



Heat Pumps

Heat pumps are the sustainable equivalent to conventional boilers. Instead of using costly fossil fuels they extract heat from around your own property. This is then upgraded by the heat pump so it can be used to heat your home and hot water. We specialise in ground and air source heat pumps.

Ground Source (Geothermal) Heat Pumps

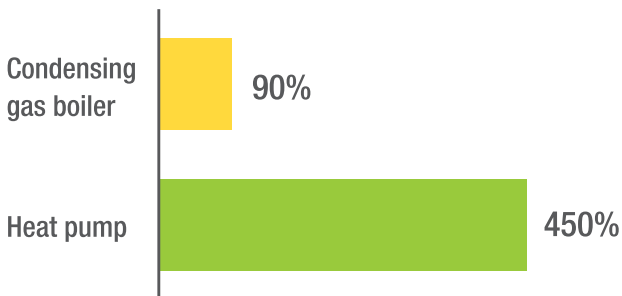
Just a metre beneath the ground the temperature typically varies between 7 and 12°C, this heat is primarily provided by the sun. Heat pump technology is able to extract this heat (via a ground loop pipework) and upgrade it to temperatures in excess of 50°C. By utilising this renewable source of energy the heat pump can achieve extremely high efficiencies in the order of 450%. This compares to a high efficiency gas boiler which has an efficiency of around 90%.

Unlike other suppliers, our heat pumps are capable of delivering high temperature hot water, which can be used with radiators, underfloor heating and domestic hot water heating.

The ground loop

At Intelligent Energy Solutions we offer a complete installation service, including the installation of a ground loop. The ground loop comprises lengths of pipe buried in the ground, either in a borehole or a horizontal trench. This pipe is filled with a heat transfer fluid which collects heat from the ground. Boreholes enable properties with very little outside space to take advantage of ground source heat pumps.

Gas Boiler vs. Heat Pump Efficiency



HOT TIPS

You don't need lots of space for a heat pump. A borehole ground loop takes up very little space and air source systems need no ground loop at all.

Case study

With heating oil prices having doubled in the previous 12 months, Carl Evans, Gloucestershire was looking for a way to reduce the cost of running his home. Intelligent Energy Solutions provided a complete solution installing a 7kW heat pump with integral hot water storage tank into Carl's barn conversion. The installation took about 2 weeks and now saves Carl more than 60% off his heating bill. Carl commented "I'm extremely happy, the heat pump will pay for itself in about 11 years and outlast two conventional boilers."



Sophisticated Control

Our heat pumps typically have a much greater degree of temperature control compared to conventional boilers. The heat pump is able to subtly alter heating output temperatures as needed. For instance, if the outside temperature drops, the heat pumps weather sensor will signal for the flow temperature of the heating system to increase by, for example 5°C. This enables the room temperature to be maintained precisely without the usual fluctuations associated with conventional systems. The heat pump is excellent at maintaining constant temperatures around your home.

HOT TIPS

Our ground source heat pumps can also be used to cool your house in the summer for free.

The air source heat pump includes a heat exchanger that needs to be positioned on an outside wall.



Air Source Heat Pumps

Air source heat pumps offer many of the benefits of ground source heat pumps but without the need for a ground loop. Our installations can provide central heating and water heating with efficiencies higher than 350%. They can provide heat to your home even when the outside temperature is -10°C. With this type of performance our air source heat pumps can significantly reduce your heating bills and your impact on the environment.

When the air temperature is high our air source heat pumps can achieve output efficiencies greater than 600%. This is why they are also a very cost effective method of heating swimming pools during the summer.



The ground source heat pump is about the same size as a fridge freezer and can be positioned in any weather proof area.

To find out more, call **01509 891256** or visit **www.iesolutions.co.uk**