

news release

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Underground technology could heat thousands of UK homes

Ground source heating and cooling systems have the potential to heat 300,000 UK buildings by 2020. New guidance published by the Environment Agency will support this energy revolution in homes and businesses whilst also helping to protect the environment.

With Government incentives driving demand for renewable energy [1], the Environment Agency's good practice guide supports the case for ground source heat and cooling systems as a viable source of sustainable energy for thousands of businesses and homes. The Environment Agency is urging developers and architects to use the guidance when considering this technology option.

Ground source heating and cooling systems transfer heat between buildings and the ground beneath them. Installed in a typical three-bed house, these systems can reduce energy bills by as much as £530 per year and carbon dioxide emissions by more than 5 tonnes per year, compared with an electric heating system [2].

Environment Agency research indicates that there are around 12,000 ground source heat and cooling systems in the UK and that this figure could increase to more than 300,000 systems by 2020. The technology also offers big incentives for commercial developers and could make a significant contribution to the UK's commitment to source 15 per cent of energy from renewable sources by 2020.

A ground source heating and cooling system in the Environment Agency's new national office, Horizon House, provides approximately 18 per cent of the building's energy needs. This installation will reduce annual energy bills for Horizon House by around £30,000.

Other organisations leading the way in installing ground source heating and cooling systems include IKEA, at their city centre store in Coventry; Sainsbury's at their Crayford store in Greater London; and the One New Change shopping centre in London, which has Europe's largest heat pump.

Whilst supporting the increase in the use of renewable energy, the Environment Agency is urging developers, local authorities and businesses to follow good practice guidelines to ensure the most effective use of ground source heating and cooling and the protection of the environment.

Lord Chris Smith, Chairman of the Environment Agency said: "Renewable energy will play a vital role in cutting carbon emissions and the long-term protection of the environment. However, renewable technology must be sustainable. These new guidelines for ground source heating and cooling will ensure that appropriate measures are taken to protect the local environment.

"The benefits of renewable energy go even further than environmental protection. They include a reduction in costs too. Leading companies already recognise this and could see energy costs reduced by tens of thousands of pounds per year as a result."

Ground source heat and cooling systems deliver an efficient and partially renewable source of energy for heating and cooling buildings [4]. The Environment Agency regulates the installation of open loop ground source heating and cooling systems, which take water from underground sources or rivers and discharge it back to the environment. Closed loop systems, which consist of

a closed piping system, do not require a permit, but clear guidance must be followed to minimise the risks of groundwater pollution.

The new guidance for installation of ground source heating and cooling systems provides designers, consultants and installers of these schemes with vital information on the steps that developers should take to protect the environment and comply with regulations when installing both open and closed loop systems. The Environment Agency has worked closely with the Ground Source Heat Pump Association to ensure that both organisations are providing consistent information to the industry and that these guidelines meet the industries requirements.

Jake Salisbury, Head of Operations at the Ground Source Heat Pump Association said: “We fully endorse the Environment Agency’s Good Practice Guide (EGPG) on Ground Source Heating & Cooling (GSHC) and welcome the huge impact that it and future standards will bring to support the growth of the UK GSHC market. The EA and GSHPA, working symbiotically, have developed the EGPG and have continued this relationship with the GSHPA’s soon-to-be-published Vertical Borehole Standard, the first in a series of standards, working alongside the EGPG to encourage sustainable growth of the industry.”

The Government estimates that ground source heating and cooling systems have the potential to provide up to 29 per cent of total UK built environment heat demand by 2050 [3].

The Environment Agency’s good practice guide for ground source heating and cooling can be downloaded at www.environment-agency.gov.uk/business/topics/128133.aspx.

For more information visit the Ground Source Heat Pump Association’s website: www.gshp.org.uk.

Ends

National media enquiries please contact Jane Barraclough or Jo Winser 020 7863 8744 or email pressoffice@environment-agency.gov.uk. Outside normal office hours, please contact the National Duty Media Officer on 07798 882 092.

Note to editors:

[1] The Renewable Heat Incentive (RHI) will provide financial support to renewable heat generators. The first phase, for commercial and industrial organisations, will be open to applications in Autumn this year. The second phase for the domestic sector will be up and running in Autumn 2012 alongside the Green Deal. DECC has indicated that the RHI should help drive a seven fold increase in renewable heat over the coming decades. Details of the Renewable Heat Premium Payment scheme for domestic customers will be published shortly. This short-term scheme will offer government subsidies to cover some of the upfront costs of renewable heat technologies, with a particular emphasis on those not heating their houses via a mains gas supply.

[2] <http://www.energysavingtrust.org.uk/Generate-your-own-energy/Ground-source-heat-pumps> - Please note that actual savings will depend on many factors, such as what type of heating system is being replaced.

[3] UK Government’s 2050 Pathways Analysis (July 2050). Table D11.

[4] Electricity is used to power ground source heat pumps, but they can deliver up to four times the amount of heating and cooling as the electricity used to drive the system.