

# Ground source heat pumps



## How the technology works

The sun's heat provides energy that transfers into the ground. A heat pump extracts this heat, which can be used to efficiently provide space and water heating for a property.

## Requirements

There are three types of ground source heat pump available:

- **Borehole:** suitable where space is limited.
- **Straight horizontal:** the pipe is laid in trenches and requires more land area.
- **Spiral horizontal or 'slinky coil':** the pipes may be coiled to fit into a given amount of space.

## Planning permission

Planning permission may be required on certain ground source heating systems, so always check with the Local Authority before installation.

## Grant funding

A 50% grant towards the cost of a ground source heat pump system is available through the LCBP Phase 2 to the public sector, including schools, hospitals, housing associations, local authorities and charitable organisations, until the end of June 2009. Other schemes may be available, please contact us to find out more.

Ground source heat pumps can be used efficiently for space and water heating, by transferring energy from the ground

## Key benefits

- 50% grants available
- Does not require any maintenance or refilling with fuel
- Can heat and cool a building
- Helps reduce CO<sub>2</sub> emissions

## Contact us

Call 0845 070 2203<sup>†</sup>

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# Case study: Sharrow Primary School

## How we helped Sharrow Primary School

Sharrow School in Sheffield is a new three-storey junior and infant school covering approximately 2,700m<sup>2</sup>. To deliver a ground breaking school, a ground source system was chosen to provide an alternative to standard heating systems.

Due to the size of the building and the space available for the ground collector, the project involved drilling boreholes nearly 100m deep to source heat from the adjacent park. The project created a heating and hot water system designed to reduce the CO<sub>2</sub> emissions of the school by 1,000 tonnes per year.

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### KEY FACTS

Heat collector	Vertical borehole system (21 boreholes)
Heat pump	5 x Robust 45
Heat distribution system	Underfloor
Hot water provision	2 x 1,000-litre KBH water tanks
Annual CO <sub>2</sub> savings	1,000 tonnes



## More success stories

So far we have installed 15 ground source heat pump systems as part of the LCBP Phase 2 programme, including:

- Azure Café, Newcastle
- Bassingbourn Village College, Bassingbourn
- Christ Church, Chiselhurst
- Clinton Hall, Devon
- Cromer Public Convenience, Kings Lynn
- Glenelg Primary, Highland Council, Milton Keynes
- Hines Construction, Lime Walk Gospel Hall Trust, Oxfordshire
- Hollybush Lodge, Brasenose College, Oxford
- Lawrence Sheriff School, Rugby
- Maybury School, Hull

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