



Classic Cottage, Cornwall



High temperature heat pump gives classic cottage a 21st century boost

A classic Cornish country cottage with its roots in the 17th century is undergoing a massive makeover to equip it for 21st century living in a heritage environment.

At the heart of the project is an upgrade from an oil-fired heating and hot water system to a Daikin Altherma high temperature heat pump, linked to a Sunamp heat battery.

The new system, designed, installed and commissioned by Bodmin-based Abode Heat, not only promises an economical and environment-friendly heating system, but also a space-efficient source of 'instant' hot water.

According to the installers, the system will reduce energy costs by more than £500 a year and will earn a Renewable Heat Incentive of £9,100 over seven years. In addition, annual carbon savings of 34% are estimated.

Further overall savings are expected if plans for a solar PV installation and more heat-efficient windows go ahead.

The four-bedroom cottage, set among farmlands a few miles from Truro, is now warm throughout and has ample hot water on tap.

It is home to Michael and Trish Hawes, directors of the acclaimed landscape architecture practice, MeiLoc, their two teenage children and three dogs. The couple bought it about two-and-a-half years ago and embarked on plans to renovate it, gradually bringing it up to modern standards – including sustainability.

Michael Hawes says: "The property is formed from three old cottages knocked into one. So, it's long, thin and one room deep. This interested us, in part because it has one side facing south all day. This means it's probably about as ideal as an old cottage can be in terms of light and exposure to the sun.

"It was liveable, but in a state of disrepair, so we are having to do a lot of renovation work to achieve what we wanted.

Year of installation

› 2019

Project requirements

- ☐ LT Split
- ☐ LT Mono
- ☒ HT Split
- ☐ Hybrid
- ☐ Combustion
- ☐ Smart Controls
- ☐ Solar Thermal
- ☐ UFH
- ☐ Heat Pump Convactor

Installed systems

- › High Temperature Split Outdoor and indoor unit

The oil boiler was very old and we knew we would have to replace it. We didn't really want to go ahead with oil: we didn't like it and it's very expensive. This pushed us down the renewable energy route."

Abode Heat customer service manager Ali Hodges says the cottage had been difficult to heat efficiently and economically because of its solid walls, uninsulated floors and a mix of single- and double-glazed windows.

She says: "The old boiler supplied the heating and a back boiler on the kitchen range provided hot water. Both were inefficient and expensive to run. There was a new second bathroom, but to operate effectively its shower needed a better hot water system.

"The owners were keen to invest in the right renewable heating solution to keep the house warm and produce long-term energy and carbon savings."

A heat loss survey confirmed the need for high-temperature heating – and a solution to the slow-running hot water. The Daikin Altherma High Temperature system selected includes a secondary refrigerant circuit, which provides the higher output temperatures needed in this kind of property.



Ali Hodges says:

"The Daikin Altherma unit provides higher output temperatures than most other heat pumps, while maintaining excellent operating efficiencies. The benefits are that the house can be heated intermittently, which cuts costs, and smaller radiators are needed"

Abode upgraded existing radiators to provide the required heat output and installed additional radiators in previously unheated areas of the house. An accumulator tank was installed to ensure a good flow of water for the Sunamp heat battery to provide lots of hot water for the showers.

Michael Hawes says: "If we had wanted to be completely sustainable, we wouldn't have bought an old property. What we wanted to do was make the beginnings of a rational move towards being more in control of our own heat and power from a sustainable source.

"We accept that we're not like a modern super-insulated, super-sustainable house but we wanted to retain the character of what we always imagined we'd be living in – to accommodate our lifestyle but go as far as possible away from using non-renewable energies. We're really pleased we've done it."

Kit List

Description	No of units
Daikin Altherma HT outdoor unit	1
Daikin Altherma HT indoor unit	1



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