



## Project Update: Zero Carbon Lithium™ Project

Vulcan Energy Resources Limited (Vulcan; ASX: VUL, FSE: VUL, the Company) is pleased to provide a project update, from the Zero Carbon Lithium™ Project in the Upper Rhine Valley Brine Field.

### Key Points

#### Project works

- 3D seismic survey works have commenced on the ground in one of Vulcan's planned Phase 2 lithium and geothermal energy development areas, in the Mannheim district of the Upper Rhine Valley Brine Field. Vulcan signed a renewable heat offtake agreement<sup>1</sup> with Vulcan and MVV Energie AG (MVV), the utility for the city of Mannheim, in April 2022.
- These works follow recent approval of the main operating plan by the state directorate, after a thorough review process, which involved the relevant municipalities, technical agencies, and associations.
- Vulcan's 3D seismic survey programme of works in the Insheim license area, where Vulcan has operational wells and plant, were recently successfully completed last month.

#### Pilot Plant

- Vulcan's lithium Pilot Plant has produced all the data needed for the DFS and recently confirmed the highest grade, lowest impurity lithium hydroxide (LiOH) produced to date.
- The Pilot Plant has been successfully operating since April 2021. The pilot plant uses 'live' geothermal brine from Vulcan's commercially operational geothermal plant and operational wells, which enables the team to demonstrate pre-treatment and a sorption-type lithium extraction process, while generating crucial data needed for lithium plant engineering design.
- The Company's in-house lithium extraction team has also successfully developed, tested and demonstrated Vulcan's own in-house lithium extraction sorbent, VULSORB™, which continues to operate successfully.

Vulcan's Managing Director and CEO, Dr. Francis Wedin, said, "As we go into winter, the Vulcan team is working hard towards developing renewable heating production on a mass scale for Central Europe, combined with sustainable, domestic lithium production for the auto industry, from our Zero Carbon Lithium™ Project in the Upper Rhine Valley, the largest lithium resource in Europe. It is encouraging to see timely approvals for, and execution of, our works on the ground, as we systematically execute very large 3D seismic surveys across the region. These surveys allow us to visualise the sub-surface, to employ industry best-practice modelling and planning for our well developments, which are targeting dual geothermal energy and lithium production.

With completion targeted for Q1 2023, the Vulcan team is striving to deliver the DFS, which is a cornerstone framework for Vulcan's progress towards financing and project development. We believe the Zero Carbon Lithium™ project is crucial for Europe, and will help to alleviate the energy crisis, lessen the climate emergency through decarbonisation of energy and lithium production, and mitigate the lithium supply issues for the electrification of the European auto industry.

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<sup>1</sup> VUL ASX announcement entitled "Vulcan executes agreement to supply German energy company, MVV, with renewable, zero carbon heat" released on 6 April 2022.

### Contact

## About Vulcan

Founded in 2018, Vulcan's unique Zero Carbon Lithium™ Project aims to decarbonise lithium production, through developing the world's first carbon neutral, zero fossil fuels business, with the co-production of renewable geothermal energy on a mass scale. By adapting existing technologies to efficiently extract lithium from geothermal brine, Vulcan is aiming to deliver a local source of sustainable lithium for Europe, built around a net zero carbon strategy with a strict exclusion of fossil fuels. Already an operational renewable energy producer, Vulcan will also provide renewable electricity and heat to local communities.

Vulcan's combined geothermal energy and lithium resource is the largest in Europe, with license areas in the Upper Rhine Valley, Germany, and in Italy. Strategically placed in the heart of the European electric vehicle market to decarbonise the supply chain, Vulcan is rapidly advancing the Zero Carbon Lithium™ Project to ensure timely market entry, with the ability to expand to meet the unprecedented demand that is building in the European markets.

Guided by our Values of Integrity, Leadership, Future-focused and Sustainability, and united by a passion for environmentalism and leveraging scientific solutions, Vulcan has a unique, world-leading scientific and commercial team in the fields of lithium chemicals and geothermal renewable energy. Vulcan is committed to partnering with organisations who share its decarbonisation ambitions and has binding lithium offtake agreements with some of the largest cathode, battery and automakers in the world. As a motivated disruptor, Vulcan will leverage its expert multidisciplinary team, leading geothermal technology and position in the European EV supply chain to be global leaders in the production of zero fossil fuel, carbon neutral lithium, while being nature positive. Vulcan aims to be the largest, most preferred, strategic supplier of lithium chemicals and renewable power and heating from Europe, for Europe; to empower a net zero carbon future.





### Corporate Directory

|                             |                   |
|-----------------------------|-------------------|
| Managing Director and CEO   | Dr. Francis Wedin |
| Chairman                    | Gavin Rezos       |
| Deputy CEO                  | Cris Moreno       |
| Non-Executive Director      | Ranya Alkadamani  |
| Non-Executive Director      | Annie Liu         |
| Non-Executive Director      | Dr. Heidi Grön    |
| Non-Executive Director      | Josephine Bush    |
| Non-Executive Director      | Dr. Günter Hilken |
| Non-Executive Director      | Mark Skelton      |
| Executive Director, Germany | Dr. Horst Kreuter |
| Company Secretary           | Daniel Tydde      |

### For and on behalf of the Board

Daniel Tydde | Company Secretary

### Media and Investor Relations contact

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### Reporting calendar

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|--------------------------|------------------------|
| <b>29 November 2022</b>  | Annual General Meeting |
| <b>30 January 2023</b>   | December Quarterly     |
| <b>31 March 2023</b>     | Annual Report          |
| <b>28 April 2023</b>     | March Quarterly        |
| <b>30 May 2023</b>       | Annual General Meeting |
| <b>28 July 2023</b>      | June Quarterly         |
| <b>15 September 2023</b> | Half Year Report       |
| <b>27 October 2023</b>   | September Quarterly    |

### Disclaimer

Some of the statements appearing in this announcement may be in the nature of forward-looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which Vulcan operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward-looking statement. No forward-looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside Vulcan's control.

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### Competent Person Statement:

The information in this report that relates to Mineral Resources and Ore Reserves (respectively) of the Company's Zero Carbon Lithium™ is extracted from the ASX announcements made by Vulcan on 15 December 2020 ("Updated Ortenau Indicated and Inferred Resource") and 15 January 2021 ("Positive Pre-Feasibility Study"), which are available on [www.v-er.eu](http://www.v-er.eu). The information in this report that relates to Insheim's Mineral Resources is extracted from the ASX announcement made by Vulcan on 20 January 2020 ("Maiden Indicated Resource Insheim Vulcan Zero Carbon Lithium"), which is available on [www.v-er.eu](http://www.v-er.eu). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.