Meet the banker with plans to extract lithium from underground Weardale

Global demand for the chemical element lithium is rising thanks to its critical role in the electric vehicle build process, and former investment banker Stewart Dickson is leading a bid to exploit North East supplies.

As an experienced consultant and investor in natural resources projects around the world including gold and gas businesses in Russia, Mr Dickson has turned his attention to east of the Pennines where his company aims to take lithium from geothermal waters that can be accessed from the former Eastgate Cement Works site, near Stanhope. Spurred by massive demand for lithium-ion batteries – which can store more power than other types – Weardale Lithium Ltd wants to repurpose two boreholes that were originally part of a geothermal energy project spearheaded by Newcastle University and One North East.

Mr Dickson told Business Live: “They were on the right lines: they proved elevated temperatures, they proved elevated flow rates and they published elevated lithium levels. For whatever reason, that project never developed but we were able to pick up where they left off. We’ve secured exclusive access to those boreholes and surrounding land.”

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If successful, Weardale Lithium’s plans would see it establish a plant occupying “a number of acres” at the brownfield site that could employ up to 100 people in science and engineering roles. Like its counterpart in Cornwall, the firm is currently at feasibility study stage to asses the quality of quantity of

lithium deposits underground.

A £670,000 grant from the Automotive Transformation Fund is part funding this stage of the project, which will give the business the information it needs to make an investment decision on a pilot facility at the site next year. Once the pilot is completed, full commercial production could take place and could support the North East's emerging strength in electric vehicles – including production at Nissan's Sunderland plant and its adjoining Envision AESC battery plant, and the planned Britishvolt gigafactory at Blyth.

The former Eastgate Cement Works site where Weardale Lithium hopes to establish its operation.
(Image: Supplied by Recognition PR)

Mr Dickson explained: "It's our aspiration to extract lithium from the geothermal waters from the ground underneath Weardale to be refined in the North East and then go into the gigafactories and the car manufacturers in the region. We're absolutely clear about the opportunity in the North East. We believe it has all the ingredients to be the UK's leading hub

for electrification and particularly electric vehicle manufacturing.

“Most people have focussed on batteries and cars to date because they’re the higher value items. But what nobody has focussed on, and why I believe our company is particularly noteworthy, is the sustainability, security and ethics of the raw materials supply required for those vehicles.”

Most of the world’s lithium supply currently comes from hard rock mining, a destructive process that requires significant disruption to the ground, and evaporation ponds in South America. There is no commercial production of lithium from underground saltwater – or “brine” as it is known – of the type Weardale Lithium says brings a lower environmental footprint and is found in places like County Durham, which is ultimately closer to market.

Mr Dickson says he thinks there is broad local backing for the project, which will require planning and environmental consents. The visual impact of the operation on the countryside is said to be negligible. Unlike other mining operations, the extraction process only requires water to be brought up through boreholes which extend between 500 to 2,000 ft below the surface.

Last month Tees Valley Lithium, which is planning to bring a multimillion processing plant to Teesside Freeport, said it was working with Weardale Lithium to supply its North East operation, which could be up and running by late 2023. The research work is helping both business understand what is feasible and profitable.

Mr Dickson added: “There are trade offs between the amount of material you want to send and the concentrations of that material. We’d be trying to minimise transportation across the Wilton where the Tees Valley Lithium facility will be but sending a higher value product for processes. Of course, we’re

look at other routes to market.”

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