



Broadfield House,

Wadhurst, Kent

Building type:

Seven bedrooms, five bathrooms residential detached property in rural Kent

Technology used:

geoTHERM 38kW ground source heat pump

800 litre uniSTOR cylinder

800 litre allSTOR buffer tank

Contractor: Elite Technical Services

Project background

- Using Vaillant's geoTHERM ground source heat pump to extract geothermal heat from the ground
- To deliver sustainable heating and hot water to a large refurbished property
- Aim to provide the most efficient and cost effective solution

System specification

After a major refurbishment and extension project, Broadfield House is a prime example of how retrofitting renewable technology into a residential property can generate outstanding levels of energy efficiency and support a more sustainable future.

The owner had a clear sustainable vision for the seven bedroomed, 780m² detached property and following initial consultation with Elite Technical Services, decided to proceed with installing a Vaillant geoTHERM 38kW ground source heat pump, which proved to be the most efficient and cost effective solution. With ample land surrounding the property, the installation of ground arrays that extract geothermal heat from the ground was an ideal solution for Broadfield house.

The geothermal heat is converted by the geoTHERM heat pump to provide both the heating and domestic hot water requirements for Broadfield House, whilst offering a renewable technology solution that will keep running costs low, with minimal environmental impact.

Broadfield House had an existing plant room to accommodate the new technology, which also required refurbishment. The ageing, inefficient gas fired heating system was removed and as part of the renovations, the hall floor which was located above the plant room, was extracted, providing access for the new heat pump technology to be lowered into place. Whilst the plant room was accessible from the hall above, Elite Technical Services began installing the necessary pipework, in addition to excavating the land near to the property so that the ground array could be installed.

By aligning the installation work with the ongoing renovations, the project was coordinated and completed successfully with minimal delays and disruption to the homeowners.



Outcome

Following the installation of the geoTHERM heat pump system, the owners now have a fully functioning, highly flexible and cost effective heating and hot water solution.

By replacing the ageing gas boiler with a more sustainable, renewable solution, the homeowners have successfully reduced their carbon emissions and will reap the benefits of reduced energy bills and RHI payments for years to come.

Ground source heat pumps require minimal amounts of electricity to convert geothermal heat into heating and hot water for the property, which delivers significant fuel cost savings.

The owners also have the satisfaction of knowing that they are employing an eco-friendly system to provide their heating and hot water.



Why Vaillant?

Martyn Fowler, Elite Technical Services, comments:

“By using Vaillant’s geoTHERM ground source heat pump, we know we have utilised the latest technology on which to base a sustainable solution. The heat pump provides all the energy needed for heating and domestic hot water, but does so in an environmentally-friendly way.

“We believe such renewable solutions for homes are the way forward and Vaillant’s extensive experience and expertise when it comes to such technologies, as well as their outstanding levels of service support, made them an ideal partner on this project.

“The homeowners at Broadfield House will enjoy a comfortable, warm and highly energy-efficient home and can do so safe in the knowledge that they will also benefit from low energy bills.”

