



Case Study Whitewells Farm Cottages

The simple requirements were to make the cottages warm and cosy and have an endless supply of hot water achieved with 150kW pellet boiler and a 40kW log boiler.



Key Facts

Installer: Zero Ridge and RN Mechanical

Boilers: 150kW pellet boiler and a 40kW log boiler

Application: Seven holiday cottages and the main Farm house

About Whitewells

On the edge of the picturesque hamlet of Ridgeway Cross is Whitewells Farm.

It is situated in an area of outstanding natural beauty amidst ten acres of unspoilt countryside on the Herefordshire, Worcestershire border.

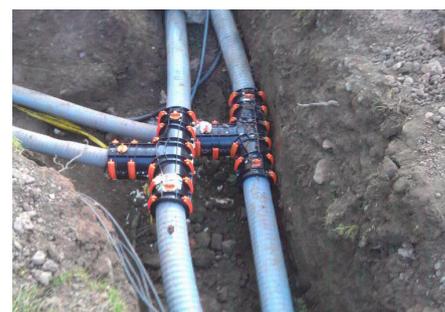


With south facing views of the Malvern Hills it is a haven of peace and tranquillity and is the perfect base for all types of holiday.

While Whitewells Farm has the feeling of being 'in the middle of nowhere' it is actually easily accessible from most parts of the UK and is the perfect base for touring Herefordshire, Worcestershire, Shropshire, Warwickshire, the Cotswolds and the Wye Valley.

The seven holiday cottages enjoy glorious views across the picturesque countryside and its ever-changing landscape.

Whitewells Farm cottages are properties which were originally converted from farm buildings and barns in 1978 into individual homes. They feature exposed beams, half-cruick trusses and some have vaulted ceilings and beamed room divisions. The cottages differ in size and character and have all been rated as 4 star self-catering accommodation by the Visit England Tourist Board.





I would happily recommend Zero Ridge products to anyone!

What was there before? & Requirements

Before the installation the cottages were relying on electric immersion heaters for the hot water and electric storage heaters for keeping the cottages warm. Although hot water was not an issue for most the cottages, the larger ones would occasionally run out of hot water.

The cottages never really had the warm and cosy feel that was needed. The heating was barely adequate and often needed to be supplemented with extra fan heaters in any cold weather.

Simple requirements were to make the cottages warm and cosy and have an endless supply of hot water.

Product Choice & Design

It was identified very quickly after taking over the business that a conventional heating system that guests would be familiar with and be able to operate i.e. thermostats was needed.

Simple calculation identified the need for 210,000kW of heating per year was needed. If that amount of heating was to be supplied by electric it would cost £25,000 per year, whereas a biomass system would only cost £10,000 a

year to run. The savings were evident and encouraged the owners to look into biomass over conventional gas, electric and oil heating systems. Furthermore, with the RHI scheme just being launched for businesses with biomass, where the owner gets an amount of money back from the government per kW of energy used, it was an easy decision.

Product choice was helped by Zero Ridge; with the owners wanting to burn pellet not chip as they felt pellet was more of a compact material and more readily handled. The owners also wanted to install a log boiler to burn fire wood from their own woodland and any free waste wood that could be obtained.

After a further discussion with Zero Ridge identified that the required biomass boiler size would be 150kW and the log boiler would need to be 40kW. With this established Zero Ridge specified a HDG Compact 150 and a HDG Navora 40 to meet the desired needs. With the RHI scheme stating that the boilers installed must not be greater than 200kW in total, the 190kW equalled from the Navora and Compact would be suitable.

With no boiler house in place, the design team at Zero



Ridge designed the layout needed for the installation of the boilers, which enabled the owners to decide on the size of the building needed. Further to this, the design team calculated the potential loss of heat from the system which then enabled them to specify the correct pipe lengths and diameters required for the district heating main that will run around the site.

Installation

An approved Zero Ridge installer specified all the components needed for a full installation and carried out the work. A groundwork contractor was brought in to dig all the trenches ready for the installation of the pipes and made good once they had been installed. All seven cottages had to be fitted with water tanks and radiators by a local heating company, which were then in turn connected to the district main by the heat exchangers.

The internal pellet store within the boiler house was built to hold 14 tonnes of pellets supplied by Billington Bio- Fuels. The boilers are both connected to a 6000 litre accumulator to provide a huge buffer of hot water, ensuring all the cottages have an endless supply of hot water.

HIGH-VOLUME TECHNOLOGY IN A SMALL FORMAT

Both the 175 - 240kW and the large M300 - 400kW boilers share the same innovative cutting-edge technology available for the first time across the power range from 175 to 400 kW, setting new standards in efficiency, reliability and convenience. Highlights are the fully integrated fine dust filter, the automatic and complete cleaning including the unique lower grate ash removal as well as the combustion chamber geometry developed together with the Fraunhofer Institute for efficiencies of up to 94 percent!

IN SHORT: THE HDG M175-400 BRINGS THE PROVEN CUTTING-EDGE TECHNOLOGY OF THE MORE POWERFUL HDG M300-400 INTO THE MEDIUM POWER RANGE FOR THE FIRST TIME.

What the owner says

"With the RHI payments available we expect to earn £330,000 over a 20 year period and save £300,000 in energy costs over the same period, which will more than adequately cover the mortgage repayment of £260,000 borrowed for the installation of the heating system."

"All the cottages are now toasty warm and returning customers comment on just how cosy everywhere feels. Another benefit is that the buildings structure is no longer damp resulting in a warmer and pleasant place for people to holiday."

"The system runs superbly on automatic and we have now installed radio cards in each of the ten heat meters which makes reading the meters once a week easy. All I have to do stroll around the site with a hand held reader without disturbing the guests."

"I would happily recommend Zero Ridge products to anyone!"



Comfortable heating. With wood!



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