

EU boost for £9.4m project will use Caerau's mine-water to warm local homes

Water in the underground mine workings of the former Caerau colliery has been naturally heated by the earth, and as a geothermal source of energy, Bridgend County Borough Council is investigating how it could be extracted, using heat pump technology and a network of pipes, to warm around 150 nearby homes.

The scale of the scheme will be the first of its kind in the UK and would use existing radiators to heat homes without mine-water ever entering residents' properties. Among the global leaders in using this type of technology is Holland, which opened the world's first mine-water power station in 2008 in the town of Heerlen – a Dutch coal-mining area that closed its last mine in the 1970s.

Cabinet Secretary for Energy, Planning and Rural Affairs, Lesley Griffiths, said:

“Our ambition is for our nation to be a world leader in pioneering low carbon energy. This is a cutting-edge model of generating a clean source of renewable energy, drawing on the legacy of our coal mining heritage. It will not only attract further investment to the area, but also address fuel poverty by cutting energy bills and has the potential to be rolled out to Wales and beyond.

“This EU-funded scheme will also create jobs both within the initial construction period and the ongoing supply chain, as well as offering training and educational opportunities in a very innovative area.”

The findings of a feasibility study to determine if the water is warm enough to heat homes are expected by the end of February. This follows test drilling into the mine workings under the Old Brewers site in Caerau which found that the mining void is full of water to a depth of 230m.

The British Geological Survey has since been testing the temperature, chemistry and volume of the mining-water, with the temperature expected to be around 20.6 degrees celsius – warm enough for the scheme to be a success.

Councillor Richard Young, the council's Cabinet Member for Communities, said:

“The volume of water and its temperature makes the scheme possible and now we have been awarded £6.5m of EU funds from the Welsh Government, the next phase is to work through the full scope of the scheme and put everything in place to deliver a trailblazing project for the Llynfi Valley. It will also act as a catalyst for other energy project investments, possibly through the City Deal and other investment.”

While the initial heat network will involve 150 properties, and the nearby school and church, there may be potential for the scheme to eventually warm up to a thousand local homes.

An exhibition is planned for spring 2018 when findings from the feasibility study will be shared with Caerau residents and any other parties who are interested in the project. Construction work will begin in 2020.

The scheme is a demonstrator project for the UK Government led Smart System and Heat Programme. The remaining funds for the £9.4m scheme will be made up by the UK Government, Energy Systems Catapult and Bridgend County Borough Council. Other partners include: BGS, Kensa, Egnida, SPECIFIC, Carreg Las, Natural Resources Wales and The Coal Authority.