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GeoTHERM
expo & congress

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Kongress 1 - Tiefe Geothermie / congress 1 - Deep Geothermal Energy
11.35 - 12.00



Eden Geothermal Project - Eden's (UK) hot rocks project hits target with successful drilling of first deep well

Eden's (UK) Projekt im heißen Gestein schließt die erste Bohrung erfolgreich ab und trifft sein Zielsetzung

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The Eden Geothermal project has reached a landmark moment on Friday November 5, 2021 - the successful completion of its first well nearly 5km into the Earth's crust. Drilling deep into the granite at the home of the world-renowned Biomes in Cornwall began in mid-May this year. The well, known as EG-1, has a vertical depth of 4,871 metres. Its measured depth - the actual length of the well - is 5,277 m, making it the longest geothermal well in the UK. The well has found its target fault structure and the early signs of high temperatures and good permeability at depth are promising.

The story of deep geothermal is proving to be the star of the show at the Eden stand at COP26 in Glasgow, where one of the large tungsten-headed drill bits used on the project is a magnet for visitors.

The next step for Eden Geothermal is a programme of measuring and testing the well, which will continue into the New Year. Then, using a heat exchanger, the well will be connected to a heat main and linked to the Eden Project to demonstrate the supply of renewable heat.

The next big chapter will be to drill a second well on the site, close to the first and to a similar depth. Once complete, the two-well Eden Geothermal project has the potential to supply renewable heat to Eden and neighbouring industries equivalent to the heat used by more than 35,000 homes, or renewable electricity to that consumed by around 14,000 homes.

Beside presenting the Eden project, this presentation discusses also the well planning and drilling engineering choices made during the planning phases of the well EG-1. We also give an insight into some of the drilling engineering challenges faced whilst drilling very hard and abrasive granite resulting in sometimes low penetration rates and high levels of wear to drilling equipment.

The project is being delivered by Eden Geothermal Limited (EGL), a three-way partnership between Eden Project Limited, EGS Energy Limited, a leading geothermal development and consultancy group, and BESTEC (UK) Limited, affiliated with BESTEC GmbH, the specialist geothermal developer and drilling advisor.

To drill the first well, EGL secured £20 million funding from a combination of European Regional Development Fund, Cornwall Council and commercial funding from GCP Infrastructure Investments Limited, an investment trust advised by Gravis Capital Management Ltd.

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