



Renewable Heat from Mine Water

Hot water to fuel the future

The Coal Authority treats around 100 billion litres of mine water every year. Much of this water is warm, ranging between around 12 and 20°C, with little to no seasonal variation in temperature, making it an ideal source of low carbon heating or cooling for heat networks using water source heat pumps.

We are working in partnership with others to use this heat to provide a low carbon renewable energy solution.

With around 63MW heat available we would like to hear from those interested in this source of energy.

The Coal Authority is a non-departmental government body sponsored by DECC to oversee Britain's coal estate and manage the legacy of the former British coal industry. The renewable heat from mine water initiative is part of our innovation programme to maximise our assets and efficiency of our operations.



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Low carbon heat opportunity

Water enters mines after mining stops and gradually rises. If left this water can reach the surface or underground aquifers taking minerals from the mines that can pollute clean water.

In order to prevent or manage this pollution, the Coal Authority pumps or intercepts mine water and cleans it before discharging it into the environment. By doing so the Authority protects many hundreds of kilometres of watercourses and the drinking water supplies of hundreds of thousands of people.

This water has heat energy that can be harnessed to provide a low to carbon free source of energy by installing heat pumps at our higher flow schemes. These heat pumps can then supply to customers from 0.5MW to over 6MW of heat dependent on the volume of water and extractable heat, with an estimated 63MW of heat available across our mine water treatment schemes.

The water has cooling ability as well as heating potential that can be used for temperature control.

Some of our schemes are already in development with heat networks planned. We are interested in identifying more industrial, developer and agricultural customers to partner with to maximise the energy potential of our heat and support decarbonisation of energy use.

We are working closely with DECC's Heat Network Delivery Team and are interested in potential delivery partners to support us getting this heat to market.

If you are or know of a thermal energy user that might be interested in premises in the North East, North West or Midlands in England, South Wales or Southern Scotland then please get in touch.

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