



## Woodfuel Factsheet 1

# A small family business using a pellet boiler Tigh na Fraoch Bed and Breakfast, Nethy Bridge

**T**igh na Fraoch - the House of the Heather - is a handsome stone villa in the heart of Nethy Bridge.

Featuring three letting rooms, the bed and breakfast is popular with birdwatchers and outdoor enthusiasts who appreciate cosy home comforts after a day exploring the area's woods and hills.

When owners, David and Jenny Carrott, took over the house six years ago, it was heated using liquid petroleum gas (LPG), delivered by tanker.

However the Carrotts soon realised that keeping their home warm and making sure there was plenty of hot water for guests was proving a real financial drain on the business.

"We decided to look into woodfuel because it made good business sense," explained David. "We were already part of the Scottish Tourist Board's Green Tourism scheme; we aim to provide a good, quality service for our guests whilst minimising the environmental impact of our activities."

Deciding to install a biomass boiler was another step on the path to making the bed and breakfast more sustainable.

"We were spending around £2,500 a year on heating and our ancient LPG boiler was on its last legs," David said. "Getting another gas system meant remaining tied into

contracts with suppliers and switching to oil wouldn't have been any better; we didn't want to be at the mercy of inevitable price rises. We realised that as well as being much more environmentally friendly, using wood could cut our annual heating costs by around half."

### The system

In January 2010, Jenny and David had a biomass boiler installed at Tigh na Fraoch. This was done with support from Forestry Commission Scotland through the Scotland Rural Development Programme. The system was installed by Perthshire Biofuels.

David was initially advised that a 19 kilowatt system would be enough to heat the house. However wanting to make sure the system was able to supply lashings of hot water for guests, the Carrotts opted for an ÖkoFEN Pellematic Plus wood pellet boiler with a capacity of up to 32 kilowatts.

The system is highly automated, with the firing of the boiler controlled by computer.

The boiler room has been created in one half of a single garage attached to the back of the main building. As well as the boiler itself, it houses a 300 litre hot water

### Find out more

This series of factsheets explores how households, businesses and communities are pioneering the use of woodfuel. They have been produced as part of the Cairngorms Woodfuel Action Plan and a partnership project run by the Cairngorms National Park Authority (CNPA) and the Clim-ATIC EU programme.

### The Facts

<b>Boiler</b>	ÖkoFEN Pellematic
<b>Total cost</b>	£22,000
<b>Heat capacity</b>	Up to 32 kilowatts
<b>Fuel</b>	Wood pellets
<b>Storage</b>	5.2 - 6 tonnes
<b>Hot water</b>	300 litre cylinder
<b>Number of radiators</b>	20
<b>Annual carbon saving</b>	10 tonnes
<b>Estimated annual saving</b>	Around £1,125

cylinder and the pump station and mixer valves for the system, which is connected to the heating system inside the house through an opening in the wall.

Fuel is stored in the other half of the old garage building, which has been adapted so wood pellets can be blown directly into the hopper which feeds the boiler.

A sensor outside the house takes the temperature into account and the computer optimises the settings on the boiler so a comfortable temperature is maintained and hot water is constantly on tap.

### Performance so far...

The Pellematic Plus easily heats the whole of the house, which has a total of four bedrooms and around twenty radiators. To date, no one has complained of having a bath or shower that was less than piping hot!

There were some teething troubles. "Getting the hang of the new boiler was a steep learning curve for us," Jenny admitted. "However the fact it was installed in January, during some of the most bitterly cold days of winter, was a big incentive to get it right quickly!"

Learning to work the system effectively took some support from the installers, and Jenny and David reckon online forums for users could be a good way for people to share advice and tips.

The initial issues proved to be down to a faulty circuit board affecting the combustion fan and causing inefficient use of fuel. This was resolved, and the system has now bedded in and is proving a big hit in the household.

"We're getting used to it now and are really pleased with it," David said. "The new boiler, combined with improved insulation, has made the house a lot more comfortable. The heating is a lot quieter than the old system and the controls are great. "It knows when it's really cold outside and comes on early if its needed.

"It's important that the fuel is of high quality," he added. "If it's not you get a build up of clinker which sets hard like concrete when burned."

Keeping an eye on how much fuel is left is key; the Carrotts store some spare bags in a shed in case they ever run out. Predicted fuel usage is around nine tonnes a year, with a tonne of pellets costing £160 - £165 in 2010. Tigh na Fraoch is currently supplied by Puffin Pellets.

The amount of waste produced is minimal; each tonne of fuel burned creates less than a washing up basin full of ash. And, in keeping with the green credentials of the business, the ash is reused, with the Carrotts scattering it on the garden to add minerals to the soil.

### Funding

Supplying and installing the system cost £22,000. It was paid for by a 50% grant from the Scotland Rural Development Programme (SRDP) and a 50% interest free loan from the Energy Savings Trust. The loan scheme has since been discontinued.

"Initially it looked like we wouldn't be able to get a grant; support for householders wasn't available to us as we were running a business," recalled David. "Forestry Commission staff were really helpful and pointed us toward the Scotland Rural Development Programme. The process wasn't the simplest but we got there in the end!"

One issue the Carrotts highlight is the problem of plugging the

## Contacts

Forestry Commission Scotland  
01349 860 919  
[www.usewoodfuel.co.uk](http://www.usewoodfuel.co.uk)

Scotland Rural Development Programme  
[www.scotland.gov.uk/Topics/farmingrural/SRDP](http://www.scotland.gov.uk/Topics/farmingrural/SRDP)

Energy Saving Trust  
0800 512012  
[www.energysavingtrust.org.uk/scotland](http://www.energysavingtrust.org.uk/scotland)

For details of installers see  
[www.usewoodfuel.co.uk/Suppliers.stm](http://www.usewoodfuel.co.uk/Suppliers.stm)

funding gap - the time between the system being installed and paid for, and funding coming through. "We had to find the money to pay the invoices then wait two or three months for the money to get paid out by the SRDP," said David. "Likewise, the Energy Savings Trust loan didn't get paid out until after the system was installed. Having to raise this amount of money is not easy and sometimes simply not possible; I think this could potentially put people off."

However now their new system is up and running, the Carrotts are delighted and their guests can enjoy a cosy house and luxuriate in hot baths and showers to their hearts' content!



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