



HARROW & HILLINGDON GEOLOGICAL SOCIETY

A Local Group of the Geologists' Association

Founded 1973

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Wednesday 8th April 2026 at 8pm on Zoom

“UK geothermal nation – power to the people”

By Prof Jon Gluyas¹ & Shaurya Swarup²

¹*Durham Energy Institute & UK National Geothermal Centre*

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The Earth is hot, very hot. It has been hot since formation 4.5 million years ago and will still be hot in 5 billion years when the sun expands and consumes the Earth. By any human measure the Earth's heat is a sustainable source of energy – available 24/7, stable and in almost all settings zero carbon.

Early hominids may first have exploited geothermal springs to cook food in Olduvai Gorge, Tanzania 1.7 million years ago. Rather more recently electrical power was first generated using geothermal energy at Valle del Diavolo, Lardello, Tuscany in 1904.

Eighty-eight nations have now developed geothermal energy for heating (and cooling), whilst 36 nations have geothermal power (electricity) plants. The UK became that 36th nation to develop geothermal power in February 2026.

United Downs Geothermal Power Plant – the UK's first geothermal electricity plant from February 2026



Aside from the pre-historical use of hot springs at Bath for balneology (bathing to you and I), the UK first exploited geothermal heat in 1986 from a deep well drilled in Southampton and it took a further 33 years before a second plant came on stream in Gateshead.



Southampton District Energy Scheme – the UK's first commercial geothermal heat plant from 1986

In 2024, the UK National Geothermal Centre was formed. Its mission is to make geothermal energy a key part of the UK energy mix and hence help the UK grow economically, create high value jobs, ensure energy security and massively cut greenhouse gas emissions. We are supporting the UK to become a 'geothermal nation'.

This seminar will examine the basis for geothermal energy both globally and in the UK. We will illustrate both progress and problems using case histories from the UK including a recent study nearby to Harrow and Hillingdon!



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Professor Jon Gluyas



Jon Gluyas, a geologist with more than 45 years' experience in industry and academia, is the current President of the Geological Society of London. He was awarded the Aberconway Medal in 2000.

His research includes work on UK energy security, the potential for developing enhanced oil and gas recovery, the utility of abandoned and late-life petroleum fields for supplying geothermal energy, the possibility that deep karst in Carboniferous limestones could make major contribution the UK's

heating requirements as well as reducing the national carbon footprint.

In 2015, while following a programme designed to understand the source, maturation, migration and accumulation of helium in the Earth's crust, he and a Statoil-sponsored team confirmed a major discovery of helium in Tanzania's East African Rift Valley. He has also been involved with the search for natural hydrogen.

Jon Gluyas has been instrumental in establishing the UK National Geothermal Centre in Durham University. Since 2024, this leading centre has been bringing expertise together to develop geothermal energy potential at speed and scale.