

Mosswood Cottage - York



Building type:
Cottage (late 1800s)

Technology used:

- High efficiency boiler
- Passive flue gas recovery device
- Solar thermal
- Air-to-water heat pump
- Ground source heat pump
- Mechanical ventilation & heat recovery

Installer:

Solarwall
www.solarwall.co.uk

PROJECT BACKGROUND

- 3-bedroom cottage in Yorkshire
- Current heating: Oil boiler
- Objectives: To minimise disruption and reduce monthly outgoings
- Vaillant aroTHERM 11kW AWHP
- Installed as a hybrid system
- Selects most cost efficient technology based on triVAL intelligent tariff selection

Annual fuel saving (vs oil)

£1,410

Total fuel saving
(over 7 years)

£9,870

RHI cash back (over 7 years)*

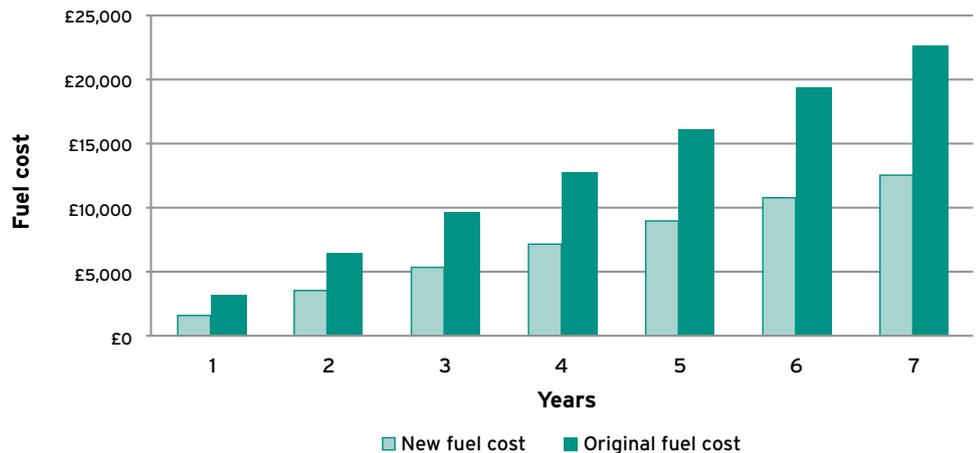
£9,667

Annual carbon saving

**5.5 tons
per year**

*RHI cash back is estimated on heating and hot water usage

Fuel cost over 7 years



SYSTEM SPECIFICATION

When Mosswood Cottage, a three bedroom cottage in Yorkshire, was in need of a heating upgrade, Vaillant helped to provide a green solution. The oil boiler that was originally in place was proving to be costly and inefficient, resulting in extremely high monthly fuel bills for the homeowner.

In a bid to update the system, local home energy specialist Solarwall suggested a Vaillant hybrid arrangement. They proposed the installation of a Vaillant aroTHERM 11kW air source heat pump as part of a hybrid system to reduce fuel consumption and energy bills.

A heat exchanger module and a 40-litre buffer tank were also installed, and one radiator replaced to ensure the homeowner could maximise the benefits.

The hybrid system is controlled via the Vaillant triVAL intelligent tariff selection tool. This tariff control is one of the most sophisticated on the market, and ensures the system consistently works at its most efficient level. Tariff-controlled systems intelligently select the most cost-effective heat source based on a variety of coexisting variables, and crucially, do not require any intervention from the end user.

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OUTCOME

The installation of the Vaillant hybrid system is predicted to result in significant fuel savings for the owner, therefore lowering monthly energy bills by approximately £1,410 every year.

“The system will also bring in an estimated annual income under the Renewable Heat Incentive (RHI) of £1,381, or £9,667 over seven years.”

The efficiency of the new system will help to reduce carbon emissions, providing a total carbon saving of 5½ tons per year when compared with the old oil system—the equivalent of driving 15,000 miles in a 2.0L turbo diesel car.

The heat pump, paired with the intelligent control, ensures maximum efficiency is achieved. The triVAL system provides further efficiency by maximising renewable energy usage - in this case, air.

The system's VRC470 control calculates the most efficient generator (the aroTHERM or boiler) available at that point in time.



WHY VAILLANT?

Chris Delaney
Business Development Manager, Solarwall

“Vaillant is always a top choice for us when it comes to renewable technology, and the aroTHERM air source heat pump seemed the natural choice for this property.

The advice Vaillant offers to installers throughout the installation process is excellent, and we wouldn't hesitate to specify one of the company's products in the future.”

“ The hybrid system of combining an air source heat pump with an existing oil boiler seems to be the obvious choice for those who wish to avoid the expense of installing under floor heating in a retrofit to an existing house. It works very well, giving a comfortable ambient heat throughout the whole house. From what I have seen so far, I thoroughly recommend the Vaillant hybrid system. ”

Peter Cliff, homeowner