

Geothermal Engineering announces plans to produce significant quantities of the UK's first zero-carbon lithium

- *Geothermal Engineering Limited (GEL) will produce enough zero-carbon lithium to supply around 250,000 electric car batteries per annum as a by-product of its geothermal power projects. This would have been enough to supply nearly all the Battery Electric Vehicles (BEVs) registered in the UK in 2022*
- *GEL has measured one of the highest concentrations of geothermal lithium in Europe in the first of its deep wells at its United Downs power plant site in Redruth*
- *GEL was recently backed by Government funding via the Automotive Transformation Fund to start producing geothermal lithium in 2024*
- *GEL has engaged the investment bank Nomura Greentech to raise funds to support its expansion*

14 November, 2023: Geothermal Engineering Limited (GEL), the UK's leading geothermal power company, is set to deliver the first commercial quantities of zero-carbon lithium in the United Kingdom. Very recent tests have shown that the geothermal fluid within the deep geothermal wells already drilled at United Downs in Cornwall contained around 340 parts per million (ppm) of lithium, which makes it amongst the highest concentration of lithium found in any commercial geothermal lithium project in Europe.

GEL's primary geothermal business of providing baseload geothermal electricity and heat produces a naturally hot geothermal brine from which lithium can be sustainably extracted onshore in the UK as a by-product. Utilising zero-carbon geothermal power to fuel the extraction process will avoid the water hungry evaporation ponds or carbon-intensive quarrying and extraction processes in the huge open-cast mines that are currently used to mine the majority of lithium produced today.

GEL aims to produce around 100 tonnes per annum (tpa) of Lithium Carbonate Equivalent (LCE) in late 2024 which will be ramped up to at least 1,000 tpa from this site as early as 2026. The company already has planning permission for two other geothermal projects in Cornwall and aim to rapidly expand production to over 12,000 tpa in the UK by 2030. This is enough to produce around 250,000 electric vehicle batteries for an average sized car*. To put this in context, this would have been 94% of the LCE needed to supply the [267,000](#) new Battery Electric Vehicles (BEVs) registered in the UK in 2022**.

The current production of lithium in Europe is far below what is needed to meet the expected demand for electric vehicles, with most of the lithium being supplied by refineries in China. The onshore or EU delivery of lithium is becoming a pressing issue for automotive manufacturers like VW, Ford and Jaguar Land Rover as the 'rules of origin' [deadline, approaching in 2024](#), (currently) will require 60% of battery packs to come from the UK or Europe, else manufacturers will face fines from regulators.

Ryan Law, CEO of Geothermal Engineering Ltd, stated, "We are extremely excited by the high concentration of lithium that we have found in our geothermal wells in Cornwall as it will enable us to produce meaningful quantities of lithium without damaging the environment. Our ability to produce both zero-carbon lithium and zero-carbon baseload power will provide a foundation for the electric car market to be truly sustainable in the UK. The importance of our projects is now being

recognised by the Government with recent grant funding awards and secure contracts for the electricity we produce. This is helping us to secure the further investment required for a rapid roll out of projects to enable the UK to reach its ambitious targets.

Cornwall is in a unique position in hosting these significant lithium and geothermal reserves. We hope that establishing Cornwall as a significant hub for lithium-related activities alongside its exciting geothermal potential, new job opportunities and significant economic growth will be brought to the region.”

Jason Cheng, CEO and Co-Founder of Kerogen Capital, commented: “The high concentration of lithium found at United Downs underpins GEL’s potential to fulfill a significant portion of the UK’s lithium demand. It is an extremely exciting and significant development. Securing the production of domestic zero-carbon lithium will be crucial to the UK’s energy transition, as the demand for batteries for applications such as EVs and grid scale storage continues to grow. We look forward to supporting GEL during this next phase of growth.”

GEL was recently awarded £1.8m by the Automotive Transformation Fund (ATF) Scale up Readiness programme. These funds will be used to fund the 100 tonnes per annum units.

Notes to editors

* The average amount of lithium carbonate equivalent (LCE) per car is 47.4kg. Sources IEA, World Economic Forum, Reuters, Goldman Sachs. GEL production target is 12,000 tonnes of LCE per year. Therefore, number of cars per year is circa 250,000.

** [According to the UK Government](#), 267,000 Battery Electric Vehicles (BEVs) were registered in 2022.

About Geothermal Engineering Ltd

Geothermal Engineering Ltd was established in 2008 to deliver deep geothermal heat and power projects in the UK and abroad. It consists of a team of geologists, engineers and community engagement specialists focused on innovative methods of delivering sustainable energy that benefits local communities. The company’s flagship project is at United Downs in Cornwall, where it has drilled to over 5kms and will switch on power in 2024. The company is backed by Thrive Renewables plc and Kerogen Capital.

www.geothermalengineering.co.uk