CONFERENCE:

Mining the Future

Innovation in Heat and Energy Storage

TRANSFORMING HEATING IN THE UK:

- Geothermal Heat from Mines
- Heat Storage in Mine Shafts and Mine Workings
- 'Waste Heat' Storage and Recovery
- District Heat Networks

WHEN:

24 April 2018

09:30 am Registration
10:00 am Start
16:00 pm Close

WHERE:

Advanced Manufacturing Park Technology Centre
Brunel Way
Rotherham
S60 5WG

REGISTRATION:

Contact: Mark Woodward
mark@greendirections.co.uk

SPEAKERS INCLUDE:

BEIS
The Coal Authority
Nordic Heat
Durham University
Sheffield Hallam University
Nottingham Trent University
Bridgend County Borough Council
Kensa Heat Pumps
Nottingham City Council

COST:

Free via Invitation

AUDIENCE:

Political Leaders
Policy Advisers
Engineers
Project Managers
Investors
Low Carbon Experts
- Heat Networks
- Energy Storage
- Heat Recovery

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MINING THE FUTURE:

Innovation in Heat and Energy Storage

Transforming heating in the UK

In the UK there are:

- **170,000** former mines
- **134,000** mine shafts
- **7 million homes** above worked coal.

Close to surface mine water is typically between **11°C and 21°C** and at 1,000 metres is between **35°C** and **40°C**. This carbon free energy source could provide the UK with upwards of **1,500MW** of geothermal heat from shallow workings alone.

Highly efficient heat pumps can increase the temperature of mine water to provide hot water at between **55°C and 85°C.** This low carbon, plentiful supply of heat is ideal for district heating schemes, commercial heating and horticultural greenhouses.

Mine workings and mine shafts used as thermal stores also enable:

- Capturing 'waste' heat from industrial processes (e.g. steel making) for use in district heating schemes
- Harnessing solar heat generation in summer for use in the winter
- Balancing variations in energy supply to smooth peaks in winter energy demands

Transforming Communities

This **heat energy revolution** would bring significant environmental and economic value back to many of the proud communities founded on coal. It would also help to improve **energy security**, tackle **fuel poverty**, improve **industrial competitiveness** and lower **carbon emissions**.

Vision for the Northern Powerhouse

A **distinctive competitive advantage for the north** is to harness heat created by existing industrial processes via storage in former mine workings and distribution by city-wide heat networks.

Case Study

There is potential to store and supply **90GWh** of heat energy in the shallow mine workings below Sheffield and Rotherham.

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