



GROUND SOURCE HEAT PUMPS

“USE YOUR GARDEN TO SAVE ENERGY”

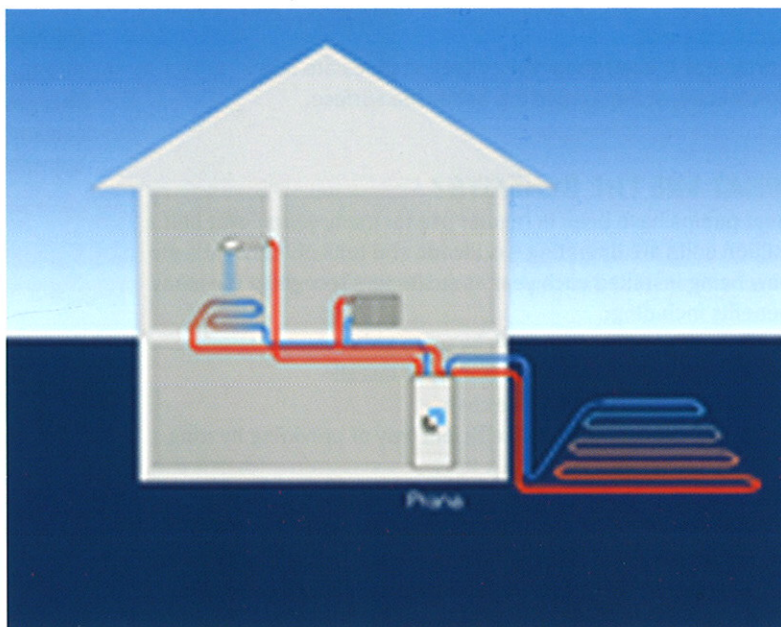
WHY CHOOSE AN GROUND SOURCE HEAT PUMP?

They can provide heating and domestic hot water in a cost effective and sustainable way and are suitable for domestic and commercial installations. They provide fuel savings and reduce your carbon footprint.

HOW DO THEY WORK?

Beneath the surface the ground maintains a relatively constant temperature all year round, even in winter.

A ground source heat pump circulates a mixture of water and anti-freeze through pipes buried in the ground – as the liquid is pumped round it absorbs heat from the earth which is used to heat your property or hot water.



WHAT SIZE OR SPECIFICATION DO I NEED?

Ground source heat pumps come in a variety of sizes and specifications so it is important that the installation is specified and designed for the clients' requirements to ensure the maximum effectiveness of the heating system whether it is for a home, office, or commercial installation.

By taking into consideration the type of insulation and other heating ancillaries the client already has, the GSHP can be designed to ensure utmost efficiency and maximum savings on fuel bills. By completing a simple survey form a draft specification can be done. This will determine the size of the heat pump and the length of the ground loop required as longer loops can draw more heat from the ground.



Along with your ground source heat pump we would normally expect to supply a thermal store which is a large capacity cylinder – this would replace your existing hot water cylinder. The thermal store acts as a reservoir for heat from a number of sources (e.g. solar thermal systems, conventional boilers, heat pumps etc) and as a supply for domestic hot water and for heating systems.

The efficiency of a ground source heat pump is measured by a coefficient of performance (CoP) - the amount of heat it produces compared to the amount of electricity needed to run it. A typical CoP for a ground source heat pump is around 3.2 without any reductions for the type of distribution system.

DO I NEED PLANNING PERMISSION OR TO APPLY FOR BUILDING REGULATIONS?

The system will need to comply with current building regulations and generally planning permission is not needed, however we recommend you check with your local authority.

CALL OUR CUSTOMER HELPLINE ON FREEPHONE 0500 127005

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WHERE DOES IT GO?

The pump can go where an existing free standing boiler has been and the loops for the collection of the heat can be done in several ways:

Borehole-closed loop- the heat transfer fluid is circulated through pipes set in a borehole up to 100m deep – ideal if your garden is small

Horizontal-Closed Loop- the collection pipes are laid horizontally some 1.5m to 2m below the surface.

WHAT ARE THE BENEFITS?

Heat pumps have been in regular use for many years; over half a million units are operating worldwide and tens of thousands are now being installed each year as customers recognise the many benefits including:

- Reduce your heating costs by up to 50%*
- Proven technology which is easy to install
- Reliable low maintenance costs
- A clean, sustainable and efficient way of providing heating and hot water
- Reduces your dependency on imported fossil fuels, e.g. gas, oil
- If you add some other form of renewable energy system such as solar this will reduce your energy bills and your carbon footprint even further
- A GSHP is more efficient than using electric heating
- Will qualify for the RHI due in April 2011

HOW MUCH IS IT GOING TO COST?

Please ask as prices are dependant upon the existing system, size and specification required. A full survey will determine the type and size of pump required. This can all be done by Solarwall.

RENEWABLE HEAT INCENTIVE

Pick up a leaflet on the RHI which comes into effect in April 2011. This government incentive is to bridge the financial gap between conventional and renewable heating and applies to MCS approved products and installers only.

INDICATIVE FUEL COST COMPARISON & CO₂ REDUCTIONS

FUEL TYPE	Cost comparison per 10kWH **	Potential reduction in CO ₂ emissions per year ***
GAS	37p	34%
OIL	55p	55%
LPG	53p	40%
ELECTRIC	100p	
AIR SOURCE HEAT PUMP	29p	
GROUND SOURCE HEAT PUMP	26p	

* Depends on existing fuel supply.

** The performance of heat pumps are impossible to predict with certainty. Estimate based on the Governments' SAP and for guidance only. It should not be considered as a guarantee of performance. Based on a 85% boiler efficiency and may not be representative of actual costs and tariffs available due to fluctuations in fuel costs.

*** Defra figures 2008.



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