

**BLAKE ECOTEC***The Renewable Heat Experts*

Keward Farm, River Road, Pawlett, Somerset, TA6 4SE

www.blakeecotec.co.uk**Case Study:**

Pawlett, Somerset.



Extraflame Diadema and Solar Theraml are a stylish, renewable addition to **Somerset home**

Background

Sitting just outside of Bridgwater, Somerset in the quiet village of Pawlett, Mr. Adrian Facey's 4 bedroom, semi detached property is 170m². Once a large, 8 bedroom farmhouse spanning 258m², the property was renovated, dividing it into two, in early 2014.

Heating at the house was provided by an oil heating system, a very costly and inefficient heating solution.

The Requirement & Challenges

Mr. Facey contacted us with the challenge of integrating a renewable alternative into his newly renovated home.

Following a site survey to assess the requirements of the project our team recommended that, with a heat loss of 24kW, a biomass pellet solution would be best suited and would reduce the carbon footprint, substantially improve the property's EPC rating from an F up to a D and produce an annual government funded income by qualifying for the Domestic Renewable Heat Incentive (RHI) scheme.

Alongside the pellet heat solution we were also tasked to fit a solar thermal system.

Key Objectives

- Provide heating and hot water to the property by integrating Renewable Heat technologies.

The Solution

- La Nordica Extraflame Diadema 28kW Hydro Pellet Stove.
- Solaris T2 Solar Thermal Panel System. Full Project Management including; design, installation, maintenance and RHI application.

Total Installation Cost

- £13,200.

Domestic RHI Payments

- £33,516 in government funded payments over the 7 year period.

Pay back period

- 3 years.



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Project Summary

A 28kW La Nordica Extraflame Diadema Hydro Pellet Stove, alongside a 2 panel Solaris T2 solar thermal system was an accurately sized solution for the property's combined annual heating and hot water demand of 34,949 kWh.

The Extraflame Stove would take on the majority of this heat load (33,373 kWh) while the Solaris T2 system, used only to heat hot water, would take on the remainder (1,576 kWh).

Multi-Solution Renewable Heating and Hot water for your home.

Our experienced Design Team configured the multi-solution system, including full hydraulic diagrams, before beginning work on the installation in September 2014.

The stylish, white stove solution was fitted into the home's original stone hearth on the ground floor. The 250 litre Telford hot water cylinder was installed on the first floor, directly above the stove, allowing for minimal pipework to increase the efficiency of the system.

The two Solaris panels were fixed to the main house roof and also fed into Telford cylinder. The Solar Thermal element of the installation creates a self sustaining solution as it allows Mr. Facey to turn off his boiler from May to September and let the system produce free hot water.

The system is 91% efficient with a fuel box capable of holding 48kg of pellets. Able to supply 2.8 kW of heat to the room it is installed in, the remaining to 25.3 kW capacity heats the rest of the property and all the hot water requirements.

The installation was fully commissioned on October 7th 2014 and has been running faultlessly.



The Renewable Heat Incentive & Fuel Savings

- The completed project will receive payments over a 7 year period through the Domestic RHI scheme.
- Payments of 12.2p per kWh on Biomass and 19.2p per kWh on Solar Thermal, a total of £33,516 in RHI payments (RPI adjusted 3%).
- The Extraflame boiler will burn approximately 9 tonnes of wood pellets per year, creating 31,979 kWh of heat for the property.
- The system delivers fuel cost savings of approximately £8,000 across the 7 year scheme when comparing the fuel price of the existing oil system (6.9p per kWh) to wood pellets (5p per kWh).
- The RHI payments and saving on fuel will see the initial outlay paid off in 3 years.



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