

## **Quarterly Activities Report June 2023**

Vulcan Energy Resources Limited (Vulcan; ASX: VUL, FSE: VUL, the Company) has continued its transformation into a project execution company, focused on delivering Phase One of the Zero Carbon Lithium™ Project.

### **Highlights**

- ✓ Cris Moreno appointed as Managing Director and CEO, and Dr. Francis Wedin transitions to Executive Chair, to ensure the right skills are in place to lead the delivery of Phase One of the Zero Carbon Lithium™ Project.
- ✓ Senior appointments brought into the team from the oil and gas, battery and Tier One EPC industries to support Phase One project execution.
- ✓ Binding Term Sheet executed with SLB for provision of drilling services for a minimum of 15 production and re-injection wells, for production of renewable heat and lithium from Vulcan's Zero Carbon Lithium™ Project.
- ✓ Vulcan's Lithium Extraction Optimisation Plant (LEOP) enters final stages for mechanical completion. Once operational, this plant will produce the first tonnes of domestically produced lithium chemicals in Europe.
- ✓ Vulcan and Stellantis mark their fourth agreement together, with a joint project to develop renewable energy supply for the Mulhouse automotive plant in France.
- ✓ Land packages acquired for key Phase One production/re-injection sites, to increase Vulcan's current brine production.
- ✓ EUR 66m (A\$109m) institutional placement successfully completed, supported by existing major shareholders, for preparatory works towards Phase One project execution.
- ✓ Initial market sounding for debt financing conducted by BNP Paribas with international commercial and development banks was completed, with positive feedback.
- ✓ Government-backed Export Credit Agencies (ECAs) confirmed in-principal support from France, Italy and Canada. The French ECA confirmed that Vulcan will be eligible as a Strategic Project of national importance, based on Vulcan's lithium offtake agreements with French OEMs.
- ✓ Bridging Phase engineering is ongoing for Phase One, working towards securing an EPCM contractor, which will include an updated execution schedule, CAPEX/OPEX, due to be completed in Q4 of this year.

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Mr. Cris Moreno and Dr. Francis Wedin, MD-CEO and Executive Chair respectively effective 1 July, jointly commented: *"During the Quarter, we completed our transformation into a project execution company, focused on delivering Phase One of our world-leading Zero Carbon Lithium™ Project, in a methodical, stepwise manner. We have made significant progress, including on permitting and land acquisition, and on construction of our Lithium Extraction Optimisation Plant (LEOP), after three years of successful piloting of our lithium extraction.*

*"During the next Quarter, we are looking forward to starting up LEOP, which will represent the first tonnes of domestically produced lithium chemicals production in the EU, a significant leap forward for the battery value chain in Europe. LEOP will help to ensure operational readiness by the time commercial Phase One is fully delivered.*

*"We are fully focused on delivery of Phase One, at a time when Europe's and Germany's vulnerabilities to restriction of critical raw materials supply have become an increasingly urgent problem to fix. We are also working with local stakeholders to build out our renewable energy production on a much larger scale as part of Phase One delivery, at a time when the Climate Crisis is becoming a serious, tangible issue for Europe."*

## Integrated Zero Carbon Lithium™ and Renewable Energy Project

### Production

- A workover of the production well pump at Vulcan's production/re-injection well site was safely carried out during the first half of the Quarter, including some maintenance activities brought forward, and returned to operations in mid-May.
- Operations continued at Vulcan's Natürlich Insheim geothermal renewable energy wells and plant, with production of 2,282 MWh of gross baseload, renewable power, at an average selling price of €0,252/kWh.
- Key political figures visited the Insheim plant during the Quarter including Malu Dreyer, Prime Minister of Rhineland-Palatinate and Parliamentary State Secretary Michael Theurer, signifying the profile of Vulcan and importance of the Project to the local, state and federal stakeholders.

### Phase One project execution

- To ensure continued success and focus as Vulcan transitions from the development to the execution phase, Cris Moreno commenced as Managing Director and CEO on 30 June. Cris has extensive experience across the energy and chemicals sectors. Succession planning has been a strategic focus for core leadership and the Board. As a consequence

of the move of Cris to MD and CEO, Dr. Francis Wedin transitioned to Executive Chair, and Gavin Rezos moved to Non-executive Deputy Chair.

- The Project Execution team was also significantly strengthened with Senior appointments joining the team from the oil and gas, battery, and Tier One EPC industries.
- Land packages were acquired for key Phase One production/re-injection sites, to increase Vulcan's current brine production.
- Vulcan signed a Binding Term Sheet (BTS) with SLB, (previously Schlumberger) for services related to the Phase One development of further production and re-injection wells to increase current geothermal-lithium brine production from Vulcan's Zero Carbon Lithium™ Project. Vulcan will harness the decades of subsurface knowledge SLB can offer to execute drilling services for a minimum of 15 production and re-injection wells to produce renewable heat and lithium-bearing brine to increase Vulcan's brine production from its current operations. Part of this agreement includes providing services in kind for US\$3.6million to support the optimisation of workflows to maximise performance.
- Drill rig refurbishment for Rig V10 is ongoing as planned while Rig V20 refurbishment is close to be completed after top drive test and installing high pressure lines finished. Pre-commissioning and rig move to site are the next steps for V20.
- Following completion of the Phase One DFS in the first Quarter, Vulcan is in the final stages of completing its Bridging Phase Engineering with Hatch Ltd. Completion of this work will enable finalisation of key EPCM contracts. This will also form the basis to proceed with debt and equity financing workstreams. As part of this, Vulcan is updating its execution schedule, including incorporation of CAPEX reduction measures and actions taken to reduce the overall risk profile of the Project. Vulcan is targeting completion of this work in calendar Q4 23, and intends to provide an updated execution schedule and CAPEX/OPEX estimates at this time. Debt and equity financing workstreams for Phase One will formally commence at the same time.

### Lithium Extraction and Optimisation Plant (LEOP)

- During the Quarter, Vulcan entered the final stages towards mechanical completion of LEOP, which remains on track for August. All major structures, including the crystalliser and multidisciplinary equipment, have been installed, together with interconnecting pipework. The remaining mechanical works and electrical fit out are in the final stages of completion.
- Pre commissioning will commence last week in July.
- Once operational the lithium chloride will be transported to Vulcan's Central Lithium Electrolysis Optimisation Plant (CLEOP) in Höchst to produce Lithium Hydroxide, as the final product. This sustainable lithium, produced with renewable energy, will signify the

birth of the first domestically produced lithium chemicals industry in Europe, for the battery electric vehicle industry.



*Figure 1 Installation of Crystallizer at LEOP, Landau*



*Figure 2 Electrical installation LEOP, Landau*

### Future development and project pipeline

- Vulcan and Stellantis signed a fourth agreement together. This agreement represents the first joint project in France for the potential use of geothermal renewable energy to decarbonise and localise the energy supply for Stellantis' European operations. The agreement with Stellantis increases Vulcan's potential decarbonising impact on the European electric vehicle industry, complementing the planned carbon avoidance impact from its Zero Carbon Lithium™ Project.

Whilst Vulcan's core focus remains on execution of its integrated Phase One commercial lithium and renewable energy project, in the centre of the Upper Rhine Valley Brine Field, this project is a complementary opportunity to expand future development pipeline into the French region of the Upper Rhine Valley. Vulcan's partnership with Stellantis is long standing and one of sustainable growth.



### Environment, Social and Governance (ESG)

- Vulcan added 44 Full Time Employees (FTE) during the quarter, making a total FTE figure of 316, made up of personnel from 26 different countries, and which includes 30% women.
- During the Quarter Vulcan also brought in key expertise Oil and Gas (O&G) industry to lead the Phase One project execution. Vulcan's Zero Carbon Lithium™ Project is leveraging complementary skills from the O&G industry to deliver Phase One and aligned with the Just Transition strategy.
- In line with Vulcan's current transition to the execution phase and the addition of key management roles, the team have focused attention this Quarter on Procurement and Supply Chain management. Notable advances include the creation and distribution of Vulcan's supplier pre-qualification ESG survey. Establishment and first meetings held for the internal Supply Chain Council to approve large procurement contracts, and embedding ESG requirements within Vulcan's contractor terms and conditions to ensure Vulcan's ESG commitments and values are upheld through our Tier One partnerships. The team will continue to build on this foundation in the coming months and work with the supply chain team to manage, mitigate, reduce and report ESG impacts.
- Vulcan has implemented a new "OneVulcan" company-wide organisational structure redesign to meet the demands of delivering the Phase One project and ongoing future operations. The new OneVulcan leadership structure became effective across the business on 7 July and will draw the teams closer together, streamlining internal communications and facilitate open collaboration across international borders and departments. Given the accelerated growth of the company, this new OneVulcan leadership structure will provide the basis for the successful execution of Phase One.

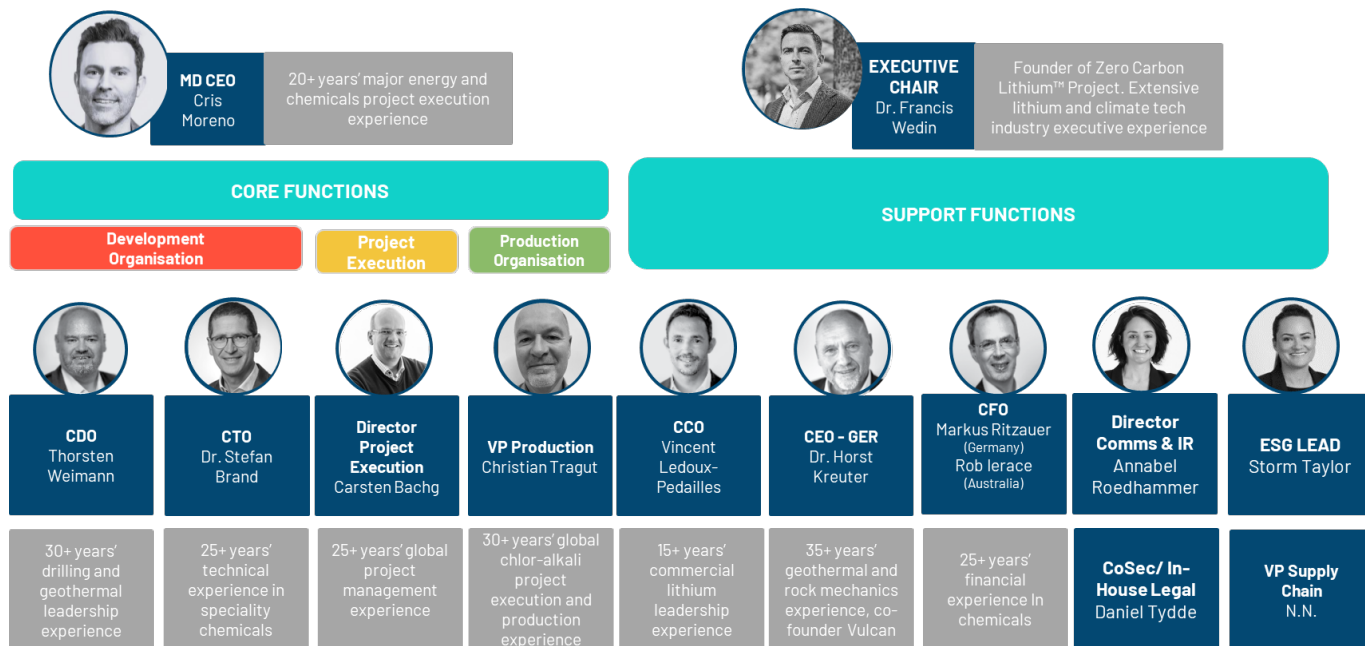


Figure 3 Vulcan Leadership Team

- Vulcan has put extensive focus on the participatory involvement of political stakeholders on all three political levels, as well as on communication with the public and NGOs. To be successful in project execution, a relationship of trust is required with all stakeholders involved. This can be achieved primarily through the participatory involvement of stakeholders. Through the establishment of several participation workshops, representatives of the municipalities and public interest groups can contribute their feedback to the Project. Through other formats, we also guarantee a permanent and transparent flow of information about the current project progress in the respective project region.
- During the Quarter, multiple political meetings, public workshops, public tours of the Insheim plant, presentations of the Project, and use of the Vulcan's "info-truck" at public events were carried out, with a focus on Vulcan's Phase One area.

## Commercial

- During the Quarter, Vulcan successfully raised A\$109m (€66m) before costs from institutional investors in Australia, Europe, the US and Hong Kong, with funds to be put mainly towards preparatory works for the execution of the Phase One commercial project.
- Vulcan currently has €148m (\$242m) cash and no debt at the end of June.

- Vulcan has extended the Term Sheet with Nobian GmbH<sup>1</sup>, allowing both parties to continue negotiations on a non-exclusive basis in relation to the strategic partnership regarding Vulcan's Central Lithium Plant, with an automatic termination date of 31 December 2023 unless extended by both parties. All other provisions of the Term Sheet remain in full force and effect.

#### Subsequent to the Quarter

- During the early weeks of July, Vulcan received positive local development and permitting progress towards delivery of Phase One of Vulcan's Zero Carbon Lithium™ Project.
- The Landau City Council has formally approved a decision to enter contractual negotiations with Vulcan, to acquire an area of land to construct its integrated Geothermal renewable energy and Lithium Extraction Plant (G-LEP). The G-LEP site is within the planned Landau industrial park "Am Messegelände Südost".
- In addition, in the same Phase One project area, the State Mining Directorate has approved the first Main Operating Plan for Vulcan's newly planned wells in its Insheim license, where Vulcan is already operating commercial geothermal wells and plant.
- The city of Bad Dürkheim voted in favour of Vulcan's plans of future phases of development, to build a further G-LEP on the "Bruch" industrial park site.
- The Neustadt City Council has approved and requested that the Lord Mayor and administration should negotiate the development of planned deep geothermal projects with Vulcan in view of Neustadt's climate protection targets and security of supply. Vulcan currently holds the exclusive rights for deep geothermal energy development in Neustadt. The resolution from the city council strengthens Vulcan's position for future project phase ramp up.

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<sup>1</sup> As announced on 27 April 2023.

### Additional ASX Disclosure Information

ASX Listing Rule 5.3.1: Exploration and Evaluation expenditure during the Quarter was €1.7 million. Expenditure was on interpretation of seismic data and well preparation costs. Costs include capitalised costs from Vulcan Energy Subsurface (VES) and Vulcan Energie Ressourcen GmbH staff costs where time was allocated to Vulcan license areas.

ASX Listing Rule 5.3.2: Development expenditure during the Quarter was €15.3 million. Expenditure related to construction of Optimisation Plants and refurbishment costs for Vulcan's two electric drill rigs. Expenditure also related to design engineering costs which included capitalised costs from Vulcan Energy Engineering (VEE) where time was dedicated to Vulcan's Optimisation Plants.

ASX Listing Rule 5.3.3: There were no new licences granted or relinquished during the Quarter.

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 total €142,000. This is comprised of an allocation of the Managing Director remuneration of €20,000 and Non-Executive Director fees of €110,000 as well as consulting fees of €12,000 to JRB Consulting, a company related to one of the Non-Executive Directors, in respect of a Board mandated review of the company's ESG reporting. Please see the Remuneration Report in the 2022 Annual Report for further details on Director's Remuneration.

Payments to related parties of the Company and their associates during the Quarter per Section 6.2 of the Appendix 5B total €78,000. 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 2022 Annual Report for further details on Director's Remuneration.



## Vulcan Zero Carbon Lithium™ Project licence standing

NAME	STATE	RESOURCES APPLIED FOR	AREA (KM²)	EXPIRY	OWNERSHIP AS AT 31 MARCH 2023	CHANGE IN OWNERSHIP	TYPE
<b>Ried</b>	Hessen	Geothermal, brine & lithium	289.92	7.2025	100 % VER GmbH	N/A	exploration license granted
<b>Rift-Nord</b>	RLP	Geothermal & lithium	61.83	6.2027	50 % VER GmbH, 50 % GET	N/A	exploration license granted
<b>Waldnerturm</b>	BW	Geothermal, brine & lithium	20.43	12.2024	100 % VER GmbH	N/A	exploration license granted
<b>Lampertheim II</b>	Hessen	Geothermal, brine & lithium	1.99	7.2024	100 % VER GmbH	N/A	exploration license granted
<b>Ortenau II</b>	BW	Geothermal, brine & lithium	374.10	12.2025	100 % VER GmbH	N/A	exploration license granted
<b>Mannheim</b>	BW	Geothermal, brine & lithium	144.49	6.2024	100 % VER Pty Ltd	N/A	exploration license granted
<b>Taro</b>	RLP	Geothermal	32.68	08.2025	100% GGH (part of VER Group)	N/A	exploration license granted
<b>Lisbeth</b>	RLP	Lithium		09.2024	100 % VER GmbH	N/A	exploration license granted
<b>Ludwig</b>	RLP	Geothermal & lithium	96.34	12.2024	100 % VER GmbH	N/A	exploration license granted
<b>Therese</b>	RLP	Geothermal & lithium	81.12	12.2024	100 % VER GmbH	N/A	exploration license granted
<b>Lampertheim</b>	Hessen	Geothermal, brine & lithium	108.03	07.2024	100 % VER GmbH	N/A	exploration license granted
<b>Kerner</b>	RLP	Geothermal & lithium	72.26	12.2024	100 % VER GmbH	N/A	exploration license granted
<b>Löwenherz</b>	RLP	Geothermal & lithium	75.43	12.2024	100 % VER GmbH	N/A	exploration license granted
<b>Flaggenturm</b>	RLP	Geothermal	141.14	12.2024	100 % VER GmbH (before FINAP)	N/A	exploration license granted
<b>Fuchsmantel</b>	RLP	Lithium		07.2023	100 % VER GmbH (before FINAP)	N/A	exploration license granted
<b>Landau-Süd</b>	RLP	Geothermal	19.41	05.2034	brine offtake agreement Geox	N/A	production license granted
<b>Ilka</b>	RLP	Lithium		11.2025	brine offtake agreement Geox	N/A	exploration license granted
<b>Insheim</b>	RLP	Geothermal	19.00	11.2037	VER GmbH	N/A	exploration license granted
<b>LiThermEx</b>	RLP	Lithium		03.2025	100 % VER GmbH	N/A	exploration license granted
<b>Cesano</b>	Italy	Geothermal brine & lithium	11.46	01.2025	50 % VER Ltd., 50 % Enel Green Power	N/A	exploration license granted

## 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 lithium 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 aims to deliver a local source of sustainable lithium for Europe, built around a net zero carbon strategy with strict exclusion of fossil fuels in the process. 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.<sup>2</sup>, with license areas focused on the Upper Rhine Valley, Germany. 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 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 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 zero fossil fuel, net 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.



<sup>2</sup> According to public, JORC-compliant data. See Phase One DFS announcement, 13 February 2023.

## Corporate Directory

Executive Chair	Dr. Francis Wedin
Managing Director & CEO	Cris Moreno
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
Non-Executive Director	Mark Skelton
Executive Director, Germany	Dr. Horst Kreuter
Company Secretary	Daniel Tydde

## For and on behalf of the Board

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## Media and Investor Relations contact

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

## Reporting calendar

<b>13 September 2023</b>	Half Year Report
<b>27 October 2023</b>	September Quarterly Report
<b>29 January 2024</b>	December Quarterly Report
<b>28 March 2024</b>	Annual Report

## 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.

Vulcan does not undertake any obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions or conclusions contained in this announcement. To the maximum extent permitted by law, none of Vulcan, its Directors, employees, advisors or agents, nor any other person, accepts any liability for any loss arising from the use of the information contained in this announcement. You are cautioned not to place undue reliance on any forward-looking statement. The forward-looking statements in this announcement reflect views held only as at the date of this announcement.

This announcement is not an offer, invitation or recommendation to subscribe for, or purchase securities by Vulcan. Nor does this announcement constitute investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision. Investors should obtain their own advice before making any investment decision.

Vulcan has carried out a definitive feasibility study for Phase One of its Zero Carbon Lithium™ Project ('Project'), the results of which were announced to the ASX in the announcement "Zero Carbon Lithium Project Phase 1 DFS Results" dated 13 February 2023 ('DFS'), ('DFS Announcement'). This announcement may include certain information relating to the DFS. The DFS is based on the material assumptions outlined in the DFS Announcement (see "Competent Person Statement" below). 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 DFS will be achieved. This announcement 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 Mineral Resources and Ore Reserves, and any Exploration Results and Production Targets, of Vulcan's Zero Carbon Lithium™ Project is extracted from the DFS Announcement, which is available to view on Vulcan's website at [www.v-er.eu](http://www.v-er.eu). Vulcan confirms that in respect of estimates of Mineral Resources and Ore Reserves, and any Exploration Results and Production Targets, included in this announcement:

- 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;
- the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement; and
- all material assumptions underpinning any production targets (and any forecast financial information derived from such production targets) included in this announcement continue to apply and have not materially changed.