

# 'Free heat for a century' plan by North East green energy experts

North experts have put the case for underground thermal energy at a geothermal energy conference in London



Receive news like this by e-mail



56 Shares



Share

Tweet

+1

Email



View from the 5th floor of "The Core" at Science Central

As the energy debate heats up, North East experts have outlined how the UK could tap into a clean supply deep beneath the ground.

They were speaking at a London conference yesterday on geothermal energy organised by EGS Energy Ltd and a partnership managed at **Durham University**.

The event was set against a backdrop of concerns over climate change emissions from fossil fuel burning, rising energy bills and fears over security of supplies, and

controversy surrounding alternative power generation such as onshore wind farms.

The conference saw the launch of the BritGeothermal Research Partnership, which consists of **Durham, Newcastle** and Glasgow universities and the British Geological Survey.

Geothermal energy comes from drilling wells between one and four kilometres deep to reach water warmed by the radiating heat from the Earth's molten core.

It can be used to heat buildings or for power generation.

There is also the potential to use warm water which has flooded abandoned coal mines - with the North East sitting on top of a maze of old workings.

Durham University is researching how to utilise water which has lower temperatures than that from deep geothermal wells. Another source of geothermal energy is the heat generated by granite layers, especially in the North Pennines.

The North East also has two deep wells which are now being used for research purposes by the partnership.

A borehole was drilled in 2011 at the Science Central site in Newcastle to a depth of 1,821 metres to intercept the 90 Fathom Fault, which runs from the North Pennines to Cullercoats Bay.

The aim was to find water at temperatures of 70C. Temperatures of 73C were encountered during testing following completion.

The Eastgate borehole in Weardale in County Durham was sunk in 2004 into granite at the site of the former Lafarge cement works to a depth of 995 metres, encountering abundant supplies at 46C.



**The 5th floor of "The Core" at Science Central, Andrew Lewis of Newcastle City Council views the city**

Around half of the energy consumed in the UK is used for providing heating.

It is estimated that deep geothermal sources in the UK could supply heat to meet the UK domestic heating demand for 100 years.

“Geothermal is a carbon neutral, home-sourced, sustainable and reliable source of heat and power which can help the UK become more self-sufficient with respect to energy,” said Dr Charlotte Adams, who is the Durham-based research manager for the BritGeothermal Partnership.

The conference brought together policy makers, academics and industry representatives from around the UK and Europe.

Among the speakers was Professor Jon Gluyas, Dean of Knowledge Exchange and Impact at Durham University, and representatives from the Department of Energy and Climate Change.

Dr Adams said: “It is the right time to launch the BritGeothermal Partnership. This conference will provide a meeting of minds from academia, industry and Government.”

Guy Macpherson-Grant, managing director of EGS Energy, said: “Interest in deep geothermal has never been greater in the UK. Tapping into this clean, baseload source of heat and power has never been a more attractive or realistic option.”

One of the ways of reducing costs is to use abandoned coal and metal mines where workings are flooded with water at between 12C and 18C.

Although at lower temperatures than deep geothermal systems, these provide a source of low grade heat which can provide warmth for buildings.

“Many of these mine water resources are beneath our towns and cities. Sources like abandoned mines are ripe for heating communities,” said Dr Adams.

Oilfield wells where output is falling can also be exploited as they produce vast amounts of water.

---

## What do you think?

What do you think about this story? Have your say by leaving your comments below.

**Have your say below**

---

## Also on The Journal



Northumberland  
huntmen on trial  
'encouraged hounds  
to...



Budget for  
concessionary travel  
funding slashed 24%  
since...



First look at Ramside  
Hall Hotel's £18m  
investment plans



How multilingual  
utensils are helping  
'Bake Off' languages...

---

## Promoted Stories



### The Evil Within Preview: This Game Goes Beyond “Creepy”

(Evil Within on Mirror)



### The Future of Energy: Will 'Cheap as Dirt' Batteries...

(Smarter Trends)



### Why the All-Flash Data Centre is an Intriguing - But...

(The Register)



### Innovation : Who are the 10 most important inventors of all...

(Thales)



### One Crazy Trick for Salespeople to Know Who is Actually...

(Evolving SEO)



### How Efficient are Your Virtual Machines? Here's the Simple...

(VMware)



### Technology : The civil aerospace industry faces a revolution

(Thales)



### The Evil Within Preview – A Twisting, Surreal Nightmare of...

(Evil Within on Gamesradar)

Recommended by

Follow



newcastlejournal

@hendrover

@TheJournalNews