

Quarterly Activities Report for the Period ending 31 March 2024

During the period ending 31 March 2024 (the Quarter), Vulcan Energy Resources Limited (Vulcan, ASX: VUL, FSE: VUL, the Company) has continued its progress towards execution of Phase One of Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project (the Project).

Highlights from the Quarter

- After preliminary due diligence, Phase One of the Project advanced to the "Under Appraisal" stage of EIB financing. EIB's proposed financing could amount to up to €500m (~A\$825m), pending completion of due diligence, credit approval and legal agreement, and is subject to EIB's governing bodies approval.
- Ms Felicity Gooding was appointed to the role of Group Chief Financial Officer (CFO) for the Vulcan Group. Ms Gooding has significant large scale project financing and multinational experience and has joined Vulcan at an opportune time with Vulcan's Phase One debt and project level equity finance program underway.
- Vulcan won the 2024 Ruggero Bertani European Geothermal Innovation Award by the European Geothermal Energy Council, recognising Vulcan's Lithium Extraction Optimisation Plant (LEOP) as the first plant worldwide to produce a sustainable green lithium chloride product.
- Vulcan's 2024 Prospective Life Cycle Assessment was updated based on outcomes of the Bridging Engineering Study, resulting in a forecast of 4.1 million tonnes of absolute avoided CO₂ equivalent emissions within the first ten years from Phase One of the Project.

Highlights of subsequent events

- First Lithium Chloride (LiCl) produced from Vulcan's LEOP, the first lithium chemicals domestically produced from a local source in Europe, for Europe.
 - LEOP is showing strong early results with consistently over 90% (up to 95%) lithium extraction efficiency from its Adsorption-type Direct Lithium Extraction (A-DLE) unit.
- The main structural frame has been erected at Vulcan's Central Lithium Electrolysis Optimisation Plant (CLEOP), at Industrial Park Frankfurt-Höchst, and main equipment packages including the crystalliser and the electrolyser have been installed.
 - On 9 April Vulcan held the Topping-Out Ceremony onsite marking the highest point in the structural frame of CLEOP.

Mr Cris Moreno, Managing Director and CEO commented: “We kicked off a pivotal year for Vulcan with a first Quarter that sets the course for delivering on our plan for 2024 and beyond.

During the Quarter, we have seen strong tailwinds supporting our strategy, with the proposed financing from the European Investment Bank (EIB) of up to €500m (~A\$825m). This progression in EIB’s financial appraisal is a positive step forward in the financing process and is a strong signal of confidence towards completion of our Phase One debt and project level equity financing.

Our core focus now and in the coming months is on consistent production of Europe’s first fully domestically produced lithium chemicals from Vulcan’s optimisation plants. With the start of production at LEOP in early-April, we have taken a major step towards revolutionising domestic lithium raw material supply for Europe’s Battery industry.”

Health and Safety

- There were no recordable lost time injuries (LTIs) during the Quarter.

Integrated Renewable Energy and Lithium Production

Geothermal Operations

- Operations continued at Vulcan’s Natürlich Insheim geothermal renewable energy plant (Figure 1), with production of 5.740 MWh of gross baseload, renewable power, at an average selling price of €0.248/kWh, with €1.42 million gross revenue generated.
- During the Quarter, as part of the joint publicly and privately funded GEOSMART project which is designed to test the supply of renewable heat to local communities, further progress occurred on the construction and commissioning of the components (heat exchangers, air-coolers, thermal energy storage, piping system and atomisation control) for district heating. Additionally,
 - GEOSMART project outcomes, including the testing of different modes of operation for flow and renewable heat supply, are planned for end of Q3 2024.



Figure 1 Vulcan's Natürlich Insheim geothermal renewable energy wells and plant.

Lithium Extraction and Optimisation Plant (LEOP)

- During the Quarter, significant advancements were made onsite at Vulcan's LEOP to enable the Start of Production (SOP).
- Subsequent to the Quarter, SOP was triggered when care, custody and control of LEOP was handed over to the operations team to focus on producing and optimising LiCl, as announced on 11 April 2024.
- Early results have consistently recorded over 90% (up to 95%) lithium extraction efficiency from its A-DLE unit¹.
- To extract lithium from brine, Vulcan is using A-DLE, which is a highly efficient, highly sustainable commercially proven process, and accounts for 10% of global lithium production today.
- Representing a more than €40m investment by Vulcan, LEOP is an optimisation, operational training and product qualification testing facility designed to enable operational readiness for when the Phase One commercial facility is completed.
- LEOP builds on over three years and more than 10,000 hours of successful in-house A-DLE piloting both in the Vulcan labs and at its pilot plants in Insheim and Landau.
- On 29 February, Vulcan was awarded the 2024 Ruggero Bertani Geothermal Innovation Award by the European Geothermal Energy Council for its LEOP (Figure 2). The award, in its 10th year, recognised LEOP as an innovative project designed to revolutionise the production of sustainable lithium in

¹ <https://www.investi.com.au/api/announcements/vul/16999da3-dff.pdf>

Europe. The 2024 award was given for demonstrating that geothermal fluids can be used beyond harnessing energy in the form of power and/or heat to extract critical raw materials, such as lithium, locally in a sustainable manner.

- Interest in Vulcan's LEOP remained high throughout the Quarter, with visits from Deputy Prime Minister and Minister of the Interior of Baden-Württemberg, Thomas Strobl, members of the German Parliament, several regional political groups, the University of Karlsruhe (KIT), potential strategic investors, and related industry as well as several regional interest groups.



Figure 2 Chief Representative for Germany, Dr. Horst Kreuter receiving the 2024 Ruggero Bertani Geothermal Innovation Award.



Figure 3 Vulcan's LEOP in Landau, Germany.

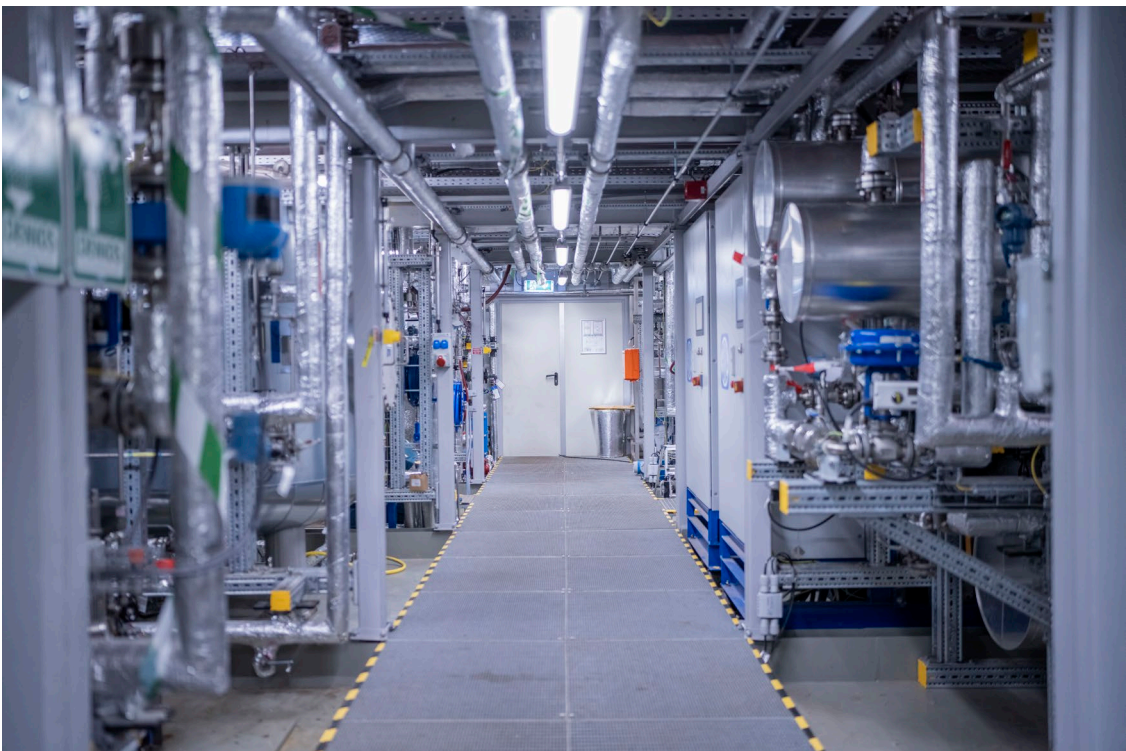


Figure 4 Inside Vulcan's LEOP.

Central Lithium Electrolysis Optimisation Plant (CLEOP)

- The LiCl produced at LEOP will be transported to Vulcan’s downstream CLEOP in Industrial Park Frankfurt-Höchst, where the LiCl will be converted into battery grade Lithium Hydroxide Monohydrate (LHM).
- Subsequent to the Quarter, the main structural frame was erected, and main equipment packages were installed including the electrolyser and crystalliser.
- Vulcan celebrated the Topping-Out ceremony (“Richtfest”)(Figure 6) of CLEOP on 9 April, in an event attended by several local stakeholders and partners, including Dr. Joachim Kreysing, CEO of Infraser GmbH & Co. Höchst KG.
- CLEOP is expected to start commissioning in Q2, 2024 with the first production of sustainable LHM shortly thereafter.
- CLEOP will focus on optimising operating conditions and training the production team, whilst the commercial Phase One Central Lithium Plant (CLP) will be constructed in the same Industrial Park.
- The battery grade LHM produced by CLEOP will be tested by Vulcan’s lithium offtake partners Stellantis, Volkswagen, Renault, Umicore and LG Energy Solution.

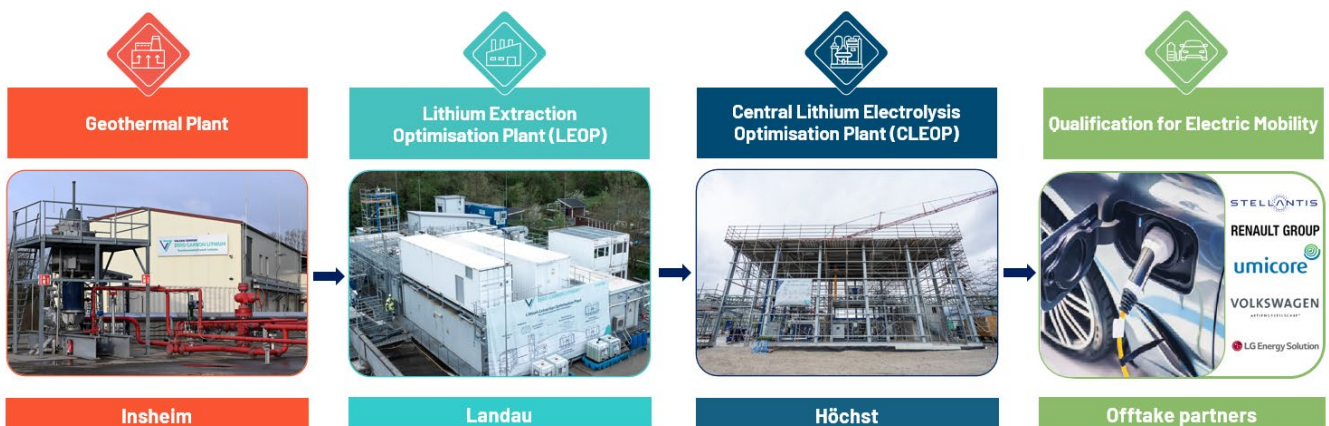


Figure 5 Process flowsheet of Vulcan's optimisation plants.



Figure 6 Vulcan's CLEOP Topping-Out Ceremony, Industrial Park Frankfurt-Höchst.



Figure 7 Vulcan's CLEOP, Industrial Park Frankfurt-Höchst.



Figure 8 Inside Vulcan's CLEOP.

Phase One Execution Readiness

- Progress continues to be made on de-risking Phase One execution, including engineering works, permitting and land acquisition for remaining Phase One areas.
- The Project construction and commissioning timeline remains on track at 2.5 years, from start of construction to start of first production of LHM, as quoted in the Bridging Engineering Study and will commence on completion of the Phase One financing process.

Commercial and Financing

European Investment Bank (EIB) Proposed €500m (~A\$825m) Financing for Phase One

- During the Quarter, Vulcan announced that the Project appears potentially suitable for financing by the EIB and has advanced to the "Under Appraisal" stage.
- The EIB is the lending arm of the European Union (EU) and is one of the largest climate finance providers in the world. EIB's proposed financing could amount to up to €500m (~A\$825m), pending completion of due diligence, credit approval and legal agreement, and subject to EIB's governing bodies approval.
- This signal of confidence strengthens Vulcan's position to successfully complete its Phase One debt and project level equity financing.

Progress on Phase One financing

- During the Quarter, Vulcan has been focused on progressing its Phase One project level equity and debt financing process, led by BNP Paribas.
- The first phase of the project level equity financing process progressed well with strong interest from corporates and institutions from the energy, infrastructure investing and offtake sectors.
- The next phase of the debt process is on track to commence in early May.
 - Vulcan has been working with the Lenders' Independent Technical Advisor and the Environmental and Social (E&S) Advisor to complete its review of the Project, as well as reviews by the Lenders' Market Advisor and legal due diligence reports. These reports are now largely complete.
 - Vulcan has appointed the Lenders' Insurance Advisor and started to work with the Lenders' Legal Advisor in order to launch these due diligence work streams soon. Other Lenders' advisors will be appointed over the coming weeks.
 - Structuring banks (Technical and E&S, Market, Legal and Insurance) have also been appointed.
- Vulcan has applied for substantial public grant funding for the Project from various sources, and progress was made with these workstreams during the Quarter. Vulcan has adjusted its financing process to allow for these potential sources of funding, subject to a successful application, to potentially be incorporated into the financing stack. Financing is expected to be completed during H2 2024.

Ms Felicity Gooding Appointed to Group CFO

- On 15 January, Vulcan appointed Ms Felicity Gooding to the role of Group Chief Financial Officer (CFO) of the Vulcan Group.
- Ms Gooding is a senior finance executive and leader with over 20 years' experience in strategic and financial analysis, debt funding (including acting as joint project leader in obtaining expansion finance for Fortescue Limited totalling US\$3.5b), corporate finance, mergers and acquisitions, management and financial accounting and governance within Australia, Singapore, London and Washington DC.
- Ms Gooding's extensive experience with large-scale financing will assist the Company during the financing of the multiple phases of Vulcan's Zero Carbon Lithium™ Project, of which Phase One financing is already underway.

European policy update

- The Critical Raw Materials Act (CRMA) and the Net Zero Industry Act (NZIA) are flagship legislative initiatives of the Green Deal Industrial Plan that the European Commission first presented on 1 February 2023. Both initiatives present potential tailwinds for Vulcan and its Phase One Project with their strong focus on fast-tracking the processes for obtaining permitting and funding for sustainable technologies that can enable the reduction of net greenhouse gas emissions by at least 55% by 2030 and further reductions thereafter.

- On 11 April 2024 the European CRMA was formally signed by co-legislators (European Council and European Parliament). The CRMA EU Commission has established a list of 34 critical raw materials (16 strategic including lithium) and sets targets to increase the EU contribution of these materials (10% from local extraction; 40% for the processing and 25% to come from recycled materials).
- On 6 February 2024, the German government announced the creation of a €1b investment fund to fortify the nation's access to critical raw materials essential for high-tech and green projects; this will be managed by the state-owned KfW development bank. Initial details indicate a selection process will be established to determine eligible projects, including in extraction, processing, and recycling materials. Vulcan believes this decision to invest further in the development of domestic raw material projects comes at an important time, as it progresses on its execution plan of Phase One of the Project.

VERCANA – Vulcan's inhouse geothermal well delivery company

- The commissioning of the V20 drill rig continues. During the Quarter Vercana received final design approval of the rig V20 and its harness installation from the mining authority.
- The refurbishment of Vulcan's V10 drill rig remains ongoing, completion of the V10 refurbishment is planned for Q3 2024.
- The V20 and V10 drill rigs, both owned by Vulcan, are two of just seven deep drill rigs licenced to operate across Germany. Both drill rigs are capable of running fully on electricity from the grid.

Environmental, Social and Governance (ESG)

- During the Quarter Vulcan updated its Minviro Prospective Life Cycle Assessment (LCA) based on the Bridging Study released 16 November 2023 in which:
 - Vulcan's cradle-to-gate process of producing LHM was estimated to have an absolute avoided emissions impact of 4.1 million tonnes of CO₂ eq. when fully operational² (Figure 9), over the first ten years of production from Phase One of the ZERO CARBON LITHIUM™ Project; and
 - climate change impact was currently assessed as negative 2.0kg CO₂ eq. per kg LHM³.
- Total net water use impact is 0.3m³ world eq. per kg LHM⁴ which is significantly smaller than comparative lithium extraction methods globally⁵.
- The LCA is being used as an evaluation tool to assist Vulcan's debt and project level equity financing process by providing further information on the environmental impacts and risks associated with the lithium produced from the Project.

² GHG Avoided Emissions: Minviro Preliminary Results 12/03/2024.

³ Climate change impact: Minviro prospective life cycle assessment study of lithium hydroxide monohydrate production at the zero carbon lithium™ project 12/03/2024.

⁴ Water usage: Minviro prospective life cycle assessment study of lithium hydroxide monohydrate production at the zero carbon lithium™ project 12/03/2024

⁵ Minviro lithium hydroxide monohydrate life cycle assessment, 2020

Cumulative Absolute Avoided GHG Emissions Over 10 Years for Phase One

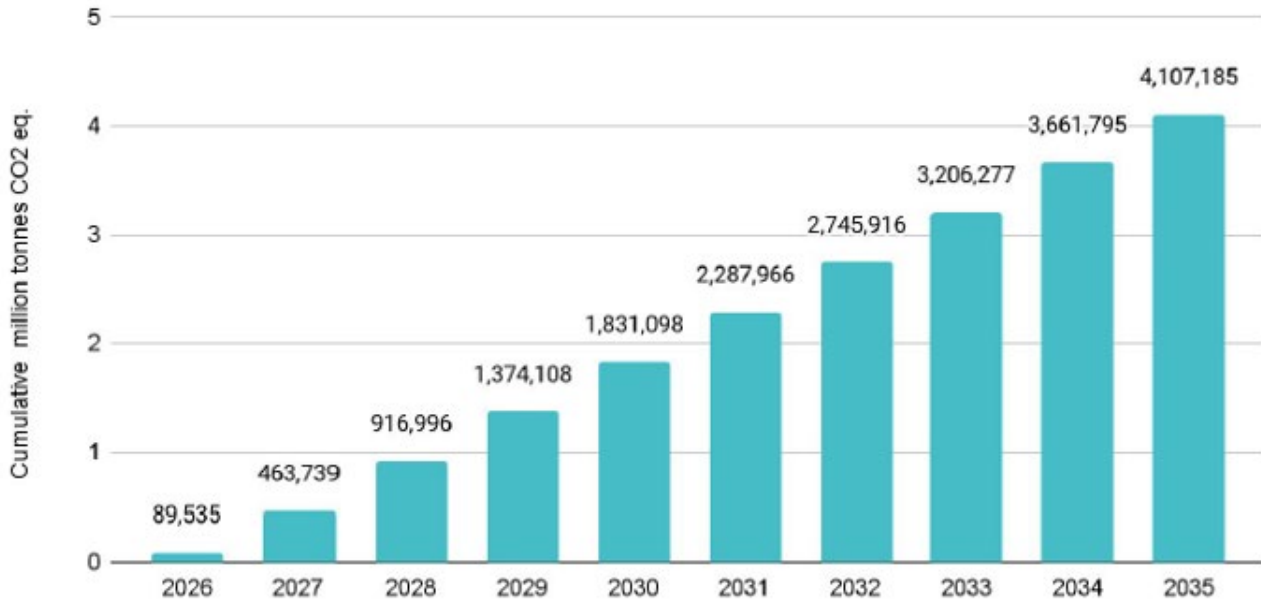


Figure 9 The target absolute avoided impact of GHG emissions over 10 years from 2026 to 2035 more than 4.1 million tonnes CO₂ eq. for Phase One.

Additional ASX Disclosure Information

ASX Listing Rule 5.3.1: Exploration and Evaluation expenditure during the Quarter was €2.8 million. Expenditure related to well site preparation, planning for the upcoming project execution and interpretation costs. Interpretation costs include capitalised costs from Vulcan Energy Subsurface (VES) and Vulcan Energie Ressourcen GmbH staff costs where time was allocated to Vulcan licence areas.

ASX Listing Rule 5.3.2: Development expenditure during the Quarter was €22.8 million. Expenditure predominately related to construction of the Lithium Extraction Optimisation Plant (€5.3 million) and Central Lithium Electrolysis Optimisation Plant (€1.3 million), refurbishment costs for Vulcan's two electric drill rigs (€5.3 million), payments for casing and critical spares relating to the upcoming brine field execution plan (€2.1 million) and well site preparatory works at Schleidberg (€6.2 million).

ASX Listing Rule 5.3.3: During the Quarter, no licences were granted or relinquished.

ASX Listing Rule 5.3.5: Payments to related parties of the Company and their associates during the Quarter per section 6.1 of the Appendix 5B amounted to €235,000. This is comprised of an allocation of the Managing Director remuneration of €32,000, Executive Chair remuneration of €101,000 and Non-Executive Director fees of €102,000. Payments to related parties of the Company and their associates during the Quarter per section 6.2 of Appendix 5B total €62,000. This amount is an allocation of the Managing Director's remuneration for work done on exploration activities associated with the Vulcan ZERO CARBON LITHIUM™ Project. Please see the Remuneration Report in the 2023 Annual Report for further details on Directors' Remuneration.

Mineral Resources and Ore Reserves updates during the Quarter

Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project Lithium (Li) brine Mineral Resource estimates⁶, as well as Mineral Reserve estimates, did not change during the Quarter.

⁶ Note: see Competent Person Statement at the end of this document

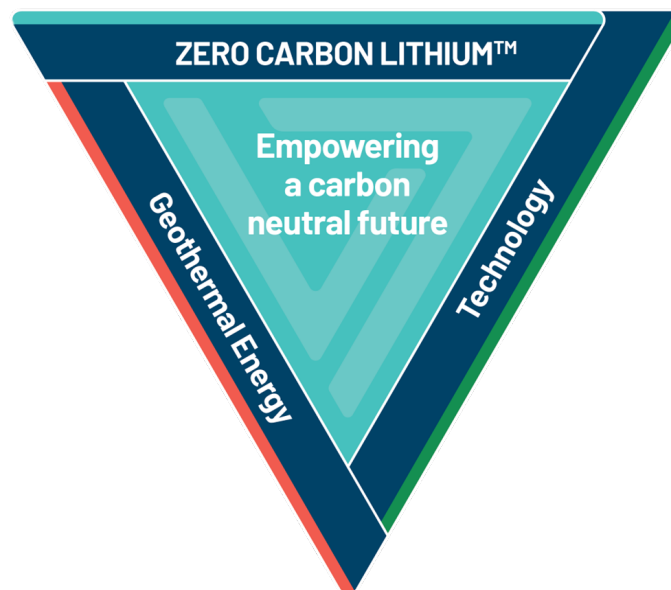
Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project licence table

NAME	STATE	RESOURCES APPLIED FOR	AREA (KM ²)	EXPIRY	OWNERSHIP AS AT 30 JUNE 2023	CHANGE IN OWNERSHIP	TYPE
Ried	Hessen	Geothermal, brine & lithium	289.92	07.2025	100 % VER GmbH	N/A	exploration
Luftbrücke	Hessen	Geothermal, brine & lithium	207.25	9.2026	100 % VER GmbH	N/A	exploration
Rift-Nord (or Rift)	RLP	Geothermal & lithium	61.83	06.2027	50% interest in licence, with 100% ownership of first new production project developed	N/A	exploration
Waldnerturm	BW	Geothermal, brine & lithium	20.43	12.2024	100 % VER GmbH	N/A	exploration
Lampertheim II	Hessen	Geothermal, brine & lithium	1.99	07.2024	100 % VER GmbH	N/A	exploration
Ortenau II	BW	Geothermal, brine & lithium	374.10	12.2025	100 % VER GmbH	N/A	exploration
Mannheim	BW	Geothermal, brine & lithium	144.49	06.2024	100 % VER Pty Ltd	N/A	exploration
Taro	RLP	Geothermal	32.68	08.2025	100% GGH (part of VER Group)	N/A	exploration
Lisbeth	RLP	Lithium		09.2024	100 % VER GmbH	N/A	exploration
Ludwig	RLP	Geothermal & lithium	96.34	12.2024	100 % VER GmbH	N/A	exploration
Therese	RLP	Geothermal & lithium	81.12	12.2024	100 % VER GmbH	N/A	exploration
Lampertheim	Hessen	Geothermal, brine & lithium	108.03	07.2024	100 % VER GmbH	N/A	exploration
Kerner	RLP	Geothermal & lithium	72.26	12.2024	100 % VER GmbH	N/A	exploration
Löwenherz	RLP	Geothermal & lithium	75.43	12.2024	100 % VER GmbH	N/A	exploration
Flaggenturm	RLP	Geothermal	166.75	12.2024	100 % VER GmbH	N/A	exploration
Fuchsmantel	RLP	Lithium		07.2025	100 % VER GmbH	N/A	exploration
Landau-Süd	RLP	Geothermal	19.41	05.2034	JV and brine offtake agreement Geox	N/A	production
Ilka	RLP	Lithium		11.2025	JV and brine offtake agreement Geox	N/A	exploration
Insheim	RLP	Geothermal	19.00	11.2037	100% Natürlich Insheim GmbH	N/A	production
LiThermEx	RLP	Lithium		03.2025	100% Natürlich Insheim GmbH	N/A	exploration

Table 1 Vulcan's Licences as at 31 March 2024.

About Vulcan

Founded in 2018, Vulcan's purpose is to empower a carbon neutral future, through the co-production of lithium, heat and renewable energy from geothermal brine. Vulcan is focused on delivering the world's first integrated renewable energy and ZERO CARBON LITHIUM™ Project. By adapting existing technologies to efficiently extract lithium from geothermal brine, Vulcan aims to deliver a local source of sustainable lithium for Europe, built around a carbon neutral strategy with 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 Europe¹, with licence areas focused on the Upper Rhine Valley, Germany. Purpose We will empower a carbon neutral future Mission Becoming Europe's leading ZERO CARBON LITHIUM™ business and enabling energy security through geothermal energy. 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 target 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 Climate Champion, Determined and Inspiring, and united by a passion for the environment 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 that 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 aims to leverage its multidisciplinary expert team, leading geothermal technology and position in the European EV supply chain to be a global leader in producing carbon neutral lithium. 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 carbon neutral future.



¹According to public, JORC-compliant data. See Upgrade of Zero Carbon Lithium™ Project Resources, 29 September 2023

Corporate Directory

Executive Chair	Dr. Francis Wedin
Managing Director and CEO	Cris Moreno
Group CFO	Felicity Gooding
Deputy Chair	Gavin Rezos
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
Chief Representative GER	Dr. Horst Kreuter
Company Secretary	Daniel Tydde

For and on behalf of the Board

Daniel Tydde | Company Secretary

Media and IR contact

International:

Annabel Roedhammer, Vice President Communications | aroedhammer@v-er.eu.

Please contact Vulcan's Legal Counsel Germany, Dr Meinhard Grodde, for matters relating to the Frankfurt Stock Exchange listing on mgrodde@v-er.eu.

Reporting calendar

29 July 2024	June Quarterly
12 September 2024	Half Year Report
29 October 2024	September Quarterly
30 January 2025	December 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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Vulcan has carried out a definitive feasibility study ("DFS") and bridging engineering study ("Bridging Study") for Phase One of its Zero Carbon Lithium™ Project ("Project"), the results of which were announced to the ASX in the announcements "Zero Carbon Lithium Project Phase 1 DFS Results" dated 13 February 2023 ("DFS Announcement") and "Positive Zero Carbon Lithium™ Project Bridging Study Results" on 16 November 2023 ("Bridging Study Announcement"). This announcement may include certain information relating to the DFS and the Bridging Study. The DFS and Bridging Study are based on the material assumptions and parameters outlined in their respective announcements. While Vulcan considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Bridging Study or DFS will be achieved. This presentation may also include certain information relating to Phase 2 of its Project, Vulcan has not yet carried out a definitive feasibility study for Phase Two of its Project.

Competent Person Statement

The information in this announcement that relates to estimates of Mineral Resources and Ore Reserves is extracted from the Bridging Study Announcement which is available to view on Vulcan's website at www.v-er.eu. Vulcan confirms, that in respect of the estimates of Mineral Resources and Ore Reserves included in this announcement:

- a) it is not aware of any new information or data that materially affects the information included in the original market announcement, and that all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed;
- b) the form and context in which the Competent Persons' findings are presented in this announcement have not been materially modified from the original market announcement; and
- c) all material assumptions underpinning the production targets (and the forecast financial information derived from such production targets) included in this announcement continue to apply and have not materially changed.