



THE ALL-PARTY PARLIAMENTARY GROUP

on **Deep Geothermal**

*23<sup>rd</sup> January 2024*

*Launch Event*

**Please contact [appgdeepgeo@r-e-a.net](mailto:appgdeepgeo@r-e-a.net) if you would like to join the APPG, or with any enquiries.**

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The views expressed in this report are those of the group.

## Introduction

The APPG on Deep Geothermal was established to bring together parliamentarians to share information and ideas, and to work collaboratively with stakeholders to develop a new British growth industry that is key to energy security and net zero. The APPG is focused on its long-term goal of establishing deep geothermal as a mainstream renewable energy source in the UK.

### **The APPG on Deep Geothermal is calling on Government:**

- to establish clear routes to market for Deep Geothermal, such as: reconfiguring the Public Sector Decarbonisation Scheme to progress deep geothermal as a solution for the NHS and other public sector sites, as well as introducing a Geothermal Development Incentive.
- to develop a Deep Geothermal Strategy, which sets out national targets for heat and power, and the policies and funding mechanisms that will enable industry to deliver these targets.

**This event will formally launch the APPG on Deep Geothermal to Parliamentary, local authority and sector stakeholders and outline our program of work for the year, which aims to support the Government in its development of a Deep Geothermal Strategy.**

## The benefits of Deep Geothermal Energy to the UK

**The decarbonisation of heat remains one of the largest challenges facing the UK in delivering its net zero ambitions.** UK domestic and business buildings remain the most energy inefficient buildings in Europe. Successfully decarbonising all UK heat demand will need a wide range of low carbon technologies, ensuring the right technology is used in the right situation, alongside the decarbonisation of our gas network. If done correctly, more than half of UK heat demand could be decarbonised by 2035. Figures in REA's REview 23 report reveal that just 8.36% of 2022's total heat consumption was generated by renewables.

With the right support, REA research estimates that by 2050 the UK could have 360 geothermal plants producing 15,000 GWh of heat annually - providing equivalent heating to over 2 million homes (7% of current UK housing stock) primarily through powering heat networks.

**Deep Geothermal can also be used to generate renewable power.** It has the potential to produce around 400 GWh of electricity annually in the UK - providing electricity to almost 150,000 homes (0.5% of UK housing stock). Utilising both the power and heat potential of Deep Geothermal would save an estimated 3 million tonnes of CO<sub>2</sub> annually. This could help the UK meet net zero targets but also ensure energy security, given that geothermal is available 24 hours a day independent of the weather.

**A thriving geothermal industry could generate 10,000 direct jobs and 25,000 indirect jobs** - providing valuable green growth and levelling up opportunities, as there is considerable overlap between high potential geothermal locations and areas of least economic resilience. It would also provide an opportunity for those in the oil and gas sector to transition to the green economy, as many of the skills are transferable.

Allocation round 5 of the Contracts for Difference Scheme saw the first Geothermal power projects clear the auction, contracting 12 MW of capacity. We hope to see continued progress of the sector, which could be helped by ringfenced funding within the CfD budget.

## APPG Objectives

### Long-term

- For geothermal to become a mainstream renewable energy source in the UK.

### Medium-term

- Secure a Geothermal Strategy that sets out national targets for heat and power and the policies that enable industry to deliver these targets.

### Short-term

- Develop short working papers on key topics, setting out succinctly the key things required to mature the sector.
- Increase knowledge of UK Geothermal potential at government and local authority level.
- Government to acknowledge the need to develop clear routes to market, such as through reforms to the Public Sector Decarbonisation Scheme, allowing deep geothermal to be viable at multiple NHS and public sector sites.

## APPG Forward Plan

In 2024, the APPG on Deep Geothermal will address four key themes.

### Q1 2024: Support mechanisms and Route to Market

- In this quarter the APPG shall call for the establishment of clear routes to market for Deep Geothermal, including reconfiguration of the Public Sector Decarbonisation Scheme (PSDS). Other topic areas for discussion: development of a Geothermal Development Incentive; skills and training; ring fencing the CfD budget.

### Q2 2024: Regulation

- Topic areas for discussion: geothermal heat resource inclusion in Local Authority heat network mapping, planning and zoning; geothermal recognised as a resource not a pollutant.

### Q3 2024: Exploration

- Topic areas for discussion: underwriting exploratory drilling in strategic basin locations to de-risk projects; regional/countrywide in-depth geophysical surveys; data sharing obligations.

### Q4 2024: Licensing and heat ownership

- Topic areas for discussion: extending the oil and gas block system to geothermal; application processes; aligning licensing with planning permission, environmental permits, and environmental impact assessments.

For copies of relevant reports referenced, please contact [appgdeepgeo@r-e-a.net](mailto:appgdeepgeo@r-e-a.net).

# Founding supporters of the



Angus Energy is an OGA approved, independent UK onshore oil and gas development, production and operations company. Angus is actively looking to advance the energy transition by deploying its geological, drilling and engineering skills in the field of geothermal energy.  
[www.angusenergy.co.uk](http://www.angusenergy.co.uk)



Chubb is the world's largest publicly traded property and casualty insurance company. Climate+ was set up in January 2023, with the purpose of drawing on our company's extensive technical capabilities in underwriting and risk engineering. Chubb provide a full spectrum of insurance products and services to businesses engaged in developing or employing new technologies and processes that help reduce global carbon emissions.  
[www.chubb.com](http://www.chubb.com)



EGS Energy is a development and consultancy company with unique access to engineered geothermal system technology and know-how. With projects under way in Cornwall and consultancy work worldwide, EGS Energy is leading the development of deep geothermal energy resources in the UK on a commercial scale.  
[www.egs-energy.com](http://www.egs-energy.com)



Geothermal Engineering Ltd (GEL) was founded in 2008 with the aim of developing geothermal heat and power. The company acts as both developer and operator of geothermal projects and received Contracts for Difference funding for three projects in Cornwall: Manhay, Penhallow and United Downs. The projects in Manhay and Penhallow have been granted planning permission and groundworks are expected to start soon. The drilling of the wells in the United Downs Deep Geothermal Power project, the first geothermal power plant in the UK, was completed in 2019.  
[www.geothermalengineering.co.uk](http://www.geothermalengineering.co.uk)

# APPG for Deep Geothermal



Consortium Drilling Ltd is a leading UK based onshore drilling contractor that provides bespoke solutions to our clients. Consortium work closely with operators and wells management companies to deliver solutions that meet the needs and requirements of end user applications working in challenging environments. Consortium support clients throughout the lifecycle of a project, providing real value when considering the total cost of ownership. Consortium's dedicated C-Suite team has over 100 years combined global experience in relating drilling projects and have become the trusted partner of choice of many organisations.  
[www.consortiumdrilling.com](http://www.consortiumdrilling.com)



Eden Geothermal was born from the Eden Project, where they built and now run the first deep geothermal system to come online in the UK in 37 years. Building on this experience, Eden Geothermal help others develop geothermal projects from inception, through exploration, financing, construction and operation. Eden Geothermal's bedrock is to create social value through climate action.  
[www.edengeothermal.com](http://www.edengeothermal.com)



Marriott Well Engineering and Management Services (MWEMS) provides well design and management services for the whole well lifecycle - design, construct, operate, maintain and abandon. Principals involved have significant high temperature well design and management experience with extensive onshore UK drilling expertise. John Beswick (Director) has been drilling geothermal wells in the UK and globally since the 1970s.  
[www.mwemservices.com](http://www.mwemservices.com)



Founded in 2023, Pink Granite Consulting provides drilling consultancy services to the geothermal market. Tony Pink (Director) has 33 years of experience drilling in the UK and the USA, including the last 3 years on the FORGE project in Utah for the Department of Energy. Pink Granite also works with Blackreiver Consulting who provide consulting, training and development services to the sector. Between them, the two companies work together to provide expertise to help Geothermal startups significantly reduce their drilling costs and improve project ROI.  
[www.blackreiver.com](http://www.blackreiver.com)

## Founding supporters of the



Rees Onshore Seismic are primarily focussed on seismic survey planning, land permitting and acquisition for sub surface imaging, and data reprocessing of vintage data sets. Rees Onshore Seismic also carries out noise monitoring and design networks for seismicity real time monitoring pre, during and post site activities.  
[www.rees-os.com](http://www.rees-os.com)



SLB is a global technology company, driving energy innovation for a balanced planet. SLB provides a range of technical services, hardware, digital solutions, and expertise for developing and sustaining energy projects. For geothermal energy projects, SLB works in geothermal power development, direct use (district heating and hot water supply) and shallow geogeneity systems (heating and cooling buildings).  
[www.slb.com](http://www.slb.com)



Founded in 2013 by David Townsend, TownRock Energy Limited (TownRock or TRE) is an award-winning geothermal energy consultancy based in Edinburgh, Scotland and is a leading specialist in all aspects of the UK's geothermal resources. TRE specialises in the valuation, development and operation of net-zero heat projects using flooded coal mines, hot sedimentary aquifers (HSAs), granites (Hot Dry Rocks), open and closed-loop ground-source heat pumps, district heating integration and thermal energy storage. TRE's mission is to access the abundant geothermal energy of the earth's subsurface to provide zero-carbon renewable heating and cooling to industrial, commercial and domestic energy users.  
[www.townrockenergy.com](http://www.townrockenergy.com)



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# APPG for Deep Geothermal

# Sproule

Sproule Geothermal provides consultancy services and operations support for geothermal projects in all phases of the project lifetime. With continuous operations support in the Netherlands and advisory projects around the world, Sproule Geothermal division has services in four practice areas: Strategic Advisory and Due Diligence, Geoscience studies, Wells and Production Engineering and Geohazard management.

[www.sproule.com](http://www.sproule.com)



**Star** Energy

Star Energy is a British company leading the way in the generation of geothermal heat, a clean and sustainable energy source from deep beneath the ground. The company's aim is to design, build, finance, own and operate geothermal plants, providing low carbon heat directly to customers or via heat networks through long term contracts across the UK and elsewhere. Star Energy is leveraging its expertise in oil and gas production to access geothermal heat across the United Kingdom.

[www.starenergygroupplc.com](http://www.starenergygroupplc.com)

# YellowStone

Yellowstone Environmental Solutions Limited (YES) is a specialist waste management company dealing with hazardous and non-hazardous waste streams, working across the UK providing bespoke waste management process and systems. YES operate a fleet of specialist tankers and an environmental permit to treat and reduce waste volumes accordingly, and are specifically adept at dealing with drilling wastes. YES are keen to build relationships across the Geothermal industry and provide waste solutions accordingly.

[www.yellowstonesolutions.co.uk](http://www.yellowstonesolutions.co.uk)

## Parliamentary Members

Co-Chair - Dr Kieran Mullan MP  
Co-Chair - Ms Cherilyn Mackrory MP  
Treasurer - The Lord Cameron of Dillington  
Officer - Mr Grahame Morris MP

Mr Brendan Clarke-Smith MP  
Ms Flick Drummond MP  
The Rt Hon Philip Dunne MP  
Ms Mary Foy MP  
Ms Jo Gideon MP  
Ms Sally-Ann Hart MP  
Mr Paul Howell MP  
Mr Danny Kruger MP  
Mr Ian Levy MP  
The Lord Lucas  
Ms Rachael Maskell MP  
Mr Royston Smith MP

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### About the REA (APPG Secretariat)

The REA (The Association for Renewable Energy & Clean Technology) is the UK's largest sectoral trade body representing over 500 member organisations. The REA is a not-for-profit trade association, established in 2001.

Since inception, REA's goal has always been the same: championing its members and promoting a future built on renewable energy and clean technology.

The REA would be delighted to assist Parliamentarians prepare for Committee sessions, debates, questions, and any other business. Please get in touch with us for a meeting or a detailed briefing on any aspect of the renewable energy or clean technology sectors.

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