



Domestic RHI Case study – Fast facts

Technology type: Air source heat pump
Equipment manufacturer: Daikin
Equipment model: Altherma HT
Capacity: 16 kW
Installer: Sun and Air



Renewable heat solution proves effective and economical

Air source heat pump replaces oil boiler to heat farm house at a fraction of the cost

Scenario

As a management consultant, Simon Malik helps to make companies more profitable. A key way to do this is by reducing the business's running costs. When a steep rise in the price of oil increased the running costs in his home from £1700 to £2000 per year, he took the same type of action that he would recommend to his clients – he sought out more economical alternatives to heat his home.

Simon and his wife Penny live at Dean House Farm, a five bedroom detached property built in the 1850s. Located in the West Sussex countryside, the house is off the gas network and was heated by an oil boiler in the cellar. It was noisy and there was a smell of oil in the lounge above the cellar. The 2000 litre fuel tank was unsightly and took up space in the garden. What's more, the Maliks had to keep an eye on the level of oil in the tank and make sure that more was ordered and delivered before it ran dry. Deliveries could be a problem, especially in extreme winter weather conditions.

"The old oil burner that came with the house sounded like a rocket launcher and gave off an unpleasant smell," says Simon. "But the final straw was when heating oil prices went

up from 50 pence to 87 pence per litre over a three month period in 2011. When I make decisions, I take a long term view. The idea of getting to retirement age and having to worry about finding £2500 a year to pay for heating and electricity was quite worrying. We wanted to reduce our running costs overall and had already fitted 7.5kW solar PV panels to generate electricity for our own use and to feed into the national grid. So, determined not to pay a fortune to keep running the old oil burner, I began to research renewable heat technologies."

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New system

The ideal replacement heating system would not require monitoring and refilling, and would provide a constant supply of heat through the home's existing radiators. Simon consulted Sun and Air Limited of Worthing, specialists in the installation of heat pump and solar technologies. They recommended the Daikin Altherma air source heat pump system.

Because it takes heat from the air, there's no digging or excavation works during installation, keeping both disruption and cost to a minimum. An outdoor unit extracts heat from the air and transfers it inside the house through piping similar to that used in a fridge. A compact hydrobox, located in the cellar of the house, heats the water which is then circulated through the radiators. A new 260 litre unvented hot water cylinder was also installed to provide mains pressure hot water to the bathroom and shower, along with an electric back-up heater which can be used when the temperature outside falls to minus 10°C or lower.

“I find it fascinating that this technology is allowing us to heat our home not by burning a fuel that we have to pay for, but by taking heat from the air that is otherwise going to waste,” says Simon. “We're really happy with our new heating system and don't even notice it's there. The heat pump is half the size of the oil burner we had before and the large storage tank in the

garden is gone. There's hardly any noise and no smell of oil. The house is comfortably warm and it feels altogether like cleaner heat.”

Good business sense

The air source heat pump system cost around £13,000 to buy and install. Annual running costs come to around £1200, saving the Maliks around £800 a year compared to the £2000 that the heating oil would cost.

The couple plans to take advantage of the Government-backed Renewable Heating Incentive (RHI) payments. The RHI is part of the Government's commitment to increasing the UK's renewable energy use. It provides homeowners with long-term financial support for installing renewable heating instead of a fossil fuel system. As part of the application process, homeowners (except self-builders) must have a Green Deal Assessment carried out to gauge the property's energy efficiency. The Maliks hope to receive up to 7.3p per kW hour of energy produced by the ASHP.

“Burning oil is an inefficient way to heat a home and makes us reliant on oil producing economies and political forces that we can't control,” says Simon. “It makes good business sense to invest in renewable energy technologies, like solar panels and heat pumps that can turn natural resources that are free and readily available, into usable heat. It's great to see the Government supporting such initiatives.”

To find out more and apply for the Domestic Renewable Heat Incentive or to book a Green Deal Assessment:

- Call the Energy Saving Advice Service on **0300 123 1234** (England and Wales) or Home Energy Scotland on **0808 808 2282** for free and impartial advice
- For further information and guidance documents visit:
www.ofgem.gov.uk/domestic-rhi