

# Gas prices soar by 91% since 2003

## What are the alternatives?

In a warehouse near Oxford sits a block of ice which is heating nearby offices, this demonstration illustrates the abilities of a heat pump to move heat from one location to another.

Most visitors to Ice Energy's offices leave amazed as they start to understand the significance of what they have seen. Instead of burning increasingly expensive fossil fuels such as oil and gas, the heat pump captures solar energy stored in the customer's own garden and moves it into their home where it is used to heat the domestic hot water and central heating systems.

Andrew Sheldon, Managing Director of Ice Energy says, "It usually only takes a few moments of explanation before people accept how the heat pump works, essentially it's a large fridge working in reverse."

### Dramatic savings of up to 70%

Heat Pumps offer customers savings of up to 70% on the

running costs of their present oil or LPG based heating systems, but significantly because we're using renewable solar energy it also has huge environmental benefits."

When coupled with a "green electricity tariff" a customer's carbon footprint is significantly reduced with the average home reducing its carbon footprint by over 10 tonnes per year.

### How they work?

So how does the heat pump work? At a depth of one metre average soil temperature in the UK is fairly constant between 10 and 13 degrees. The "ground loop" is a pipe that is buried in the garden at this depth and filled with a mixture of water and food safe glycol. This mixture is at a low temperature and is gently warmed by the surrounding soil as it is pumped through the pipe.

The heat pump only needs an increase in the temperature of the water mix of just a few degrees. It is then put through a process which

involves a series of heat exchangers and a compressor where the heat is concentrated so that temperatures of 65 degrees are achieved. This then feeds the central heating radiators or under-floor heating pipes and the domestic hot water tank

The collection of the heat is not just limited to a buried pipe, if the property has a nearby lake, river or stream or even a well these can all be utilised, if only limited garden space is available then options include Ice Energy's patented compact collector or in cases where very little space is available a bore hole.

One is left wondering why haven't we invested in this technology earlier? And of course the answer is the higher capital cost and the abundance of relatively cheap gas and oil. But with huge price hikes in fossil fuels and the ever more volatile world in which we live, it is clear that those investing in heat pumps are ahead of the wave and stand to make substantial savings on the cost of heating their homes.



Saving energy: the 'Slinky' ground loop is buried 1m below the surface of the ground (top right); a £1500 grant is available for each domestic installation (bottom right); compact collectors are used where garden space is limited (bottom left); 'Ice Energy Greenline Heat Pump' (above)

### Heat Pumps - the safe solution

Scalds, Carbon Monoxide poisoning, Gas explosions & Oil tank leaks are all a thing of the past with Heat Pumps.

Unlike gas-fired central heating boilers, heat pumps are not prone to the risk of gas explosions and do not produce poisonous Carbon Monoxide. While the environmental consequences of pollution from leaking oil tanks leaves homeowners liable to a £20,000 fine and an even bigger clean-up bill.

Ice Energy Heat Pumps use food safe glycol in their ground loop, are completely safe and free of any con-

taminants which may harm the environment.

Additionally scalds are one of the main dangers in the home particularly for vulnerable groups and young children; here are some shocking figures on water safety:

- Hot water at 70 degrees takes less than a half second to burn
- Scald burns are the third most common reason for under 5's admission to hospital
- Each week 7 children require hospital treatment involving painful skin grafting and permanent scarring.

Heat pumps provide domestic hot water at around

40 Degrees Celsius, a much safer operating temperature, traditional oil and gas boilers are unable to do this due to the fear of legionella contamination; however the Ice Energy heat pump overcomes this by pasteurising the water cylinder at least once a week. Radiators are also fed at safer temperatures, these lower operating temperatures provide a much safer home environment for small children.

So it seems the heat pump is an all round winner, not only does it enjoy substantially reduced running costs, is friendly to the environment, it also significantly enhances home safety.

### £1500 Grant available

Ice Energy has forged a partnership with power generating company nPower to offer a £1500 grant on all domestic installations of heat pumps. The grant is not means tested and there is no obligation to use or purchase any nPower products. As well as homeowners it is available to builders, developers, landlords and Social Housing Providers.

\*Please note you are not allowed to claim the £1200 Government Low Carbon Building grant as well as the nPower grant.



For more information on heat pumps contact Ice Energy  
0845 310 5609  
www.iceenergy.co.uk

