

# Pellet Boiler at the Environment Centre

In December 2002 the Holywell Environment Centre at Holywell Mead, High Wycombe opened its doors to the public for the first time. Formally the café for the open air pool next door, the aims of Environment Centre include creating a greater understanding of sustainable development and the provision of an interactive and supportive learning environment. The facilities at the Centre include a Teaching/Meeting Room, and an Exhibition Hall.

## Energy Features

The energy features of the Centre include:-

- Energy efficiency (the original building was externally clad to improve heat retention). The radiators also have TRV's so temperatures can be controlled on a room by room basis.
- Solar Water Heating (evacuated tube collectors provide hot water to the sinks in the toilet and kitchen areas).
- Space heating from wood pellets.

## Wood Pellet Heating

Heating for the building is provided by a 25kW Multi-Heat Baxi boiler supplied by Foundation Business Centres at a cost in the region of £4,200 plus VAT and installation costs. Originally commissioned to burn wood chip the boiler was subsequently altered to burn 8mm wood pellets which require much less storage space being a much denser fuel. Pellets are purchased as and when they are required from 3G Energi, acting on behalf of Premier Waste who manufacture the pellets in Durham. Pellets have been bought in loads of between one and nine tons, with three tons being the norm. With delivery, the cost of the pellets is in the region of £150 plus VAT a ton. Being bagged means that the pellets can be easily moved around and stored outside under cover. Staff at the Centre have found that the 15kg bags the most convenient size to handle,

with the larger dumpy bags being too large to move without the use of machinery.



## Looking after the Boiler

Staff and volunteers look after the boiler by de-ashing it and cleaning the burners once a week. This job takes about half an hour. Fuel levels in the hopper which feeds the boiler with the aid of an auger is checked every morning and if the fuel level is getting low, it is topped up with bags of pellets kept close at hand. Keeping on top of the fuel supply like this means that topping up the boiler is never a chore. During the summer months the boiler is turned off and Solar Water Heating provides most if not all of the hot water needs of the building.



## Opening

The Centre is currently opening to the public on Saturdays between 11am and 3pm and will shortly be opening on Tuesdays between 11am and 1pm. Plans are also afoot to open the Centre on Sundays too. Although the boiler is not accessible during general public opening hours it can be viewed by anyone who wishes to see it if they telephone ahead and fix a time. Outside public opening hours schools and other community groups can arrange to use the facilities the building provides.

## Events

The Centre runs a variety of events, workshops and exhibitions throughout the year on sustainability issues—anything from 'Energy Efficiency in the Home' to 'Romans—the first throw away society.'

## Volunteering

The Centre also has a wide variety of ways for volunteers to get involved and are constantly seeking people with enthusiasm from all walks of life.

## Further Information on the Boiler

**Fuel:** Can be fired on wood pellets, wood chips and grain/corn. If wood chips are used they must be no more than 15-30mm, or 5–50mm with a maximum water content of 25%

**Efficiency:** 89-91%

**Temperature:** The temperature is regulated by a two-step control. This means that the boiler is running at full output until the set temperature is close to being achieved— then the control switches over to reduced output and continues at this rate.

**Loading:** the hopper needs filling once or twice a week during cold weather depending on heat requirements (if this is preferred to daily top ups).

**Output:** can be regulated down from 100% down to 30% to as low as approx. 1kW. In order to maintain the boiler outside the heating season, at least one hot water tank (100–300 litres) as well as 1—2 radiators or underfloor heating must be connected (open).

## For more information contact:

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This case study has been produced as part of the Log Pile project.  
For more information, please visit [www.logpile.co.uk](http://www.logpile.co.uk)



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Renewable Energy for the Home Project

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