

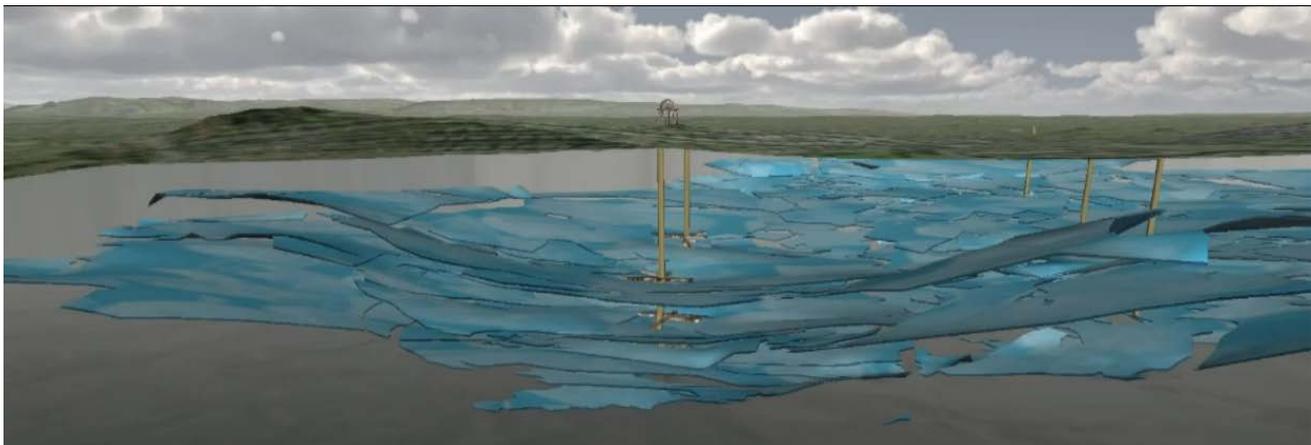
PRESS RELEASE

6th September 2012

The Heat Beneath Our Feet

Did you know that you could heat your home by tapping into the Earth's thermal store using Ground Source Heat Pump (GSHP) technology? Despite the benefits, this energy source is chronically underused in the UK and we have far fewer installations than countries such as Sweden and Germany. This is largely due to our traditional use of gas, the high cost of installation and a lack of awareness. Many people find it counterintuitive that underground temperatures as low as 10°C degrees are sufficient to keep our homes warm in the winter and cool in the summer. Which parts of the UK are best for GSHPs? Is the ground warmer in some places and cooler in others? The British Geological Survey (BGS) has been carrying out a range of research across the UK to answer some of these questions.

It's a fact that most rock types are suitable for GSHP technology, although some are better than others, for example, sandstone has a much higher thermal conductivity than gravel. The ground retains its heat so that at even very shallow depths of a few metres the seasonal temperature swing is far less than the air temperature. So even though southern areas are warmer than northern areas ground source heat pumps can be used anywhere to heat your home.



3D model showing the extent of mine workings under Glasgow BGS © NERC

The BGS has been carrying out research across the Glasgow area, and has produced 3D models of the underground that are amongst the most ambitious and detailed of their kind for any city in the world. These models can be used to help identify, and provide access to a reservoir of heat energy that exists beneath Glasgow, focussing on waters in abandoned and flooded mines. This could meet some of the city's needs for many years to come and there is potential for other cities to do likewise both in the UK and further afield.

John Ludden, Executive Director of the British Geological Survey says "It is the difference between the underground temperature and that at the surface that makes this process work and in countries where there are extremes such as Canada and Sweden this is a well proven process. The unique approach in this project is to look at large scale heat exchange in urban areas using abandoned underground mine workings."

Ends



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Notes for Editors

The following are available for interview:

- Dr Jon Busby, British Geological Survey
- Dave Banks, Holymoore consultancy
- Dr Diarmad Campbell, British Geological Survey

For additional information go to: www.bgs.ac.uk

Photographs are available from our ftp server: <ftp://ftp.bgs.ac.uk/pubload/bgspress/GSHP>

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The British Geological Survey

The British Geological Survey (BGS), a component body of the Natural Environment Research Council (NERC), is the nation's principal supplier of objective, impartial and up-to-date geological expertise and information for decision making for governmental, commercial and individual users. The BGS maintains and develops the nation's understanding of its geology to improve policy making, enhance national wealth and reduce risk. It also collaborates with the national and international scientific community in carrying out research in strategic areas, including energy and natural resources, our vulnerability to environmental change and hazards, and our general knowledge of the Earth system. More about the BGS can be found at www.bgs.ac.uk.

The Natural Environment Research Council

The Natural Environment Research Council (NERC) is the UK's main agency for funding and managing world-class research, training and knowledge exchange in the environmental sciences. It coordinates some of the world's most exciting research projects, tackling major issues such as climate change, food security, environmental influences on human health, the genetic make-up of life on earth, and much more. NERC receives around £300 million a year from the government's science budget, which it uses to fund research and training in universities and its own research centres. www.nerc.ac.uk