

BRYAN LOVELL MEETING 2019

Role of geological science in the decarbonisation of power production, heat, transport and industry

21-23 January 2019

The Geological Society, Burlington House

In the UK and elsewhere, decarbonisation of power production, industry, transport and heating to meet climate change targets is a major challenge and one that intrinsically involves the subsurface and geoscience.

Decarbonising centralised power generation will involve expansion of renewables as well as the civil nuclear program. Renewables will require a huge increase in grid-scale energy storage to cover intermittency, which will mean greater reliance on more efficient batteries, pumped storage and compressed air energy storage. Geothermal power, heating and cooling will require assessment of resources and impacts of development, while the safety critical nuclear sector will require a detailed understanding of risks associated with natural hazards such as seismicity as well as meeting the challenge of effective geological disposal of radioactive waste. All require geological studies, for example investigating the geological origin and prospectivity of transition metals and rare earth elements for batteries; or for siting of power station, dams and tunnels in pumped water storage; geological studies for compressed air energy storage (CAES); and detailed characterisation of the subsurface for radwaste disposal.

A transition may also involve more natural gas and hydrogen, with implications for the possible supply of 'home grown' shale gas, and the underground storage and transport of hydrogen. Carbon capture and storage (CCS) and 'bio-energy and CCS' (BECCS), require fundamental research into geological sequestration and its environmental implications.

Decarbonisation is central to Government and international policy and this three day conference will host national experts from industry, academia, and government to look at the geological and reservoir engineering aspects of the problem. The main objective will be to identify the high level barriers to progress and the main science questions – and begin a roadmap to solve the problems.

Call for abstracts

Abstracts are invited from early career researchers who wish to exhibit posters at the conference. Posters that address any aspect of decarbonisation geoscience are encouraged, for example geothermal, gas storage, compressed air energy storage, critical metals, radioactive waste disposal, CCS, and bio-energy and CCS (BECCS). Abstracts should be approximately 500 words and include a title and acknowledgement of authors and their affiliations where possible. Please send your abstract as a Word document to rhianna.mclean@geolsoc.org.uk by 1 October 2018.



Convenors

Mike Stephenson (British Geological Survey)
Dave Schofield (British Geological Survey)
Sebastian Gieger (Heriot-Watt University)
Philip Ringrose (Statoil/NTNU)

Further information

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