

Case Study: Devon Lodge, North Devon

Date: May 2017



The Background

A modern, energy efficient home is proof that dreams can come true! Owners of a contemporary new build Mr and Mrs Goldman, had tried to build their own home on two previous occasions but due to prevailing circumstances neither had come to fruition. The third time definitely proved lucky for them, and the four bedroom property was constructed in five acres of remote woodland in a picturesque part of North Devon, near the village of Torrington.

The block and render property offers four bedrooms, en-suite facilities, a large dining kitchen, living area, study and utility room. Its design is such that two huge, floor to apex windows flood the property with natural light and give the impression of a floating mezzanine floor providing the upstairs of the property.

It was the Goldman's vision to create an energy efficient home for the future that took advantage of the myriad technologies available, including the installation of a NIBE Ground Source Heat Pump system.

During the planning stage of the development RES (Devon) Ltd worked with the homeowners to specify products and advise on all elements of its energy installation including Ground Source Heat Pump, Solar Photovoltaic (to generate electricity), Solar Thermal, under floor heating, high efficiency cylinder and heat recovery system. High quality double glazing was selected over triple glazing as the latter is much heavier and can skew visual clarity which would have hampered the woodland views from the lodge.

A full energy performance assessment was carried out with the home achieving 71 out of a possible 74 points – the other three were not accredited at the time due to the photo-voltaic system not being commissioned until after the property had been completed in line with building requirements.

Solution

“A NIBE Ground Source Heat Pump was fitted to fulfil the aims and requirements of the homeowners and was specified as part of their overall wish to make their new build home as energy efficient as possible,” commented Adam Seymour Director RES (Devon) Ltd. “Added to the Ground Source Heat Pump was a NIBE water tank and buffer cylinder - the latter stores unused heat which is able to be drawn upon when required at a later date. Each individual element of the specification enabled us to create a home that was warm and welcoming and used the energy generated for heating, hot water and power in the most efficient way possible. NIBE products continue to be at the top of the market and provide quality, reliable solutions for our customers. This project was a joy to work on and we shall look forward to maintaining the systems going forward at the property.”

A NIBE F1145 12kw Ground Source Heat Pump was specified and ground collector loops installed horizontally in the surrounding land. This works by drawing heat from the ground which stays at a consistent temperature throughout the year and doesn't fluctuate with inclement weather conditions. This means that such heat pumps remain efficient, and can be used all year round with homeowners enjoying consistent performance and results.

A NIBE VPBS300 Solar Cylinder was installed to provide hot water for the property. Complementary to this was Solar PV (for electricity) and Solar Thermal panels (for additional heat and hot water) situated on the roof of the property and a heat recovery system which removes humid air from kitchens and bathrooms and brings in fresh air from outside both of which are processed through a heat exchanger to maintain a healthy equilibrium in the property.

As NIBE VIP Installers, RES (Devon) Ltd were able to offer a seven-year warranty on all installed NIBE equipment.

Results

The homeowners enjoyed a seamless installation thanks to the RES (Devon) Ltd team and are now reaping the benefits of living in an energy efficient home, both aesthetically and financially. The heat recovery system makes the home much healthier eliminating condensation and the health and maintenance issues it can cause, and helps to conserve energy lowering the carbon footprint of the property.

In addition, the Renewable Heat Incentive (RHI) payments are exactly as predicted coming in within £1 of the original estimate!

Testimonial

Mark Goldman, homeowner commented; "Our old home was a draughty Georgian property that required three oil fired boilers to keep us warm. When we designed our new home we were determined not to be held to ransom by oil prices and this sparked the idea of building an energy efficient house. Our new home has fulfilled our dreams and we simply love living here in this quiet corner of Devon. Working with RES (Devon) Ltd allowed us to enjoy the experience of installing renewable and energy efficient elements to our home.

"The property has been designed not only with our requirements in mind but also for those that will own it in the future – a home which is self sufficient, has large family areas, spacious bedrooms and easy to maintain will doubtlessly appeal to others as it does us, and we are proud that we are the current custodians of our home in the woods. Furthermore, it fulfils Part M of current building regulations giving wheelchair access through wider doors, a ground floor bedroom and bathroom, ramps to external access points and power points and light switches at appropriate levels.

"I would definitely recommend a NIBE Ground Source Heat Pump system as the key component in achieving reliable and cost effective energy either in new homes or for those homeowners who wish to discover the benefits of renewable energy systems."