30m<sup>3</sup> of wood is used pa.

In addition, a 14kW traditional Swedish Kakkelovn thermal mass logburning space heater stove was also installed in the café seating area by the Ceramic Stove Company. The heat from one burn process in the morning is emitted over the next 12 hours.

The log boiler cost £13,900 installed, while the custom-made ceramic stove cost about £13,000. Standard stoves are in the range of £5-6000.

[www.nationaltrust.org.uk](http://www.nationaltrust.org.uk)

### Keighley Furniture Project



This charity has been providing low-cost, second-hand household items to people on benefits since 1979. The project also recycles white goods and provides training in carpentry and catering. It owns its building and acts as landlord to several voluntary groups.

It wanted to reduce energy costs and carbon emissions, so commissioned Wood Energy to install a 230kW containerised Binder boiler system. Five tonnes of woodchip is delivered each fortnight. Ash is emptied weekly and used as garden fertiliser. The containerised system cost £56,000 in total.

It was originally intended only to provide space heating, but has proved so efficient that it now provides hot water too.

[www.springfieldproject.co.uk](http://www.springfieldproject.co.uk)

## Height Gate Farm



The centre is one of five owned by The Woodcraft Folk, an educational movement for young people that started out in part as a non-militaristic alternative to the scouting movement. The farm offers self-catering accommodation for up to 30 in a 17<sup>th</sup> century farmhouse and converted barn between Todmorden and Hebden Bridge.

As part of the organisation's ethos, in 2006 grants were obtained to install extra insulation, solar panels, two wood pellet space heating stoves – an Ecologica Idral 15.5kW to heat hot water and six radiators and an 11kW Divina for space heating. There is also a log stove in the kitchen, which in the future will be supplied with coppiced wood from 1,500 trees planted on the site in 2008.

About 30 10kg bags of wood pellets are delivered by Able Fuels from Huddersfield, about five times a year. The two new stoves and associated radiators cost £13,700, assisted by a range of grants.

The users are delighted with the changes, but would recommend checking the cost and reliability of servicing and spares availability for particular makes and models of stoves.

[www.heightgate.org.uk](http://www.heightgate.org.uk)

## Lower Gill Holiday Homes



Lower Gill Holiday Homes comprises five cottages, a swimming pool and two private houses, near Tosside on the North Yorkshire/Lancashire border. Its owners wanted to switch to a locally-sourced carbon neutral fuel.

A district heating system was installed to provide heat and hot water for the whole site. Eight LPG gas boilers were replaced with a 150kW Heizomat woodchip boiler installed by Mercia Energy Ltd.

The wood is supplied from the Forestry Commission's Gisburn Forest and chipped on site by a hired chipper into two woodchip stores.

The system cost about £22,000, with pipework worth £12,000 installed by the owners and a plumber. Carbon Trust loans were secured to help with the installation costs; these were repaid within three years. In its first 2½ years, energy savings of £14,000 have been achieved, promising a payback period of about three years.

The system uses 130 tonnes each year. The chipper is hired four times a year at £200 per day. The system has saved money, cut carbon emissions and helped the business win a Green Tourism Gold award.

[www.lowergill.co.uk](http://www.lowergill.co.uk)

## Moorlands Primary School



Huddersfield's Moorlands Primary School was built in 2008 and caters for 630 children. The aim was to use renewable energy as the primary source for heating and hot water. Leeds firm GWD Group installed a Gilles biomass wood pellet boiler.

A quarterly delivery of pellets – 30 tonnes a year – heats 3,000m<sup>2</sup> over three floors via underfloor heating. Pellets are delivered to a built-in storage hopper and fed automatically to the boiler.

The boiler cost £70,000 installed. Wood pellets are (as of July 2010) £200 per tonne delivered.

The school's caretaker said he was very impressed with the boiler, describing it as "problem-free and very low maintenance".

[www.moorlandsprimary.co.uk](http://www.moorlandsprimary.co.uk)



**WHITE ROSE  
FOREST**

White Rose Forest is a partnership of local authorities, government and voluntary organisations working across West Yorkshire. White Rose Forest is working with the CO2Sense Woodfuel Programme to promote the take-up of woodfuel boilers and helping to establish a viable wood energy supply chain across the area.

To find out about funding initiatives available for woodfuel suppliers and users alike, contact: White Rose Forest, c/o Kirklees Council Strategic Investment Service, Civic Centre 3, Market Street, Huddersfield, HD1 2JR. 01484 234079.

[www.whiteroseforest.org.uk](http://www.whiteroseforest.org.uk)