

**Nant-y-Coy Mill, Nr Haverfordwest, Pembrokeshire
Pellet system provides compact heating solution for
historic mill redevelopment**



“State of the art system for newly restored Arts Centre”



Grade II* listed, Nant-y-Coy Mill stands in a picturesque setting, below Great Treffgarne rocks, in the heart of Pembrokeshire. Surrounded by over 35 acres of woodland, it was seen as ripe for sympathetic redevelopment by new owners, when they took over in 2004.

The restored former corn mill provides the visitor with a unique mix of exhibition space for leading artists, an outlet for high quality arts and crafts plus a guided nature walk. It also houses a Bistro, an ideal refuelling stop for visitors who have enjoyed the nature walk surrounding the mill, or those on their way to catch the ferry at Fishguard.



comfortable right through the year. It also serves two-bedroom accommodation and a large studio space through a combination of radiators and under floor heating.

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Nigel comments, "Although conversions of an old and listed building can be a challenge, on the positive side, Nant y Coy's thick, stone walls prove a very effective heat store which helps smooth out the peaks in demand on the boiler. We were also fortunate to be dealing with Pembrokeshire County Council as the planning authority; they have considerable experience of using biomass themselves" We were pleasantly surprised to find such a compact boiler system was available, given restrictions on space in and around the Mill. The boiler is self-cleaning, and ash removal only takes around ten minutes approximately once a month.

The need to retain the fabric of the building substantially intact made access to the fuel store challenging, so we load fuel into a mini, 'flexi-tank' around once a fortnight, taking about half an hour. We feel this is a very reasonable trade-off for the cost saving on fuel bills, and the environmental benefits of woodfuel."

Owner, Margaret Merritt and project manager, Nigel Card were keen to ensure that the redevelopment resulted in a comfortable, efficient, and environmentally friendly building, offering a good example for visitors and local people. The business has achieved Arena Network's 'Green Dragon' environmental standard.

When it came to selecting a heating system, biomass seemed an obvious choice, but the limited internal space, and access for fuel delivery presented a number of significant challenges. After examining the options, a compact wood pellet system, based on a high efficiency Okofen boiler was specified, and installed in late 2005. Combined with solar panels, it is able to provide all the necessary space heating and hot water to keep visitors

The installation	Okofen PE25, 25kW
Application	Craft centre, museum, tearoom, gallery and owners accommodation.
Date commissioned	September 2005
Installers / suppliers	Installer: 4wood@Beacon Stoves Consultant: Eco Solutions UK Ltd.

Fuel	
Store volume	460 kg flexi-tank attached to boiler. 20m ³ . Storage shed for bulk delivery of bagged pellets.
Delivery frequency during heating season	At most, every 12 weeks
Fuel specification	6mm wood pellets
Annual fuel use	Estimated 10 tonnes
Annual fuel cost (2006 Q1 market prices)	£1,600

Estimated Savings		
Cost savings vs Oil	£205 per annum (2006 Q1 prices)	
CO ₂ Emissions	Woodfuel	1.69 tonnes
	Oil	11.82 tonnes
	SAVING	10.13 tonnes



Compact Okofen pellet boiler offers efficient and controllable heat.



A flexible tank provides a reasonable level of storage within a small space.

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