Department of Energy & Climate Change

Non-Domestic RHI
Case study – Fast facts

Technology type:	Biomass
Equipment manufacturer:	Fröling
Equipment model:	85kW Turbomatic
Capacity:	85kW
Energy consultant:	Leeds Environmental Design Associates
Installer:	Econergy (now British Gas)

National Park Authority takes strides to cut its carbon footprint

Scenario

Yorkshire Dales National Parks Authority (YDNPA) is one of 15 such bodies in Great Britain. Founded in 1954, the authority conserves and maintains the 1,769 square miles of the Yorkshire Dales National Park, which includes 37 conservation areas and is home to 20,000 people. Already committed to environmental protection and management, in 2009 it decided to cut its carbon emissions by updating the expensive gas boiler in its Grassington office with a biomass boiler.

YDNPA's Grassington headquarters is in an 18th century house and it employs 45 people. The authority had already installed double glazing and loft insulation in the 600 square metre building and so a low-carbon heating system was a logical next step. A ground source heat pump (GSHP) had been successfully heating the authority's other headquarters in Bainbridge since 2006.

For Grassington, the abundance of local timber made a biomass boiler an obvious choice. YDNPA approached energy consultant Leeds Environmental Design Associates (LEDA) for advice on the best boilers and fuels for its needs. LEDA undertook a feasibility study which found that an existing workshop, if extended, was the ideal location for the boiler. Furthermore, there was room in the grounds for an underground store for the boiler's woodchip fuel. YDNPA also took advice on sourcing timber from sustainable forestry consultants Rural Development Initiatives.

"Our commitment to renewables is very much part of what we as an organisation do," says Paul Drake, Estates Manager at YDNPA. "Like the other National Parks in England, we had to reduce our carbon output by 45 per cent, which we've done. The feasibility study also told us that the amount of local, sustainable timber made biomass an ideal choice."

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Spreading the word

Renewable energy specialists Econergy (now British Gas) installed the 85kW Fröling biomass boiler in December 2009. The installation was completed within a week and as the office's existing pipes and radiators were retained, the process caused no disruption. The boiler was fitted into a workshop behind the office building, from where it sends hot water into a heat exchanger that transfers heat to the office's radiators. Fuel is fed on demand from the store into the boiler by a large rotating screw. Most of this fuel is from a local supplier, but some is sourced from managed woodland in the Park itself.

YDNPA installed its biomass boiler at a time when there were very few such boilers operating in the UK. The authority has received a lot of interest in the system, so it has put up an information panel in the reception area at its Grassington office. Visitors are encouraged to ask about biomass and representatives from several public bodies, as well as local residents, have found out about the advantages of using this form of heating.

Following on from the success of the initiative at Grassington, in January 2014 YDNPA installed a wood pellet biomass boiler at its museum in Hawes. Together with the GSHP at Bainbridge, these measures have altogether reduced YDNPA's carbon output by 45 per cent.

"This heating system has been a success for us," says Paul. "You need to do a bit more maintenance, like cleaning out ash and checking fuel levels, but when you think of the environmental and economic benefits, it's well worth it. Make sure you get good advice about the type of boiler and fuel that's best for you before you make any decisions. The help is out there for you."

Getting something in return

Since 2009, YDNPA has reduced its annual carbon output from 596,110 tonnes a year to 346,523. The boiler cost £130,000 to buy and install. The authority spends £4,000 on wood-chip fuel each year, which is half the amount it would spend on gas to heat the building.

YDNPA applied for payments through the Government's Renewable Heat Incentive (RHI) scheme. Launched in 2011, this scheme is part of the Government's commitment to increasing the UK's usage of renewable energy. It provides long-term financial support for installing renewable heating rather than a fossil fuel system. Payments are made over 20 years, according to how much energy is used. The authority receives £8,000 a year, which alongside the savings on gas, will recoup the cost of the boiler system by 2020.

"Oil and gas isn't going to get any cheaper," says Paul. "We also have to contend with budget cuts and so converting to biomass has been a huge help. The RHI payments all go into a pot of money that is spent on restoring native woodland and maintaining footpaths and signposts. The fact that we are sourcing our fuel locally means we're not so vulnerable to steep price rises. In 2009 there were hardly any biomass boilers in the UK, but the RHI scheme will encourage lots of businesses and householders to convert."

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For more details on the non-domestic scheme and free information on how to apply visit: **www.ofgem.gov.uk**

- Or call **0845 200 2122** (RHI enquiry line open Monday to Thursday 9am-5pm and to 4.30pm on Fridays).

If you are interested in receiving RHI updates or providing DECC with RHI feedback, please email: **rhi@decc.gsi.gov.uk**