

Ground source heat pumps

What are they?

Ground source heat pumps collect energy stored in the earth or in the air and use it to heat water in a cylinder for distribution to taps, appliances and radiators. They can also cool the house in summer. This is the most advanced technology available for home heating, hot water and cooling. because the earth itself 'stores' energy it is an extremely reliable and constant energy source, it creates no harmful emissions and uses a very small amount of electricity to drive the pumps themselves.

How do they work?

A heat pump works in the same way as a refrigerator, but in reverse. The collection system consists of a single deep borehole in the garden. Alternatively, where space permits, a looped array of pipes buried about 1.2 metres below the surface can be used. The ground source heat pump then extracts heat stored in the earth. This low temperature energy passes through a CFC-free refrigerant cycle which converts it into higher temperatures to heat the home. In summer, with an underfloor heating system connected to the heat pump this cycle is reversed, cooling the room to a comfortable temperature. If you're considering having a ground source heat pump installed you may be eligible for a grant through the Low Carbon Buildings Programme.

Ground Source heat pumps are an excellent partner for underfloor heating and grants are available through the Low Carbons Building programme <http://www.lowcarbonbuildings.org.uk>



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Installation diary

Thinking of investing in a ground source heat pump and want to know what is involved?

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