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Mine water heat and heat storage research opportunities at the UK Geoenery Observatory in Glasgow, UK

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Mine water geothermal heat production and storage can provide a decarbonised source of energy for space heating and cooling, however the large resource potential has yet to be exploited widely. Besides economic, regulatory and licensing barriers, geoscientific uncertainties such as detailed understanding of thermal and hydrogeological subsurface processes, resource sustainability and potential environmental impacts remain.

The UK Geoenery Observatory in Glasgow is a research infrastructure for investigating shallow, low-temperature coal mine water heat energy resources available in abandoned and flooded mine workings at depths of around 50-90 m. It is an at-scale 'underground laboratory' of 12 boreholes, surface monitoring equipment and open data. The Glasgow Observatory is accepting requests for researchers and innovators to undertake their own experiments, test sensors and methods to increase the scientific evidence base and reduce uncertainty for this shallow geothermal technology.