NEWS

Mine heat for the future

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Researchers have won early stage funding to research and develop plans to tap into disused, flooded coal mines for geothermal heat. The British Geological Survey (BGS) are a partner in the consortium for the HotScot project which will share research data, design and drill geothermal boreholes.

The consortium is led by Professor Zoe Shipton, Head of the Department of Civil & Environmental Engineering, and includes Heriot-Watt, Glasgow and Stirling universities, Townrock Energy, the British Geological Survey, Ramboll UK, Envirocentre, Engie Urban Energy and Synaptec.

The project has three core themes: minimising technical, geological, environmental, societal risks; maximising socio-economic benefits; and engaging communities in their energy future.

The HotScot project is one of 17 shortlisted submissions across the UK chosen by the UK Research and Innovation (UKRI) Strength in Places Fund to develop a full-stage bid that could lead to significant economic growth.

The consortium behind the project will submit their bid to UKRI in late 2020, with four to eight of the strongest bids set to receive between £10m and £50m each to carry out their plans.

If successful the HotScot consortium will develop at least three new mine-water geothermal heating/cooling/thermal energy storage sites in the Central Belt of Scotland.

Professor Shipton said:

"Heat trapped in flooded coal mines represents a vast untapped low-carbon energy resource. The UK's former coal mines are a £3 billion liability, but HotScot can demonstrate how these old mines could become an economic asset.

"Flooded coal mines contain water with little to no seasonal variation in temperature making them an ideal heat source for district heating networks to support low-carbon, affordable heating, cooling and heat storage for local communities and businesses."

The work as part of the HotScot consortium builds on the BGS' research into the development of disused, flooded coal mines for geothermal heating, cooling and storage.

The Glasgow Observatory, part of the UK Geoenergy Observatories is the BGS' newest scientific research facility. It is the first of its kind for scientists to take forward research vital to understanding the role that shallow geothermal energy could have in the decarbonisation our energy supply.

BGS spokesperson said:

"We are contributing to the knowledge society needs to achieve net zero. There is a growing community of academic organisations, businesses and public bodies working to realise the potential of mine water geothermal energy and storage. We're proud to be part of that

community and helping to tackle the fundamental environmental challenges facing our future."

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