

Deep heat for the North

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Engineers at Newcastle University, UK, will today begin an ambitious project to drill 2,000m under the heart of the city in search of renewable energy.

In a landmark project that will reach new depths in an attempt to harness geothermal heat from the earth, the Newcastle team hope to eventually pump out water at a temperature of around 80 degrees centigrade.

Drilling deep under the planned 24-acre Science Central – the site of the former Scottish and Newcastle Breweries – the team believe that boreholes here will prove capable of supplying an everlasting source of low-carbon energy hot enough to heat any domestic or commercial central heating system.

Funded by the Newcastle Science City Partnership and the Department of Energy and Climate Change (DECC), the £900,000 project is being led by Professor Paul Younger, Director of the University's Newcastle Institute for Research on Sustainability, and involves experts from both Newcastle and Durham universities.

"Our aim is to rise to the challenge of putting a novel form of deep <u>geothermal energy</u> at the very heart of city centre regeneration," explains Professor Younger.

"It's an incredibly exciting project. If we're right and we pump up water at such elevated temperatures, it would mean a fully <u>renewable energy</u> supply for a large part of the city centre, massively reducing our reliance on fossil fuels and reinforcing Newcastle's position as the UK's most



sustainable city – an accolade which the Toon has now won two years running. And unlike other renewables such as wind and solar, geothermal energy is available at all times, independent of the weather."

The project will be the first to take place on the planned Science Central site which will become a hub for University initiatives tackling the great societal challenge of sustainability, reinforcing Newcastle's standing as a city of science and reflecting the University's position as a world-leader in sustainable science research.

The project is expected to last six months and the team hope to be able to pump out the first hot water in early June. After further engineering, the resulting heat could eventually be used to supply not only the Science Central site but also part of the city centre and there is already interest from managers at the Eldon Square Shopping Centre which houses over 140 retail outlets.

Phil Steele, General Manager of Eldon Square, said: "We spend approximately £1.7 million per annum on energy and at present this demand is all met from fossil-fuel sources. We can now look forward optimistically to using deep geothermal energy to supply part or all of our future energy needs and we look forward to working with Newcastle University to develop this major scientific enterprise for the city."

This is the second time in 12 months the Newcastle team has explored the region for geothermal energy. Last year they pumped up water at a temperature of 40 degrees centigrade from a 1,000m twin-borehole at Eastgate, in Weardale, County Durham.

If today's geothermal project is successful it will pave the way for similar projects across the country where it is known similar deep fault lines exist such as Carlisle and the Craven Faults in West Yorkshire and Lancashire.



Click here to follow <u>Paul's blog</u> charting the progress of the geothermal borehole.

Provided by Newcastle University

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