VULCAN ENERGY ZERO CARBON LITHIUM™

# Annual Report



ABN 38 624 223 132

# **VULCAN'S ANNUAL REPORTING SUITE**

#### 1 JANUARY 2023 TO 31 DECEMBER 2023

This Annual Report (Report) forms part of the Company's Annual Reporting Suite for the period 1 January 2023 to 31 December 2023. The Annual Reporting Suite includes the Annual Report, Sustainability Report, Group Management Report (Konzernlagebericht), Taskforce on Climate related Financial Disclosure Report (TCFD) and Corporate Governance Statement. This Annual Report covers Vulcan's operations, including those under exploration and development and those operated through subsidiaries as well as our strategic approach to sustainability. Vulcan is dual listed on the Australian Securities Exchange (ASX), and the regulated market of the Frankfurt Stock Exchange (FSE), in the Prime Standard market segment. Consistent with the regulatory and reporting obligations of the FSE, Vulcan's Annual Reporting Suite also includes the Group Management Report (Konzernlagebericht). The Konzernlagebericht has been prepared in accordance with the Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20). The Reporting Suite incorporates our updated Sustainability Report for 1 January 2023 to 31 December 2023, developed with reference to industry standards including the Global Reporting Initiative (GRI) Standards and the United Nations Sustainable Development Goals (UNSDGs). Vulcan is a signatory to the United Nations Global Compact (UNGC), and the Sustainability Report outlines the Company's ongoing commitment to ensuring progress towards the ten principles of the UNGC. All references to Vulcan Energy Resources, Vulcan, the Company, Vulcan Group, or the Group are in reference to Vulcan Energy Resources Ltd (ABN 38 624 223 132) and its subsidiaries. All information and references in this Report are related to the full financial year, 1 January 2023 to 31 December 2023, unless otherwise stated. The Materiality Assessment and TCFD Report has been achieved with the assistance of global consultancy firm ERM. The sustainability data provided in this Report has not been externally assured. For any questions about Vulcan's sustainability approach, please contact info@v-er.eu or visit https://v-er.eu/.

#### **Currency References**

Currency is expressed in Euros (€) unless otherwise stated. (An average AUD/EUR exchange rate of 0.6144 has been used in the Remuneration report for the financial year ended 31 December 2023).

## Forward Looking Statement

This Report contains certain forward-looking statements. Often, but not always, forward-looking statements may be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "target", "propose", "anticipate", "continue", "outlook" and "guidance", or other similar words. By their nature, forward-looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause actual results, performance and achievements to be materially greater or less than estimated, including those generally associated with the lithium industry and/or resources exploration companies. Any such forward-looking statements, opinions and estimates in this Report (including any statements about market and industry trends) are based on assumptions and contingencies, all of which are subject to change without notice, and may ultimately prove to be materially incorrect. Forward-looking statements are provided as a general guide only and should not be relied upon as, and are not, an indication or guarantee of future performance. Neither Vulcan nor any of its directors, officers, agents, consultants, employees or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions, forward looking statements and conclusions contained in this Report.

#### Approval

This Report has been approved for release by the Board of Directors.

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# ABOUT VULCAN: EMPOWERING A CARBON NEUTRAL FUTURE

# **WE ARE ONE VULCAN**

FOUNDED IN 2018, VULCAN'S PURPOSE IS TO EMPOWER A CARBON NEUTRAL FUTURE, THROUGH THE EFFICIENT CO-PRODUCTION OF LITHIUM, HEAT AND RENEWABLE ENERGY FROM GEOTHERMAL BRINE. VULCAN IS FOCUSED ON DELIVERING THE WORLD'S FIRST INTEGRATED ZERO CARBON LITHIUM<sup>™</sup> AND RENEWABLE ENERGY 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 Europe<sup>1</sup>, with licence 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 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.

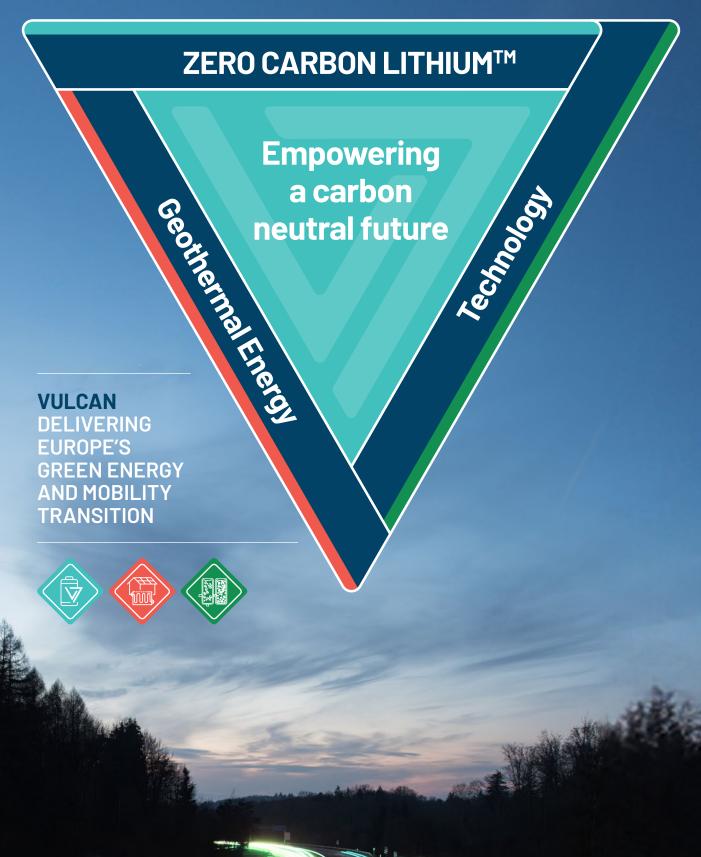
# Purpose

We will empower a carbon neutral future

## **Mission**

Becoming Europe`s leading ZERO CARBON LITHIUM™ business & enabling energy security through geothermal energy

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



# **CHAIR'S MESSAGE**

# Dear Vulcan Shareholders,

DURING THE YEAR, YOUR RENEWABLE ENERGY AND ZERO CARBON LITHIUM<sup>TM</sup> COMPANY, LED BY CEO CRIS MORENO AND OUR EXCEPTIONAL LEADERSHIP TEAM, SUCCESSFULLY TRANSITIONED TO BEING EXECUTION READY TO BUILD THE NEXT PHASE OF GROWTH. WE STAND AT AN EXCITING JUNCTURE, WITH YOUR COMPANY POISED AND READY TO EXECUTE PHASE ONE OF OUR ZERO CARBON LITHIUM<sup>TM</sup> PROJECT, PENDING COMPLETION OF FINANCING DURING 2024, AND IN DOING SO TO DECARBONISE TWO TRADITIONALLY CARBON-INTENSIVE INDUSTRIES: ENERGY AND BATTERY RAW MATERIALS. OUR COMPANY AND PROJECT HAS INHERENT COMMERCIAL AND TECHNICAL ADVANTAGES WHICH MAKES US WELL PLACED FOR THE YEARS TO COME.

As my first message as Executive Chair, I would like to take this opportunity to thank Gavin Rezos for his invaluable contributions as Chair since 2019, and the entire Vulcan Board for their continued guidance. Your Board, leveraging its expertise and experience spanning the lithium, chemicals, renewable energy, battery supply chain, and finance sectors, has steered Vulcan's transition throughout 2023 to being execution ready.

As a business, we are committed to the stable, firmed supply of renewable energy, through two avenues:

- Our current baseload geothermal renewable energy production already underpins the grid; and
- Our planned lithium production for batteries can provide "firming" for other, intermittent forms of renewable energy, as well as enabling the decarbonisation of transport.

Phase One of our project will significantly increase our geothermal energy production, which is a reliable and renewable source of heat and power, and produce lithium on a commercial scale from the same deep brine reservoir.

# Meeting Europe's renewable heating challenge

The heat sector accounts for over half of Germany's energy demand, and renewable energy accounts for only 15% of heat production, a share that has been static for years<sup>2</sup>. Power is relatively straightforward to decarbonise, whereas heat is the "elephant in the room" of decarbonisation. In 2023, geothermal renewable energy gained increased momentum. The EU Parliament recently called for a European strategy on geothermal energy, leading to the adoption of a resolution to accelerate the deployment and investment in geothermal energy, approved by an overwhelming majority of 531 in favour, and only two against<sup>3</sup>.

The market potential for geothermal heating in Germany is approximately 25% of total heat demand, according to the Fraunhofer Institute<sup>4</sup>. This means unprecedented amounts of geothermal production needs to be built. German chancellor Olaf Scholz has supported this with a target for geothermal energy capacity to be increased tenfold by 2030<sup>5</sup>.

Your Company is already helping to meet this challenge.

We are already a commercial geothermal renewable energy producer, and through our operating subsidiary have over a decade of successful operation. We have a highly experienced project development and execution team, including our in-house well delivery and drilling group, Vercana. Through the hard work of our executive leadership team led by Cris, we are now ready to build a much larger geothermal energy project, surrounding the existing operation, as part of Phase One. After this, we aim to "print and repeat" further phases of production across Central Europe, towards our target to supply more than one million people with geothermal renewable heat by 2030<sup>6</sup>.

<sup>&</sup>lt;sup>2</sup> https://shorturl.at/bkU08

<sup>&</sup>lt;sup>3</sup> https://www.euractiv.com/section/energy/news/eu-parliament-calls-for-european-strategy-on-geothermal-energy/

<sup>&</sup>lt;sup>4</sup> https://shorturl.at/bkU08

<sup>&</sup>lt;sup>5</sup> https://www.n-tv.de/politik/Bundesregierung-will-den-Erdwaerme-Turbo-zuenden-article24348800.html

<sup>&</sup>lt;sup>6</sup> Based on average per capita heat consumption in Germany of 6,200 kWh (https://www.destatis.de/).and the estimated capacity for heat production from Vulcan's long term development areas, in a pure heat (no power) scenario.

# Lithium: rising to meet the challenge, through strategic advantages

With our integrated approach, through more geothermal energy production comes the opportunity for more lithium production.

Our industry is still a small one in terms of volume, growing at a very fast compound annual growth rate, as Electric Vehicles (EVs) move from a previously niche market, steadily towards the complete replacement of Internal Combustion Engines (ICEs). We have seen, and are likely to continue to see, short term supply-demand imbalances as this small market grows very quickly, which can cause dramatic rises and falls in lithium pricing. We saw this in 2021 with a tenfold rise in lithium prices, and we saw it in 2023, with prices down around 85% YOY<sup>7</sup>, which created challenging conditions for the industry as a whole. We expect to continue to see this continued volatility for the rest of the decade. This short-term instability is not helpful for the lithium industry or the end-users of our products, and for this reason, Vulcan had previously taken the step in 2021-2022 to lock in offtake agreements with Stellantis, Renault, LG, Umicore and Volkswagen, some of which involve fixed pricing and/or floor-ceiling mechanisms. This gives us stability and some degree of insulation from an oscillating lithium market in the years to come and supports our project financing. It is good for us, our customers, and ultimately for EV customers.

Another point to note is that Vulcan is targeting one of the lowest costs of production in the industry. This cost advantage is because we leverage waste heat naturally contained in our lithium brine source to drive our lithium production, and because we are net producers, not consumers, of renewable energy.

Stability on lithium pricing, combined with a very low cost of production, gives Vulcan a strong basis for the future.

During 2023, the leadership team has taken the Phase One project to successful completion of a high-quality Bridging Engineering Study. At 24,000 tonnes per annum of lithium hydroxide production capacity, Phase One alone will produce enough lithium for our automotive and battery customers in Europe to supply around half a million electric vehicles per annum. This will make a significant contribution to Europe's critical raw materials independence for the energy transition. All this, whilst producing one of the most sustainable, and low cost, lithium products in the world. This is just Phase One: Vulcan's project areas in the Upper Rhine Valley Brine Field (URVBF) contain the largest lithium resource in Europe<sup>8</sup>. Our URVBF strategy is to leverage our strengths to grow our production in a modular, stepwise manner. The co-product of all of this is more renewable heating for local communities, a win-win.

# **Technology**

Over the last three years, the team have successfully piloted and proven our lithium production and conversion from our existing geothermal operations. The Vulcan team has used commercial aluminate-based adsorbent technology, used in the industry for over 25 years, which it has adapted, optimised, and greatly improved. This has resulted in the creation of a technology arm within Vulcan, and the development of VULSORB®, our industry-leading lithium extraction technology. This has implications beyond our own projects and production in Europe. Vulcan can assist other companies and countries in improving their lithium production globally, both from a cost and sustainability perspective, by deploying our technology worldwide and start to realise shareholder value from our technological assets. This will be an increasing focus for Vulcan beyond the team's immediate Phase One financing efforts.

# Looking ahead

Over the next 12 months, your Company will be focused on:

- Completing the financing of Phase One of the ZERO CARBON LITHIUM<sup>™</sup> Project and moving into execution and construction.
- Progressing the pipeline of future phases of renewable energy and lithium production throughout the Upper Rhine Valley (URV).
- Progressing the global deployment strategy of our lithium production technology.

On behalf of the Board and our OneVulcan team, I would like to thank you all for your support on this exciting journey, and I look forward to Vulcan continuing to deliver shareholder value, whilst growing a world-leading, sustainability driven business.

# **Dr Francis Wedin**

Executive Chair

<sup>7</sup> https://www.ft.com/content/0fb27a1a-d149-4d66-87cf-a1e3feecb5e5

<sup>8</sup> According to public, JORC-compliant data.

# **CEO'S MESSAGE**

# Dear Vulcan Shareholders,

I am excited to share Vulcan's 2023 Annual Report with you, my first as Managing Director and CEO of the Vulcan Group. The past year has seen remarkable progress towards executing our plan to deliver the ZERO CARBON LITHIUM<sup>™</sup> Project. I'd also like to take this opportunity to thank Dr Francis Wedin and the Board for their guidance throughout this year and the Vulcan team for their support as I transitioned to the role of their CEO. I can honestly state that I am very proud to be leading your Company.

# **Reflections on 2023**

# Safety

Safety is at the core of all that we do. 2023 did not deliver satisfying safety results. Ingraining a safety culture that ensures safety is top of mind for all our people is our core priority for 2024. We believe all incidents and injuries are preventable. Therefore, we will focus on identifying, managing, and eliminating risks where possible and growing a culture of making every day a zero-incident day. Under the guidance of the Vulcan Board, our leadership team has adopted a comprehensive approach, combining top-down and bottom-up strategies. We will focus on measuring leading indicators to identify and prevent potential issues while also leveraging lagging indicators to learn and guide our efforts in fostering a resilient safety-first culture tailored to our Phase One project execution and beyond.

# **OneVulcan Team**

The year saw a significant shift for our team as we transitioned from a development company to an integrated project development, execution, and operations company. Our team grew to 371 exceptional individuals, each bringing unique experience from various relevant sectors, including the oil and gas, geothermal, and lithium chemical industries. Our "Level One" executive team was finalised with highly experienced talent, including bringing in a Vice President for Project Execution, Supply Chain and Subsurface, who, with the whole leadership team, will guide our project and people through its execution phase.

At Vulcan, we pride ourselves on diversity. We are an international business spanning 29 nations, sharing a passion and dedication to bring our Phase One ZERO CARBON LITHIUM<sup>™</sup> Project to life. During the year, we took a companywide initiative to reassess our values and move forward with those that resonate with us most. I was thrilled with the alignment across the business and why, as a OneVulcan team, we collectively embraced the values of 'Climate Champion,' 'Determined,' and 'Inspiring' in our daily lives.





# **Local Community**

Throughout the year, our regional, political and development teams were actively involved across the regions of our Phase One operations and future phases. The team engaged extensively with the local community, industry, and politicians, providing information on our integrated project, the benefits of renewable local heating and the 'green' jobs we aim to bring to the local community. I am incredibly proud of the hard work of our external engagement teams. The results became evident later in the year with the positive decision by the Landau City Council to execute an agreement to allow Vulcan to begin construction of our integrated commercial Geothermal renewable energy and Lithium Extraction Plant (G-LEP). Construction is on track to start at the end of 2024.

# **Project readiness**

In September last year, we broke ground at our Central Lithium Electrolysis Optimisation Plant (CLEOP) in the Höchst Industrial Park which is also the location of our Commercial Central Lithium Plant (CLP). CLEOP will be assembled on-site in the first quarter of 2024, with commissioning to commence thereafter, allowing for the first tonnes of carbon-neutral lithium hydroxide to be produced. In November 2023, we opened our Lithium Extraction Optimisation Plant (LEOP) in Landau, Germany, in a ceremony attended by local community, shareholders, politicians, strategic partners and industry. Representing a  $\notin$ 40m investment to date by Vulcan, LEOP is a training facility to ensure operational readiness. The start of operations at LEOP will signify the first lithium chemicals to be produced in Europe with an entirely locally sourced value chain.

During the year, we further advanced our high-performance lithium extraction technology, VULSORB<sup>®</sup>. Vulcan aims to magnify its decarbonising impact on the global lithium supply chain beyond Vulcan's immediate projects in the URV.

# **Project results**

In mid-November, we released the results of our Bridging Engineering Study for Phase One with **five** key outcomes:

- 1. We reduced the overall CAPEX.
- 2. We retained the low operating cost.
- 3. We simplified our planned operations for Phase One.
- 4. We improved our financial case.
- 5. We are now EXECUTION READY.

# **Financing**

Towards the end of 2023, Vulcan started its debt and project level equity financing, supported by BNP Paribas. It followed positive market sounding throughout the year from commercial banks, development banks, and government-backed export credit agencies. This included a A\$200 million (~£120 million) non-binding Letter of Support from Export Finance Australia (EFA), and an indication of strong ECA support from Canada, Italy, and France during 2023. In February 2024, we also announced a proposed financing from the European Investment Bank (EIB) of up to  $\notin$ 500m (~A\$825m). This progression in EIB's financial appraisal is a positive step forward in the financing process of our Phase One project.



# **EXECUTION READY**

AS WE LOOK TOWARDS 2024, THE YEAR WILL BE PIVOTAL AS WE FOCUS ON EXECUTING ON OUR PHASE ONE PROJECT PLAN, SUBJECT TO SUCCESSFUL COMPLETION OF FINANCING. IT'S A HEADS-DOWN STRATEGY FOCUSED ON DELIVERING OUR ZERO CARBON LITHIUM<sup>™</sup> PROJECT THAT WILL SEE US POSITIONED AS ONE OF THE MOST COMPETITIVE AND SUSTAINABLE LITHIUM PRODUCERS GLOBALLY. Our immediate focus is on producing the first lithium chemicals to specification from our optimisation plants, once commissioning of our CLEOP is complete. Our key EPC and EPCM contracts have all progressed well and are ready for award upon full financing and final permits being received with the aim to start construction in the second half of the year.

Vulcan's project provides a unique, tangible benefit that literally "flows" into local communities, including renewable heating for district heating networks and employment. Throughout 2024, we will continue to work closely with the local communities, and we aim to operate, engaging with them to provide further information on our ZERO CARBON LITHIUM<sup>™</sup> Project. This means we will continue our active community stakeholder engagement and immerse ourselves within the communities.

# 2024 Phase One ZERO CARBON LITHIUM™ Project objectives

- A safety-first culture with clear KPIs and targets to drive our performance.
- Producing the first tonnes of Lithium Hydroxide Monohydrate(LHM) to specification at CLEOP.
- Completion of Phase One debt and project level equity financing.
- Commencing construction of our integrated Geothermal and Lithium Extraction Plant (G-LEP).
- Commence drilling at our first well sites.

I would like to thank you and the entire Vulcan community for your continued support. We look forward to keeping you updated with our latest developments throughout the year as we continue to methodically execute our plan to deliver the world's first integrated renewable energy and ZERO CARBON LITHIUM™ Project.

# **Cris Moreno**

Managing Director and CEO

# **OneVulcan Values**

Î	CLIMATE CHAMPION	We will pioneer a better and carbon neutral future for all
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	DETERMINED	We are hungry for success and determined to shape tomorrow
A A	INSPIRING	United in passion for a better world, we rise and inspire each other

# DEFINING ZERO CARBON LITHIUM

VULCAN USES 'ZERO CARBON' IN ITS TRADEMARK TO REFER TO THE CLIMATE CHANGE IMPACT OF THE LITHIUM HYDROXIDE MONOHYDRATE (LHM) PRODUCT EXTRACTION AND PROCESSING. VULCAN IS CURRENTLY EXPECTING ZERO BURNING OF FOSSIL FUELS IN ITS PROCESS TO PRODUCE LHM ONCE FULLY OPERATIONAL. Since 2020, Vulcan has commissioned Minviro to undertake a series of International Organisation for Standardisation (ISO) compliant Life Cycle Assessments (LCAs). These are cradle-to-gate studies which include the extraction of the raw lithium product, the geothermal plant, the brine handling, the purification, electrolysis and crystallisation, and the transport of the product from well sites through to the final processing plant. The LCA does not include emissions associated with construction of the ZERO CARBON LITHIUM<sup>™</sup> production plant, or the Vulcan Group's corporate office emissions.

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The latest update of the LCA, undertaken in 2024, found that Vulcan's integrated renewable energy and ZERO CARBON LITHIUM<sup>TM</sup> Project has an overall net climate change impact contribution of -2.0 kg CO<sub>2</sub> eq. per kg LiOH.H<sub>2</sub>O. This included the estimated emissions from lithium production and transport including import of energy from the grid, and estimated emissions avoided due to export of geothermal electricity and heat into the grid and district heating respectively. For full information on the LCA calculation, please see the 2023 Sustainability Report.

The Company is committed to continuing to update the LCA and any associated messaging as the project moves into execution and construction.

# 2023 KEY MILESTONES ADDRESSED





#### Positive City Council vote for Geothermal and Lithium Extraction Plant.

The Landau City Council approved the execution of an agreement to allow Vulcan to begin construction of its integrated Geothermal renewable energy and Lithium Extraction Plant (G-LEP).



## Debt and project level equity finance program commenced.

In December 2023, Vulcan commenced its debt and project level equity financing program, led by BNP Paribas. Financing close is anticipated in the second half of 2024.



## Environmental and Social Impact Assessment (ESIA) completed for Phase One.

ERM completed the ESIA for Phase One of Vulcan's ZERO CARBON LITHIUM<sup>™</sup> Project in December 2023. The ESIA is a prerequisite to raising sustainable or "green" debt finance and is an important third-party validation of the project's sustainability credentials.



## Positive ZERO CARBON LITHIUM™ Project Bridging Engineering Study results released.

The ZERO CARBON LITHIUM<sup>™</sup> Project Phase One Bridging Engineering Study, has delivered reduced risk, reduced CAPEX, lowest cost, and robust financials. Signifying the project is execution ready.



#### Key land secured for Phase One.

Land packages were acquired for key Phase One production sites towards the commencement of Phase One project execution and to increase Vulcan's current brine production.



#### **Opening of Lithium Extraction Optimisation Plant.**

Vulcan commenced commissioning of its Lithium Extraction Optimisation Plant (LEOP) for extraction, purification, and concentration of lithium chloride from brine. The plant officially opened on 23 November 2023, and brine was successfully introduced into the plant.





#### New license secured in strategic Phase two location.

Vulcan has been granted a new geothermal and lithium brine exploration licence, designated "Luftbrücke", covering a region of Frankfurt am Main, an area with potential industrial customers like the Höchst Industrial Park and Frankfurt Airport, proximal to Vulcan's Central Lithium Plant (CLP).

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## Leadership for the future.

Cris Moreno was appointed as Managing Director and CEO, as Dr Francis Wedin transitioned to Executive Chair to ensure the right skills are in place to lead the delivery of Vulcan's Phase One of the ZERO CARBON LITHIUM<sup>™</sup> Project into the future.



## DFS and Bridging Study released for Phase One of ZERO CARBON LITHIUM™ Project.

Studies confirmed the positive economics for Phase One and became the basis on which Vulcan transitioned to a project execution company.



#### Successful placement.

EUR 67m (A\$109m) institutional placement successfully completed, supported by existing major shareholders.



## ECA backing for Vulcan's Phase One Project.

Positive market sounding in 2023 from commercial banks, development banks, and governmentbacked export credit agencies. This included a A\$200 million (~€120 million) non-binding Letter of Support from Export Finance Australia (EFA), and indication of strong ECA support from Canada, Italy, and France during 2023.



#### Agreement with strategic partner to work towards decarbonising operations.

Vulcan and Stellantis entered into two phased project agreements, aimed at developing, building, and operating geothermal renewable energy assets to help decarbonise Stellantis' energy supply, for their auto manufacturing operations in Rüsselsheim am Main in Germany and Mulhouse in France. This is the fourth agreement signed with Stellantis since 2021.

# VULCAN ENERGY ZERO CARBON LITHIUM™

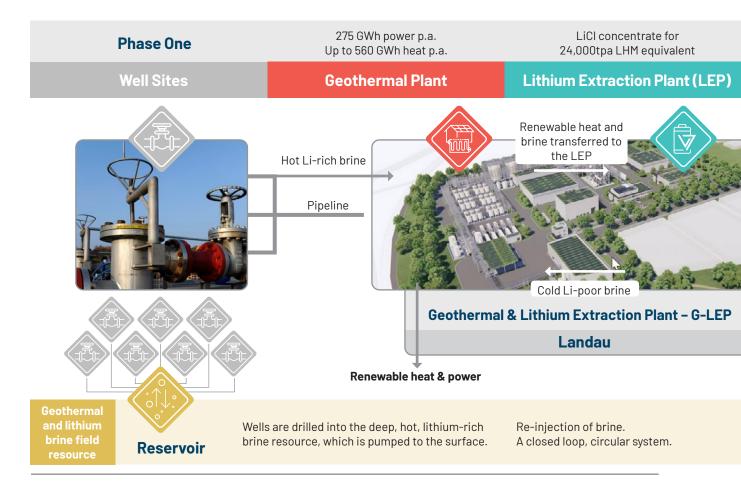
# EXECUTION READY

# Low Risk

#### **Upstream:**

One core production area that is already producing brine, with increased lithium reserves. Reduction of two upstream lithium plants to one central plant, with a simplified design enabling easier operation and maintenance.

- Resource of 27.7 Mt LCE @ 175 mg/l, the largest lithium Resource in Europe and scope for further pipeline of further phased development.<sup>9</sup>
- 0.57Mt LCE @ 181 mg/l Li Reserves, 4.16MT LCE @ 181mg/l Li Resource in the core "Löwenherz" area, centred around current production wells in core of the Upper Rhine Valley Brine Field.<sup>9</sup>



<sup>9</sup> The Resource and Reserve information should be read in conjunction with the competent person statement in the Appendix.

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# Most advanced Adsorption-Type Direct Lithium Extraction Project in Europe

Low risk and low cost operations

# 1,771km<sup>2</sup>

Licence Area for Vulcan's Phase One and beyond

# €3.9Bn

NPV (A\$6.5Bn) pre-tax and €2.6Bn (\$4.3Bn) post-tax

# €705m

Target annual revenues

# Delivering

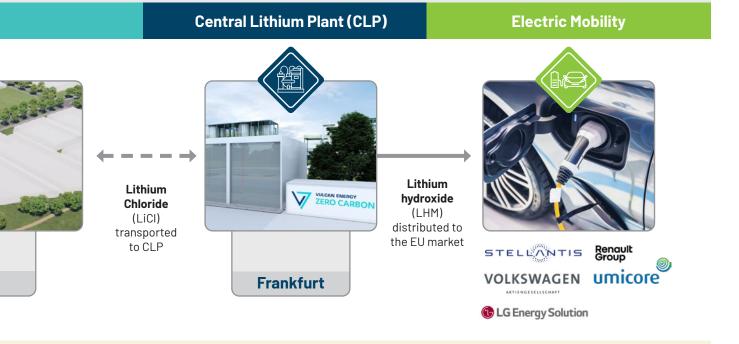
# Low Cost

# Low OPEX €4,022/t LHM

one of the lowest on the industry cost curve, while maintaining green credentials.

- Offtake agreements with **Tier One** customers, supports stability during payback period, and protection from lithium price fluctuations.
- Low environmental and social impact project due to small land requirements and being situated in industrial and agricultural areas. Refer to the 2023 Sustainability Report.

24,000tpa LHM(capacity)



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# OPERATIONS OVERVIEW

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# HEALTH, SAFETY, ENVIRONMENT, AND QUALITY (HSEQ)

NOTHING IS MORE IMPORTANT THAN THE SAFETY AND WELLBEING OF VULCAN'S EMPLOYEES, CONTRACTORS, STAKEHOLDERS AND COMMUNITIES.

Vulcan had four lost time incidents (LTIs) and zero fatalities in 2023. As stated in the CEO's message, safety performance during the reporting period did not deliver satisfactory results; 2024's core priority is on the consistent shift in improving safety performance moving forward.

In 2023, Vulcan's German subsidiary, Energie Ressourcen GmbH, received the ISO 45001:2015, Occupational Health and Safety certification. This complements the already achieved ISO 14001 (environmental management) and ISO 9001 certifications (quality management).

Throughout the year, Vulcan focused on core initiatives to drive Vulcan's safety culture:

- Score card reporting for 2024 key performance indicators (KPIs), leading and lagging indicators.
- Safety leadership rounds were introduced and HSEQ tours conducted by HSEQ professionals.
- Care Moments communication program and a site-wide "Last-Minute Risk Analysis" process for all operational onsite attendees to complete before the start of any activity on location.

SAFETY COMES FIRST AND THERE WILL BE NO COMPROMISE TO THIS. OUR COMMITMENT IS TO A ZERO-HARM CULTURE. TOGETHER WITH THE LEADERSHIP TEAM, WE ARE EMBEDDING A CONTINUOUS IMPROVEMENT SAFETY CULTURE AS PART OF OUR DAY-TO-DAY LIVES AT VULCAN.

# CRIS MORENO MD & CEO

- International Association of Oil and Gas producers (IOGP)
   Life-saving rules implemented companywide.
- More than 10,000 online training sessions conducted, of which more than 400 were completed by external contractors.

Looking ahead, Vulcan's focus and education are on safety prevention as the growth of the Company's operations and staff on sites continues. As Vulcan transforms towards being a project execution and operations company, specific, safety-focused KPIs have been introduced for the leadership team.

# **EXECUTION READY**



# ZERO CARBON LITHIUM<sup>™</sup> PROJECT

## More than

10.00u hours of successful inhouse A-DLE piloting

> Phase One Robust financials

# €3.9Bn

NPV(A\$6.5Bn) pre-tax and €2.6Bn (\$4.3Bn) post-tax

# Phase One €4,022/t LHM

Lowest OPEX compared to industry peers' cost for operations

> 27.7m tonnes

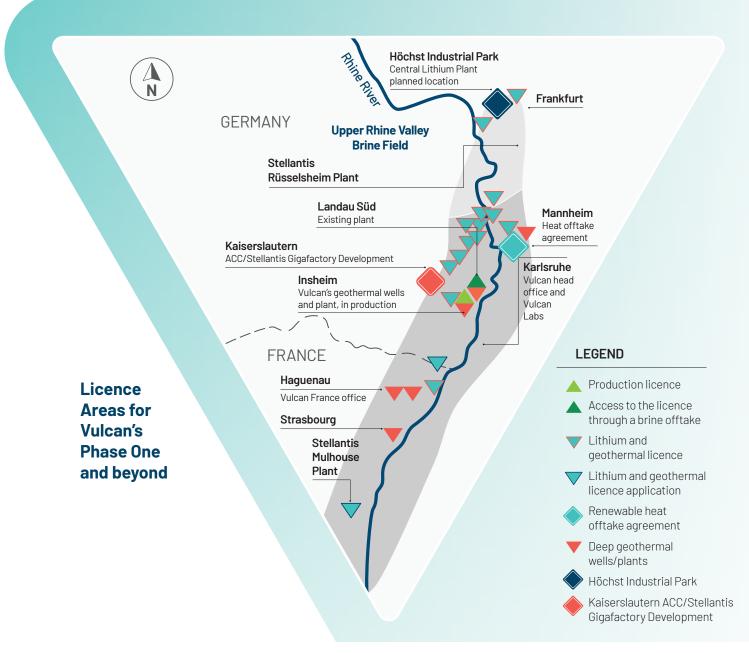
Largest lithium resource in Europe

- Proprietary A-DLE technology: VULSORB® is a specially tailored lithium production • technology for lithium-ion adsorption.
- LEOP: First LiCl production expected imminently.
- CLEOP: Commissioning and first LHM production H2 2024. •
- 1,771km<sup>2</sup> of licences across the Upper Rhine Valley Brine Field (URVBF) for lithium brine • extraction and Geothermal with reserve.
- €705m target annual revenues, 4.2y payback, despite drop in lithium prices. •
- Strong support in initial market sounding. •
- Ten years of production already sold to industry-leading, iconic, and reputable . brands, of which Stellantis is Vulcan's second largest shareholder.



STELLANTIS

- Streamlined operations plan for Phase One core production area. •
- Peerless sustainability credentials: net -2.0t CO<sub>2</sub> per tonne of LHM produced. •
- In-house operations: Engineering, project management, scientists and well delivery. •
- Vulcan's URVBF lithium Resource has increased to 27.7 million tonnes of contained • Lithium Carbonate Equivalent (Mt LCE) @ 175 mg/L, from 26.6Mt LCE @ 174 mg/L.
- Over the reporting period, Vulcan's licence footprint in the URVBF increased from 15 to 16 and the total area increased from 1,583km<sup>2</sup> to 1,771 km<sup>2</sup> respectively.



## FIGURE 1 OVERVIEW MAP OF VULCAN'S LICENCE AREAS IN THE UPPER RHINE VALLEY

# **RESOURCES AND RESERVES**

# **EXPLORATION AND DEVELOPMENT**

The Company has the largest lithium Resource in Europe, compliant with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves<sup>10</sup>.

During the year, Vulcan's URVBF lithium Resource has increased to 27.7 million tonnes of contained Lithium Carbonate Equivalent (Mt LCE) @ 175 mg/L, from 26.6Mt LCE @ 174 mg/L, to reflect a larger resource in the Phase One area. Vulcan's URVBF area now comprises 11.2 Mt LCE @ 179 mg/L Li of Measured and Indicated Resource, of which 4.16 Mt LCE @ 181mg/I Li is in the Phase One area, and 2.11 Mt LCE is now in the Measured category.

Over the reporting period, Vulcan's licence footprint in the URVBF increased from 15 to 16 and the total area increased from 1,583km<sup>2</sup> to 1,771 km<sup>2</sup> respectively.

Refer to Appendix for the JORC Resource Statement.

<sup>10</sup> According to public, JORC-compliant data. Refer Vulcan ZERO CARBON LITHIUM™ Project Phase One DFS results and Resources

# WELL DELIVERY



# VULCAN'S VERCANA IS A HIGHLY EXPERIENCED WELL CONSTRUCTION AND OPERATIONS TEAM FROM THE OIL AND GAS AND GEOTHERMAL INDUSTRIES.

Vercana deploys experience in onshore operations and high pressure, high temperature (HPHT) drilling as well as German regulations. Vulcan's V20 electric drill rig was refurbished during 2023 and is now ready for mobilisation and commissioning. Vercana received the final approval from the mining authority for the V20 rig and its additional equipment to start operations.

The V10 refurbishment is planned to be completed in 2024. The Vercana team continues to apply lessons from the V20 drill refurbishment to aid the V10 rig refurbishment.

The "Phase One ZERO CARBON LITHIUM™ Project Well Delivery Group" was created, and the well delivery plan was finalised in line with the Phase One well delivery requirements for the project. Several tendering processes with required service supplier candidates for the delivery of materials and services were started in 2023 to ensure all inputs are ready for the well delivery program forecast to start in 2024.

Vulcan's inhouse drill team were leased out during 2023 and will continue to be until Phase One well delivery operations commence.

VULCAN'S PHASE ONE ZERO CARBON LITHIUM™ PROJECT WILL HAVE SEVEN WELL SITES IN TOTAL, WITH TWO WELL SITES ALREADY EXISTING.

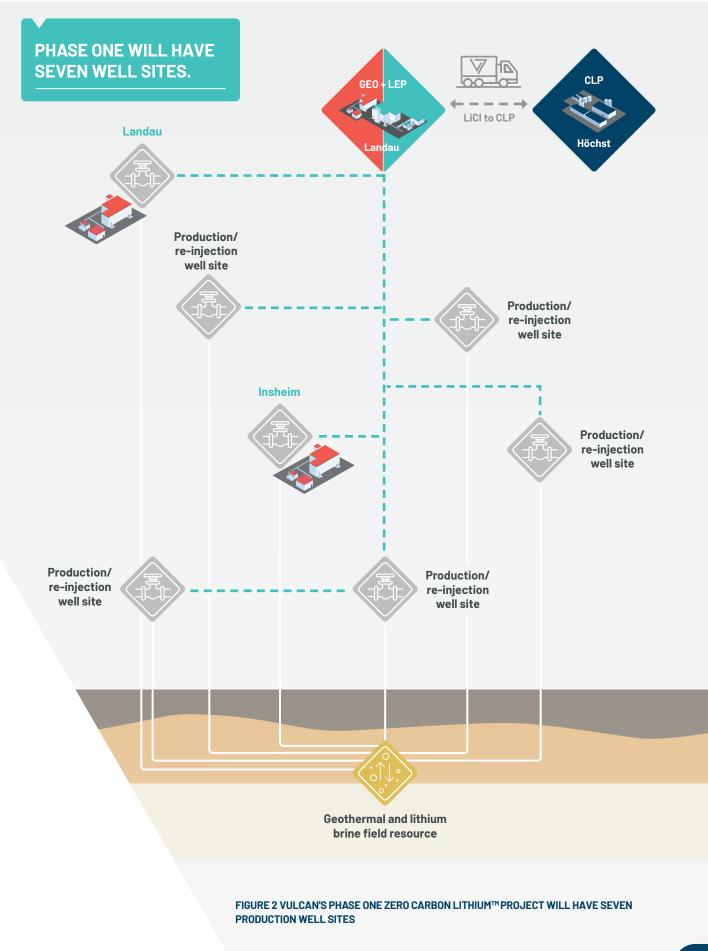




FIGURE 3 IN-HOUSE DESIGNED LITHIUM EXTRACTION OPTIMISATION PLANT

# OPTIMISATION PLANTS FOR COMMERCIAL READINESS

A key element of Vulcan's strategy to de-risk its ZERO CARBON LITHIUM<sup>™</sup> Project is the design and construction of its optimisation plants. Vulcan's optimisation plants consist of two parts, the Lithium Extraction Optimisation Plant (LEOP) (figure 3) and the Central Lithium Electrolysis Optimisation Plant (CLEOP). Both will replicate the full process from Adsorption-Type Direct Lithium Extraction (A-DLE) to lithium hydroxide production including recycle streams. LEOP and CLEOP will serve as a training facility for its production team, ensuring operational readiness for commercial production in the second half of 2026. Vulcan's CLEOP will also serve as a product testing facility for its offtake partners.

Demonstration to commercial operation represents a manageable scale-up factor of 1:50 in terms of column size, as the Lithium Extraction Plant (LEP) will be operating twelve trains of extraction units. Meanwhile, the commercial Central Lithium Plant (CLP) electrolysis cells will have a multiplication factor, not scale-up factor, as electrolysis cells are not scaled up further but multiplied.

On 23 November 2023, Vulcan officially opened its LEOP in Landau, Germany, in a ceremony attended by local community, shareholders, politicians, strategic partners and industry (figure 4). The start of operations at LEOP will signify the first lithium chemicals which will be produced in Europe with an entirely locally sourced value chain. The renewable heat in the lithium brine resource will also enable Vulcan to produce with a carbon neutral footprint and coproduction of renewable energy, a world-first in the lithium industry. The Company has successfully tested and piloted lithium production in the URVBF for close to three years, including at its pilot plants in Insheim.

In September 2023, Vulcan together with numerous politicians and industry representatives, including Infraserv GmbH & Co. Höchst KG CEO Dr Joachim Kreysing, officially "broke the ground" at the Company's CLEOP at Frankfurt Höchst's Industrial Park, one of the largest chemical parks in Europe (figure 5). Vulcan's CLEOP will focus on optimising operating conditions in preparation for its commercial Phase One CLP, which will be constructed in the same Industrial Park. CLEOP will convert the lithium chloride from Vulcan's LEOP into lithium hydroxide monohydrate (LHM), to be used in battery production once operations are commercial. Site works progressed well during the Period, with commissioning expected to start in the first half year of 2024.



FIGURE 4 LEOP OPENING ON 23 NOVEMBER 2023 IN LANDAU, GERMANY



LITHIUM PRODUCTION WILL BE CONDUCTED IN TWO STAGES, STARTING AT THE INTEGRATED GEOTHERMAL AND LITHIUM EXTRACTION PLANT (G-LEP) AND PROCEEDING TO A SINGLE FACILITY NEAR FRANKFURT, THE CENTRAL LITHIUM PLANT WHERE THE LHM PRODUCT WILL BE PRODUCED.

The Phase One area is well located, close to existing road infrastructure and within relatively flat valley terrain. The Phase One area is mixed land use with rural, urban, agricultural, industrial, and park land. Vulcan has been diligent in ongoing planning development with consideration of existing land uses in consultation with local communities and landowners.

# During the Period, Vulcan released the positive results of its Bridging Engineering Study, which has a significant positive impact on Phase One execution.

## THE PHASE ONE BRIDGING ENGINEERING STUDY ENABLED HIGHER PROJECT DEFINITION:

- Reduced uncertainty provides Class Two cost estimate, ready to award key contracts.
- Key land parcels acquired for initial execution phase. Preparatory works conducted on first site.
- EPC/EPCM tender process very advanced, contractor expected to be named in first half year of 2024.
- Key permits are on track, have been received or have been submitted.

## LOW RISK: THE COMPANY TO FOCUS ON ONE CORE PRODUCTION AREA, THEREFORE REDUCING RISK:

- Improved Field Development Plan (FDP) from two production areas down to one core production area that is already commercially producing brine.
- Reduction of two upstream lithium plants to one central plant (figure 7).
- Simplified modular upstream design enabling easier operation and maintenance.

#### **REDUCED CAPEX:**

• ~€100m reduction down to est. €1,399m, combining assets, whilst moving to higher project definition.

#### LOWEST COST:

• Further decline in OPEX to est. €4,022/t LHM, one of the lowest on the industry cost curve, while maintaining green credentials.

## **ROBUST FINANCIALS:**

• Maintained est. NPV at €3.9Bn (A\$6.5Bn) pre-tax and €2.6Bn (A\$4.3Bn) post-tax, and €705m target annual revenues. 4.2y payback, despite drop in lithium prices.

# **EXECUTION READY:**

- Class Two cost estimate, ready to award key EPC/EPCM contracts.
- More than 10,000 hours of successful in-house A-DLE piloting completed.
- €50m optimisation plants starting up in 2024.
- Debt and project level equity financing with strong support has been commenced.

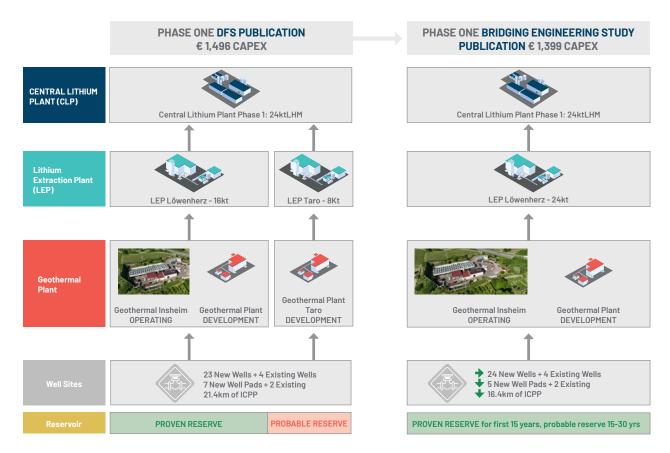


FIGURE 6 IMPROVEMENT ON THE PHASE ONE PROJECT STRUCTURE



FIGURE 7 SITE DESIGN FOR VULCAN'S CENTRAL LITHIUM PLANT LOCATED IN FRANKFURT HÖCHST INDUSTRIAL PARK. CLOSE TO 100,000 SQM SECURED, ENOUGH FOR SIGNIFICANT EXPANSION

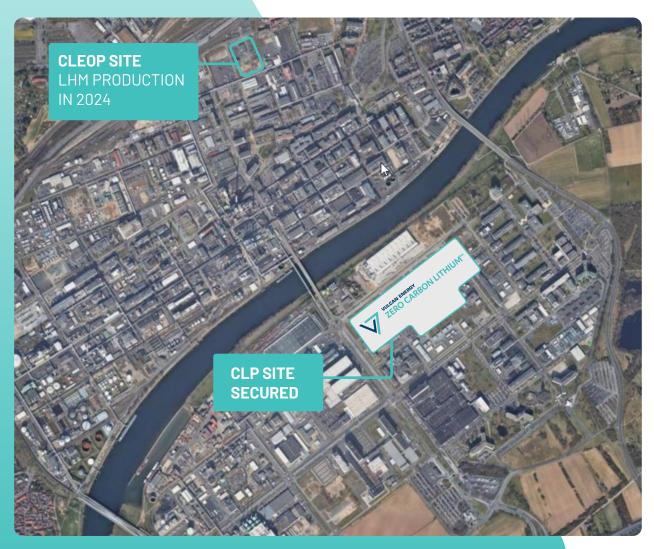


FIGURE 8 HÖCHST INDUSTRIAL PARK, CLEOP AND CLP SITES

# FUTURE PHASE DEVELOPMENT

# 

VULCAN OFFERS A TRUSTED LONG-TERM SOLUTION FOR EUROPE'S GREEN MOBILITY AND ENERGY TRANSITION.

KERSTIN MÜLLER VP SUBSURFACE

Vulcan plans to develop its licence areas (figure 1) in a phased approach. After Phase One, further phases are planned to fully leverage the large licence area that Vulcan has secured. The Project plans for multiple upstream surface facilities for geothermal and lithium extraction operations to be fed from multi-well pads. Vulcan has also secured space for additional capacity expansion at its planned CLP, where it has secured a site at the Höchst Industrial Park near Frankfurt.

To that effect, 3D seismic survey works were carried out on the ground in one of Vulcan's planned lithium and geothermal energy development areas in the Mannheim district of the URVBF. These works follow earlier approval in 2022 of the main operating plans by the state directorate, after a thorough review process, which involved the relevant municipalities, technical agencies, and associations. In April 2022, Vulcan signed a renewable heat offtake agreement with MVV Energie AG (MVV), the utility provider for the city of Mannheim. This seismic survey is the first step to develop new heat and power plants, which aim to supply up to 350,000 MWh/year of heat into the heating grid of Mannheim. In addition, Vulcan has been granted a new licence for expansion into Frankfurt, designated Luftbrücke, covering a region of Frankfurt am Main, an area with potential industrial customers like the Höchst Industrial Park and Frankfurt Airport. Given Frankfurt's high heat demand, there is a significant commercial and decarbonisation opportunity for Vulcan via geothermal renewable energy development. In this licence, an initial exploration via an airborne gravimetric and magnetic survey by the federal state of Hessen is planned for 2024.

With the URVBF located on either side of the Rhine River, Vulcan is also planning to further expand its activities to the French side of the URVBF, which accounts for roughly one third of the Upper Rhine Valley, containing both geothermal energy and lithium-rich brine. Historical data and sampling coming from existing geothermal operations in the region indicate brine composition in Alsace, France, is materially the same as the brine composition across the border at Vulcan's operations in Germany, meaning Vulcan's sustainable lithium production process is applicable across the whole field. With Vulcan's French entity, Vulcan Energie France SAS (VEF), registered in Strasbourg with an office in Haguenau, Vulcan is growing an experienced French team.

During the Period, the Company has applied for a geothermal licence, designated "Kachelhoffa", and a lithium exploration licence, designated "Kachelhoffa minéral", in the region, with 492,04km<sup>2</sup> size in total and located in the region of Mulhouse. Vulcan will look to access additional licence areas in 2024. VEF is in discussions with local companies in Alsace to develop combined geothermal energy and lithium projects, and support industrials and municipalities to decarbonise their heating supply. The Company is focused on increasing engagement with local stakeholders to develop projects in full alignment with local communities, which is paramount to the ongoing success of Vulcan's activities.

Vulcan's corporate team, spanning the Company's Australian and German offices, are committed to accelerating and expanding Vulcan's integrated renewable energy and lithium development strategy.

# **GEOTHERMAL ENERGY**



DURING 2023, THE GEOTHERMAL POWER PLANT NATÜRLICH INSHEIM GENERATED APPROXIMATELY 16,000,000 KWH OF RENEWABLE ELECTRICAL ENERGY, AVOIDING AN ESTIMATED 6,500 TONNES OF CO<sub>2</sub> EQUIVALENT EMISSIONS ON THE GRID. THESE AVOIDED EMISSIONS ARE NOT INCLUDED IN VULCAN'S CURRENT CARBON NEUTRAL CERTIFICATES.

A workover of the production well pump at Vulcan's current production and re-injection well site was safely carried out during the first half of 2023. To underline Vulcan's commitment to play a leading role in the German heat transition, Natürlich Insheim is currently being redesigned to be able to produce district heating in the future as well. This will allow the supply of carbon neutral district heating to nearby municipalities.

Natürlich Insheim (figure 9), has the capacity to produce up to 4.8 MW of renewable power. There are two operating wells located at this plant, one for production of the 165°C hot brine and one for reinjection of cooled brine. The wells were drilled between 2008 and 2010. The plant has been in operation since 2012. There is a second geothermal plant in the region of Landau-Süd with which Vulcan has an offtake agreement for brine production with Geox GmbH (the operating company). Vulcan has entered a 51:49 (in Vulcan's favour) Joint Venture agreement with the owners of the Landau-Süd licence to develop a new geothermal well site in the same Landau-Süd licence as the current Landau plant, which will also supply Vulcan's Phase One operations with brine for lithium extraction.

Vulcan has an agreement to develop new geothermal projects on the Rift-Nord exploration licence in return for a production royalty. Vulcan plans to develop the licence areas in a phased approach. Subsequent Phases are planned to follow, to fully leverage the large licence area that Vulcan has secured. The ZERO CARBON LITHIUM<sup>™</sup> Project plans for multiple central surface facilities for geothermal operations to be fed from multi-well pads.

Key political figures visited the Insheim plant during the Period, including U.S. Consul General Norman Thatcher Scharpf, Malu Dreyer, Prime Minister of Rheinland-Pfalz and Parliamentary State Secretary Michael Theurer, signifying the profile of Vulcan and importance of the project to local, state, federal, and international stakeholders.



FIGURE 9 AERIAL SHOT OF VULCAN'S GEOTHERMAL POWER PLANT IN INSHEIM, GERMANY

# GEOTHERMAL RENEWABLE ENERGY IS AT THE HEART OF THE ZERO CARBON LITHIUM™ PROJECT.

MARKUS CECHOVSKY DIRECTOR GEOTHERMAL PRODUCTION

During the Period, Vulcan and Stellantis entered two phased project agreements, aimed at developing, building, and operating geothermal renewable energy assets to help decarbonise Stellantis' energy supply in Rüsselsheim am Main and Mulhouse, by providing renewable heat. Stellantis aims to be an auto industry champion in climate change mitigation, becoming carbon net zero by 2038, with a 50% reduction by 2030<sup>11</sup>. This requires Stellantis, as a leading mobility tech company, to decarbonise and localise its energy supply across its manufacturing facilities. In the northern area of the Upper Rhine Valley in Rüsselsheim am Main, Stellantis maintains a large manufacturing facility in which the DS 4 and Opel Astra models are produced, including the electrified variants. This facility in the German state of Hessen is also the traditional home of the Opel brand and the German headquarters of Stellantis. The planned renewable heating project is at the northernmost extent of Vulcan's focus area in the URV.

Vulcan and Stellantis' agreement in Mulhouse 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. Stellantis is a major industrial player in the automotive sector in the Grand Est of France. Vulcan remains focused on execution of its Phase One commercial lithium and renewable energy project, in the centre of the URVBF, however this project with Stellantis is a complementary opportunity to expand future development pipeline into the French region of the URV, supported by industrial partners like Stellantis.

<sup>11</sup> https://www.stellantis.com/en/responsibility/carbon-net-zero-strategy?adobe\_mc\_ref=



OVER THE PAST THREE YEARS, VULCAN HAS CONDUCTED MORE THAN 10,000 HOURS OF SUCCESSFUL IN-HOUSE PILOT PLANT PERFORMANCE TESTING, SHOWING HIGH LITHIUM RECOVERIES AND THOUSANDS OF CYCLES OF ADSORBENT LIFE WITH NO DEGRADATION.

With Pilot Plant One (PP1) operational since 2021 and larger Pilot Plant OneA (P1A) in operation since 2022, Vulcan has deployed several activities to de-risk A-DLE on the URV brine. These activities include three years of successful inhouse testwork from 2021-2023, as well as several thousand non-stop cycles both at brine pressure and atmospheric pressure.

Vulcan uses its proprietary in-house lithium production technology, VULSORB®, which has shown a high-performance relative to "off the shelf" products. The manufacturing process for VULSORB® is environmentally friendly, with most of the reagents recycled. The Company has also deployed its technology at its LEOP.

Vulcan has successfully piloted the sustainable lithium production process and shown that A-DLE can be successfully applied in the URV, and powered by geothermal

renewable energy. This means Europe can produce its own locally sourced lithium for EVs and do so with a world-leading carbon neutral footprint.

VULSORB® is a variation of the type of lithium extraction adsorbents originally developed thirty years ago and used commercially worldwide for lithium extraction from brine for the last 25 years. This Technology Readiness Level (TRL) approach for lithium extraction can be used in most lithium rich brines globally, provided salinity in the brine is high enough, and there is sufficient heat to drive the process, with a brine pre-treatment step to increase adsorbent durability, which can be adjusted depending on local brine chemistry. Vulcan's VULSORB® enables the lithium to be selectively extracted from the brine, providing a pure lithium chloride eluate which can then be electro-chemically converted to LHM for use in lithium-ion batteries in the European cathode, battery, and automotive industries.

This process is much faster and more efficient, with a lower carbon footprint, than the legacy industry method of using large-scale evaporation and large quantities of chemical reagents to extract the lithium and process the product into lithium hydroxide. A-DLE happens in hours, rather than up to 18 months as is the case with legacy extraction methods.

Vulcan is poised to improve the lithium supply chain with the global deployment of its high performing lithium extraction technology, VULSORB<sup>®</sup>.



WITH THE DEVELOPMENT OF OUR PROPRIETARY IN-HOUSE LITHIUM EXTRACTION TECHNOLOGY VULSORB®, VULCAN HAS CREATED A TECHNOLOGY ARM AND ASSET TO BE USED BEYOND OUR OWN PROJECTS AND PRODUCTION IN EUROPE.

> DR ANGELA DIGENNARO DIRECTOR RESEARCH AND DEVELOPMENT

As a cutting-edge technological asset, VULSORB® has the potential to propel Vulcan's decarbonisation efforts beyond its current use in the URVBF, setting the standard for present and future A-DLE projects. With this strategic approach, Vulcan is at the forefront of providing sustainable solutions that resonate far beyond its immediate operational footprint.

During the reporting period, the Vulcan team moved into an expanded laboratory. With its state-of-the- art equipment for wet and solid-state analyses, including full in-house inductively coupled plasma optical emission spectrometry (ICP-OES) and Ion chromatography (IC) analytical capability, this Innovation hub has enabled Vulcan to expand its core competencies and centralise its proprietary lithium processes and deliver the required information for Vulcan's Phase One Bridging Engineering Study.



# **CORPORATE OVERVIEW**

# FUNDING

During the reporting year, the Company successfully raised  $\notin$ 67m (A\$109m) gross proceeds through a single tranche placement to institutional investors. Net proceeds from the placement, together with existing cash, were applied to the development of the Phase One project, corporate costs and general working capital.

# A\$200 MILLION LETTER OF SUPPORT RECEIVED FROM EXPORT FINANCE AUSTRALIA

During October, Vulcan announced that it received a conditional, non-binding Letter of Support from Export Finance Australia (EFA) for up to A\$200 million (~ $\in$ 120 million) for the upcoming financing of Phase One of its ZERO CARBON LITHIUM<sup>TM</sup> Project. This letter of support further complements the in-principle support provided by Government-backed Export Credit Agencies (ECAs) from France, Italy, and Canada including an indication that Vulcan would be designated as a strategic project of national importance in France.

# **SEGMENT INFORMATION**

The consolidated entity is organised into three operating segments based on geographical location: in Germany, other European countries, and Australia. These operating segments are based on the internal reports that are reviewed and used by the Key Management Personnel (who are identified as the Chief Operating Decision Makers (CODM)) in assessing performance and in determining the allocation of resources. There is no aggregation of operating segments. The CODM reviews EBITDA (earnings before interest, tax, depreciation, and amortisation). The accounting policies adopted for internal reporting to the CODM are consistent with those adopted in the financial statements. The information reported to the CODM is on a monthly basis.

# **TYPES OF PRODUCTS AND SERVICES**

- Germany: the supply of geothermal energy, exploration and development relating to the ZERO CARBON LITHIUM<sup>™</sup> Project; engineering services and drilling personnel outsourcing, and technology development.
- France and Italy: exploration relating to geothermal energy and lithium.
- Australia: Administration and Definitive Feasibility Study costs.



# **INDUSTRY ASSOCIATIONS**

Vulcan is proud to partner with, support and contribute to the work of leading environmental societies and associations in the geothermal, renewable energy and lithium industries including:

- Landesnaturschutzverband Baden-Württemberg
   (LNV) Nature Conservation Organisation of the State Baden-Württemberg.
- **AHK** German-Australian Chamber of Industry and Commerce.
- AGA Australian Geothermal Association.
- **AFBA** Australia France Business Association.
- **GABC** German Australian Business Council.
- Bundesverband Geothermie (BVG) German Geothermal Association.
- European Geothermal Energy Council (EGEC).
- GeoEnergy Celle Association of drilling and drilling service companies.
- Bundesverband der Geowissenschaftler (BDG) Association of German Geoscientists.
- Bundesverband Erdgas, Erdöl und GeoEnergie (BVEG) Germany's Association of Natural Gas, Oil and GeoEnergy.
- Deutsche Gesellschaft für Geotechnik (DGGT) German Geotechnical Society.
- International Geothermal Association (IGA).
- Bundesverband Erneuerbare Energien (BEE) the Renewable Energy Association of Germany.
- Plattform Erneuerbare Energien (PEE) the state subdivision of the BEE in Baden-Württemberg.
- Wirtschaftsrat der CDU the largest business association in Germany.
- Bundesverband Mittelständische Wirtschaft (BVMW) the largest middle-sized business association in Germany.

- Gesellschaft der Metallurgen und Bergleute (GDMB) Society of Metallurgists and Miners.
- Kompetenznetzwerk Lithium-Ionen-Batterien (KLiB) –
  German Association of Lithium-Ion Batteries.
- Deutsche Wissenschaftliche Gesellschaft f
  ür nachhaltige Energietr
  äger, Mobilit
  ät und Kohlenstoffkreisl
  äufe (DGMK) - German Society for Sustainable Energy Carriers, Mobility and Carbon Cycles.
- European Association of Geoscientists and Engineers (EAGE).
- Bundesverband der Energie- und Wasserwirtschaft e.V. (BDEW).
- Deutsche Geologische Gesellschaft Geologische Vereinigung (DGGV).
- American Association of Petroleum Geologists (AAPG).
- Verband der industriellen Energie- & Kraftwirtschaft (VIK).
- Deutsche Mineralogische Gesellschaft (DMG).

To support local development and generate synergies, Vulcan is also an active member of the Technologie Region Karlsruhe GmbH (TRK). As Vulcan's German head office is based in the Karlsruhe Technology Region, it is important for the Company to connect with local authorities, chambers of commerce, scientific institutions, and other companies in the region and to promote new technologies. The partnership with TRK is an effective platform for these activities. Importantly, Vulcan also wants to leverage the network of TRK to accelerate the energy transition in the region. Vulcan is also active in another local development association, Metropolregion Rhein-Neckar, which aims to keep industrial excellence in the region around Mannheim.

# SUSTAINABILITY OVERVIEW

# ZERO CARBON LITHIUM

Geothermiekraftwerk Insheim

SUSTAINABILITY IS THE CORNERSTONE UPON WHICH VULCAN WAS FOUNDED AND WE ARE COMMITTED TO BEING A LEADER IN ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) INITIATIVES AND REPORTING.

> STORM TAYLOR ESG LEAD

#### SUSTAINABILITY HIGHLIGHTS



Employed 187 new Full Time Equivalent (FTE) employees, reaching a total of 371 Vulcan Climate Champions.



In the top 2% for ESG rating in peer group, according to Sustainalytics. Ranked #11 out of 578 Chemicals industry peers.<sup>12</sup>



Became a Voluntary Carbon Markets Initiative (VCMI) Forum member to assist with Carbon Claims Integrity Framework.



Officially opened Lithium Extraction Optimisation Plant (LEOP) to train operators in a pre-commercial setting on sustainable lithium extraction for Electric Vehicles.



Implemented ESG pre-qualification survey for suppliers.



Avoided ca. 6.5kT CO<sub>2</sub>eq. through Natürlich Insheim renewable power plant.<sup>13</sup>



Completed an Equator Principles (EP4) and International Finance Corporation (IFC) standardsaligned Environmental Social Impact Assessment (ESIA) which found that Vulcan's integrated renewable energy and ZERO CARBON LITHIUM<sup>™</sup> Project:

- Will not have any negative impacts classed as greater than "minor" post mitigation

- Will have several positive impacts, including renewable heating provision for local communities<sup>17</sup>.

Calculated that the absolute avoided climate impact over 10 years from 2026 to 2023 is estimated to be more than 4.1 million tonnes CO<sub>2</sub> eq. from Phase One of the integrated renewable energy and ZERO CARBON LITHIUM<sup>™</sup> Project.<sup>14</sup>



Reinforced LCA metrics with Phase One Project Bridging Engineering Study data, finding that Vulcan is on track to have the lowest CO<sub>2</sub> footprint in the industry.<sup>15</sup>

↓ ● ● ●

Reduced footprint and impacts of Phase One of the Project, whilst maintaining same production capacity.<sup>15</sup>

56:44 gender balance on Vulcan's Board.<sup>16</sup>



Growth of OneVulcan Team Culture.

#### FIGURE 10 VULCAN'S SUSTAINABILITY HIGHLIGHTS

- <sup>12</sup> Sustainalytics website (https://www.sustainalytics.com/esg-rating/vulcan-energy-resources-ltd/2006029601)
- <sup>13</sup> Based on official feed-in numbers from grid operator and calculated with the latest local electricity mix emission factor
- <sup>4</sup> Minviro Preliminary Results: Vulcan Energy Resources GHG Avoidance 20/03/24. Calculated using the EU Innovation Fund methodology 5. 12 (11/27.) Vulcan Bridging Otudu Deputs https://www.commune.com/ 5. 12 (11/27.) Vulcan Bridging Otudu Bridgin
- <sup>15</sup> 16/11/23 Vulcan Bridging Study Results https://v-er.eu
- <sup>16</sup> As as 31 December 2023. Currently 50:50 balance of gender representation on the Board
- <sup>17</sup> Vulcan ASX Annoucement 8 December 2023

**/ULCAN ENERGY** ANNUAL REPOR<sup>-</sup>

# TCFD

In March 2023, Vulcan released its first standalone Taskforce for Climaterelated Financial Disclosures (TCFD) as part of the Annual Reporting suite. The full report is available via the Vulcan website https://v-er.eu/. Below is a summary of the report.



Disclosure group	Recommended disclosure	Reference		
Governance	a) Describe the Board's oversight of climate related risks and opportunities	ESG risk management, pg.53		
	b) Describe management's role in assessing and managing climate related risks and opportunities	ESG risk management, pg.53		
	a) Describe the climate related risks and opportunities the organisation has identified over the short, medium and long term	31 Dec 22 TCFD report		
		Vulcan's approach to sustainability, pg.18		
		Vulcan's sustainability framework, pg.18		
	b) Describe the impact of climate related risks and opportunities on the	Vulcan Values, pg.21		
Strategy	organisation's businesses, strategy, and financial planning	Minimising environmental impacts, pg.28		
		Climate and energy , pg.31		
		Water, pg.37		
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate related scenarios, including a 2°C or lower scenario	31 Dec 22 TCFD report		
	a) Describe the organisation's processes for identifying and assessing climate related risks	ESG risk management, pg.53		
Risk management	b) Describe the organisation's processes for managing climate related risks	ESG risk management, pg.53		
	c) Describe how processes for identifying, assessing, and managing climate related risks are integrated into the organisation's overall risk management	ESG risk management, pg.53		
	a) Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process	Current emissions, pg.34		
Targets and metrics	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks	Current emissions, pg.34		
	c) Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets	2023 Remuneration Report		

#### TABLE 1 TCFD SUMMARY TABLE

Note: Page references relate to the 2023 Sustainability Report





The full Sustainability Report is available on Vulcan's website <u>https://v-er.eu.</u>





# OUR APPROACH TO SUSTAINABILITY

AT VULCAN, SUSTAINABILITY IS EMBEDDED INTO BOTH THE COMPANY PURPOSE OF EMPOWERING A CARBON NEUTRAL FUTURE, AND PERFORMANCE, BY ACTIVELY DECARBONISING THE ENERGY AND LITHIUM INDUSTRIES IN A WAY WHICH MINIMISES ENVIRONMENTAL AND SOCIAL IMPACTS.

Vulcan has a unique opportunity to construct a renewable energy and lithium supply chain in Europe, for Europe, with sustainability built in from the outset. The team believes this gives Vulcan a unique competitive edge compared to other established peers and industries who are looking to retrofit their businesses.

Delivering on Vulcan's sustainable purpose and performance requires continuous focus and determination, and the team has taken numerous important steps to this end over the past year. In terms of understanding Company impacts, Vulcan completed an Equator Principles (EP4) and International Finance Corporation (IFC) Performance Standards-aligned Environmental and Social Impact Assessment (ESIA) and updated the LCA<sup>18</sup> for LHM production to reflect continuous process optimisation. To ensure that the Company's sustainability approach remains up to date for the growing organisation, the team redefined the Vulcan Values and began implementing "OneVulcan", Vulcan's policy to ensure that there is a cohesive sustainability culture across the entire business.

# VULCAN'S SUSTAINABILITY AND ESG FRAMEWORK

Vulcan's Sustainability and ESG Framework, defined in 2022, has evolved and grown alongside the Company.

The Company's purpose is to empower a carbon neutral future. Leveraging the team, innovative technology, and strategic position within the European supply chain, Vulcan will execute its strategy to be global leaders in the production of renewable energy and lithium, while minimising environmental and social impacts. Through this strategy, the team will deliver on Vulcan's mission of becoming Europe's leading ZERO CARBON LITHIUM<sup>™</sup> business and enabling energy security through geothermal renewable energy.

<sup>&</sup>lt;sup>18</sup> Minviro LCA Report Final dated 22 March 2024

# **PURPOSE**

We will empower a carbon neutral future.

# **MISSION**

Becoming Europe's leading ZERO CARBON LITHIUM<sup>™</sup> business & enabling energy security through geothermal energy.

ZERO CARBON LITHIUM™ RENEWABLE ENERGY

#### TECHNOLOGY

#### TEAM

A world-leading scientific & commercial team in the fields of lithium & geothermal energy.

#### INNOVATION

Adapting existing technologies to efficiently produce lithium from geothermal brine.

#### **SUPPLY CHAIN**

Strategically placed in the heart of the European EV market to decarbonise the supply chain.

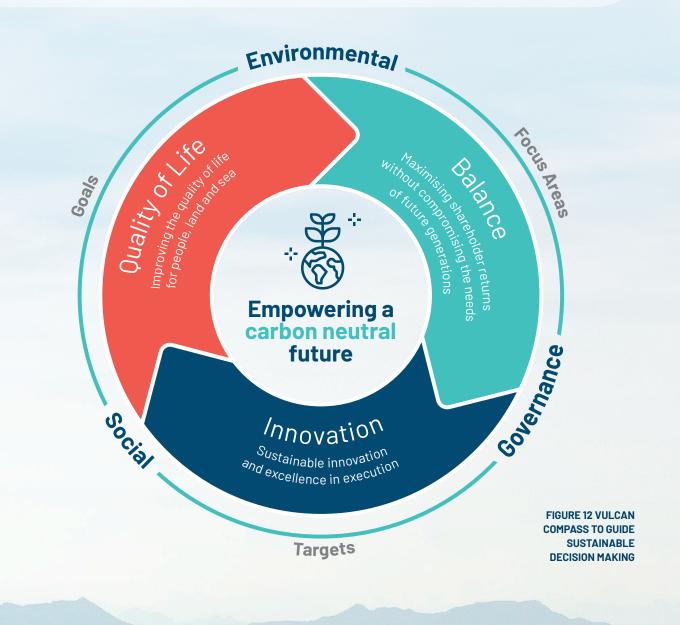


FIGURE 11 VULCAN'S SUSTAINABILITY AND ESG FRAMEWORK

Woven through Vulcan's Sustainability and ESG Framework (figure 11) and informing every level of the Company's business model, the Vulcan Compass (figure 12) guides sustainable decision making – binding purpose, mission, strategy, and values together via three key themes.

- **Quality of Life:** improving the quality of life for people, land and sea
- **Balance:** maximising shareholder returns without compromising the needs of future generations
- Innovation: sustainable innovation and excellence in execution

These themes are supported by ESG initiatives that deliver Vulcan's Sustainability and ESG Framework and objectives.



#### **VULCAN VALUES**

This year the team refreshed the Vulcan Values (figure 13) with the objective of ensuring that they reflect what is unique and special about the Company as it continues to grow and evolve. To ensure that Vulcan could capture the thoughts and insights of as many of the team as possible, three feedback channels were launched: a workshop with the leadership team, a Company-wide workshop with the broader team during the annual summer get-together, and an online Vulcan Values booth.

The team settled on **Climate Champion**, to reflect Vulcan's purpose to empower a carbon neutral future, through actively decarbonising the energy and lithium industries; **Determined**, which speaks to the team's unwavering drive and "grit" to solve problems; and **Inspiring**, which is the impact the team hopes to have within and outside of Vulcan. Looking forward to 2024, the Company will continue to embed the Vulcan Values across the Company and highlight how they are exemplified in employees and operations.

Î.	CLIMATE CHAMPION	We will pioneer a better and carbon neutral future for all
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	DETERMINED	We are hungry for success and determined to shape tomorrow
	INSPIRING	United in passion for a better world, we rise and inspire each other

**FIGURE 13 ONEVULCAN VALUES** 



#### STAKEHOLDER ENGAGEMENT

Vulcan seeks to ensure that the integrated renewable energy and ZERO CARBON LITHIUM<sup>™</sup> business is a force for positive change that is also creating shareholder value. This extends beyond Vulcan's objective of decarbonising the energy industry and lithium supply chain, to include creating value for its wider stakeholders, both through geothermal energy and lithium products, as well as how Vulcan operates. Stakeholder engagement is crucial for this, as it enables the team to better understand how to maximise positive impacts, through pursuing mutual interests, while minimising any potentially negative impacts of operations.

As a company which is building part of the solution to Europe's decarbonisation targets, as well as the continent's energy sovereignty and local critical minerals supply needs, Vulcan has spent considerable time and resources ensuring a highly skilled communications team and strategy is in place. This team consists of regional managers, political and stakeholder engagement and investor relations specialists who already actively engage with policy debates on how best governments and industry can reach decarbonisation objectives. At a local, national, and regional level, Vulcan recognises that there are also concerns about how Europe can produce sufficient lithium locally to satisfy its EV battery demand, without aggravating other environmental issues, such as biodiversity loss, and water scarcity. Vulcan views these debates as valid and sees stakeholder engagement as a crucial means of explaining how the Company will minimise the environmental impacts of the lithium supply chain, by producing the most sustainable lithium products on the market whilst delivering affordable baseload energy to local communities.

Vulcan's stakeholder engagement approach is tailored to the Company's diverse stakeholder groups, and engagement methods include roadshows, permanent local information centres, virtual workshops, face-to-face meetings, and surveys. In 2023, a particular highlight of the team's engagement were two "open door" days for members of the local community and local authorities (which drew in approximately 100 attendees<sup>19</sup>) to visit Insheim and ask Vulcan's experts questions about the geothermal energy production process. The team is keen to carry out similar open days to shed light on Vulcan's other business activities, such as visits to drilling sites, in 2024.

Stakeholder group	How we engaged	Related material topics	Sustainable Development Goals
Employees	Annual employee satisfaction survey Annual "SommerFest" event Quarterly team town halls Whistleblower mechanism Health and safety mobile app Health and safety training	Climate change and energy Environment impact Community engagement Diversity, equity and inclusion Health, safety and wellbeing Business ethics Governance Transparency	3 ADD RELEARING       5 COURT         Image: Court of the second seco
<b>Community</b> Local communities in the regions in which Vulcan operates	"Open door" days of our facilities Info trucks Info centres Information events Phone / email Sponsorships	Biodiversity Climate change and energy Envrionmental impact Community engagement Health, safety, and wellbeing Business ethics Governance Transparency	3 GOOD HEALTS:       6 GLAR MEETING       7 d'ICRAMELTARIO         Image: Construction of the state
<b>Customers</b> Lithium offtakers Heat offtakers Geothermal energy offtakers	Direct engagement Email Site visits Market briefings	Climate change and energy Circular economy Environmental impact	7. STORMARI AND COLOR DATATO       6. State with Logical datato       9. NOSTICE INVECTOR Logical datato         12. Stormaritie COLOR       13. SLIME Logical       15. GFL GELOCO
Suppliers Ranges of businesses, including both local and multinational businesses	Website Emails Direct engagement	Climate change and energy Circular economy Envrionmental impact Human rights	6       CLAM NETT ADD DANLARY       7       ATTRIBUTE LAR CLAM NETT       8       ECCAT NET AND CLAM NET         9       MARSTARY, NARROWCK       12       SCRAMPING ADD NET       13       SLEWARK         15       Ff. Jong       Marstary       SCRAMPING       SCRAMPING         15       Ff. Jong       SCRAMPING       SCRAMPING
<b>Government and regulators</b> Local, regional and national governments including Australia, Germany, Italy and the European Union	Meetings Briefings Presentations Events Working groups Forums Letters Emails Formal submissions Website Participation in industry Associations and advocacy	Biodiversity Climate change and energy Environmental impact Community engagement Diversity, equity and inclusion Health, safety and wellbeing Business ethics Digitisation and cyber security Governance Transparency	3 ADD HELSTH

Further information is available in the 2023 Sustainability Report

TABLE 2 OVERVIEW OF VULCAN'S STAKEHOLDER ENGAGEMENT

# VULCAN ENERGY ANNUAL REPORT | 2023

# MINIMISING ENVIRONMENTAL IMPACT

WHILE VULCAN'S MISSION, WHICH IS TO ACTIVELY DECARBONISE THE ENERGY AND LITHIUM SUPPLY CHAIN, IS EVIDENTLY ALIGNED WITH ENVIRONMENTAL **OBJECTIVES, THE TEAM RECOGNISES** THAT THIS IN ITSELF DOES NOT NECESSARILY MEAN THAT VULCAN IS AN ENVIRONMENTALLY SUSTAINABLE COMPANY. THE DEBATE ABOUT WHETHER THE RAPID DRIVE FOR DECARBONISATION WILL, UNINTENTIONALLY, AGGRAVATE OTHER ENVIRONMENTAL ISSUES, SUCH AS **BIODIVERSITY LOSS, AND WATER SCARCITY,** IS VALID AND IS ONE VULCAN ACTIVELY ENGAGES IN. VULCAN'S POSITION IS THAT DECARBONISATION SHOULD NOT COME AT ANY MATERIAL COST TO THE ENVIRONMENT. Vulcan's position is that decarbonisation should not come at any material cost to the environment, and that renewable energy and critical materials providers should be taking all viable steps to understand and minimise their impacts. The team is motivated by a desire to be proud of not just what we do, but also how we do it.

For this reason, Vulcan is building sustainability into the renewable energy and lithium value chain from the outset. In practice, this means understanding the Company's current and forecasted impacts and using this knowledge to interrogate whether parts of the processes or inputs to produce renewable energy and lithium can be modified to reduce environmental impact. A good example of this in 2023 was the team's decision to push for grid connection at the well sites from the outset as opposed to relying on diesel. Having forecast the different scenarios, the team calculated that even without renewable Power Purchase Agreements (PPAs), Vulcan will have dramatically reduced potential emissions. By ensuring access to PPAs, as is currently the plan, Vulcan hopes to cut scope 1 and 2 emissions to as close to zero as possible, with remaining potential for scope 1 emissions only relating to the diesel backup generator to ensure power supply in the unlikely case of grid issues.



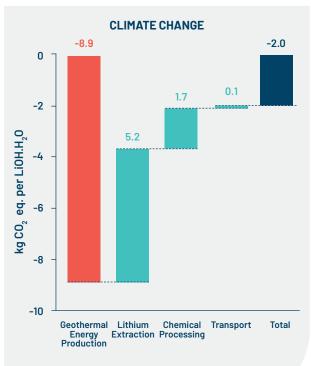
# MINVIRO LIFE CYCLE ASSESSMENT 2023

Vulcan regularly updates its ISO-aligned LCAs, so that they are in line with advances in project optimisation and sustainability.

The current climate change impact assessed is net -2.0 kg  $CO_2$  eq. per kg LiOH.H<sub>2</sub>O<sup>1</sup>, which significantly means that Vulcan's integrated renewable energy and ZERO CARBON LITHIUM<sup>™</sup> Project has an overall net negative carbon emissions contribution using this LCA methodology. The largest positive contributor to climate change impact is the geothermal plant, due to the emissions avoided through renewable energy production. Hence, geothermal brine extraction and energy production's impact stands at -8.9 kg CO<sub>2</sub> eq. per kg LiOH.H<sub>2</sub>O. Lithium extraction, on the other hand contributes 5.2 kg CO<sub>2</sub> eq. per kg LiOH.H<sub>2</sub>O, an amount minimised by the use of geothermal waste heat to drive the process. Finally, the climate change impact contribution of the CLP is 1.7 kg CO<sub>2</sub> eq. per kg LiOH.H<sub>2</sub>O, and the impact of transporting intermediate products between the sites is 0.1 kg CO<sub>2</sub>eq. per kg LiOH.H<sub>2</sub>O (figure 14). For this reason, when compared with alternative lithium producers, the team believes that Vulcan's lithium production method has the lowest carbon footprint, giving Vulcan a key competitive differentiator.

As part of the LCA update, a 10-year GHG avoidance profile was forecasted for Phase One of the integrated renewable

energy and ZERO CARBON LITHIUM<sup>TM</sup> Project, using the EU Innovation Fund methodology. The absolute avoided impact over 10 years from 2026 to 2035 is estimated to be more than 4.1 million tonnes  $CO_2$  eq, using this particular methodology. The graph below represents the current outcomes of the ISO methodology (figure 15).





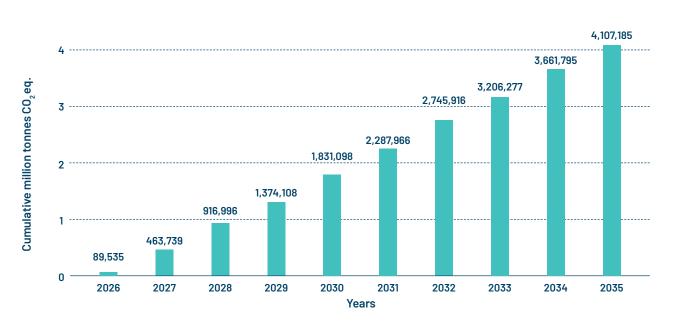
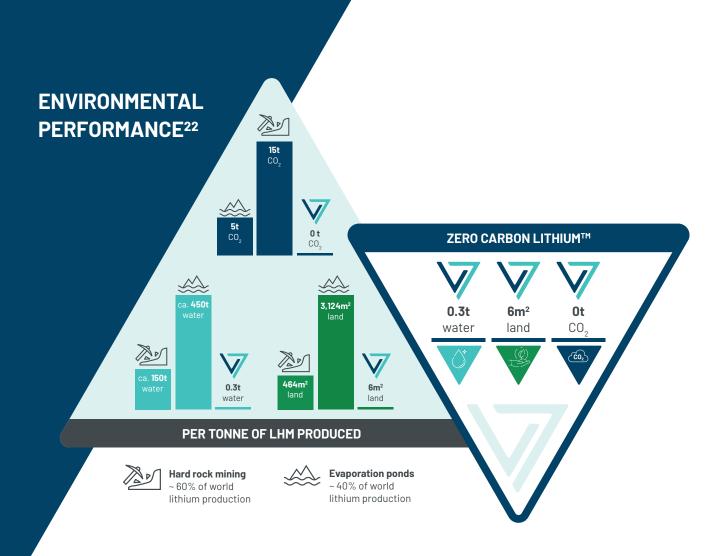


FIGURE 15 CUMULATIVE ABSOLUTE AVOIDED GHG EMISSIONS OVER 10 YEARS FROM PHASE 1, USING THE EU INNOVATION FUND METHODOLOGY, ESTIMATED BY MINVIRO LTD <sup>21</sup>

<sup>20</sup> Minviro LCA Report Final dated 22 March 2024

<sup>21</sup> Minviro GHG Avoidance dated 22 March 2024



### **EMPLOYEES**

Vulcan is made up of a team of almost 400 **Climate Champions**, who are constantly working towards empowering a carbon neutral future.

Attracting and retaining a diverse and passionate workforce is essential for delivering on the Company's ambition to be a leader in sustainable geothermal energy and lithium production. As part of this ambition, Vulcan is growing rapidly, having added 187 new employees in 2023, to reach a total of 371 full time equivalent employees (FTEs) by the end of the year.

This expansion was primarily related to the acquisition of a drilling contract labour company to grow Vulcan's inhouse drilling subsidiary, Vercana<sup>23</sup>.

VULCAN (with Vercana) 72% Male | 28% Female VULCAN (without Vercana) 64% Male | 36% Female



86% Male | 14% Female

LEADERSHIP

**29 NATIONS** 

#### STATISTICS CALCULATED USING VULCAN'S HEADCOUNT AT THE END OF THE REPORTING YEAR (DECEMBER 2023)

<sup>22</sup> Based on Minviro LCA 2024, and peer comparisons in the Minviro LCA 2020. Compared to current methods of lithium extraction: hard rock and brine evaporation ponds as per Minviro LCA 2020.

<sup>23</sup> Refer to 2023 Sustainability Report for further breakdown

#### **ONEVULCAN**

Vulcan's geographical spread, diverse operating units, and rapid scaling up are potential challenges for maintaining a cohesive company culture. To address these challenges, in 2023, the team launched the ongoing OneVulcan initiative which seeks to strengthen unity and collaboration across the Company under a common culture, in which each employee takes ownership and understands their individual importance to delivering on Vulcan's mission. To this end, last year the leadership team implemented several structural changes to centralise administrative functions and standardise compensation and benefits frameworks, to bring all Vulcan employees under one umbrella. The refresh of the Vulcan Values, which drew on employee feedback at all levels of the company, was another key part of the OneVulcan initiative, by seeking to ensure that the values are relevant to the evolving company. Finally, in order to bring employees together for team building, Vulcan continued events such as quarterly town halls and the annual "Sommerfest" party and "Winterfest".





#### **COMMUNITY ENGAGEMENT**

The integrated renewable energy and ZERO CARBON LITHIUM<sup>™</sup> Project is designed to work in harmony with local communities, providing interdependent opportunities and positive impacts, aligned with the United Nations Sustainable Development Goals (UNSDGs). The ESIA identified positive impacts for local communities including job creation and renewable heating, which Vulcan is aiming to provide from 2025.

Community engagement helps the Company better understand how to maximise positive impacts, through pursuing mutual interests, while minimising any potentially negative impacts of operations for local communities. As Vulcan continues to transition to an integrated project development, execution, and operations company, the main focus of the team's community engagement is resolving queries from the public about how operations will work, and their impacts on communities and the local environments. Vulcan's approach has been to reassure the public through providing information about compliance with German regulations and best practices as well as the ESIA's findings that any impacts were determined to be minor or insignificant after mitigation measures during all phases of Vulcan's project. The Company has also signed an insurance policy for local communities in the case of an impact from the Project, to give them reassurance that Vulcan is a company who is responsible and accountable.

Transparency is key to how Vulcan conducts community engagement, and in May 2023, the team was proud to host two "open door" days for members of the local community and local authorities to visit Insheim and ask Vulcan's experts questions about the geothermal energy and heat production process. The event was a success, drawing in approximately 100 attendees, and the team is planning to carry out similar open days to shed light on Vulcan's other business activities, such as visits to drilling sites, in 2024.

Engagement initiative	Description
Vulcan info truck	The truck regularly tours around the Project's areas of influence, and in 2023 visited the Landau city marketplace, residents' festival in Insheim and the Bad Dürkheim sausage market.
Vulcan info centres in Landau and Karlsruhe	The info centres are open on most weekdays and any person or group is welcome to stop in and visit, coordinate a meeting or call and ask questions.
Insheim "Open Doors"	Over two days in May 2023, the team opened up the Natürlich Insheim power plant to the public for a tour of the facility and explanations of the geothermal energy and heat production process from Vulcan's experts.
Laying of the foundation stone in Schleidberg	In October 2023, Vulcan held an event with approximately 30 members of the local community to lay a foundation stone in Schleidberg, one of the Company's well locations to celebrate the beginning of pre-execution preparatory works.
LEOP launch event	In November 2023, Vulcan opened the Lithium Extraction Optimisation Plant (LEOP), an event attended by approximately 50 members of the public and local authorities.
Sponsorship of local sports clubs	Over 2023, Vulcan provided support for several local handball and football clubs including TSG Haßloch and HSG Landau Land, Südpfalztiger, TV Offenbach.
Grievance mechanisms	Vulcan did not receive any formal grievances from members of the local community in 2023.

#### TABLE 3 OVERVIEW OF VULCAN'S KEY COMMUNITY ENGAGEMENT INITIATIVES IN 2023



# CORPORATE GOVERNANCE

As a sustainability-centric company, Vulcan continues to be committed to the highest standards of corporate governance and regulatory compliance. Each team member endeavours to be respectful, authentic, and trustworthy both to each other and to external groups. Vulcan is also committed to ensuring its business activities are conducted fairly, honestly and with integrity in compliance with all applicable laws. To achieve this, Vulcan's Board of Directors has adopted several charters and policies which aim to create value, whilst ensuring it remains accountable, by implementing appropriate controls that are commensurate with the risks involved. The Board believes that the Company's policies and practices comply with the recommendations of the ASX Corporate Governance Principles and Recommendations - Fourth Edition and as Vulcan continues to grow, the Company will regularly review its corporate governance policies, practices and controls, so compliance is not only maintained but enhanced.

#### PRACTICE AND COMPLIANCE

VULCAN IS COMMITTED TO THE HIGHEST STANDARDS OF CORPORATE GOVERNANCE PRACTICE AND REGULATORY COMPLIANCE. The Company has prepared a Corporate Governance Statement which sets out the corporate governance practices that were in operation throughout the financial year for the Company, identifies any Recommendations that have not been followed, and provides reasons for not following such Recommendations. The Company's Corporate Governance Statement and policies can be found on its website: https://v-er.eu/information-for-investors/.

#### **PROJECT EXECUTION**

During the reporting period, Vulcan continued to focus on strengthening its corporate governance framework, whilst it transitioned into an integrated project development, execution and operations company.

The matrix organisation provides a consistent approach to:

- Delivery defined by project execution, contract strategy, engineering standards and strategic sourcing.
- Integrating schedules and visibility of critical paths.
- Interfaces being effectively managed and clear lines of accountability.
- Risks and opportunities being defined and managed.
- Control processes to give strategic management and insights.



#### **PHASE ONE ORGANISATION & GOVERNANCE**

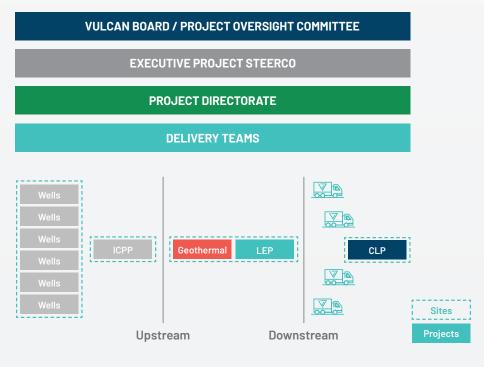


FIGURE 16 PHASE ONE ORGANISATION AND GOVERNANCE

In addition, strong project governance is applied via a Project Oversight Committee and Project Directorate that oversee the project delivery teams (figure 16).

The Project Oversight Committee, comprising Directors that are highly experienced in project management and execution together with operational management, are responsible for regularly reviewing the status of nominated projects and applying appropriate corporate governance and risk management frameworks.

One Nominated Project Sponsor chairs the Executive Project SteerCo which governs, supports, and steers the Project Directorate. The Project Sponsor reports Capital Project updates to the Project Oversight Committee which reports into the Board meetings, whilst a dedicated Project Director leads the Project Directorate and is the single point of accountability for all Capital Projects until handover to production. The Executive Project SteerCo meets many times a month, with the Project Sponsor reporting to the Project Oversight Committee at every scheduled meeting. Vulcan has found that this framework allows timely communication and agility in problem solving and risk mitigation.

#### WHISTLEBLOWER REPORTING

Vulcan encourages a culture of 'speaking up' to raise concerns about possible unlawful, unethical, socially irresponsible behaviour or other improprieties of or within the Company, without fear of retaliation or otherwise being disadvantaged as evidenced in our Whistleblower Policy. The Company provides a range of mechanisms to report suspected breaches of the Code of Conduct. These include:

- Training and education on Vulcan's Whistleblower Policy (publicly available on the website).
- Speaking with Vulcan's Whistleblower Protection and Investigation Officer (WPIO).
- Using the Company's independent and confidential reporting channel, externally managed by whistleblower software.
- Encouraging employees to raise issues with their manager or a member of the P&C team. During 2023, no Whistleblower Hotline disclosures were reported and there were no matters of concern managed by the WPIO.

# DIRECTORS' REPORT

THE DIRECTORS OF VULCAN ENERGY RESOURCES LIMITED (VULCAN' OR 'THE COMPANY') PRESENT THEIR REPORT, TOGETHER WITH THE FINANCIAL STATEMENTS OF THE CONSOLIDATED ENTITY CONSISTING OF VULCAN ENERGY RESOURCES LIMITED AND ITS CONTROLLED ENTITIES FOR THE YEAR ENDED 31 DECEMBER 2023.

#### DIRECTORS

The names of the Company's directors in office during the financial year and their date of appointment are as follows.

- Dr Francis Wedin: appointed 4 September 2019.
- Mr Cris Moreno: appointed 1 July 2023.
- Mr Gavin Rezos: appointed 4 September 2019.
- Ms Ranya Alkadamani: appointed 29 April 2020.
- Ms Annie Liu: appointed 18 March 2021.
- Dr Heidi Grön: appointed 25 March 2021.
- Ms Josephine Bush: appointed 16 April 2021.
- Dr Günter Hilken: appointed 23 March 2022.
- Mr Mark Skelton: appointed 19 April 2022 (retired 1 February 2024).

#### INTEREST IN SHARES AND OTHER COMPANY SECURITIES

The following table sets out each Director's relevant interest in shares and performance rights of the Company as at the date of this report based on publicly available information.

Director	Ordinary Shares	Performance Rights
Mr Cris Moreno	-	57,614
Mr Gavin Rezos	8,635,500	-
Dr Francis Wedin	16,458,561	125,724
Ms Ranya Alkadamani	276,000	25,234
Ms Annie Liu	81,678	4,298
Dr Heidi Grön	10,398	4,298
Ms Josephine Bush	40,367	4,298
Dr Günter Hilken	-	14,237
Total	25,502,504	235,703

#### **PRINCIPAL ACTIVITIES**

The principal activities of the Company during the year were geothermal energy and lithium development in Europe.

# **INFORMATION ON DIRECTORS**

THE NAMES AND PARTICULARS OF THE COMPANY'S DIRECTORS IN OFFICE DURING THE FINANCIAL YEAR AND AT THE DATE OF THIS REPORT ARE AS FOLLOWS. DIRECTORS HELD OFFICE FOR THIS ENTIRE PERIOD UNLESS OTHERWISE STATED.



#### **Dr Francis Wedin**

**Executive Chair** 

#### PhD & BSc (Hons) Geology & Mineral Exploration, MBA in renewable energy

Dr Wedin is a battery raw materials industry executive, with a diverse career spanning four continents and multiple commodities. Dr Wedin co-founded Vulcan Group's ZERO CARBON LITHIUM<sup>™</sup> Project in Germany. Dr Wedin was previously Executive Director of successful ASX-listed Exore Resources Ltd (ASX:ERX). During this time, he discovered and defined two new JORC lithium resources, on two continents, in under a year. This included Lynas Find, which was bought by Pilbara Minerals to become part of its large Pilgangoora Lithium Project, now in production (ASX:PLS). Dr Wedin has a PhD and BSc (Hons) in geology and mineral exploration, and an MBA in renewable energy. He is a Fellow of the Geological Society, London, and a member of the Australasian Institute of Mining and Metallurgy.



#### **Mr Cris Moreno** (From 1 July 2023) Managing Director and Chief Executive Officer

#### BASc (Hons) BChE (Hons

Mr Moreno has over 20 years' global experience in successfully delivering major, unique, and challenging projects, including in the lithium chemicals, cathode, and LNG sectors. In the LNG sector, he held leadership roles with Santos, Woodside, and Shell, including working on the Browse, Gorgon, and Prelude LNG projects. Prior to joining Vulcan, Mr Moreno worked in the lithium chemicals and battery cathode sector in Europe, as Senior Director Programs for Northvolt–Cathode Active Material(CAM)Business Unit, and as Vice President – Engineering and Development for Aurora Lithium, Northvolt's lithium hydroxide refinery in Europe.



#### Mr Gavin Rezos

#### **Non-Executive Deputy Chair**

#### B.Juris, LLB, BA, Law, Economics, International Politics

Mr Rezos has many years of Australian and international corporate, project finance and investment banking experience and is both a former Head of Legal and Compliance across multiple countries for the HSBC Group and an Investment Banking Director of HSBC Group with regional roles during his career based in London, Sydney and Dubai. Mr Rezos has held chairman, board and CEO positions of companies in the materials, technology and resources sector in Australia, the United Kingdom, the United States and Singapore and was formerly a non-executive director of Iluka Resources and of Rowing Australia, the peak Olympics sports body for rowing in Australia. He is a principal of Viaticus Capital.



# Ms Ranya Alkadamani

#### Independent Non-Executive Director

BA Media, Communication, Media Studies, MA International Relations & Affairs, MA International Communications

Ms Alkadamani holds a Master of International Relations and International Communications and a Bachelor of Media from Macquarie University. Ms Alkadamani is currently Founder and CEO of Impact Group International, a strategic communications consultancy focused on advice to impact investors, philanthropists, and innovative social impact programs. Ms Alkadamani works extensively in the impact investment space in Australia and internationally and has a strong network of clients and investors in the clean energy and renewables sector. Ms Alkadamani is also a Non-Executive Director of Australian Associated Press, Australia's only independent newswire, Director of the Impact Investment Summit, Asia Pacific, and an advisory board member at Murdoch University. Ms Alkadamani was formerly Strategic Communications and External Affairs Director of Andrew Forrest's Minderoo Foundation and now Tattarang, Press Secretary to former Australian Prime Minister, Kevin Rudd during his time as Australian Foreign Minister and a spokesperson for the Australian Department of Foreign Affairs and Trade.



#### Ms Annie Liu

#### Independent Non-Executive Director

#### BEng Industrial Engineering & Operations Research

Ms Liu was the Executive Director at Ford (Model E) from 2022 to 2023. In this role, Ms Liu applied her knowledge of global technology sourcing, especially tied to batteries and raw materials. Prior to her role at Ford, Ms Liu was Head of Supply Chain, Battery and Energy at Tesla, from 2017 to 2020. At Tesla, Ms Liu oversaw multi-billion-dollar partnerships with battery cell and raw material suppliers to help meet the company's growth plan. Ms Liu led a global team of supply chain managers and engineers to support the battery and energy business. Ms Liu joined Tesla after a 15-year career with Microsoft, holding various positions with Xbox, new product introductions and strategic sourcing for various products within the organisation. Ms Liu started her career with Sun Microsystems as a manufacturing engineer. She holds a Bachelor of Science in Engineering from the University of California, Berkeley. Ms Liu is also currently a Non-Executive Director of Alpha HP.



#### Dr Heidi Grön

#### Independent Non-Executive Director

PhD Chemical Process Engineering, Dip. Chemical Engineering

Dr Grön is a chemical engineer with almost 25 years' experience in the chemicals industry. Since 2007, Dr Grön has been a senior executive with Evonik, a specialty chemicals company. Dr Grön's key achievements include successful implementation of large CAPEX projects, significant improvements in OPEX, successful M&A and JV negotiations, and strategic re-positioning of a large global business. At Evonik, Dr Grön is currently responsible for Production, Technology, Asset Digitalisation, and for Global Product Stewardship.



## **Ms Josephine Bush**

#### Independent Non-Executive Director

CTA, MA (Hons) Law, CFA ESG investing, Sustainable Finance Certification

Ms Bush is a qualified solicitor and chartered tax advisor, as well as holidng the CFA ESG investing qualification and a sustainable finance certification. She has an MA in Law from Cambridge University. Ms Bush was a senior partner at EY for 14 years specialising in the sustainable and renewable energy sector. She was a member of the Ernst & Young Power and Utilities Board and UK&I Governance Board. Josephine is also a NED on the Next Energy Solar Fund PLC and Foresight Sustainable Forestry Company PLC, both listed on the London Stock Exchange. In addition, she is a strategic advisor to select businesses on their sustainability strategy.



# Dr Günter Hilken

**Non-Executive Director** 

PhD in Organic Chemistry, master's degree in chemistry

Dr Hilken has over 35 years' experience and a deep understanding of the German chemicals, renewables, and infrastructure investment sectors and, through leading industry advocacy associations, the German Government at the state and federal level. Dr Hilken's experience and connections will help geothermal energy become a foundation of Germany's supply of sustainable and secure renewable energy as Germany diversifies away from local carbon-based energy sources and Russian energy. Dr Hilken is also a Senior Advisor to Macquarie Asset Management and a member of the Board of the German Federation of Industrial Energy Consumers (VIK). He was previously CEO of Currenta for nine years, a Member of the Supervisory Board of Currenta, held senior executive roles with Bayer in Germany, the US, Canada, and Asia and was a Director of RWE Power AG.



#### Mark Skelton (retired effective 1 February 2024)

#### **Non-Executive Director**

#### Chartered Engineer (Institution Mechanical Engineers, UK), BSc (Hons), Mechanical Engineering

Mr Skelton has more than 35 years' experience including a 29-year tenure at BP and then at Fortescue Metals Group in multiple Project Director and senior management roles. As a senior leader and advisor with a proven record in delivering major projects, business transformation and developing organisational capability within the mining, energy and oil and gas industries, Mr Skelton has extensive project experience in Australia and internationally. Mr Skelton holds a Bachelor of Science (Honours), Mechanical Engineering from the University of Greenwich and is a Chartered Engineer registered by the Institute of Mechanical Engineers (UK). Currently a director of a private consulting company, Mr Skelton has been involved in delivering and providing strategic advice on Definitive Feasibility Study(DFS) and development stages of large-scale projects, including mineral resources, renewable energy and LHM plants in Western Australia. With a focus on excellence in project development and delivery, Mr Skelton has assisted with the execution of projects from feasibility phase to full sanction, including assisting with the award of major contracts.

# **BOARD SKILLS MATRIX**

Vulcan's management of risk begins with our Board who have been carefully selected to ensure relevant and diverse expertise.

The composition of the Board is reviewed regularly against the Company's Board skills matrix, which is prepared and maintained by the Nominations Committee, to ensure the appropriate mix of skills and expertise is present to facilitate successful strategic direction and to manage and leverage new and emerging business and governance issues. The following table sets out the composition of skills and experience of Vulcan's Board of Directors.

Experience	Knowledge and skills
<b>Corporate leadership</b> Successful experience in CEO and/or other senior corporate leadership roles.	<b>Strategic expertise</b> Experience setting and reviewing strategy and/or business development.
<b>International experience</b> Senior experience in multiple international locations.	Marketing & communications Media, stakeholder communication, investor relations, public relations.
<b>Resources or technology industry experience</b> Relevant industry (resources, energy, power, mining, exploration, processing) experience.	<b>Risk and compliance</b> Risk management and mitigation experience.
<b>Other Board level experience</b> Membership of other listed entities in the last three years.	<b>Capital markets</b> Capital raising, mergers and acquisitions.
Capital projects Major resources capital project development and management.	<b>Environmental</b> Proven experience with climate change policy, sustainability, carbon reduction.
	<b>Social</b> Positive human resource management.
	Gauernanaa

Relevant exposure to controlling and operating organisational procedures and processes.



# **ADDITIONAL EXPERTISE**



#### Ms Julia Poliscanova

Board Adviser

#### MSc, Energy, BA Politics and French (Hons)

Ms Poliscanova is a senior director with the EU's Transport and Environment. Ms Poliscanova is instrumental in shaping policies around EU vehicle  $CO_2$  standards, sustainable batteries and responsibly source critical minerals. She has previously worked for the Mayor of London as a senior EU policy officer. Ms Poliscanova is also on the steering committee for the Battery  $CO_2$  Passport program of the Global Battery Alliance.



#### Dr Horst Kreuter - Chief Representative Germany

**Board Adviser** 

Dr Horst Kreuter is a highly experienced businessman and engineering geologist, with an extensive and distinguished record of project development and consulting in the geothermal sector. Dr Kreuter is Co-Founder of the ZERO CARBON LITHIUM<sup>™</sup> Project, alongside Dr Francis Wedin. Prior to Vulcan, Dr Kreuter spent over 15 years as leader of GeoThermal Engineering GmbH, a consulting firm based in Karlsruhe, with work extending both domestically and internationally. Notably, Dr Kreuter was actively involved in countries such as Tanzania, Turkey, Italy, and Indonesia. In these regions, he initiated and guided numerous geothermal projects, showcasing his expertise and dedication to advancing the field of geothermal energy.

# **COMPANY SECRETARY**



#### Mr Daniel Tydde (Appointed 14 June 2021)

**Company Secretary & In-House Counsel** Bachelor of Laws, Bachelor of Commerce

Mr Tydde is an experienced corporate lawyer with approximately 20 years' experience across a wide range of corporate, commercial, and finance areas including corporate regulatory compliance; corporate governance; equity and debt capital raisings; asset and share sales and purchases; initial public offerings; corporate restructuring and re-organisations; and litigation. Prior to joining Vulcan, he held a senior position at Steinepreis Paganin and, prior to that, worked at Clayton Utz and Phillips Fox (now DLA Piper). Mr Tydde holds a Bachelor of Laws and a Bachelor of Commerce from the University of Notre Dame Australia.

# **DIRECTORS' MEETINGS**

	Fu	ull Board			Risk and mmittee		Per	ople and formand mmittee	e		ct Overs mmittee			minatio	
	Attended	Eligible to attend	Held	Attended	Eligible to attend	Held	Attended	Eligible to attend	Held	Attended	Eligible to attend	Held	Attended	Eligible to attend	Held
Cris Moreno <sup>24</sup>	4	4	9	4	0	7	1	0	4	3	0	7	1	0	3
Dr Francis Wedin	9	9	9	7	0	7	4	0	4	7	0	7	3	0	3
Gavin Rezos	9	9	9	7	7	7	4	4	4	5	0	7	3	3	3
Ranya Alkadamani	9	9	9	0	0	7	4	4	4	0	0	7	3	3	3
Annie Liu	8	9	9	0	0	7	4	4	4	0	0	7	3	3	3
Dr Heidi Grön	9	9	9	7	7	7	0	0	4	7	7	7	3	3	3
Josephine Bush	9	9	9	7	7	7	0	0	4	4	0	7	3	3	3
Dr Günter Hilken	8	9	9	1	0	7	0	0	4	7	7	7	3	3	3
Mark Skelton <sup>25</sup>	9	9	9	1	0	7	0	0	4	7	7	7	2	3	3

The number of meetings held during the year and the number of meetings attended by each Director is contained in the table above.<sup>26</sup>

The committee members during the year were as follows:

- Audit Risk and ESG Committee: Josephine Bush (Chair), Gavin Rezos and Dr Heidi Grön
- People and Performance Committee: Ranya Alkadamani (Chair), Gavin Rezos, Annie Liu
- Projects Oversight Committee: Mark Skelton (Chair), Dr Günter Hilken, Dr Heidi Grön
- Nomination Committee: Ranya Alkadamani (Chair), Gavin Rezos, Josephine Bush as well as one member from Project Oversight Commitee depending on availability.

In addition to the scheduled Board meetings, Directors regularly communicate by telephone, email or other electronic means, and where necessary, circular resolutions are executed to effect decisions.

For further details of the function of the Board, refer to the Corporate Governance Statement.

<sup>&</sup>lt;sup>24</sup> Appointed as CEO/Managing Director on 1 July 2023. The information for Mr Moreno in the above table only relates to the relevant meetings whilst he was a director.

<sup>&</sup>lt;sup>25</sup> Retired effective 1 February 2024.

<sup>&</sup>lt;sup>26</sup> All directors are entitled to attend all committee meetings.

# **OPERATING AND FINANCIAL REVIEW**

The financial results of the Group for the financial year ended 31 December 2023 are as follows:

#### **BALANCE SHEET**

Vulcan's financial position remains robust with a cash position of  $\in$ 78.7 million on hand as at 31 December 2023. During the year, the Company successfully raised capital through an underwritten institutional placement of  $\in$ 67.3 million.

#### REVENUE

Revenue from continuing operations was €6.8 million (2022 €3.6 million) comprised of €4.0 million geothermal power revenue from Natürlich Insheim as well as €2.6 million drilling personnel outsourcing revenue from Comeback Personaldienstleistung GmbH, which Vulcan took control of effective 1 February 2023.

#### **CASH OUTFLOWS**

The cash outflows are consistent with Vulcan's strategy to advance the ZERO CARBON LITHIUM<sup>™</sup> Project at pace and scale. Notable cash outlays during the year related to:

- Bridging Engineering Study.
- Construction of the Lithium Extraction Optimisation Plant.
- Construction of the Central Lithium Electrolysis Optimisation Plant.
- Refurbishment of two electric drill rigs in preparation for upcoming drilling.
- Engineering works for Phase One plants.
- Well site preparation costs for upcoming Schleidberg well.

	31 December 2023	31 December 2022
Cash and cash equivalents (€'000)	78,728	134,107
Net Assets (€'000)	268,281	233,161
Revenue from continuing operations (€'000)	6,783	3,622
Net loss after tax (€'000)	26,963	13,450
Loss per share (Euro per share)	(0.17)	(0.09)

#### DIVIDENDS

No dividend is recommended in respect of the current financial year.

#### MATERIAL BUSINESS RISKS

# INTERRUPTIONS TO ITS SUPPLY CHAIN OR LONG DELIVERY TIMES

Technical and project execution-related supplies can impact Vulcan's phase one project's timely completion and operational start. The Company continues to analyse the risks associated explicitly with delays with critical supplies and any associated increased costs. This planning, led by the VP of Supply Chain appointed during the reporting period, includes regular budget, and forecast allocation updates with the leadership team and the board. Assigning specific enterprise risk management to team members and extending the internal financial accounting capabilities are also measures to mitigate risk occurrence. Vulcan has implemented the recommendations alongside the Target Operating Model 360.

#### **CONSERVATIVE CREDIT MARKETS**

A delay in finalising Vulcan's debt financing program could affect the start of Vulcan's Phase One project. Over the last year, Vulcan commenced its debt and project level equity financing program. In November, Vulcan received an A\$200 million (~€120 million) non-binding Letter of Support from Export Finance Australia (EFA) and an indication of strong ECA support from Canada, Italy, and France during 2023. The integrated nature of the business model with geothermal energy, as well as lithium production, coupled with the financial case finalised in November of 2023, has defined Vulcan Energy's ZERO CARBON LITHIUM<sup>™</sup> Project with robust financials and, therefore, less foreseeable risk for financiers.

#### **RESOURCE AND RESERVE ESTIMATES**

Lithium resources and reserves indicated must be considered as estimates only until such reserves are extracted and processed. Vulcan's resources are based on strong temporal (many brine samples taken over time), but limited spatial data points due to the deep nature of the reservoir. Grades of lithium in brine produced may vary negatively from the amount anticipated. At the end of 2023, Vulcan announced an increase to Europe's largest lithium Resource. Vulcan's URVBF lithium Resource has increased to 27.7 million tonnes of contained Lithium Carbonate Equivalent (Mt LCE) @ 175 mg/L, from 26.6Mt LCE @ 174 mg/L, to reflect a larger resource in the Phase One area. Although data can only indicate an estimate, indications are for a large, long-term resource.

#### LITHIUM MARKET

Lithium prices are subject to unpredictable fluctuations, driven partly by changes in the balance of global supply and demand. Due to new market or technology developments and other factors, fluctuations in market demand and commodity prices for lithium may adversely impact Vulcan's financial results and futurecash flows. Vulcan has limited its exposure to lithium price fluctuations by flooring the lithium prices for parts of its future sales volume in the offtake contracts with OEMs. The nature of our product being carbon neutral lithium and differentiator in the market remains attractive to OEM's.

#### SOCIETAL ACCEPTANCE

There is a risk that mining, and resource projects are considered 'taboo' in Europe and may not be permitted. Vulcan's Phase One project has received favourable support across its Phase One region, as demonstrated in December by the positive Landay City Council vote for its Phase One G-LEP plant. Vulcan will continue to work closely with local communities to provide updates and information to ensure they understand the project's benefits within their region.

#### LITHIUM RECLASSIFICATION

Although the reclassification movement has slowed, ongoing discussions continue by the European Chemicals Agency (ECHA) to re-classify lithium as a Category 1A chemical on a similar level as cobalt. The reclassification could increase regulatory requirements around controlling, processing, packaging, and storage of lithium. With European OEMs and lithium battery supply chain companies and institutions, Vulcan has raised its concerns with the European Union and member states. The Company believes that rejecting the proposal is an opportunity for the EU to demonstrate its commitment to building a local, European lithium supply chain consistent withrecent targets and actions.

#### **CLIMATE**

Climate related risks continue to be considered as the Company advances the ZERO CARBON LITHIUM<sup>™</sup> Project. These risks can take the form of physical impacts, such as acute weather events (flooding, drought) and chronic weather events (an increase in precipitation or mean temperature), as well as transitional risks, as governments and countries adapt to new conditions due to climate change. Further information can be found in the website's TCFD and EU Taxonomy Report, including the Company's climate scenario modelling, considering two climate scenarios, Net Zero Emissions (NZE) and Stated Policies Scenario (STEPS). The low-risk exposure of Phase One of Vulcan's ZERO CARBON LITHIUM<sup>™</sup> Project to climate change was confirmed in the ESIA report in November 2023.

#### PERSONNEL

The ability to execute Vulcan's ZERO CARBON LITHIUM<sup>™</sup> Phase One Project is in part dependent on its ability to retain and attract key personnel. During the reporting period, Vulcan appointed key executive positions from related industries to further the organisation's knowledge and credibility in delivering on its Phase One Zero Carbon lithium project. Vulcan will make every reasonable effort to retain key personnel, but there can be no guarantee that it will be able to maintain its executive team. There is also a risk that the Group may need to pay a higher-than-expected cost to acquire or retain the necessary talent in the current or future market conditions.

#### **PERMITTING PROCESS**

The ZERO CARBON LITHIUM™ Project may be affected by delays in receiving the necessary approvals from all relevant authorities and parties. Multiple permits will be needed to enter commercial operations for geothermal production on a larger scale and lithium production. A significant cornerstone for Phase One of the project was the approval of the City Council of Landau in December 2023 to enter contract negotiations with Vulcan for the sale of the industrial land plot of D12, which will host Vulcan's commercial-scale geothermal and lithium extraction plant. Furthermore, Vulcan has received approval from the mining authority for the primary and special operating plans at its first new well site in Schleidberg, where preparations of the well site started in H2 2023. Vulcan has a team of experts in geothermal development who have developed numerous projects in the past and will continue to keep stakeholders updated on the timetable. Vulcan has received encouragement from state and federal governments that renewable energy project permitting times will be reduced as a priority. Furthermore, government policies are moving to support the domestic production of strategic raw materials, which is in Vulcan's favour. So far, Vulcan has received multiple preliminary EIA approvals in line with its development plans.

#### **CYBER SECURITY**

Data integrity, availability and reliability within the Company's information technology systems may be subject to intentional or unintentional disruption. Given the increasing level of sophistication and scope for potential cyberattacks, these attacks may lead to significant breaches of security that could jeopardise Vulcan's sensitive information and financial transactions or shut down systems for some time. Vulcan's information technology team have implemented several risk mitigation processes in an attempt to protect the Company and its stakeholders from the possibility of a cyber security breach.

# SIGNIFICANT CHANGES IN THE STATE OF AFFAIRS

# PHASE ONE EXECUTION OF VULCAN'S ZERO CARBON LITHIUM™ PROJECT

# COMPLETION OF DFS AND BRIDGING ENGINEERING STUDY FOR PHASE ONE

Vulcan published the results of its Definitive Feasibility Study (DFS) for Phase One in February 2023, followed by the positive results of the Bridging Engineering Study launched by Vulcan together with Hatch. This includes significant value improvements, including a reduction in CAPEX, and OPEX, while increasing and streamlining project definition.

#### **APPROVAL TO BEGIN CONSTRUCTION OF G-LEP**

Vulcan announced the positive decision by the Landau City Council to execute an agreement to allow the Company to begin construction of its integrated Geothermal renewable energy and Lithium Extraction Plant (G-LEP) on the intended land located in the Landau region. Completion of acquisition of this land is set to occur subsequently, following satisfaction of already agreed conditions and execution of the formal purchase agreement. The prospective land acquisition is a major step in completion of the Phase One plant land packages and will add to the site already secured at Industrial Park Frankfurt Höchst for the Central Lithium Plant (CLP).

#### **LEOP OPENING**

During the Period, Vulcan officially opened its LEOP in Landau, Germany. LEOP is Europe's first plant for fully domestic lithium chemicals production, to secure Europe's lithium supply chain for EV manufacturers. It is a €40m investment by Vulcan and serves as an optimisation, operational training, and product qualification facility, enabling commercial operational readiness for 2026.

#### MAIN OPERATING PLAN APPROVAL

The State Mining Directorate approved the first Main Operating Plan for Vulcan's newly planned wells in its Insheim licence, where Vulcan is already operating commercial geothermal wells and plant. Vulcan plans to increase brine production by adding several production and injection wells. Pipelines will flow the lithium-rich brine, as well as water heated by the brine, to the planned facilities in the Landau Industrial Park.

#### **BUILDING PERMIT RECEIVED FOR CLEOP**

Building permit received for CLEOP at the Frankfurt Höchst Industrial Park and Vulcan officially "broke the ground" on site in October 2023.

# FUTURE PHASES AND PROJECT PIPELINE

#### **NEW LICENCE GRANTED**

During the Period, Vulcan was granted a new geothermal and lithium brine exploration licence, designated "Luftbrücke", covering a region of Frankfurt am Main, an area with potential industrial customers like the Höchst Industrial Park and Frankfurt Airport, all heavy energy consumers requiring large quantities of renewable energy and heating solutions.



#### **DECARBONISATION OF STELLANTIS OPERATIONS**

At the start of 2023, Vulcan signed a Binding Term Sheet with Stellantis for the first phase of a multiphase project aimed at decarbonising the energy mix of the Rüsselsheim am Main manufacturing site in the URV, Germany, by developing new geothermal projects. In addition, the companies signed their fourth agreement later in 2023, with the aim to a joint project to develop geothermal renewable energy to supply Stellantis' Mulhouse Plant in France.

#### **3D SEISMIC**

In the Mannheim region, Vulcan completed a 3D Seismic survey, with results expected in Q1, 2024. Vulcan signed a renewable heat offtake agreement with MVV Energie AG, the utility for the city of Mannheim in April 2022.

#### **INCREASE IN RESOURCES**

The Company released a Mineral Resources update, showing that Vulcan's URVBF lithium Resource has increased to 27.7 million tonnes of contained Lithium Carbonate Equivalent (Mt LCE) @ 175 mg/L, from 26.6Mt LCE @ 174 mg/L, to reflect a larger resource in the Phase One area. This signifies an increase in confidence, reduction of risk in the upstream of Phase One, and supports Vulcan's Bridging Engineering Study and financing.

#### ESG AND COMMUNITY STAKEHOLDER ENGAGEMENT

#### **ESIA COMPLETED**

In December 2023, Vulcan together with ERM completed its Environmental and Social Impact Assessment (ESIA) for Phase One of its ZERO CARBON LITHIUM<sup>™</sup> Project. ESIA is in line with lenders' requirements to ensure a level of environmental performance prior to the furnishing of debt finance and is, together with ESMP, integrated into the project level debt and equity financing process. Within ESIA it is noted that there are multiple positive impacts of the Project, including renewable heating provision for local communities, and carbon neutral lithium production to decarbonise the lithium supply chain, in a world leading first for the industry.

#### **OTHERS**

#### SUCCESSFUL COMPLETION OF €67M (A\$109M) PLACEMENT

€67m (A\$109m) institutional placement successfully completed, supported by existing major shareholders.

#### **LEADERSHIP OF THE FUTURE**

To ensure successful delivery of Vulcan's ZERO CARBON LITHIUM<sup>™</sup> Project, Cris Moreno has been appointed to Managing Director and CEO, Dr Francis Wedin moved to the role of Executive Chair and Gavin Rezos will continue to serve on the Board as Non-Executive Deputy Chair.

#### DIVERSITY

Vulcan endeavours to continuously improve diversity statistics across the business and is proud to have surpassed the gender diversity target of 40% female representation at the Board level. At the time of writing, the Vulcan Board has a female representation of 50%. Looking forward, Vulcan has identified that the leadership team, with currently 21% female, is a key target area for improvement in coming years.

#### LIKELY DEVELOPMENTS AND EXPECTED RESULTS

Over the next 12 months, Vulcan targets production of LiCl to specification in the first half of 2024. Construction and commissioning will be completed at CLEOP, where production will commence in the second half of the year. Throughout the year, Vulcan also aims to complete its debt and project level equity financing program. The close of its financing will signal the trigger for awarding EPC and EPCM contracts. Towards the end of the year, Vulcan aims to commence construction of its G-LEP.

# MATTERS SUBSEQUENT TO THE REPORTING YEAR

#### **FINANCING UPDATE**

The Company continues its debt and project level equity financing process, supported by BNP Paribas, following positive market sounding in 2023 from commercial banks, development banks, and government-backed export credit agencies. Vulcan aims to complete its finance program in the third quarter of 2024.

After preliminary due diligence, Vulcan's Phase One ZERO CARBON LITHIUM<sup>™</sup> Project appears potentially suitable for EIB financing and the Project has advanced to the "Under Appraisal" stage. 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 funding is expected to serve as a cornerstone to complement ongoing debt funding discussions with leading export credit agencies and international banks.

In April 2023, Nobian and Vulcan signed a Term Sheet to review potential areas of cooperation. The agreement followed a longer cooperation to assess the feasibility of producing lithium hydroxide from lithium chloride in Germany. The initial finance structure saw the financing of its upstream and downstream lithium projects separately, and the Term Sheet contemplated Nobian participating at the downstream lithium hydroxide project level only. Following feedback from its financiers and other stakeholders, Vulcan has decided to fund its upstream and downstream developments in an integrated lithium and renewable energy project (integrated project) in order to gain more operational synergies. Due to the changed project structure by Vulcan, Nobian has decided not to participate further in the equity financing process for the Integrated Project. Whilst Nobian recognises Vulcan's decision to raise equity at the Integrated Project level; at the same time, it also impacts Nobian's potential role in the project as a strategic partner. Nobian and Vulcan will continue to explore other forms of commercial collaboration.

#### APPOINTMENT OF VULCAN GROUP CHIEF FINANCIAL OFFICER

Appointment of Ms Felicity Gooding to the role of Group Chief Financial Officer (CFO) for 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<sup>™</sup> Project, of which Phase One financing is already under way, and is an opportune appointment at the current stage of the Company's development.

#### **RETIREMENT OF MR MARK SKELTON**

Mr Mark Skelton retired from the Board as non-executive director of the Company effective 1 February 2024. Mr Skelton joined the Board of Vulcan in April 2022 whilst the Company was evolving from a development company into a project execution company. During his time on the Board, Mr Skelton contributed to building a strong executive leadership team across Vulcan, and specifically, the buildout of the project execution team, which has already made significant strides with completion of the construction of the LEOP.

## **ENVIRONMENTAL REGULATIONS**

The Directors have considered compliance with the National Greenhouse and Energy Reporting Act 2007 which requires entities to report annual greenhouse gas emissions and energy use if over certain facility or corporate group thresholds. The Vulcan Group does not meet these thresholds for 2023 but does voluntarily report annual greenhouse gas emissions. The Australian operations of the Company have been certified as carbon neutral under the Australian Climate Active initiative since 2020, the German operations, including VEE and VES have been certified carbon neutral since 2021. The German operations were certified under South Pole for 2021 and certified

under Climate Impact Partners for 2022. During the Period, Vulcan together with ERM completed its Environmental and Social Impact Assessment (ESIA) for Phase One of its ZERO CARBON LITHIUM<sup>TM</sup> Project, noting multiple positive impacts of the Project, including renewable heating provision for local communities, and carbon neutral lithium production to decarbonise the lithium supply chain, in a world leading first for the industry. ESIA is in line with lenders' requirements to ensure a level of environmental performance prior to the furnishing of debt finance and is, together with ESMP, integrated into the project level debt and equity financing process.

#### PROCEEDINGS ON BEHALF OF THE COMPANY

No person has applied to the Court under section 237 of the Corporations Act 2001 for leave to bring proceedings on behalf of the Company, or to intervene in any proceedings to which the Company is a party, for the purposes of taking responsibility on behalf of the Company for all or part of these proceedings.

# **INDEMNIFICATION AND INSURANCE OF OFFICERS AND AUDITORS**

The Company has indemnified the Directors and Executives of the Company for costs incurred, in their capacity as a director or Executive, for which they may be held personally liable, except where there is a lack of good faith.

During the financial year, the Company paid a premium in respect of a contract to insure the Directors and Executives of the Company against a liability to the extent permitted by the Corporations Act 2001. The contract of insurance prohibits disclosure of the nature of the liability and the amount of the premium. The Company has not, during or since the end of the financial year, indemnified or agreed to indemnify the auditor of the Company or any related entity against a liability incurred by the auditor.

During the financial year, the Company has not paid a premium in respect of a contract to insure the auditor of the Company or any related entity.

# **OFFICERS OF THE COMPANY WHO ARE FORMER PARTNERS OF RSM**

There are no officers of the Company who are former partners of RSM Australia Partners.



# REMUNERATION REPORT

The Remuneration Report (Report) outlines the remuneration arrangements for the Vulcan Energy Resources Limited (Vulcan, or the Company) Key Management Personnel (KMP) for the year ended 31 December 2023 (FY23) in accordance with the requirements of the *Corporations Act 2001* (the Act) and its regulations. This information has been prepared in accordance with section 300A and audited as required by section 308(3C) of the Act.

#### The Remuneration Report is presented under the following sections:

1.	Introduction
2.	Remuneration Summary
3.	Remuneration governance
4.	Executive KMP remuneration arrangements
5.	Executive KMP remuneration outcomes
6.	Looking forward to FY24
7.	Executive KMP Contracts
8.	Non-Executive Director remuneration arrangements
9.	Additional disclosures relating to rights and shares
10.	Loans to key management personnel and their related parties
11.	Other transactions and balances with key management personnel and their related parties

# **1. INTRODUCTION**

This Remuneration Report details the remuneration arrangements for KMP who are defined as those persons having authority and responsibility for planning, directing and controlling the major activities of the Company, directly or indirectly, including any director (whether executive or otherwise) of the Company. Each KMP was appointed for the entire year 1 January to 31 December 2023, unless otherwise stated. For the purposes of this Report, the term "Executive" includes the Managing Director and other Executive KMP of the Group.

#### (i) NON-EXECUTIVE DIRECTORS (NEDs)

Mr Gavin Rezos <sup>27</sup>	Non-Executive Deputy Chair
Ms Ranya Alkadamani	Non-Executive Director
Dr Heidi Grön	Non-Executive Director
Ms Annie Liu	Non-Executive Director
Ms Josephine Bush	Non-Executive Director
Dr Günter Hilken	Non-Executive Director
Mr Mark Skelton <sup>28</sup>	Non-Executive Director

#### (ii) EXECUTIVE (EXECUTIVE KMP)

Dr Francis Wedin <sup>29</sup>	Executive Chair
Mr Robert lerace <sup>30</sup>	Chief Financial Officer
Mr Vincent Ledoux Pedailles <sup>31</sup>	Chief Commercial Officer
Mr Cris Moreno <sup>32</sup>	Managing Director & Chief Executive Officer

<sup>27</sup> Mr Rezos moved from Non-Executive Chair to Non-Executive Deputy Chair on 1 July 2023.

 $^{\rm 28}\,$  Mr Mark Skelton retired from the position of NED on 1 February 2024.

<sup>29</sup> Dr Francis Wedin transitioned from Managing Director (MD) to Executive Chair following the appointment of the Deputy Chief Executive Officer (Deputy CEO) to CEO and MD on 1 July 2023.

- <sup>30</sup> Mr Robert lerace will step down from the role of Chief Financial Officer (CFO) on 31 March 2024. Ms Felicity Gooding was appointed as Group CFO on 15 January 2024 and her remuneration details will be disclosed in the FY24 annual report.
- <sup>31</sup> Based on an internal restructure of executive roles, Mr Ledoux-Pedailles ceased to be a KMP from 1 July 2023
- $^{\rm 32}\,$  Mr Cris Moreno transitioned from Deputy CEO to MD and CEO on 1 July 2023.

There were no other changes to the KMP after the reporting date and before the date the financial report was authorised for issue.

# 2. REMUNERATION SUMMARY

Executive KMP are rewarded through fixed remuneration, an Annual Deferred Incentive (ADI) and a Long-Term Incentive (LTI). NEDs receive a fixed fee for their service over the year. The following table provides the key remuneration highlights for FY23.

Fixed Remuneration (FR)		<ul> <li>The following increases to executive KMP remuneration were adopted by the Board considering growing role responsibilities and complexity, performance, internal parity and external market conditions. The increases were effective from 1 July 2023:</li> <li>Dr Francis Wedin's FR was adjusted from \$638,000 (€422,067) to \$666,000 (€409,121), a 4.4% increase.</li> <li>Mr Cris Moreno's FR was adjusted from \$442,000 (€292,404) per annum to \$666,000 (€409,121), a 50.7% increase. The increase reflects the transition from Deputy CE0 to MD- CE0.</li> <li>Mr Robert Ierace's FR increased from \$294,000(€194,496)to \$304,140 (€186,864), a 3.4% increase.</li> </ul>
Annual Deferred Incentive (ADI)	41% ADI award delivered for the period to 30 June 2023	Based on the assessed outcomes for the period 1 July 2022 to 30 June 2023 the Board awarded 41% of ADI payments in the form of performance rights, which will vest subject to continued employment to 30 June 2024. Please refer to sections 4 and 5 for further detail.
Long Term Incentive (LTI)	No LTI rights vested	No LTI vesting occurred between 1 January 2023 and 31 December 2023. Please refer to sections 4 and 5 for further detail.
NED remuneration	NED and committee fees increased to market and business appropriate levels	<ul> <li>Following an independent review by BDO Remuneration and Reward Pty Ltd (BDO), the NED and committee fees were adjusted to align with external market conditions and the size of the Company's operations and business complexity under current growth plans. The NED fee pool remains unchanged. The increases were effective 1 April 2023:</li> <li>Chair fee was adjusted from \$162,000 (€107,171) to \$204,000 (€125,338), representing a 25.9% increase.</li> <li>Deputy Chair fee was the same as the Chair fee from 1 July 2023 to 31 December 2023, to reflect a period of transition. The Deputy Chair fee is \$152,000 (€93,389) from 1 January 2024.</li> <li>NED fees were adjusted from \$60,000 (€39,693) to \$81,000 (€49,766), representing a 35.0% increase.</li> <li>Committee chair fees were adjusted from \$10,000 (€6,615) to \$15,000 (€9,216), representing a 50.0% increase.</li> <li>Committee member fees were adjusted from \$5,000 (€3,308) to \$10,000 (€6,144), representing a 100% increase.</li> </ul>

# **3. REMUNERATION GOVERNANCE**

#### **REMUNERATION DECISION MAKING**

The following diagram represents the Company's remuneration decision making framework:

The People and Performance Committee (PPC) comprises three NEDs, of which two are independent, and meets regularly throughout the year. The Executive Chair and MD - CEO attend certain PPC meetings by invitation, where management input is required. The Executive Chair and MD - CEO is not involved in the final decision related to their own remuneration arrangements. Further information on the PPC's role, responsibilities and membership can be found on the Company's website at www.v-er.eu.

# USE OF INDEPENDENT REMUNERATION CONSULTANTS

To ensure the PPC is fully informed when making remuneration decisions, it seeks external remuneration advice where required. Independent remuneration consultants are engaged by, and report directly to, the PPC. In selecting remuneration consultants, the PPC considers potential conflicts of interest and requires independence from the Company's KMP and other executives as part of their terms of engagement.

During the financial year ended 30 June 2021, the PPC commissioned BDO for an independent review of NED Remuneration.

# REMUNERATION REPORT APPROVAL AT 2022 AGM

The Remuneration Report for the period ended 31 December 2022 received positive shareholder support at the 2022 AGM with a vote of 98.92% in favour.

# 4. EXECUTIVE KMP REMUNERATION ARRANGEMENTS

#### **REMUNERATION PRINCIPLES AND STRATEGY**

Vulcan's executive remuneration strategy is designed to attract, retain and motivate the best people to create a positive culture that delivers the Company's business strategy and contributes to sustainable long-term returns.

The following diagram illustrates how the Company's remuneration strategy aligns with the strategic direction and links remuneration outcomes to performance.



## **APPROACH TO SETTING REMUNERATION AND DETAILS OF INCENTIVE PLANS**

The executive remuneration framework consists of fixed remuneration, short and long- term incentives with different reward focus.

Remuneration Component	Vehicle	Purpose	Link to performance
Fixed Remuneration (FR)	Base salary plus statutory superannuation or equivalent	Attract and retain executives with the capability and experience to deliver Vulcan's strategy, based upon the competitive landscape among relevant peers.	Regularly reviewed to ensure the remuneration levels appropriately compensate Executives for their capability in driving a positive culture and delivering on the business strategy.
Annual Deferred Incentive (ADI)	Performance Rights (Rights)	Reward for performance against KPIs aligned to annual business objectives, including Environmental Social Governance (ESG)-linked objectives.	Strategic annual objectives are embedded in each executive's personal scorecard of performance measures.
Long Term Incentive (LTI)	Performance Rights (Rights)	Align long-term performance focus to drive shareholder returns. Encourage sustainable, long- term value creation through equity ownership.	Vesting is subject to the achievement of defined business and sustainability milestones and Total Shareholder Return (TSR) over a four-year period.

The following diagrams set out the executive remuneration structure.

	Fixed Remuneration	ADI	LTI
		Unvested Rights sub	pjects to forfeitures
Year 1	Base Salary, Superannuation and Other benefits.	Annual award of Performance Rights under the ADI plan	
Year 2		which vest subject to achievement of annual objectives plus an additional year of service.	Performance Rights which vest after four years subject
Year 4			to the achievement of performance hurdles.

Each component of the remuneration structure is further outlined on the following pages.

How is overall	The overall remuneration mix reflects an appropriate balance of fixed and variable remuneration					
remuneration and mix	considering the Company's size and business operations.					
determined?	The chart below summarises the Managing Director's and other Executive KMP's remuneration mix based on maximum ADI and LTI award opportunity.					
	ADI and LTI opportunity, for MD-CEO, for the 2024 Financial year will be based on 25% and 110% of Fixed Remuneration respectively.					
	MD-CEO 57% 8% 35%					
	Other Executive 50% 11% 39%					
	KMP					
	FR ADI LTI					
Fixed remuneration (FR						
How is fixed remuneration reviewed	Fixed remuneration is reviewed annually from benchmarked remuneration data. Fixed remuneration changes for Executives are subject to approval from the Board after considering					
and approved?	recommendations from the Committee.					
Annual Deferred Incent	ive (ADI)					
What is the ADI plan?	The Company operates an Annual Deferred Incentive (ADI) program which is an award of Rights which vest annually on achievement of defined performance measures, plus an additional year of service to enhance executive retention.					
What is the	MD-CEO: 13% of fixed remuneration					
opportunity?	Other Executive KMP: 16-28% of fixed remuneration					
What are the performance criteria and how do they align with business performance?	<ol> <li>Executive KMP are measured against the following performance criteria:</li> <li>Overarching company business plan and project milestones (30%): KPIs cascaded from the business plan aligned to strategic imperatives.</li> <li>Individual objectives (30%): KPIs are individualised and linked to respective areas of responsibility to ensure accountability.</li> <li>Shared objectives toward operational reputation (40%): Drive sustainable business practices including social objectives, staff retention and satisfaction targets, carbon</li> </ol>					
	neutral certification and a top tier ESG rating from a third-party provider.					
How is vesting determined?	On an annual basis, after consideration of actual performance against KPIs, the Board, in lin with their responsibilities, determines the portion of Rights (if any) to vest for each Executive seeking recommendations from the Committee and/or Managing Director as appropriate. Executive KMP must complete a year of service in addition to the performance period, for Rights to vest.					
What happens if an Executive leaves?	Where a participant ceases employment prior to their award vesting due to resignation of termination for cause, awards will be forfeited subject to Board discretion. Where a participant ceases employment due to a qualifying reason (death, total and permanent disability, retirement or redundancy), then vesting will be determined based on the amount of performance perior remaining and subject to Board discretion.					
Are Executives eligible for dividends?	Executives are not eligible to receive dividends on unvested Rights.					
Long Term Incentive (L1	71)					

What is the	MD-CEO: 60% of fixed remuneration	
opportunity?	Other Executive KMP: 54-117% of fixed remuneration	
How is performance measured?	LTI vesting is subject to the following performanc performance:	e criteria measured over a four-year
	1) Business returns (55%) based on the satisfaction o	f the following strategic milestones:
	<ul> <li>Successful ramp up to nameplate capacity for P production, and achievement of corresponding r</li> </ul>	
	<ul> <li>Achievement of a positive definitive feasibility s chemicals production, and achievement of corre</li> </ul>	
	Achievement of project financing for completion	
	2) Sustainability returns (15%): based on the Compan	
	across all operations each year in the four-year peri for absolute GHG emissions (Scope 1, 2, 3).	od and remaining in the lowest quartile
	3) Total Shareholder returns (TSR) (30%):	
	a. Absolute TSR (aTSR) (10%):	
	aTSR CAGR	% to Vest
	Less than 7.5%	0%
	Between 7.5% and 10%	50%
	Between 10% and 12.5%	75%
	Greater than 12.5%	100%
	b. Relative TSR (rTSR)(20%):	
	rTSR Performance	% to Vest
	Less than 50th percentile	0%
	Between 50th percentile and 75th percentile	50%
	Greater than75th percentile	100%
For rTSR, which companies do Vulcan measure their	The Company assesses TSR against a custom peer gro by the Board and reviewed on a regular basis to ensu assessment.	ure appropriateness for the purpose of
performance against?	For LTI grants made for the period commencing 1 comprises the following companies:	July 2022 the customised peer group
	Syrah Resources Limited, Chalice Mining Limited, Lyna Novonix Limited, AVZ Minerals Limited, Liontown Reso Lake Resources Limited, Core Lithium Limited, Plik Piedmont Lithium Limited, Galan Lithium Limited, Leo	burces Limited, Sayona Mining Limited, bara Minerals Limited, Ioneer Limited,
When is performance measured?	The performance measures are tested at the end o determine the number of Rights that vest. There is no lapse if the performance measures are not met at the e	o opportunity for re-testing. Rights will
What happens if an Executive leaves?	Where a participant ceases employment prior to the termination for cause, awards will be forfeited subject t ceases employment due to a qualifying reason (death, to or redundancy), then vesting will be determined based remaining and subject to Board discretion.	o Board discretion. Where a participant otal and permanent disability, retirement
Are executives eligible for dividends?	Executives are not eligible to receive dividends on unve	ested Rights.

# **5. EXECUTIVE KMP REMUNERATION OUTCOMES**

#### **COMPANY PERFORMANCE**

A summary of Company performance as measured by its earnings per share and share price for the five periods / years to 31 December 2023, including disclosure required by the Corporations Act 2001, is outlined in the table below.

Measure	31 Dec 2023	6 months ended 31 Dec 2022	30 June 2022	30 June 2021	30 June 2020
Revenue(€'000)	6,783	3,622	3,799	-	-
Net Loss After Tax (NPAT)(€'000)	26,963	13,450	18,851	6,726	2,156
Loss per share (Euro cents)	16.92	9.52	15.12	7.71	4.47
Closing Vulcan security price (\$)	2.85	6.33	5.42	7.70	0.57

#### **ADI OUTCOMES**

Based on the assessed outcomes for the period 1 July 2022 to 30 June 2023, the Board awarded 41% of ADI payments in the form of performance rights which will vest subject to continued employment to 30 June 2024. The following provides a summary of ADI performance.

#### **VULCAN ENERGY FY23 SCORECARD**

#### Companywide project and people, environment, and social measures

The table overleaf illustrates the project and people, environment and social measures which apply consistently to the Executive Chair, MD-CEO, CFO and Chief Commercial Officer during FY23. The outcome was 28.4% out of a maximum 70% with the remaining 30% allocated to individual KPI's.

Measure	Weighting	Assessed Outcome	Outcome Summary
Operations - 30%			
Obtaining sufficient funding in order to allow for completion of the first plant that will be able to produce lithium on a commercial scale and/or the first new commercial geothermal heating plant, in accordance with Vulcan's business plan (First Plant) by 30 June 2023.	30%	0%	During FY23 the group raised €67,350k through a capital raise. However, debt finance for the project has not been achieved resulting in 0% achievement.
People, environment, and social areas – 40%	7 D		
People			
80% retention rate for agreed critical roles at all levels of the organisation for FY 23 onwards.	6%	90%	A pro rata vesting determination of 90% was awarded.
Increased employee satisfaction rate based on previous annual internal employee satisfaction survey.	6%	50%	Satisfaction survey was performed in FY23. The results of the survey were not available until the post assessment date. A pro rata vesting determination of 50% was awarded.
Environment			
Obtain an ESG rating from a recognised third party ESG provider that is above 50%;	6%	100%	During FY23 Vulcan Energy was assessed by Sustainalytics as being very low risk, and in the top 2% of ESG performers in a peer group, resulting in 100% achievement.
Obtain a carbon neutral emission certification from a recognised third-party issuer where the Group's carbon emissions footprint is measured and offset by supporting credible carbon offset projects and verified across all business units by 30 June 2023.	6%	50%	Vulcan complied with the requirements of the Climate Active Carbon Neutral Standard for FY22. Climate Active did not release their certification until September 2023. A pro rata vesting determination of 50% was awarded, as the certification was awarded after the assessment date.
Reporting of climate related impacts, risks and opportunities management by the Group according to the Taskforce for Climate-Related Financial Disclosures (TCFD) guidelines and/or report according to the Taskforce for Nature-Related Financial Disclosures (TNFD).	6%	100%	TCFD report released in March 2023. TNFD guidelines were not released and therefore TNFD could not be prepared, resulting in 100% award granted
Social			
All exploration/production licenses to be in good standing as at 30 June 2023;	5%	100%	All licences in good standing as at 30 June 2023.
Release an announcement on the ASX that it has commenced drilling in the Upper Rhine Valley.	5%	0%	Drilling not commenced during the performance period as this will take place after project financing for Phase One is completed.

#### **Individual KPIs**

The table below illustrates the individual KPIs for the Executive Chair, MD-CEO, CFO and CCO. The individual KPIs make up 30% weighting of each KMP's total ADI.

КРІ	Weighting	Assessed Outcome	Commentary
Executive Chair, MD-CE0			
Secure Funding for completion of First Plant which is at least 30% from ESG investor or green debt funding.	6%	0%	During FY23 the group raised €67m through a capital raise. However, debt finance for the project has not been achieved resulting in 0% achievement. Vulcan commenced debt and project level equity financing for Phase One production at the end of 2023 and aims to complete the process in the second half of 2024.
Obtain Financial grants to the value of €50 million.	6%	0%	Not achieved. Vulcan is actively applying for financial grants and is expecting to receive feedback during FY24.
Completion of a positive DFS by 30 June 2023 confirming the project is commercially viable, to include net export of renewable energy, lowest quartile operating cost, and net zero carbon footprint, with zero fossil fuel usage.	6%	100%	Commercially viable DFS released February 2023, including net export renewable energy, lowest quartile operating costs and net zero carbon footprint third party from Life Cycle Assessment.
Complete construction, commissioning and successful operation of Demonstration Plant in line with forecasts provided to the CEO at the beginning of the review period.	6%	0%	Construction not completed in line with forecasts. Vulcan officially opened its Lithium Extraction and Optimisation Plant (LEOP) in November 2023 and its Central Lithium Electrolysis Plant (CLEOP) is approaching completion.
Increase the number of institutional shareholders who utilise a screening process that considers Environmental, Social and Governance performance alongside traditional financial performance (ESG Investor) by 50% from those on the shareholder register as at 30 June 2022.	6%	50%	Additional institutional shareholders from May 2023 capital raising utilising ESG and financial performance. Partial recognition as less than 50% increase.
Total for Executive Chair, MD-CEO	30%	9%	

KPI	Weighting	Assessed Outcome	Commentary
CFO			
Secure Funding for completion of First Plant which is at least 30% from ESG investor or green debt funding.	6%	0%	During FY23 the group raised €67m through a capital raise. However, debt finance for the project has not been achieved resulting in 0% achievement. Vulcan commenced debt and project level equity financing for Phase One production at the end of 2023 and aims to complete the process in the second half of 2024.
Corporate costs targets achieved without affecting necessary support to operations.	6%	100%	Corporate costs in line with targets without affecting operations.
Implement Target Operating Model in accordance with timetable.	6%	100%	Integration of support functions into Vulcan Energie Ressourcen GmbH.
Maintain minimum 6 months group cash position while ensuring funds available to support project development.	6%	100%	Six-month group cash position maintained due to May 2023 capital raise.
Report to Task Force on Climate Related Financial Disclosures (TCFD) and, when guidelines are published, Task Force on Nature Related Financial Disclosures (including financial data and modelling for climate and ESG risks and mitigation);	6%	100%	TCFD report released in March 2023. TNFD guidelines were not released and therefore TNFD could not be prepared, resulting in 100% award granted.
Total for CFO	30%	24%	
CCO			
Secure Funding for completion of First Plant which is at least 30% from ESG investor or green debt funding.	7.50%	0%	During FY23 the group raised €67m through a capital raise. However, debt finance for the project has not been achieved resulting in 0% achievement. Vulcan commenced debt and project level equity financing for Phase One production at the end of 2023 and aims to complete the process in the second half of 2024.
Obtain at least one new licence in France which allow geothermal-lithium exploration and development.	7.50%	50%	French licence applications were lodged during the period but not granted by the end of the performance period. A partial award of 50% has been applied.
Obtain supply of 5m3 of sorbent sufficient for the Demonstration Plant operation well in time for Demo Plant start-up.	7.50%	100%	Supply sourced for Demonstration Plant (now defined as Lithium Extraction and Optimisation Plant – LEOP).
Completion of a positive DFS by 30 June 2023 confirming the project is commercially viable, to include net export of renewable energy, lowest quartile operating cost, and net zero	7.50%	100%	Commercially viable DFS released February 2023, including net export renewable energy.
carbon footprint, with zero fossil fuel usage.			

# **FY23 ADI SHARE OUTCOMES**

The following table outlines the proportion of maximum ADI that was earned and forfeited in relation to the 2023 financial year. The maximum bonus values are established at the start of the financial year and amounts payable are determined by the People and Performance Committee at the end of the financial year. Achieved ADI's will vest subject to continued employment to 30 June 2024.

Executive	Achieved ADI (%)	Forfeited ADI (%)
Dr Francis Wedin	37.4%	62.6%
Mr Cris Moreno	37.4%	62.6%
Mr Robert Ierace	52.4%	47.6%
Mr Vincent Ledoux Pedailles	47.2%	52.8%

# **LTI VESTING**

During FY23, Class J performance rights vested following the release of a positive Definitive Feasibility Study in relation to its Zero Carbon Lithium Project confirming it is commercially viable. 1,000,000 of these rights were held by Deputy Chair Gavin Rezos.

LTI's that were granted in FY22 to Executive KMP's will be tested at the end of the performance period which is 30 June 2026. At present the non-market based vesting conditions relating to Business Returns, (nameplate production and revenue for Phase One, Definitive Feasibility Study for Phase Two, Project financing for Phase Two) and sustainability returns (relating to emissions) all appear probable to vest during the performance period. Market based conditions relating to Shareholder returns will only be assessed at end of the performance period.



## STATUTORY EXECUTIVE KMP REMUNERATION

The following table sets out total remuneration for Executive KMP for the year ending 31 December 2023 (Dec23) and for the 6-month period from 1 July 2022 to 31 December 2022 (Dec22), calculated in accordance with statutory accounting requirements and presented in Euro ( $\in$ ).

		Short-t benefit		Post- employment benefits (€)	Share- based		
	Year/Period	Cash Salary	Non- monetary	Superannuation	based payments (€)	Total (€)	Performance related %
Executive KMP							
Dr Francis Wedin	Dec-23	361,690	-	38,899	88,710	489,299	18%
	Dec-22	190,980	-	20,053	57,224	268,257	21%
Mr Cristobal Moreno	Dec-23	307,200	-	33,178	43,980	384,358	11%
	Dec-22	44,103	-	4,631	8,942	57,676	16%
Mr Robert Ierace	Dec-23	165,908	-	17,841	(186)	183,563	0%
	Dec-22	88,007	-	9,241	18,515	115,763	16%
Mr Vincent Ledoux Pedailles <sup>33</sup>	Dec-23	135,000	-	-	(17,923)	117,077	(15%)
	Dec-22	135,000	-	-	(74,386)	60,614	(123%)
Dr Horst Kreuter <sup>34</sup>	Dec-23	-	-	-	-	-	-
	Dec-22	121,000	2,832	-	125,276	249,108	50%
Totals	Dec-23	969,798	-	89,918	114,581	1,174,298	10%
	Dec-22	579,090	2,832	33,925	135,571	751,418	18%

 $^{\rm 33}\,$  Mr Vincent Ledoux Pedailles ceased to be an Executive KMP on 30 June 2023.

 $^{\rm 34}\,$  Dr Horst Kreuter ceased to be an Executive KMP on 31 October 2022.

# 6. LOOKING FORWARD TO FY24

To align performance measures with the business objectives the Board approved 1,570,750 performance rights to Vulcan executives including 96,750 ADI and 282,000 LTI to the MD - CEO. The performance period relating to these rights commenced on 1 July 2023.

To further incentivise the MD-CEO, to provide value to shareholders, Mr Moreno has the following multipliers on his ADI and LTI performance securities in relation to the start date for successful commercial lithium hydroxide production (SOP):

- 1.5 x should SOP occur according to the Controlled Schedule P50; and
- 1.25 x should SOP occur within six months of the Controlled Schedule P50.

If SOP occurs more than 6 months after the Controlled Schedule P50, whilst no multiplier will be applied, Mr Moreno will still be eligible for vesting of his performance rights, subject to the satisfaction of the relevant milestones. The Controlled Schedule P50 will be determined at Financial Investment Decision of the Phase One Vulcan ZERO CARBON LITHIUM<sup>™</sup> Project.

The PPC in conjunction with the Board is confident that the changes made to the executive remuneration framework which have been detailed in this report and effected from 1 July 2023 are aligned to Vulcan's remuneration philosophy and strategy and continue to seek a balance between rewarding and retaining our Executives and recognising the interests of shareholders.

These rights are subject to shareholders' approval at the AGM.

# 7. EXECUTIVE KMP CONTRACTS

Remuneration arrangements for Executive KMP are formalised in employment agreements. All Executive KMP are employed under an ongoing contract. Key terms of the agreements are as follows:

Executive KMP	Position	Fixed remuneration (inclusive of superannuation)	Termination notice period by the Company	Termination notice period by the Executive	Termination benefits (in lieu of notice)
Dr Francis Wedin <sup>35</sup>	Executive Chair	\$666,000(€409,121)	1 or 6 months	6 months	1 or 6 months
Mr Cris Moreno <sup>36</sup>	Chief Executive Officer and Managing Director	\$666,000(€409,121)	1 or 6 months	6 months	1 or 6 months
Mr Robert lerace 37	Chief Financial Officer	\$304,140(€186,864)	1 month	1 month	1 month
Mr Vincent Ledoux- Pedailles <sup>38</sup>	Chief Commercial Officer	€270,000	3 months	3 months	3 months

<sup>35</sup> Dr Francis Wedin's fixed remuneration (for both Executive and Chair duties) increased from \$638,000 (€422,067) to \$666,000 (€409,121) per annum inclusive of superannuation effective from 1 July 2023.

<sup>36</sup> Mr Cris Moreno's fixed remuneration was adjusted from \$442,000 (€292,404) per annum to \$666,000 (€409,121) to reflect his new role, effective from 1 July 2023.

<sup>37</sup> Mr Robert lerace's fixed remuneration increased from \$294,000 (€194,496) to \$304,140 (€186,864) effect from 1 July 2023.

<sup>38</sup> Mr Vincent Ledoux-Pedailles ceased to be a KMP on 30 June 2023.

All Executive KMP are eligible to participate in Vulcan's ADI and LTI structure on terms as determined by the Board, subject to receiving any required or appropriate shareholder approval.

# 8. NON-EXECUTIVE DIRECTOR REMUNERATION ARRANGEMENTS

#### POLICY

The Board seeks to set aggregate remuneration at a level that provides the Company with the ability to attract and retain directors of the highest calibre, at an acceptable cost to shareholders.

The fee structure is reviewed annually against fees paid to NEDs of comparable ASX listed companies with a similar market capitalisation to Vulcan, as well as similar sized industry comparators. The Board commissioned an independent review by BDO in FY21 on NED Remuneration and considers advice from other independent external consultants when undertaking the annual review process.

The Company's constitution and the ASX listing rules specify that the NED fee pool shall be determined from time to time by a general meeting. The latest determination was at the annual general meeting (AGM) held in November 2022 when shareholders approved an aggregate fee pool of \$950,000 (€628,470) per year.

#### **STRUCTURE**

The fee for NEDs consists of directors' fees and committee fees. The payment of additional fees for serving on a committee recognises the additional time commitment required by NEDs to fulfil this role.

The Board fees paid to Chair/Deputy Chair Gavin Rezos included a consulting fee.

During the year to 31 December 2023, the NED and committee fees were increased to align with the size of operations and business complexity of the Company under current growth plans. The increases were effective 1 April 2023. The table below summarises the current NED fee policy.

Board fees	
Chair/Deputy Chair	\$204,000(€125,338)
Directors	\$81,000(€49,766)
Committee fees	
Committee fees Committee Chair	\$15,000(€9,216)

From 1 January 2023 to 31 March 2023 the fees were as follows:

Board fees	
Chair	\$162,000(€99,533)
Directors	\$60,000(€36,864)
Committee fees	
Committee fees Committee Chair	\$10,000(€6,144)

Australian based NEDs can elect to have superannuation included as part of their fees.

For FY23, no NED has been granted equity awards linked to company performance.

## NED STATUTORY REMUNERATION DISCLOSURES

The remuneration of NEDs for the year from 1 January 2023 up to 31 December 2023 (Dec23) and for the six-month period from 1 July 2022 up to 31 December 2022 is detailed below in Euro (€).

		Short-term benefits (€)	Post- employment benefits (€)			
	Year/Period	Fees	Superannuation	Share based payments (€)	Total (€)	Share based payment %
Non - Executive Dire	ctors					
Mr Gavin Rezos	Dec-23	129,639	-	82,239	211,878	39%
	Dec-22	56,894	-	96,651	153,545	63%
Ms Ranya Alkadamani	Dec-23	49,643	5,345	21,867	76,855	28%
	Dec-22	20,954	2,200	32,264	55,418	58%
Dr Heidi Grön	Dec-23	62,823 <sup>39</sup>	-	11,799	74,622	16%
	Dec-22	23,154	-	9,315	32,469	29%
Ms Annie Liu	Dec-23	51,917	-	11,799	63,716	19%
	Dec-22	21,500	-	9,315	30,815	30%
Ms Josephine Bush	Dec-23	54,989	-	11,799	66,788	18%
	Dec-22	23,154	_	9,315	32,469	29%
Dr Günter Hilken	Dec-23	57,447 <sup>39</sup>	-	37,518	94,965	40%
	Dec-22	21,500	-	3,720	25,220	15%
Mr Mark Skelton	Dec-23	58,245 <sup>40</sup>	5,345	18,050	81,640	22%
	Dec-22	20,954	2,200	3,720	26,874	14%
Totals	Dec-23	464,703	10,690	195,071	670,464	29%
	Dec-22	188,110	4,400	164,300	356,810	46%

<sup>39</sup> Fee included reimbursement of an additional \$9,000 for participating in an additional three meetings for their roles as members of Projects Oversight Committee.

<sup>40</sup> Fee included reimbursement of an additional \$14,000 for participating in an additional three meetings for his roles as Chair of Projects Oversight Committee.

# 9. ADDITIONAL DISCLOSURES RELATING TO RIGHTS AND SHARES

#### **RIGHTS AWARDED, VESTED AND CANCELLED/LAPSED DURING THE YEAR**

The table below discloses the number of Rights that vested, were exercised or cancelled during the year. There are no Rights granted to Executive KMP as remuneration for the year ended 31 December 2023.

Rights do not carry any voting or dividend rights and can be exercised once the vesting conditions have been met until their expiry date.

Executive KMP	Balance at start of year 1-Jan-23	Performance rights exercised during the year	Performance rights cancelled	Other movement <sup>41</sup>	Balance at end of year 31-Dec-23	Performance rights vested during the year	Numbers of performance rights vested and exercisable at 31-Dec-23
Dr Francis Wedin	142,000	-	(16,276)	-	125,724	-	-
Mr Cristobal Moreno	64,500	-	(6,886)	-	57,614	-	-
Mr Robert lerace	349,909	(310,909)	(4,284)	-	34,716	-	_
Mr Vincent Ledoux Pedailles	201,909	(160,909)	(4,757)	(36,243)	-	-	-
	758,318	(471,818)	(32,203)	(36,243)	218,054	-	-

<sup>41</sup> Mr Vincent Ledoux Pedailles ceased to be a KMP on 30 June 2023. Other movement represent his holding at the date he ceased to be a KMP. There are no expired performance rights.

The table below discloses the number of Rights granted to Non-Executive Directors as remuneration during the year ended 31 December 2023 as well as the number of Rights that vested or were exercised during the year.

Rights do not carry any voting or dividend rights and can be exercised once the vesting conditions have been met until their expiry date.

NED	Balance at start of year 1-Jan-23	Granted as remuneration	Performance rights exercised	Balance at end of year <sup>42</sup> 31-Dec-23	Performance rights vested during the year	Numbers of performance rights vested and exercisable at 31-Dec-23
Mr Gavin Rezos 43	1,000,000	-	(1,000,000)	-	1,000,000	-
Ms Ranya Alkadamani	-	25,234	-	25,234	-	-
Dr Heidi Grön	8,597	-	(4,299)	4,298	4,299	-
Ms Annie Liu	8,597	-	(4,299)	4,298	4,299	-
Ms Josephine Bush	8,597	-	(4,299)	4,298	4,299	-
Dr Günter Hilken	14,237	-	-	14,237	4,746	4,746
Mr Mark Skelton	14,237	-	-	14,237	4,746	4,746
	1,054,265	25,234	(1,012,897)	66,602	1,022,387	9,492

<sup>42</sup> Includes Performance Rights held directly, indirectly and beneficially by NED.

<sup>43</sup> Performance rights were granted early in the Project when the share price was considerably lower. The Performance Rights milestone was announcement of a commercially viable DFS for the Project by September 2023. These rights vested and were exercised during the year.

There are no expired performance rights.

		Number of performance rights granted	Grant date	Vesting date	Fair value per performance right at grant date (€)	Total value of performance rights at grant date (€)	Value of performance rights exercised during the year (€)
NED							
Mr Gavin Rezos	Class J	1,000,000	10/09/2020	08/02/2023	0.55	547,439	(547,439)
Ms Ranya Alkadamani <sup>44</sup>	Class AD	8,411	28/05/2023	28/05/2024	2.60	21,906	-
	Class AD	8,411	28/05/2023	28/05/2025	2.60	21,906	-
	Class AD	8,412	28/05/2023	28/05/2026	2.60	21,908	-
Dr Heidi Grön	Class S	4,298	24/06/2021	24/06/2024	4.95	21,280	-
	Class S	4,299	24/06/2021	24/06/2023	4.95	21,280	(21,280)
Ms Annie Liu	Class S	4,298	24/06/2021	24/06/2024	4.95	21,280	-
	Class S	4,299	24/06/2021	24/06/2023	4.95	21,280	(21,280)
Ms Josephine Bush	Class S	4,298	24/06/2021	24/06/2024	4.95	21,280	-
	Class S	4,299	24/06/2021	24/06/2023	4.95	21,280	(21,280)
Dr Günter Hilken	Class AC	4,746	29/11/2022	29/11/2023	4.76	22,591	-
	Class AC	4,746	29/11/2022	29/11/2024	4.76	22,591	-
	Class AC	4,746	29/11/2022	29/11/2025	4.76	22,591	-
Mr Mark Skelton	Class AC	4,746	29/11/2022	29/11/2023	4.76	22,591	-
	Class AC	4,746	29/11/2022	29/11/2024	4.76	22,591	-
	Class AC	4,746	29/11/2022	29/11/2025	4.76	22,591	-

The terms of and conditions of each grant of performance rights affecting remuneration of directors and other key management personnel in this financial year or future reporting years are as follows:

<sup>44</sup> Refer to Note 36 to the financial statements for further details of performance rights granted during the current year.

		Number of performance rights granted	Grant date	Vesting date	Fair value per performance right at grant date (€)	Total value of performance rights at grant date (€)	Value of performance rights exercised during the year (€)
Executive KMP							
Dr Francis Wedin	Class AA	26,000	29/11/2022	30/06/2024	4.52	117,427	-
	Class AB	81,200	29/11/2022	30/06/2027	4.52	367,024	-
	Class AB	11,600	29/11/2022	30/06/2027	3.46	40,136	-
	Class AB	23,200	29/11/2022	30/06/2027	3.69	85,608	-
Mr Cristobal Moreno	Class AA	11,000	13/12/2022	30/06/2024	4.30	47,300	-
	Class AB	37,450	13/12/2022	30/06/2027	4.30	161,035	-
	Class AB	5,350	13/12/2022	30/06/2027	3.24	17,334	-
	Class AB	10,700	13/12/2022	30/06/2027	3.50	37,450	-
Mr Robert Ierace	Class I	250,000	14/05/2020	17/12/2021	0.13	32,500	(32,500)
	Class H	250,000	14/05/2020	15/01/2021	0.13	32,500	(7,918)
	Class AA	9,000	19/09/2022	30/06/2024	5.24	47,160	-
	Class AB	21,000	19/09/2022	30/06/2027	5.24	110,040	-
	Class AB	3,000	19/09/2022	30/06/2027	4.18	12,540	-
	Class AB	6,000	19/09/2022	30/06/2027	4.57	27,420	-

Performance rights granted carry no dividend or voting rights.

All performance rights were granted over unissued fully paid ordinary shares in the Company. The number of performance rights granted was determined having regard to the satisfaction of performance measures and weightings as described in section 5. Performance rights vest based on the provision of service over the vesting period or satisfaction of performance measures, whereby the executive and non-executive becomes beneficially entitled to the performance rights on vesting date. There has not been any alteration to the terms or conditions of the grant since the grant date. There are no amounts paid or payable by the recipient in relation to the granting of such performance rights other than on their potential exercise.

Values of performance rights over ordinary shares granted as part of compensation and value of performance right exercised during the year for Directors and other KMP are set out above.

#### **SHAREHOLDINGS**

The table below details the number of shares held in Vulcan and the movement during the year ended 31 December 2023.

	Class of shares	Balance at start of year 1-Jan-23	Exercise of Performance Rights	On market purchase/ (sale)	Other movement <sup>45</sup>	Balance at end of year 31-Dec-23
Non-Executive Directors						
Mr Gavin Rezos <sup>46</sup>	Ordinary	7,598,727	1,000,000	36,773	-	8,635,500
Ms Ranya Alkadamani <sup>46</sup>	Ordinary	276,000	-	-	-	276,000
Dr Heidi Grön	Ordinary	6,099	4,299	-	-	10,398
Ms Annie Liu <sup>46</sup>	Ordinary	77,379	4,299	-	-	81,678
Ms Josephine Bush	Ordinary	13,698	4,299	8,170	-	26,167
Dr Günter Hilken	Ordinary	-	-	-	-	-
Mr Mark Skelton <sup>46</sup>	Ordinary	900	-	1,100	-	2,000
Executive KMP						
Dr Francis Wedin <sup>46</sup>	Ordinary	16,458,561	-	-	-	16,458,561
Mr Cristobal Moreno	Ordinary	-	-	_	-	-
Mr Robert lerace	Ordinary	-	310,909	(185,455)	-	125,454
Mr Vincent Ledoux Pedailles <sup>45</sup>	Ordinary	-	160,909	(80,000)	(80,909)	-
Totals		24,431,364	1,484,715	(219,412)	(80,909)	25,615,758

<sup>45</sup> Mr Vincent Ledoux Pedailles ceased to be a KMP on 30 June 2023. Other movement represent his holding at the date he ceased to be a KMP.

 $^{\rm 46}$  Includes shares held directly, indirectly and beneficially by KMP.

# 10. LOANS TO KEY MANAGEMENT PERSONNEL AND THEIR RELATED PARTIES

There were no loans to KMP and their related parties during the financial year.

# 11. OTHER TRANSACTIONS AND BALANCES WITH KEY MANAGEMENT PERSONNEL AND THEIR RELATED PARTIES

During the year ending 31 December 2023 payments for consultancy fees of  $\pounds$ 12,056 (31 December 2022:  $\pounds$ 28,089) were made to JRB Consulting Ltd, a related party of Ms Josephine Bush, in respect of expert advice on ESG reporting. There were no amounts outstanding as at 31 December 2023 to JRB Consulting Ltd (31 December 2022:  $\pounds$ 8,709), however there was a prepayment for Ms Bush's director fee to the value of  $\pounds$ 3,605.

During the previous year Vulcan entered into a contract with Dr Horst Kreuter to rent a flat for company personnel at the rate of €1,810 per month and €418 operating costs monthly. The contract was a short term lease. No amount was paid from inception of the contract and until 31 December 2022. The amount of €2,715 was outstanding as at 31 October 2022 and nil was outstanding as at 31 December 2022. Dr. Horst Kreuter ceased to be a key management personnel on 31 October 2022.

There was an outstanding balance payable to Gavin Rezos of €11,666 as at 31 December 2023 (31 December 2022: nil) in relation to his directors' fees.

Other than the above, there were no other transactions with related parties during the year ended 31 December 2023.

#### **Terms and conditions**

All transactions were made on normal commercial terms and conditions and at market rates.

# **END OF REMUNERATION REPORT**

This concludes the Renumeration Report, which has been audited.

# **PERFORMANCE RIGHTS**

At the date of this Report there were the following performance rights on issue:

Performance rights	Number	Expiry Date	Exercise Price
Class AA	37,232	30/06/2026	Nil
Class AB	274,200	30/06/2027	Nil
Class AC	18,982	15/12/2024	Nil
Class AD	25,234	28/05/2027	Nil
Class AE	41,357	31/12/2024	Nil
Class AE	41,357	31/12/2025	Nil
Class S	12,894	30/06/2025	Nil
Class T	260,000	1/12/2024	Nil
Class U	250,000	1/12/2024	Nil
Class V	110,000	1/12/2024	Nil
Class Y	60,000	1/12/2024	Nil
Class Z	50,000	1/12/2024	Nil
Class IP	248,953	1/07/2025	Nil

Performance rights and performance shares holders do not have any right to participate in any issues of shares or other interests of the company or any other entity.

# SHARES ISSUED ON THE EXERCISE OF PERFORMANCE RIGHTS AND PERFORMANCE SHARES

Ordinary shares of Vulcan Energy Resources Ltd were issued during the year ended 31 December 2023 and up to the date of this report on the exercise of 7,146,533 performance rights and 91,174 performance shares.

# AUDITOR'S INDEPENDENCE DECLARATION

The lead auditor's independence declaration for the year ended 31 December 2023 as required under section 307C of the Corporations Act 2001 has been received and included within these financial statements.

# AUDITOR

RSM Australia Partners continues in office in accordance with section 327 of the Corporations Act 2001.

# **NON-AUDIT SERVICES**

Details of the amounts paid or payable to the auditor for non-audit services provided during the period by the auditor are outlined in Note 40 to the financial statements.

The Board of Directors has considered the position and is satisfied that the provision of the non-audit services is compatible with the general standard of independence for auditors imposed by the Corporations Act 2001. The Directors are satisfied that the provision of non-audit services by the auditors, as set out below, did not compromise the auditor independent requirements of the Corporations Act 2001 for the following reasons:

- All non-audit services have been reviewed by the Board of Directors to ensure they do not impact the impartiality and objectivity of the auditor; and
- None of the services undermine the general principles relating to the auditor independence as set out in APES 110 Code of Ethics for Professional Accountants.

This report is signed in accordance with a resolution of the Board of Directors, pursuant to section 298(2)(a) of the Corporations Act 2001.

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**Dr Francis Wedin** Executive Chair 27 March 2024



#### **RSM** Australia Partners

Level 32, Exchange Tower 2 The Esplanade Perth WA 6000 GPO Box R1253 Perth WA 6844

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> > www.rsm.com.au

#### AUDITOR'S INDEPENDENCE DECLARATION

As lead auditor for the audit of the financial report of Vulcan Energy Resources Limited for the year ended 31 December 2023, I declare that, to the best of my knowledge and belief, there have been no contraventions of:

- (i) the auditor independence requirements of the *Corporations Act 2001* in relation to the audit; and
- (ii) any applicable code of professional conduct in relation to the audit.

RSM

**RSM AUSTRALIA PARTNERS** 

AIK KONG TING Partner

Perth, WA Dated: 27 March 2024

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RSM Australia Partners is a member of the RSM network and trades as RSM. RSM is the trading name used by the members of the RSM network. Each member of the RSM network is an independent accounting and consulting firm which practices in its own right. The RSM network is not itself a separate legal entity in any jurisdiction. RSM Australia Partners ABN 36 965 185 036

Liability limited by a scheme approved under Professional Standards Legislation

# FINANCIAL STATEMENTS

#### **Consolidated Statement of Profit or Loss and Other Comprehensive Income**

For the Year Ended 31 December 2023

For the Year Ended 31 December 2023			
		12-months	6-months
	Note	31 Dec 2023 €'000	31 Dec 2022 €'000
Revenue from continuing operations	4	6,783	3,622
Other income	5	1,191	213
Gain on discontinuation of use of the equity method of	29	3,874	_
accounting for investments	23	3,074	
Loss from equity accounted investments	29	(456)	(249)
Other own work capitalised	5	18,877	3,489
Raw materials and purchased services		(2,593)	(3,119)
Employee benefit expenses		(30,170)	(8,097)
Depreciation and amortisation expenses	6	(5,869)	(2,299)
Impairment expenses	18	(1,144)	-
Share-based payments expense	36	(1,688)	(711)
Other expenses		(21,294)	(6,735)
Net foreign exchange gain/(loss)	33	299	(105)
Finance income	7	3,558	615
Interest expense	7	(172)	(177)
Loss before income tax expense		(28,804)	(13,553)
Income tax benefit	8	1,841	103
Loss after income tax for the year/period		(26,963)	(13,450)
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations		(2,444)	(1,648)
Items that will not be reclassified subsequently to profit or loss Revaluation of investments at fair value through other comprehensive income	_	(1,870)	-
Total comprehensive loss for the year/period (net of tax)		(31,277)	(15,098)
Total comprehensive loss for the period attributable to the owners of Vulcan Energy Resources Limited		(31,277)	(15,098)
	-		
Loss per share for the year attributable to the members Vulcan Energy Resources Limited:		€	€
Basic loss per share (Euro)	9	(0.17)	(0.09)
Diluted loss per share (Euro)	9	(0.17)	(0.09)

The Consolidated Statement of Profit or Loss and Other Comprehensive Income should be read in conjunction with the notes to the financial statements.

#### **Consolidated Statement of Financial Position**

As at 31 December 2023

Note 31 Dec 2023 Assets €'000	31 Dec 2022 €'000
Current assets	
Cash and cash equivalents <b>10</b> 78,7	134,107
Trade and other receivables 11 6,8	99 5,546
Contract assets 12	117 42
Inventories 13 3	27 155
Total current assets     86,0	071 139,850
Non-current assets	
	24 974
Financial assets at fair value through other comprehensive <b>30</b> 2,5 income	50 -
Exploration and evaluation expenditure 15 48,4	75 30,135
Other assets 11,7	75 770
Property, plant and equipment 16 138,6	05 70,280
Right-of-use assets 17 4,4	i16 3,377
Intangible assets 1,6	55 3,068
Deferred tax assets 19 3,2	212 1,681
Total non-current assets   210,8	312 110,285
Total Assets 296,8	83 250,135
Liabilities Current liabilities	
Trade and other payables 20 17,1	94 9,418
Derivative financial instrument 21 1	- 33
Employee benefits 22 1,5	09 752
Lease liabilities 17 1,0	86 646
Provisions 24 7	- 50
Income tax liabilities 8(d)	113 91
Deferred income 23	- 132
Total Current liabilities 20,7	85 11,039
Non-current liabilities	
Lease liabilities 17 3,3	
	64 110
Deferred income <b>23</b> 2,8	
	+10 1,702
Total non-current liabilities 7,8	317 5,935
Total Liabilities 28,6	02 16,974
Net Assets 268,2	281 233,161
Equity	
Share capital         27         323,7	259,158
Reserves 28 13,3	
	15,875
Accumulated losses 41 (68,8)	

The Consolidated Statement of Financial Position should be read in conjunction with the notes to the financial statements.

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# **Consolidated Statement of Changes in Equity**

For the Year Ended 31 December 2023

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Consolidated	Issued Capital	Revaluatio Reserve
	€.000	€,000
At 1 July 2022	258,933	
Loss for the period	I	
Other comprehensive loss	I	
Total comprehensive loss for the period after tax	1	
Transactions with owners in their capacity as owners:		
Issue of share capital	225	
Share issue costs		
Share-based payments (note 36)	I	
At 31 December 2022	259,158	
At 1 January 2023	259,158	
Loss for the year	1	
Other comprehensive loss, net of tax	I	(1,8
Total comprehensive loss for the year after tax	ı	(1,8

The Consolidated Statement of Changes in Equity should be read in conjunction with the notes to the financial statements.

(4,314)

(31,277)

(26,963)

ı

(2,444) (2,444)

(1,870)

(1,870)

(2,769)

1,816 268,281

(68,835)

3,725

1,816

I

67,350 (2,769)

Transactions with owners in their capacity as owners:

Issue of share capital Share issue costs Share-based payments (note 36) Balance at 31 December 2023

11,522

(1,870)

323,739

67,350

(26,963)

(26,963)

(15,098)

(13,450)

225

711 233,161 233,161

> (41,872) (41,872)

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9,706 9,706

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711

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(1,648)

(13,450)

(13,450)

(1,648) (1,648)

247,323

(28,422)

7,817

8,995

ı

€'000

€'000

€'000

Total

Accumulated

Currency Reserve

Reserves

Revaluation

Foreign

Losses €,000

#### **Consolidated Statement of Cash Flows**

For the Year Ended 31 December 2023

		12-months 31 Dec 2023 €'000	6-months 31 Dec 2022 €'000
Cash flows from operating activities	-		
Receipts from customers		8,315	3,496
Payments to suppliers and employees		(37,711)	(12,941)
Interest received		3,359	468
Other income		2,424	1,798
Interest paid		(172)	(239)
Income taxes paid		(546)	-
Net cash used in operating activities	10	(24,331)	(7,418)
Cash flows from investing activities			
Payments for exploration and evaluation expenditure		(19,003)	(10,429)
Payments for Property, plant and equipment		(73,629)	(20,094)
Payment to acquire subsidiary	32	(150)	-
Cash acquired upon acquisition of subsidiary	32	35	-
Receipts from sale/(Payments to acquire) financial assets	_	287	(1,245)
Net cash used in investing activities	-	(92,460)	(31,768)
Cash flows from financing activities			
Proceeds from issue of shares		67,350	-
Share issue costs		(2,770)	-
Repayment of loan acquired in business combinations		(81)	-
Lease repayments	_	(1,744)	(462)
Net cash from/(used in) financing activities	-	62,755	(462)
Net decrease in cash and cash equivalents		(54,036)	(39,648)
Cash and cash equivalents at beginning of the year/period		134,107	175,416
Effect of exchange rate fluctuations	-	(1,343)	(1,661)
Cash and cash equivalents at end of the year/period	-	78,728	134,107

The Consolidated Statement of Cash Flows should be read in conjunction with the notes to the financial statements.

VULCAN ENERGY ANNUAL REPORT | 2023

#### NOTE 1 SUMMARY OF MATERIAL ACCOUNTING POLICIES

The principal accounting policies adopted in the preparation of the financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

#### (a) Reporting Entity

Vulcan Energy Resources Limited (referred to as "Vulcan" or the "Company") is a company domiciled in Australia The address of the Company's registered office and principal place of business is Level 2, 267 St Georges Terrace, Perth WA 6000. The consolidated financial statements of the Company as at and for the year ended 31 December 2023 comprise the Company and its subsidiaries (together referred to as the "consolidated entity" or the "Group"). The principal activity of the Group is geothermal energy and lithium exploration and production.

#### (b) Basis of Preparation

#### Statement of compliance

The consolidated financial statements are general purpose financial statements which have been prepared in accordance with Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ("AASB") and the Corporations Act 2001. The consolidated financial statements comply with International Financial Reporting Standards ("IFRS") adopted by the International Accounting Standards Board ("IASB"). Vulcan Energy Resources Limited is a for-profit entity for the purpose of preparing the financial statements.

The annual report was authorised for issue by the Board of Directors on 27 March 2024.

#### Comparatives

The consolidated entity's current accounting period is the 12-months ended 31 December 2023, and the comparative is 6-month period due to the consolidated entity changing its accounting year end to a 31 December balance date.

#### Functional and presentation currency

Items included in the financial statements of each of the consolidated entities are measured using the currency of the primary economic environment in which the entity operates ("functional currency"). The consolidated financial statements are presented in Euro, which is Vulcan Energy Resources Limited's presentation currency.

#### Historical cost convention

The consolidated financial statements have been prepared under historical cost convention, except for, where applicable, the revaluation of financial assets at fair value through other comprehensive income, certain classes of property, plant and equipment and derivative financial instruments.

#### Parent entity information

In accordance with the Corporations Act 2001, these financial statements present the results of the consolidated entity only. Supplementary information about the parent entity is disclosed in Note 42.

#### **Rounding of amounts**

The company is of a kind referred to in Corporations Instrument 2016/191, issued by the Australian Securities and Investments Commission, relating to 'rounding-off'. Amounts in this report have been rounded off in accordance with that Corporations Instrument to the nearest thousand Euro, unless otherwise stated.

#### New or amended Accounting Standards and Interpretations adopted

The consolidated entity has adopted all of the new or amended Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ('AASB') that are mandatory for the current reporting period.

Any new or amended Accounting Standards or Interpretations that are not yet mandatory have not been early adopted.

#### NOTE 1 SUMMARY OF MATERIAL ACCOUNTING POLICIES (CONT.)

#### **Going concern**

The consolidated financial statements have been prepared on the going concern basis, which contemplates continuity of normal business activities and the realisation of assets and discharge of liabilities in the normal course of business.

As disclosed in the consolidated financial statements, the Group incurred a loss after tax of &26.963m and had net cash outflows from operating and investing activities of &24.331m and &92.460m respectively for the year ended 31 December 2023. As at that date, the Group had a net current assets surplus of &65.286m and cash and cash equivalents of &78.728m.

The Directors believe that it is reasonably foreseeable that the consolidated entity will continue as a going concern and that it is appropriate to adopt the going concern basis in the preparation of the financial report after consideration of the following factors:

- The Group's ability to issue additional shares under the *Corporations Act 2001* to raise further working capital. The Group has demonstrated its ability to raise capital from strategic and institutional investors, including over €320m raised through equity raisings in the past.
- Subsequent to the end of the year, the Group was advised by the European Investment Bank (EIB) that its Phase One Zero Carbon Lithium<sup>™</sup> Project appears potentially suitable for EIB financing and the Project has advanced to the "Under Appraisal" stage.
- EIB's proposed financing could amount up to €500m (~A\$825m), pending completion of due diligence, credit approval and legal agreement, and subject to EIB's governing bodies approval.
- The group has already started its debt and project level equity financing process, supported by BNP Paribas, following positive market sounding in 2023 from commercial banks, development banks, and government-backed export credit agencies. This included a A\$200 million (~€120 million) non-binding Letter of Support from Export Finance Australia (EFA), and indication of strong ECA support from Canada, Italy, and France during 2023.

#### NOTE 1 SUMMARY OF MATERIAL ACCOUNTING POLICIES (CONT.)

#### **Current and non-current classification**

Assets and liabilities are presented in the statement of financial position based on current and non-current classification.

An asset is classified as current when: it is either expected to be realised or intended to be sold or consumed in the consolidated entity's normal operating cycle; it is held primarily for the purpose of trading; it is expected to be realised within 12 months after the reporting period; or the asset is cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period. All other assets are classified as non-current.

A liability is classified as current when: it is either expected to be settled in the consolidated entity's normal operating cycle; it is held primarily for the purpose of trading; it is due to be settled within 12 months after the reporting period; or there is no unconditional right to defer the settlement of the liability for at least 12 months after the reporting period. All other liabilities are classified as non-current.

Deferred tax assets and liabilities are always classified as non-current.

#### New standards and interpretations not yet mandatory or early adopted

Australian Accounting Standards and Interpretations relevant to the Group that have recently been issued or amended but are not yet mandatory, have not been adopted by the Group for the annual reporting year ended 31 December 2023. The Group has not yet assessed the impact of these new or amended Accounting Standards and Interpretations but does not expect it to have a significant impact on the Group's results.

#### **Significant Judgements and Estimates**

The preparation of financial statements requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the consolidated entity's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in Note 2.

#### (c) Principles of Consolidation

#### Subsidiaries

The consolidated financial statements incorporate the assets and liabilities of all subsidiaries of Vulcan Energy Resources Limited ('Company' or 'parent entity') as at 31 December 2023 and the results of all subsidiaries for the year then ended.

Subsidiaries are all entities (including special purpose entities) over which the consolidated entity has the power to govern the financial and operating policies, generally accompanying a shareholding of more than one-half of the voting rights. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether the consolidated entity controls another entity.

Subsidiaries are fully consolidated from the date on which control is transferred to the consolidated entity. They are de-consolidated from the date that control ceases.

Intercompany transactions, balances, and unrealised gains on transactions between consolidated entity companies are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of the impairment of the asset transferred. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the consolidated entity.

#### NOTE 1 SUMMARY OF MATERIAL ACCOUNTING POLICIES (CONT.)

#### Subsidiaries (cont.)

The acquisition method of accounting is used to account for business combinations by the consolidated entity. A change in ownership interest, without the loss of control, is accounted for as an equity transaction, where the difference between the consideration transferred and the book value of the share of the non-controlling interest acquired is recognised directly in equity attributable to the parent.

Non-controlling interests in the results and equity of subsidiaries are shown separately in the consolidated statement of comprehensive income, statement of changes in equity and statement of financial position respectively.

Where the consolidated entity loses control over the subsidiary, it derecognises the assets including goodwill, liabilities and non-controlling interest in the subsidiary together with any cumulative transaction differences recognised in equity. The consolidated entity recognises the fair value of the consideration received and the fair value of any investment retained together with any gain or loss on profit or loss.

#### (d) Foreign Currency Transactions

#### **Transactions and balances**

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at period end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in profit or loss.

#### (e) Entity Functional Currency Different From Group Presentational Currency

The assets and liabilities of entities with functional currency different from group presentational currency are translated into Euro using the exchange rates at the reporting date. The revenues and expenses of entities with functional currency different from group presentational currency are translated into Euro using the average exchange rates, which approximate the rates at the dates of the transactions, for the period. All resulting foreign exchange differences are recognised in other comprehensive income through the foreign currency reserve in equity.

#### NOTE 2 CRITICAL ACCOUNTING ESTIMATES, JUDGEMENTS AND ASSUMPTIONS

The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts in the financial statements. Management continually evaluates its judgements and estimates in relation to assets, liabilities, contingent liabilities, revenue and expenses.

Management bases its judgements, estimates and assumptions on historical experience and on other various factors, including expectations of future events, management believes to be reasonable under the circumstances. The resulting accounting judgements and estimates will seldom equal the related actual results. The judgements, estimates and assumptions in these financial statements that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial period are disclosed below.

#### Exploration and evaluation expenditure

Exploration and evaluation costs have been capitalised on the basis that the consolidated entity will commence commercial production in the future, from which time the costs will be amortised in proportion to the depletion of the mineral resources. Key judgements are applied in considering costs to be capitalised which includes determining expenditures directly related to these activities and allocating overheads between those that are expensed and capitalised. In addition, costs are only capitalised that are expected to be recovered either through successful development or sale of the relevant mining interest. Factors that could impact the future commercial production at the mine include the level of reserves and resources, future technology changes, which could impact the cost of mining, future legal changes and changes in commodity prices. To the extent that capitalised costs are determined not to be recoverable in the future, they will be written off in the period in which this determination is made.

#### NOTE 2 CRITICAL ACCOUNTING ESTIMATES, JUDGEMENTS AND ASSUMPTIONS (CONT.)

#### Share-based payments

The Group measures the cost of equity settled transactions with Directors, employees and consultants, where applicable, by reference to the fair value of equity instruments at the date at which they are granted. The fair value is determined using an appropriate valuation model taking into account the terms and conditions upon which the instruments were granted. The accounting estimates and assumptions relating to equity-settled shared-based payments would have no impact on the carrying amounts of assets and liabilities within the next annual reporting period but may impact profit or loss and equity.

#### Estimation of useful lives of assets

The consolidated entity determines the estimated useful lives and related depreciation and amortisation charges for its plant and equipment. The useful lives could change significantly as a result of technical innovations or some other event. The depreciation and amortisation charge will increase where the useful lives are less than previously estimated lives, or technically obsolete or non-strategic assets that have been abandoned or sold will be written off or written down.

#### Impairment of non-financial assets other than goodwill and other indefinite life intangible assets

The consolidated entity assesses impairment of non-financial assets other than goodwill and other indefinite life intangible assets at each reporting date by evaluating conditions specific to the consolidated entity and to the particular asset that may lead to impairment. If an impairment trigger exists, the recoverable amount of the asset is determined. This involves fair value less costs of disposal or value-in-use calculations, which incorporate a number of key estimates and assumptions.

#### Income tax

The consolidated entity is subject to income taxes in the jurisdictions in which it operates. Significant judgement is required in determining the provision for income tax. There are many transactions and calculations undertaken during the ordinary course of business for which the ultimate tax determination is uncertain. The consolidated entity recognises liabilities for anticipated tax audit issues based on the consolidated entity's current understanding of the tax law. Where the final tax outcome of these matters is different from the carrying amounts, such differences will impact the current and deferred tax provisions in the period in which such determination is made.

#### Recovery of deferred tax assets

Deferred tax assets are recognised for deductible temporary differences only if the consolidated entity considers it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

#### Lease term

The lease term is a significant component in the measurement of both the right-of-use asset and lease liability. Judgement is exercised in determining whether there is reasonable certainty that an option to extend the lease or purchase the underlying asset will be exercised, or an option to terminate the lease will not be exercised, when ascertaining the periods to be included in the lease term. In determining the lease term, all facts and circumstances that create an economical incentive to exercise an extension option, or not to exercise a termination option, are considered at the lease commencement date. Factors considered may include the importance of the asset to the consolidated entity's operations; comparison of terms and conditions to prevailing market rates; incurrence of significant penalties; existence of significant leasehold improvements; and the costs and disruption to replace the asset. The consolidated entity reassesses whether it is reasonably certain to exercise a termination option, or not exercise a termination option, or not exercise a termination option, or not exercise a termination option to replace the asset. The consolidated entity reassesses whether it is reasonably certain to exercise an extension option, or not exercise a termination option, if there is a significant event or significant change in circumstances.

#### NOTE 2 CRITICAL ACCOUNTING ESTIMATES, JUDGEMENTS AND ASSUMPTIONS (CONT.)

#### Incremental borrowing rate

Where the interest rate implicit in a lease cannot be readily determined, an incremental borrowing rate is estimated to discount future lease payments to measure the present value of the lease liability at the lease commencement date. Such a rate is based on what the consolidated entity estimates it would have to pay a third party to borrow the funds necessary to obtain an asset of a similar value to the right-of-use asset, with similar terms, security and economic environment.

#### NOTE 3 SEGMENT INFORMATION

#### **Accounting Policy**

#### **Segment Reporting**

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision maker. The chief operating decision maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the Board. Management has determined that based on the report reviewed by the Board and used to make strategic decisions, that the consolidated entity has three reportable segments.

#### Identification of reportable operating segments

The consolidated entity is organised into three operating segments based on geographical location: Germany, Other European (comprised of France and Italy) and Australia. These operating segments are based on the internal reports that are reviewed and used by the Executive Key Management Personnels (who are identified as the Chief Operating Decision Makers (CODM)) in assessing performance and in determining the allocation of resources. There is no aggregation of operating segments.

The CODM reviews EBITDA (earnings before interest, tax, depreciation and amortisation). The accounting policies adopted for internal reporting to the CODM are consistent with those adopted in the financial statements.

The information reported to the CODM is on a monthly basis.

#### Types of products and services

Germany – the supply of geothermal energy, exploration and development related to the Zero Carbon Lithium™ Project and engineering services.

Other European (France and Italy) – exploration and development relating to battery materials and geothermal lithium.

Australia - administration and Definitive Feasibility Study ("DFS") cost.

#### Intersegment transactions

Intersegment transactions were made at market rates. Engineering services have been provided within the German segment. All intersegment receivables and payables, including the profit margin, are eliminated on consolidation.

#### Major customers

During the financial year ended 31 December 2023, approximately €4m (six months ended 31 Dec 2022: €3.2m) of the consolidated entity's external revenue was derived from sales to Pfalzwerke.

#### NOTE 3 SEGMENT INFORMATION (CONT.)

#### For the year ended 31 December 2023

Segment performance	Germany	Other European	Australia	Total
1 Jan 2023 to 31 Dec 2023	€'000	€'000	€'000	€'000
Revenue				
Sales to external customers	6,783	-	-	6,783
Intersegment sales - Other own work capitalised	18,486	-	391	18,877
Total sales revenue	25,269	-	391	25,660
Other income	1,191	-	-	1,191
Total segment revenue	26,460	-	391	26,851
EBITDA	(20,377)	(130)	(5,814)	(26,321)
Depreciation and amortisation	(5,814)	(2)	(53)	(5,869)
Finance expense	(164)	-	(8)	(172)
Interest income	1,181	-	2,377	3,558
Loss before income tax expense	(25,174)	(132)	(3,498)	(28,804)
Income tax benefit	1,841	-	-	1,841
Loss after income tax expense	(23,333)	(132)	(3,498)	(26,963)
Material items include:				
Employee benefit expense	(28,069)	(95)	(2,006)	(30,170)
Impairment	(1,144)	-	-	(1,144)
Loss from equity accounted investments Gain on discontinuing of use of	-	-	(456)	(456)
equity method for accounting for investments	-	-	3,874	3,874

#### NOTE 3 SEGMENT INFORMATION (CONT.)

As at 31 December 2023

Germany	Other European	Australia	Total
€'000	€'000	€'000	€'000
223,333	433	305,364	529,130
			(232,247)
			296,883
-	-	124	124
16,591	98	2,087	18,776
71,657	-	-	71,657
33,776	466	1,183	35,425
			(6,823)
			28,602
	<b>€'000</b> 223,333 - 16,591 71,657	Germany         European           €'000         €'000           223,333         433           16,591         98           71,657         -	Germany         European         Australia           €'000         €'000         €'000           223,333         433         305,364           -         -         -           -         -         124           16,591         98         2,087           71,657         -         -

#### NOTE 3 SEGMENT INFORMATION (CONT.)

For the 6 months ended 31 December 2022

Segment performance	Germany Other European		Australia	Total
71/10/0000	01000		01000	01000
31/12/2022	€'000	€'000	€'000	€'000
Revenue				
Sales to external customers	3,622	-	-	3,622
Intersegment sales – Other own work capitalised	3,489	-	-	3,489
Total sales revenue	7,111	-	-	7,111
Other income	213	-	-	213
Total segment revenue	7,324	-	-	7,324
EBITDA	(6,941)	-	(4,751)	(11,692)
Depreciation and amortisation	(2,285)	-	(14)	(2,299)
Finance expense	(62)		(115)	(177)
Finance income	155	-	460	615
Loss before income tax expense	(9,133)	-	(4,420)	(13,553)
Income tax benefit	103	_	_	103
Loss after income tax expense	(9,030)	-	(4,420)	(13,450)
Material items include:				
Employee benefit expense	(7,334)	-	(763)	(8,097)
Share based payments expense	-	-	(711)	(711)
Loss from equity accounted investment	-	-	(249)	(249)

#### NOTE 3 SEGMENT INFORMATION (CONT.)

As at 31 December 2022

	Germany	Other European	Australia	Total
	€'000	€'000	€'000	€'000
Assets				
Segment assets	164,779	195	425,784	590,758
Intersegment eliminations				(340,623)
Total assets				250,135
Total assets include:				
Investments accounted for using equity method	-	-	974	974
Exploration and evaluation expenditure additions	4,463	32	5,675	10,170
Additions to property, plant and equipment	20,304	-	-	20,304
Liabilities				
Segment liabilities	21,881	103	176,578	198,562
Intersegment eliminations			-	(181,588)
Total Liabilities			-	16,974

#### NOTE 4 REVENUE

	12-months	6-months 31-Dec-22	
	31-Dec-23		
	€'000	€'000	
Revenue from contract with customers			
Sale of goods	4,036	3,128	
Rendering of services	134	494	
Drilling Personnel outsourcing	2,613		
	6,783	3,622	
Revenue from continuing operations	6,783	3,622	

	Electricity sales		Engineering Services		<b>Drilling Services</b>		Total	
	12-mths	6-mths	12-mths	6-mths	12-mths	6-mths	12-mths	6-mths
	31-Dec-23	31-Dec-22	31-Dec-23	31-Dec-22	31-Dec-23	31-Dec-22	31-Dec-23	31-Dec-22
	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000
Timing of reve	nue recognition							
Goods transferred at a point in time	4,036	3,128	-	-	-	-	4,03	5 3,128
Services transferred over time	-	-	134	494	2,613	-	2,74	7 494
_	4,036	3,128	134	494	2,613	-	6,783	3 3,622

All revenues are derived in Germany.

#### **Accounting Policy**

The consolidated entity recognises revenue as follows:

#### Revenue from contracts with customers

Revenue is recognised at an amount that reflects the consideration to which the consolidated entity is expected to be entitled in exchange for transferring goods or services to a customer. For each contract with a customer, the consolidated entity: identifies the contract with a customer; identifies the performance obligations in the contract; determines the transaction price which takes into account estimates of variable consideration and the time value of money; allocates the transaction price to the separate performance obligation on the basis of the relative stand-alone selling price of each distinct good or service to be delivered; and recognises revenue when or as each performance obligation is satisfied in a manner that depicts the transfer to the customer of the goods and services promised.

## NOTE 4 REVENUE (CONT.)

### Accounting Policy(cont)

Variable consideration within the transaction price, if any, reflects concessions provided to the customer such as discounts, rebates and refunds, any potential bonuses receivable from the customer and any other contingent events. Such estimates are determined using either the 'expected value' or 'most likely amount' method. The measurement of variable consideration is subject to a constraining principle whereby revenue will only be recognised to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. The measurement constraint continues until the uncertainty associated with the variable consideration is subsequently resolved. Amounts received that are subject to the constraining principle are recognised as a refund liability.

### Sale of goods

Revenue from the sale of goods is recognised at the point in time when the customer obtains control of the goods, which is generally at the time of delivery.

#### **Rendering of services**

Revenue from a contract to provide services is recognised over time as the services are rendered based on either a fixed price or an hourly rate.

## NOTE 5 OTHER INCOME

	12-months 31-Dec-23 €'000	6-months 31-Dec-22 €'000
Government grants	532	151
Other income	659	37
Reversal of provision for expected credit losses	-	25
	1,191	213
	12-months 31-Dec-23 €'000	6-months 31-Dec-22 €'000
Other own work capitalised	18,877	3,489
	18,877	3,489
Accounting Deliev		

#### Accounting Policy

#### Other revenue

Other revenue is recognised when it is received or when the right to receive payment is established.

#### Other own work capitalised

Vulcan Energy Engineering GmbH and Vulcan Energy Subsurface Solutions GmbH provide services to Vulcan Energie Ressourcen GmbH, a wholly owned subsidiary of Vulcan Energy Resources Limited which have been capitalised to exploration and evaluation expenditure and property, plant and equipment. These services are disclosed in the statement of profit or loss and other comprehensive income as other own work capitalised. The expenses incurred by Vulcan Energy Engineering GmbH and Vulcan Energy Subsurface Solutions GmbH to provide these services are disclosed in the statement of profit or loss and other comprehensive income as employee benefit expenses. Other own work capitalised also includes the capitalisation of Vercana GmbH staff costs relating to the refurbishment of electric drill rigs, Vulcan Energie Ressourcen GmbH staff costs capitalised to various projects and partial capitalisation of Managing Director employed by Vulcan Energy Resources Limited. Other own work capitalised does not relate to any external revenue or any profit margin charge to intercompany

Other own work capitalised does not relate to any external revenue or any profit margin charge to intercompany transactions.

#### NOTE 6 DEPRECIATION AND AMORTISATION EXPENSE

	12-months	6-months
	31-Dec-23	31-Dec-22
	<b>€'000</b>	€'000
Depreciation of Right-of-use assets	1,826	385
Depreciation of Property, Plant and Equipment	3,387	1,349
Amortisation of intangible assets	656	565
	5,869	2,299

## NOTE 7 FINANCE INCOME/(COST)

Finance Income

	12-months	6-months
	31 Dec 2023 €'000	31 Dec 2022 €'000
Interest income	3,558	615
	3,558	615

## **Accounting Policy**

### Interest

Interest revenue is recognised as interest accrues.

#### Finance cost

12-months	6-months
31 Dec 2023 €'000	31 Dec 2022 €'000
-	(115)
(172)	(62)
(172)	(177)
	31 Dec 2023 €'000 

## **Accounting Policy**

#### Finance costs

Finance costs attributable to qualifying assets are capitalised as part of the asset. All other finance costs are expensed in the period in which they are incurred.

## NOTE 8 INCOME TAX

	-	12-months 31-Dec-23 €'000	6-months 31-Dec-22 €'000
(a)	The components of tax benefit comprise:		
	Current tax	106	(369)
	Deferred tax	(1,947)	266
	Income tax benefit reported in the of profit or loss and other comprehensive income	(1,841)	(103)
(b)	The prima facie tax on loss from ordinary activities before income tax is reconciled to the income tax as follows:		
	Loss before income tax expense	(28,804)	(13,553)
	Prima facie tax benefit on loss before income tax at 30% (31 December 2022: 30%)	(8,641)	(4,066)
	Tax effect of amounts that are not deductible/taxable in calculating taxable income		
	Non-deductible expense	615	323
	Tax losses and temporary differences not brought to account	3,468	2,394
	Foreign corporate rate differential	2,717	1,246
	Income tax benefit	(1,841)	(103)
(c)	Deferred tax assets/(liabilities) not brought to accounts are:		
	Accruals	173	104
	Prepayments	86	74
	Other	1,010	1,837
	Tax losses	4,838	5,122
	Total deferred tax balances not brought to account	6,107	7,137

(d) As at 31 December 2023, the consolidated entity has income tax payable of €113,000 (31 Dec 2022: €91,000).

Except for the deferred tax assets (note 19) and deferred tax liabilities (note 25) recognised in the subsidiary, Natürlich Insheim GmbH, potential deferred tax assets attributable to tax losses and other temporary differences have not been brought to account at 31 December 2023 because the directors do not believe it is appropriate to regard realisation of the deferred tax assets as probable at this point in time. These benefits will only be obtained if:

- the consolidated entity derives future assessable income of a nature and of an amount sufficient to enable the benefit from the deductions for the expenditure to be realised; and
- no changes in tax legislation adversely affect the consolidated entity in realising the benefit from the deductions for the expenditure.

## NOTE 8 INCOME TAX (CONT.)

### **Accounting Policy**

The income tax expense (revenue) for the year comprises current income tax expense (income) and deferred tax expense (income).

### **Current Tax**

Current income tax expense charged to the profit or loss is the tax payable on taxable income calculated using applicable income tax rates enacted, or substantially enacted, as at the end of the reporting period. Current tax liabilities (assets) are therefore measured at the amounts expected to be paid to (recovered from) the relevant taxation authority.

### **Deferred Tax**

Deferred tax expense reflects movements in deferred tax asset and deferred tax liability balances during the year as well as unused tax losses.

Current and deferred income tax expense (income) is charged or credited directly to equity instead of the profit or loss when the tax relates to items that are credited or charged directly to equity.

Deferred tax assets and liabilities are ascertained based on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. Deferred tax assets also result where amounts have been fully expensed but future tax deductions are available. No deferred income tax will be recognised from the initial recognition of an asset or liability, excluding a business combination, where there is no effect on accounting or taxable profit or loss.

Deferred tax assets and liabilities are calculated at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled, based on tax rates enacted or substantively enacted at the end of the reporting period. Their measurement also reflects the manner in which management expects to recover or settle the carrying amount of the related asset or liability.

Deferred tax assets relating to temporary differences and unused tax losses are recognised only to the extent that it is probable that future taxable profit will be available against which the benefits of the deferred tax asset can be utilised.

Where temporary differences exist in relation to investments in subsidiaries, branches, associates, and joint ventures, deferred tax assets and liabilities are not recognised where the timing of the reversal of the temporary difference can be controlled and it is not probable that the reversal will occur in the foreseeable future.

Current tax assets and liabilities are offset where a legally enforceable right of set-off exists and it is intended that net settlement or simultaneous realisation and settlement of the respective asset and liability will occur. Deferred tax assets and liabilities are offset where a legally enforceable right of set-off exists, the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where it is intended that net settlement or simultaneous realisation and settlement of the respective asset and liability will occur in future periods in which significant amounts of deferred tax assets or liabilities are expected to be recovered or settled.

## NOTE 9 LOSS PER SHARE

	12-months	6-months	
	31 Dec 2023	31 Dec 2022	
Net loss for the year/period in €'000	(26,963)	(13,450)	
Weighted average number of ordinary shares for basic and diluted loss per share.	159,325,357	143,332,764	
Basic and diluted loss per share €	(0.17)	(0.09)	

### **Accounting Policy**

#### **Basic Loss Per Share**

Basic loss per share is determined by dividing net profit or loss after income tax attributable to members of the Company, excluding any costs of servicing equity other than ordinary shares, by the weighted average number of ordinary shares outstanding during the financial year, adjusted for bonus elements in ordinary shares issued during the year.

### **Diluted Loss Per Share**

Diluted loss per share adjusts the figures used in the determination of basic earnings per share to take into account the after-income tax effect of interest and other financing costs associated with dilutive potential ordinary shares and the weighted average number of shares assumed to have been issued for no consideration in relation to dilutive potential ordinary shares.

## NOTE 10 CASH AND CASH EQUIVALENTS

	31-Dec-23	31-Dec-22
	€'000	€'000
Cash at bank and in hand	23,915	12,515
Short-term deposits	54,813	121,592
	78,728	134,107

## NOTE 10 CASH AND CASH EQUIVALENTS (CONT.)

## Reconciliation of net loss after tax to net cash flows from operations

	12-months 31 Dec 2023 €'000	6-months 31 Dec 2022 €'000
Loss for the financial year/period	(26,963)	(13,450)
Share based payment expense	1,688	711
Impairment expenses	1,144	-
Depreciation and amortisation expense	5,869	2,299
Shares issued in exchange for services	-	225
Gain on discontinuation of use of the equity method of accounting for investments	(3,874)	-
Loss from equity accounted investments	456	249
Foreign exchange differences	-	394
Changes in assets/liabilities		
Increase in trade and other receivables	(787)	(1,041)
(Decrease)/Increase in trade and other payables	(1,702)	3,339
Increase/(Decrease) in provisions	1,661	(144)
Increase in deferred tax assets	(1,531)	-
Decrease in deferred tax liabilities	(292)	-
Net cash used in operating activities	(24,331)	(7,418)

## **Accounting Policy**

### Cash and cash equivalents

Cash at bank earns interest at floating rates based on daily deposit rates. Short-term deposits are made in varying periods between one day and three months, depending on the immediate cash requirements of the Group and earn interest at the respective short-term deposit rates.

## NOTE 11 TRADE AND OTHER RECEIVABLES

	31-Dec-23 €'000	31-Dec-22 €'000
Trade receivables	608	1,296
Allowance for expected credit losses	-	(34)
Prepayments	712	273
Other receivables	2,061	2,766
Other - bank guarantees	958	1,245
VAT receivable	2,560	-
	6,899	5,546

## NOTE 11 TRADE AND OTHER RECEIVABLES (CONT.)

	<b>Expected credit</b>	loss rate	Carrying	amount	Allowanc	e for ECL
	31 Dec 2023	31 Dec 2022	31 Dec 2023	31 Dec 2022	31 Dec 2023	31 Dec 2022
Consolidated	%	%	€′000	€′000	€′000	€′000
not overdue	0%	0%	608	1,228	-	. –
overdue	50%	50%	-	68	_	. 34
		_	608	1,296	-	. 34

### Allowance for expected credit loss

Trade receivables are non-interest bearing and are generally on terms of 30 days. No provision has been recognised for the year (31 Dec 2022: €34,000) to cover expected credit loss.

### **Accounting Policy**

### Trade and other receivables

Trade and other receivables include amounts due from customers for goods sold and services performed in the ordinary course of business. Trade and other receivables are initially recognised at fair value and subsequently measured at amortised cost using effective interest method less any allowance for expected credit loss. Receivables expected to be collected within 12 months of the end of the reporting period are classified as current assets.

## Goods and Services Tax ('GST')

Revenues, expenses and assets are recognised net of the amount of GST, except where the amount of GST incurred is not recoverable from the Australian Taxation Office. In these circumstances, the GST is recognised as part of the cost of acquisition of the asset of the assets or part of the expense.

Receivables and payables are stated inclusive of the amount of GST receivable or payable. The net amount of GST recoverable from, or payable to, the taxation authority is included as a current asset or liability in the Consolidated statement of financial position.

Commitments and contingencies are disclosed net of the amount of GST recoverable from, or payable to, the tax authority. Cash flows are presented in the statement of cash flows on a gross basis, except for the GST on investing and financial activities, which are disclosed as operating cash flows.

## Value Added Tax ("VAT")

Revenues expenses and assets are recognised net of VAT, except where the amount of VAT incurred is not recoverable from the German tax authority. In these circumstances the VAT is recognised as part of the cost of acquisition or parts of the expense. Receivables and payables are stated inclusive of the amount of VAT receivable or payable. The net amount of VAT recoverable from, or payable to, the taxation authority is included as a current asset or liability in the Consolidated statement of financial position. Cash flows are presented in the statement of cash flows on a gross basis, except for the VAT on investing and financial activities, which are disclosed as operating cash flows.

## Impairment of financial assets

The consolidated entity recognises a loss allowance for expected credit losses on financial assets which are either measured at amortised cost or fair value through other comprehensive income. The measurement of the loss allowance depends upon the consolidated entity's assessment at the end of each reporting period as to whether the financial instrument's credit risk has increased significantly since initial recognition, based on reasonable and supportable information that is available, without undue cost or effort to obtain.

## NOTE 11 TRADE AND OTHER RECEIVABLES (CONT.)

#### Impairment of financial assets (cont.)

Where there has not been a significant increase in exposure to credit risk since initial recognition, a 12-month expected credit loss allowance is estimated. This represents a portion of the asset's lifetime expected credit losses that is attributable to a default event that is possible within the next 12 months. Where a financial asset has become credit impaired or where it is determined that credit risk has increased significantly, the loss allowance is based on the asset's lifetime expected credit losses. The amount of expected credit loss recognised is measured on the basis of the probability weighted present value of anticipated cash shortfalls over the life of the instrument discounted at the original effective interest rate.

### NOTE 12 CONTRACT ASSETS

	31 Dec 2023 €'000	31 Dec 2022 €'000
Contract assets	117	42
	117	42

Reconciliation of the written down values at the beginning and end of the current and previous financial year/period are set out below:

	31 Dec 2023 €'000	31 Dec 2022 €'000
Opening balance	42	79
transfer from/(to) inventory	75_	(37)
Closing balance	117	42

### **Accounting policy**

#### Contract assets

Contract assets are recognised when the consolidated entity has transferred goods and services to the customer but where the consolidated entity is yet to establish an unconditional right to consideration. Contract assets are treated as financial assets for impairment purposes.

### NOTE 13 INVENTORIES

	31 Dec 2023 €'000	31 Dec 2022 €'000
Spare parts	327	155
	327	155

### **Accounting policy**

#### Inventories

Raw materials, work in progress and finished goods are stated at the lower of cost and net realisable value on a "first in first out" basis. Cost comprises of direct materials and delivery costs, direct labour, import duties and other taxes, an appropriate proportion of variable and fixed overhead expenditure based on normal operating capacity, and, where applicable transfers from cash flow hedging reserves in equity. Costs of purchased inventory is determined after deducting rebates and discounts received or receivable.

## NOTE 14 OTHER ASSETS

The group has recognised the following other assets relating to prepayments on capital items.

	31 Dec 2023 €'000	31 Dec 2022 €'000
Prepayments relating to capital items	11,775	770
	11,775	770

## NOTE 15 EXPLORATION AND EVALUATION EXPENDITURE

	31-Dec-23 €'000	31-Dec-22 €'000
Carrying amount of exploration and evaluation expenditure	48,475	30,135
At the beginning of the year/period	30,135	20,440
Exploration expenditure incurred	18,776	10,400
Foreign exchange Loss	(436)	(705)
At the end of the year/period	48,475	30,135

## **Accounting Policy**

## Exploration and evaluation expenditure

Acquisition, exploration, and evaluation costs associated with mining tenements are accumulated in respect of each identifiable area of interest. These costs are only carried forward to the extent that the rights of tenure to that area of interest are current and that the costs are expected to be recouped through the successful commercial development or sale of the area or where activities in the area have not yet reached a stage that permits reasonable assessment of the existence of economically recoverable reserves.

Costs in relation to an abandoned area are written off in full against profit in the period in which the decision to abandon the area is made.

Each area of interest is also reviewed annually, and acquisition costs written off to the extent that they will not be recoverable in the future.

## NOTE 16 PROPERTY, PLANT AND EQUIPMENT

	31-Dec-23	31-Dec-22
	€'000	€'000
Software	655	383
Plant & Equipment	26,188	27,411
Land & Buildings	4,659	1,536
Assets under Construction	107,103	40,950
	138,605	70,280

## NOTE 16 PROPERTY, PLANT AND EQUIPMENT(CONT.)

Movement in carrying amounts of property, plant and equipment for the financial year ended 31 December 2023

	Software	Plant and equipment	Asset under construction	Land and Building	Total	
	€'000	€'000	€'000	€'000	€'000	
Cost						
At 1 January 2023	417	30,623	40,950	1,623	73,613	
Additions	328	1,955	66,163	3,211	71,657	
Disposals	-	(10)	(10)	-	(20)	
Acquired in Business Combinations	36	39	-	-	75	
At 31 December 2023	781	32,607	107,103	4,834	145,325	
Accumulated Depreciation						
At 1 January 2023	(34)	(3,212)	-	(87)	(3,333)	
Depreciation for the year	(56)	(3,201)	-	(88)	(3,345)	
Depreciation eliminated on disposal	-	10	-	-	10	
Acquired in Business Combinations	(36)	(16)	-	-	(52)	
At 31 December 2023	(126)	(6,419)	-	(175)	(6,720)	
Carrying amount						
At 1 January 2023	383	27,411	40,950	1,536	70,280	
At 31 December 2023	655	26,188	107,103	4,659	138,605	

## NOTE 16 PROPERTY, PLANT AND EQUIPMENT (CONT.)

Movement in carrying amounts of property, plant and equipment for period ended 31 December 2022

	Software	Plant and equipment	Asset under construction	Land and Building	Total
	€'000	€'000	€'000	€'000	€'000
Cost					
At 1 July 2022	280	28,817	22,784	1,623	53,504
Additions	137	2,001	18,166	-	20,304
Disposals	_	(195)	_	-	(195)
At 31 December 2022	417	30,623	40,950	1,623	73,613
Accumulated Depre					
At 1 July 2022	(13)	(1,958)	-	(43)	(2,014)
Depreciation for the period	(21)	(1,284)	-	(44)	(1,349)
Depreciation eliminated on disposal	-	30	-	-	30
At 31 December 2022	(34)	(3,212)	_	(87)	(3,333)
Carrying amount					
At 1 July 2022	267	26,859	22,784	1,580	51,490
At 31 December 2022	383	27,411	40,950	1,536	70,280

### Accounting Policy

### Property, plant and equipment

Property, plant and equipment is stated at historical cost less accumulated depreciation and impairment. Historical cost includes expenditure that is directly attributable to the acquisition of the items

Once assets are available for use, depreciation is calculated using the straight-line method to allocate asset costs over their estimated useful lives, as follows:

Software	3 -5 years
Plant & Equipment	2-20 years
Buildings	20 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance date. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

## NOTE 17 LEASE LIABILITIES & RIGHT-OF-USE ASSETS

Right-of-use asset	Buildings	Vehicles	Hardware and Software	Technical Equipment	Land	Total
	€'000	€'000	€'000	€'000	€'000	€'000
Cost						
At 1 January 2023	3,400	512	21	14	23	3,970
Additions	2,210	498	24	27	283	3,042
Acquired in Business Combinations	-	33	-	-	-	33
Disposals	(71)	(89)	(30)	-	-	(190)
At 31 December 2023	5,539	954	15	41	306	6,855
Accumulated Depreciation						
At 1 January 2023	(422)	(148)	(15)	(3)	(5)	(593)
Depreciation for the period	(1,444)	(442)	(30)	(36)	(35)	(1,987)
Eliminated on cancellation	42	89	30	-	-	161
FX loss	(20)	-	-	-	-	(20)
	(1,844)	(501)	(15)	(39)	(40)	(2,439)
Carrying amount						
At 1 January 2023	2,978	364	6	11	18	3,377
At 31 December 2023	3,695	453	-	2	266	4,416

Right-of-use asset	Buildings	Vehicles	Hardware and Software	Technical Equipment	Land	Total
_	€'000	€'000	€'000	€'000	€'000	€'000
Cost						
At 1 July 2022	2,908	261	21	-	-	3,190
Additions	492	251	-	14	23	780
At 31 December 2022	3,400	512	21	14	23	3,970
Accumulated Depre	eciation					
At 1 July 2022	(107)	(83)	(10)	-	-	(200)
Depreciation for the period	(307)	(65)	(5)	(3)	(5)	(385)
Foreign Exchange Gain/(Loss)	(8)	-	-	-	-	(8)
	(422)	(148)	(15)	(3)	(5)	(593)
Carrying amount						
At 1 July 2022	2,801	178	11	-	-	2,990
At 31 December 2022	2,978	364	6	11	18	3,377

## NOTE 17 LEASE LIABILITIES & RIGHT-OF-USE ASSETS (CONT.)

Lease Liabilities	Buildings	Vehicles	Hardware and Software	Technical Equipment	Land	Total
_	€'000	€'000	€'000	€'000	€'000	€'000
At 1 January 2023	3,020	263	6	9	18	3,316
New lease liabilities entered during the period	2,156	376	(6)	27	283	2,836
Acquired in business combinations	-	33	-	-	-	33
Add: Interest	147	19	-	-	5	171
Less: Payment	(1,480)	(363)	-	(35)	(38)	(1,916)
Foreign exchange loss	(29)	-	-	-	-	(29)
At 31 December 2023	3,814	328	-	1	268	4,411
<b>Represented by:</b> Current lease						
liabilities	792	236	-	1	57	1,086
Non-current lease liabilities	3,022	92	-	-	211	3,325
_	3,814	328	-	1	268	4,411

## NOTE 17 LEASE LIABILITIES & RIGHT-OF-USE ASSETS (CONT.)

Lease Liabilities	Buildings	Vehicles	Hardware and Software	Technical Equipment	Land	Total
	€'000	€'000	€'000	€'000	€'000	€'000
At 1 July 2022	2,804	190	11	-	-	3,005
New lease liabilities entered during the period	492	248	-	13	23	776
Add: Interest	56	6	-	-	-	62
Less: Payment	(329)	(181)	(5)	(4)	(5)	(524)
Foreign Exchange Gain/(Loss)	(3)	-	-	-	-	(3)
At 31 December 2022	3,020	263	6	9	18	3,316
Represented by:						
Current lease liabilities	506	115	6	8	11	646
Non-current lease liabilities	2,512	150	-	1	7	2,670
	3,018	265	6	9	18	3,316

## NOTE 17 LEASE LIABILITIES & RIGHT-OF-USE ASSETS (CONT.)

## **Accounting Policy**

### Right-of-use assets:

A right-of-use asset is recognised at the commencement date of a lease. The right-of-use asset is measured at cost, which comprises the initial amount of the lease liability, adjusted for, as applicable, any lease payments made at or before the commencement date net of any lease incentives received, any initial direct costs incurred, and, except where included in the cost of inventories, an estimate of costs expected to be incurred for dismantling and removing the underlying asset, and restoring the site or asset.

Right-of-use assets are depreciated on a straight-line basis over the unexpired period of the lease or the estimated useful life of the asset, whichever is the shorter. Where the consolidated entity expects to obtain ownership of the leased asset at the end of the lease term, the depreciation is over its estimated useful life. Right-of use assets are subject to impairment or adjusted for any remeasurement of lease liabilities.

The consolidated entity has elected not to recognise a right-of-use asset and corresponding lease liability for short-term leases with terms of 12 months or less and leases of low-value assets. Lease payments on these assets are expensed to profit or loss as incurred.

## Lease liabilities

A lease liability is recognised at the commencement date of a lease. The lease liability is initially recognised at the present value of the lease payments to be made over the term of the lease, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the consolidated entity's incremental borrowing rate. Lease payments comprise of fixed payments less any lease incentives receivable, variable lease payments that depend on an index or a rate, amounts expected to be paid under residual value guarantees, exercise price of a purchase option when the exercise of the option is reasonably certain to occur, and any anticipated termination penalties. The variable lease payments that do not depend on an index or a rate are expensed in the period in which they are incurred.

## NOTE 17 LEASE LIABILITIES & RIGHT-OF-USE ASSETS (CONT.)

#### Lease liabilities (cont.)

Lease liabilities are measured at amortised cost using the effective interest method. The carrying amounts are remeasured if there is a change in the following: future lease payments arising from a change in an index or a rate used; residual guarantee; lease term; certainty of a purchase option and termination penalties. When a lease liability is remeasured, an adjustment is made to the corresponding right-of use asset, or to profit or loss if the carrying amount of the right-of-use asset is fully written down.

The Group leases office space, a laboratory, vehicles and land through its German subsidiary Vulcan Energie Ressourcen GmbH as well as the subsidiaries of the German operating Company.

### NOTE 18 INTANGIBLE ASSETS

	31-Dec-23 €'000	31-Dec-22 €'000
Goodwill	1,076	1,076
Less: Impairment	(1,076)	(36)
		1,040
Customer contracts – at cost	1,526	1,526
Acquired in Business Combinations	387	-
Less: Impairment	(104)	-
Less: Accumulated amortisation	(1,466)	(904)
	343	622
Order backlog – at cost	46	46
Less: Accumulated amortisation	(46)	(46)
Operating permit - at cost	1,500	1,500
Less: Accumulated amortisation	(188)	(94)
	1,312	1,406
Total Intangible Assets	1,655	3,068

Reconciliation of the written down values at the beginning and the end of the current and previous financial year are set out below:

	Customer Contracts	Order backlog	Operating Permit	Goodwill	TOTAL
	€'000	€'000	€'000	€'000	€'000
Balance at 1 July 2022	1,140	-	1,453	1,040	3,633
Less: amortisation	(518)	-	· (47)	-	(565)
Balance at 31 December 2022	622	-	1,406	1,040	3,068
Acquired through business combinations	387	-		-	387
Less: amortisation	(562)	-	(94)	-	(656)
Less: impairment	(104)	-	-	(1,040)	(1,144)
Balance at 31 December 2023	343	-	1,312	-	1,655

## NOTE 18 INTANGIBLE ASSETS (CONT.)

Goodwill impairment test is conducted annually.

During the year ended 31 December 2023, the consolidated entity impaired the goodwill related to Vulcan Energy Engineering GmbH in the amount of €1,040,000 and Customer contracts in the amount of €104,000.

The goodwill has been impaired due to the subsidiary focusing solely on the work associated with the Project and not providing services to external customers and therefore the recoverable amount of the goodwill was assessed as nil.

#### Goodwill

Goodwill arises on the acquisition of a business. Goodwill is not amortised. Instead, goodwill is tested annually for impairment, or more frequently if events or changes in circumstances indicate that it might be impaired and is carried at cost less accumulated impairment losses. Impairment losses on goodwill are taken to profit or loss and are not subsequently reversed.

#### Customer contracts, operating permits, and order backlog

Customer contracts, operating permits and order backlog are deferred and amortised on a straight-line basis over the period of their expected benefit, being their finite life of 3-5 years.

### **Accounting Policy**

#### Goodwill and other indefinite life intangible assets

The consolidated entity tests annually, or more frequently if events or changes in circumstances indicate impairment, whether goodwill and other indefinite life intangible assets have suffered any impairment, in accordance with the accounting policy stated in note 1. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations require the use of assumptions, including estimated discount rates based on the current cost of capital and growth rates of the estimated future cash flows.

Intangible assets acquired as part of a business combination, other than goodwill, are initially measured at their fair value at the date of the acquisition. Intangible assets acquired separately are initially recognised at cost. Indefinite life intangible assets are not amortised and are subsequently measured at cost less any impairment. Finite life intangible assets are subsequently measured at cost less amortisation and any impairment. The gains or losses recognised in profit and loss arising from the derecognition of intangible assets are measured as the difference between the net disposal proceeds and the carrying amount of the intangible asset. The method and useful lives of finite life intangible assets are reviewed annually. Changes in the expected pattern of consumption or useful life are accounted for prospectively by changing the amortisation method or period.

### Impairment of non-financial assets other than goodwill and other indefinite life intangible assets

The consolidated entity assesses impairment of non-financial assets other than goodwill and other indefinite life intangible assets at each reporting date by evaluating conditions specific to the consolidated entity and to the particular asset that may lead to impairment. If an impairment trigger exists, the recoverable amount of the asset is determined. This involves fair value less costs of disposal or value-in-use calculations, which incorporate a number of key estimates and assumptions.

Recoverable amount is the higher of an asset's fair value less costs of disposal and value-in-use. The value-in-use is the present value of the estimated future cash flows relating to the asset using a pre-tax discount rate specific to the asset or cash-generating unit to which the asset belongs. Assets that do not have independent cash flows are grouped together to form a cash-generating unit.

## NOTE 19 DEFERRED TAX ASSETS

	31-Dec-23 €'000	31-Dec-22 €'000
Deferred tax asset comprises of differences attribu	itable to:	
Other	2,145	47
Property, plant and equipment	241	1,634
Tax losses	826	-
Deferred tax asset	3,212	1,681
Movements:		
Opening balance	1,681	1,710
Charged to statement of profit or loss	1,531	(29)
Closing balance	3,212	1,681

Refer to note 8 for accounting policy.

## NOTE 20 TRADE AND OTHER PAYABLES

	31-Dec-23	31-Dec-22
	€'000	€'000
Trade payables <sup>(i)</sup>	9,514	6,479
Accrued expenses	5,868	1,190
Other payables	1,812	1,466
VAT Payable		283
	17,194	9,418

(i) Trade payables are non-interest bearing and are normally settled on 30-day terms.

Due to the short-term nature of these payables, their carrying value is assumed to be the same as their fair value.

### **Accounting Policy**

Trade and other payables

Trade payables and other payables represent liabilities for goods and services provided to the Group prior to the end of the financial year which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

### NOTE 21 DERIVATIVE FINANCIAL INSTRUMENT

The group has the following derivative financial instruments in the following line items in the statement of financial position:

**Current liabilities** 

	31 Dec 2023	31 Dec 2022
	€'000	€'000
Forward foreign currency contract held for trading	133	
	133	-

#### **Accounting Policy**

### (i) Derivatives that do not qualify for hedge accounting

Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognised immediately in profit or loss and are included in other gains/(losses).

#### (ii) Classification of derivatives

Derivatives are only used for economic hedging purposes and not as speculative investments. However, where derivatives do not meet the hedge accounting criteria, they are classified as 'held for trading' for accounting purposes and are accounted for at fair value through profit or loss. They are presented as current assets or liabilities to the extent they are expected to be settled within 12 months after the end of the reporting period.

#### (iii) Fair value measurement

For information about the methods and assumptions used in determining the fair value of derivatives see note 26.

### NOTE 22 EMPLOYEE BENEFITS

	31 Dec 2023	31 Dec 2022
	€'000	€'000
Leave obligations	1,509	752
	1,509	752

### (i) Leave obligations

The leave obligations cover the group's liabilities for long service leave and annual leave which are classified as either other long-term benefits or short-term benefits. The current portion of this liability includes all of the accrued annual leave, the unconditional entitlements to long service leave where employees have completed the required period of service and also for those employees who are entitled to pro rata payments in certain circumstances. The entire amount of the provision of €1,509,000 (31 December 2022: €752,000) is presented as current, since the group does not have an unconditional right to defer settlement for any of these obligations. However, based on past experience, the group does not expect all employees to take the full amount of accrued leave or require payment within the next 12 months.

### NOTE 22 EMPLOYEE BENEFITS (CONT.)

	31-Dec-23	31-Dec-22	
	€'000	€'000	
Current leave obligations expected to be settled after 12 months	755	376	

(ii) Reclassification of employee benefit obligations

The group previously presented its liabilities for employee benefit obligations as provisions in the statement of financial position. However, management considers it to be more relevant if all employee benefit obligations are presented in one separate line item in the statement of financial position. €752,000 has been reclassified from current provisions to current employee obligations in prior year comparatives as at 31 December 2022.

## **Accounting Policy**

## **Employee benefits**

## Defined contribution superannuation expenses

Contributions to defined contribution superannuation plans are expensed in the period in which they are incurred.

### Short-term employee benefits

Liabilities for wages and salaries, including non-monetary benefits, annual leave and long service leave expected to be settled wholly within 12 months of the reporting date are measured at the amounts expected to be paid when the liabilities are settled.

### Other long-term employee benefits

The liability for annual leave and long service leave not expected to be settled within 12 months of the reporting date are measured at the present value of expected future payments to be made in respect of services provided by employees up to the reporting date using the projected unit credit method. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the reporting date on corporate bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

## NOTE 23 DEFERRED INCOME

	31 Dec 2023 €'000	31 Dec 2022 €'000
Current		132
Government grants	-	132
Non-current	2,818	1,453
Government grants	2,818	1,453

### Accounting Policy

Government grants

Government grants are not recognised until there is a reasonable assurance that the Group will comply with the conditions attached to them and that the grants will be received.

The assistance from the European Union aims to support the Group in testing, development and optimisations in production of geothermal energy. Unfulfilled conditions relate to the spend requirements as part of the grant acquittal processes which will be validated by the European Union after the next reporting period, 31 December 2024. Therefore, all deferred income is presented as non-current.

## NOTE 24 PROVISIONS

### Current:

	31 Dec 2023 €'000	31 Dec 2022 €'000
Other provision (i)	750	-
	750	
Non-Current:		
Other provisions	264	110
	264	110

(i) Information about individual provisions and significant estimates

The amount of €750,000 has been included in the current other provision for the closure of Augsburg office.

In December 2023, the decision was made to centralise engineering operations in Karlsruhe to ensure closer collaboration between the engineering teams and proximity to future construction locations. All Augsburg located employees have been offered new contracts in Karlsruhe, this provision represents potential termination benefits to those employees who do not accept new contracts.

### (ii) Movement in provisions

	Restructuring obligations	Waste disposal	Decontamination provision	TOTAL
	€'000	€'000	€'000	€'000
Cost				
Carrying amount at the start of the year	-	80	30	110
Charged to profit or loss				
- additional provisions recognised	750	120	34	904
Carrying amount at end of year	750	200	64	1,014

### **Accounting Policy**

### Provisions

Provisions are recognised when the consolidated entity has a present (legal or constructive) obligation as a result of a past event, it is probable the consolidated entity will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the reporting date, taking into account the risks and uncertainties surrounding the obligation. If the time value of money is material, provisions are discounted using a current pre-tax rate specific to the liability. The increase in the provision resulting from the passage of time is recognised as a finance cost.

## NOTE 25 DEFERRED TAX LIABILITIES

	31-Dec-23	31-Dec-22
	€'000	€'000
Deferred tax liability comprises temporary differences attributable to:		
Other	253	6
Property, plant and equipment	1,157	1,696
Deferred tax liabilities	1,410	1,702
Movements:		
Opening balance	1,702	1,463
Additions through business combinations	115	-
Charged to statement of profit or loss	(407)	239
Closing balance	1,410	1,702

Refer to note 8 for accounting policy.

## NOTE 26 FAIR VALUE MEASUREMENTS

#### (i) Fair value hierarchy

This section explains the judgements and estimates made in determining the fair values of the financial instruments that are recognised and measured at fair value in the financial statements. To provide an indication about the reliability of the inputs used in determining fair value, the group has classified its financial instruments into the three levels prescribed under the accounting standards. An explanation of each level follows underneath the table.

	31 Dec 2023 €'000	31 Dec 2022 €'000
Level 1		
Financial assets		
Financial assets at fair value through other comprehensive income		
Australian listed equity securities	2,550	-
Level 2		
Financial liabilities		
Forward foreign currency contracts held for sale	133	-

There were no transfers between levels 1 and 2 for recurring fair value measurements during the year. The group's policy is to recognise transfers into and out of fair value hierarchy levels as at the end of the reporting period.

### NOTE 26 FAIR VALUE MEASUREMENTS (CONT)

**Level 1**: The fair value of financial instruments traded in active markets (such as publicly traded derivatives and equity securities) is based on quoted market prices at the end of the reporting period. The quoted market price used for financial assets held by the group is the current bid price. The quoted market price incorporates the market's assumptions with respect to changes in economic climate such as rising interest rates and inflation, as well as changes due to ESG risk. These instruments are included in level 1.

**Level 2**: The fair value of financial instruments that are not traded in an active market (e.g. over-the counter derivatives) is determined using valuation techniques that maximise the use of observable market data and rely as little as possible on entity-specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2.

**Level 3:** If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3. This is the case for unlisted equity securities and for instruments where ESG risk gives rise to a significant unobservable adjustment.

(ii) Valuation techniques used to determine fair values

Specific valuation techniques used to value financial instruments include:

- the use of quoted market prices or dealer quotes for similar instruments
- for foreign currency forwards the present value of future cash flows based on the forward exchange rates at the reporting date

### **Accounting Policy**

When an asset or liability, financial or non-financial, is measured at fair value for recognition or disclosure purposes, the fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date; and assumes that the transaction will take place either: in the principal market; or in the absence of a principal market, in the most advantageous market.

Fair value is measured using the assumptions that market participants would use when pricing the asset or liability, assuming they act in their economic best interests. For non-financial assets, the fair value measurement is based on its highest and best use. Valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, are used, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

Assets and liabilities measured at fair value are classified into three levels, using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. Classifications are reviewed at each reporting date and transfers between levels are determined based on a reassessment of the lowest level of input that is significant to the fair value measurement.

For recurring and non-recurring fair value measurements, external valuers may be used when internal expertise is either not available or when the valuation is deemed to be significant. External valuers are selected based on market knowledge and reputation. Where there is a significant change in fair value of an asset or liability from one period to another, an analysis is undertaken, which includes a verification of the major inputs applied in the latest valuation and a comparison, where applicable, with external sources of data.

## NOTE 27 CONTRIBUTED EQUITY

	31 Dec 23		31 Dec 22	
	No.'000	€′000	No.′000	€′000
Fully paid ordinary shares	172,073	323,739	143,435	259,158

#### Ordinary shares

Ordinary shares entitle the holder to participate in the dividends and the proceeds on winding up in proportion to the number of and amounts paid on the shares held.

At shareholders meetings, each ordinary share is entitled to one vote when a poll is called, otherwise each shareholder has one vote on a show of hands.

#### Share buy-back

There is no current on-market share buy-back.

	Date	Number	lssue Price €	€'000
			t.	
At 1 January 2023		143,435,301		259,158
Placement	12/05/2023	21,400,000	3.15	67,350
Exercise of Class J performance rights	6/06/2023	1,500,000	-	-
Exercise of Class M performance rights	6/06/2023	1,000,000	-	-
Exercise of Class J performance rights	30/08/2023	1,000,000	-	-
Exercise of Class G performance rights	23/11/2023	250,000	-	-
Exercise of Class H performance rights	23/11/2023	472,727	-	-
Exercise of Class I performance rights	23/11/2023	910,909	-	-
Exercise of Class M performance rights	23/11/2023	500,000	-	-
Exercise of Class N Performance rights	23/11/2023	1,500,000	-	-
Exercise of Class S performance rights	23/11/2023	12,896	-	-
Exercise of Class D performance shares	23/11/2023	91,175	-	-
Less capital raising costs		-	-	(2,769)
At 31 December 2023	-	172,073,008	-	323,739
	Date	Number	lssue Price €	€'000
At 1 July 2022		143,094,049		258,933

At 1 July 2022		143,094,049		258,933
Exercise of Class S performance rights	7/07/2022	12,897	-	-
Exercise of Class H performance rights	7/07/2022	80,909	-	-
Exercise of Class I performance rights	7/07/2022	89,091	-	-
Shares issued for services rendered	9/07/2022	58,355	3.86	225
Exercise of Class R performance rights	20/12/2022	100,000	-	-
At 31 December 2022	-	143,435,301	-	259,158

## NOTE 27 CONTRIBUTED EQUITY (CONT.)

#### Accounting Policy

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds. Incremental costs directly attributable to the issue of new shares or options for the acquisition of a business are not included in the cost of the acquisition as part of the purchase consideration.

If the entity reacquires its own equity instruments, for example, as a result of a share buy-back, those instruments are deducted from equity and the associated shares are cancelled. No gain or loss is recognised in the profit or loss and the consideration paid including any directly attributable incremental costs (net of income taxes) is recognised directly in equity.

### NOTE 28 RESERVES

	31 Dec 2023 €'000	31 Dec 2022 €'000
Share-based payment reserve	11,522	9,706
Revaluation reserve	(1,870)	-
Foreign currency translation reserve	3,725	6,169
Total	13,377	15,875

#### **Share-based Payment Reserve**

	Number of Warrants	Number of Performance Shares	Number of Performance Rights	€'000
Movement reconciliation				
On issue at 1 January 2023		91,174	8,382,801	9,706
Issue of performance rights during the year	-	· –	385,754	-
Exercise of Performance Rights during the year	-	· _	(7,146,533)	-
Exercise of Performance Shares during the year	-	(91,174)	-	-
Recognition of share - based payment expense for performance rights issued to Directors, staff & consultants (Note 36)	-		-	1,688
Performance rights issued as part of the acquisition	-		82,714	128
Performance rights cancelled	-	· _	(153,468)	-
On issue at 31 December 2023	-	-	1,551,268	11,522

## NOTE 28 RESERVES (CONT.)

	Number of Warrants	Number of Performance Shares	Number of Performance Rights	€'000
Movement reconciliation				
On issue at 1 July 2022		91,174	8,656,324	8,995
Issue of performance rights during the year	-		393,374	-
Exercise of Performance Rights during the year	-		(282,897)	-
Recognition of share - based payment expense for performance rights issued to Directors, staff & consultants (Note 36)	-		-	711
Performance rights cancelled	-		(24,000)	-
Performance rights lapsed	-		(360,000)	-
On issue at 31 December 2022	-	· 91,174	8,382,801	9,706

The share-based payment reserve is used to record the value of share-based payments provided to outside parties, and share-based remuneration provided to employees and directors.

### Foreign Currency Translation Reserve

	31 Dec 2023 €'000	31 Dec 2022 €'000
Balance at the beginning of the period/year	6,169	7,817
Movement during the year/period	(2,444)	(1,648)
Balance at the end of the year/period	3,725	6,169

The foreign currency translation reserve is used to recognise exchange differences arising from the translation of the financial statements of foreign operations to Euro.

### **Revaluation Reserve**

	31 Dec 2023 €'000	31 Dec 2022 €'000
Balance at the beginning of the period/year	-	-
Movement during the year/period	(1,870)	
Balance at the end of the year/period	(1,870)	

The revaluation reserve is used to recognise the revaluation of investments at fair value through other comprehensive income.

### NOTE 29 INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

The Company's interest in Kuniko Limited is recognised as an investment in associate accounted for using the equity method. On 17<sup>th</sup> of July 2023 the Group discontinued the use of the equity method, shareholding reducing to 19% due to capital raises.

The shares held in Kuniko have been accounted for using fair value through other comprehensive income.

a) Gain on discontinuation of use of the equity method of accounting for investments:

	31 Dec 2023 €'000
Opening carrying value	974
Share of loss - associate	(456)
Fair value of Kuniko shares at the date of discontinuation of use of the equity method (note 30)	4,392
Gain on discontinuation of use of the equity method of accounting for investments	3,874

#### b) Interest in associates

Set out below are the associates and joint ventures of the group as at 31 December 2023 which, in the opinion of the directors, are material to the group. The entities listed below have share capital consisting solely of ordinary shares, which are held directly by the group. The country of incorporation or registration is also their principal place of business, and the proportion of ownership interest is the same as the proportion of voting rights held.

	% of ov	vnership	Carrying ar	nount
Name of Associate	<b>31 Dec 2023</b> %	<b>31 Dec 2022</b> %	31 Dec 2023 €'000	31 Dec 2022 €'000
Kuniko Limited (i)	-	21.15	-	974
Immaterial associates (ii)	50.1	-	124	-

### (i) Kuniko ceased to be an associate on 17 July 2023.

Interests in associates are accounted for using the equity method of accounting. Information relating to associates that are material to the consolidated entity are set out below:

	Kuniko Ltd		
	31-Dec-23	31-Dec-22	
	<u>     €'000                             </u>	€'000	
Summarised statement of financial position			
Current assets	-	4,921	
Non-current assets		3,016	
Total assets		7,937	
Current liabilities	-	(241)	
Non-current liabilities		_	
Total liabilities		(241)	
Net assets		7,696	

## NOTE 29 INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD (CONT.)

	12-months 31-Dec-23 €'000	6-months 31-Dec-22 €'000
Summarised statement of profit or loss and other comp	ehensive income	
Revenue	-	-
Expenses	-	(1,177)
Loss before income tax	-	(1,177)
Income tax expense	-	-
Loss after income tax	-	(1,177)
Other comprehensive loss	-	42
Total comprehensive loss	-	(1,135)

### (ii) Individually immaterial associates

In addition to the interests in associates disclosed above, the group also has interests in a number of individually immaterial associates that are accounted for using the equity method.

	31 Dec 2023 €'000	31 Dec 2022 €'000
Aggregate carrying amount of individually immaterial associates	124	-
Aggregate amounts of the group's share of:		
Profit from continuing operations	-	-
Post-tax profit or loss from discontinued operations	-	-
Othe comprehensive income	-	-
Total comprehensive income	_	

### **Accounting policy**

#### Associates

Associates are entities over which the consolidated entity has significant influence but not control or joint control. Investments in associates are accounted for using the equity method. Under the equity method, the share of the profits or losses of the associate is recognised in profit or loss and the share of the movements in equity is recognised in other comprehensive income. Investments in associates are carried in the statement of financial position at cost plus post-acquisition changes in the consolidated entity's share of net assets of the associate is included in the carrying amount of the investment and is neither amortised nor individually tested for impairment. Dividends received or receivable from associates reduce the carrying amount of the investment.

When the consolidated entity's share of losses in an associate equals or exceeds its interest in the associate, including any unsecured long-term receivables, the consolidated entity does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate.

The consolidated entity discontinues the use of the equity method upon the loss of significant influence over the associate and recognises any retained investment at its fair value. Any difference between the associate's carrying amount, fair value of the retained investment and proceeds from disposal is recognised in profit or loss.

## NOTE 30 FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	31 Dec 2023 €'000	31 Dec 2022 €'000
Australian listed shares	2,550	
	2,550	
Movement reconciliation		

#### Australian listed shares Total €'000 €'000 Carrying amount at the start of the year Discontinuation of the use of equity method of 4,392 4,392 accounting for investments (note 29) Charged to other comprehensive income - change in fair value (1,870)(1,870)28 28 Foreign exchange gain Carrying amount at end of year 2,550 2,550

## Accounting policy

### Classification

The group classifies its financial assets in the following measurement categories:

- those to be measured subsequently at fair value (either through OCI or through profit or loss), and
- those to be measured at amortised cost.

The classification depends on the entity's business model for managing the financial assets and the contractual terms of the cash flows. For assets measured at fair value, gains and losses will either be recorded in profit or loss or OCI. For investments in equity instruments that are not held for trading, this will depend on whether the group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income (FVOCI).

### **Recognition and derecognition**

Regular way purchases and sales of financial assets are recognised on trade date, being the date on which the group commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the group has transferred substantially all the risks and rewards of ownership.

#### Measurement

At initial recognition, the group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss (FVPL), transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss. Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

### Financial assets at fair value through profit or loss

Financial assets not measured at amortised cost or at fair value through other comprehensive income are classified as financial assets at fair value through profit or loss. Typically, such financial assets will be either: (i) held for trading, where they are acquired for the purpose of selling in the short-term with an intention of making a profit, or a derivative; or (ii) designated as such upon initial recognition where permitted. Fair value movements are recognised in profit or loss.

## NOTE 30 FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME (CON'T)

### Financial assets at fair value through other comprehensive income

Financial assets at fair value through other comprehensive income include equity investments which the consolidated entity intends to hold for the foreseeable future and has irrevocably elected to classify them as such upon initial recognition.

Where there has not been a significant increase in exposure to credit risk since initial recognition, a 12-month expected credit loss allowance is estimated. This represents a portion of the asset's lifetime expected credit losses that is attributable to a default event that is possible within the next 12 months. Where a financial asset has become credit impaired or where it is determined that credit risk has increased significantly, the loss allowance is based on the asset's lifetime expected credit losses. The amount of expected credit loss recognised is measured on the basis of the probability weighted present value of anticipated cash shortfalls over the life of the instrument discounted at the original effective interest rate.

## NOTE 31 INTERESTS IN SUBSIDIARIES

The consolidated financial statements incorporate assets, liabilities and results of the following wholly owned subsidiaries in accordance with the accounting policy described in note 1.

Entity	Location	Primary activity	Date of foundation or acquisition	Ownership Interest 31 December 2023(%)	Ownership Interest 31 December 2022(%)
Vulcan Energie Ressourcen GmbH	Karlsruhe	Operating entity	September 26, 2019	100	100
Vulcan Energy Europe Pty Limited	Perth	Operating entity	October 11, 2019	100	100
Global Geothermal Holding UG *	Karlsruhe	Operating entity	October 11,2019	-	100
Vulcan Energy Subsurface Solutions GmbH	Karlsruhe	Operating entity	July 2, 2021	100	100
Vulcan Energy Engineering GmbH	Augsburg	Operating entity	July 2, 2021	100	100
Vulcan Geothermal GmbH	Karlsruhe	Group holding	July 09, 2021	100	100
VER GEO LIO GmbH	Karlsruhe	Group holding	July 12, 2021	100	100
Vercana GmbH	Karlsruhe	Operating entity	December 09, 2021	100	100
Natürlich Insheim GmbH	Karlsruhe (previously: Ludwigshafen)	Operating entity	December 31, 2021	100	100
Vulcan Energy Italy Pty Limited	Perth	Operating entity	July 5, 2021	100	100
Comeback Peronaldienstleistungen GmbH	Karlsruhe	Operating entity	February 1, 2023	100	-
Vulcan Projektgesellschaft 3 GmbH	Karlsruhe	Operating entity	July 4, 2023	100	-
Vulcan Projektgesellschaft 2 GmbH	Karlsruhe	Operating entity	July 3, 2023	100	-
Natürlich Südpfalz Geschaftsführungs GmbH	Landau i.d Pfalz	Operating entity	February 15, 2023	100	-
Natürlich Südpfalz GmbH & Co. KG	Landau i.d. Pfalz	Operating entity	March 10, 2023	100	-
Vulcan Lily Lithium GF - GmbH	Karlsruhe	Operating entity	May 3, 2023	100	-
Vulcan Lily Lithium (Hochst)GmbH & Co. KG	Karlsruhe	Operating entity	May 4, 2023	100	-
Vulcan Energie France SAS	France	Operating entity	June 22, 2022	100	100
Vulcan Energy SA Pty Limited	Perth	Group holding	September 23, 2023	100	-

\*Global Geothermal Holding UG was merged with Vulcan Energie Ressourcen GmbH. The entity was deregistered on 28 February 2023.

## NOTE 32 BUSINESS COMBINATIONS

No business combinations occurred in the period ending 31 December 2022.

#### **Comeback Personaldienstleistungen GmbH**

Vulcan Energie Ressourcen GmbH, a subsidiary of Vulcan Energy Resources Limited, acquired 100% of drilling labour hire company, Comeback Personaldienstleistungen GmbH, in accordance with the Share Purchase Agreement, with an effective date on 1 February 2023 (closing-date).

The acquired business contributed revenues of  $\pounds 2,549,284$  for sale of services and loss after tax of  $\pounds 103,057$  to the consolidated entity for the period from 1 February 2023 to 31 December 2023. If the acquisition occurred on 1 January 2023 the revenue and the loss would have been  $\pounds 2,700,968$  and  $\pounds 150,167$  respectively.

Additionally, the issue of two tranches of performance rights at EUR100,000 each has been recognised as deferred consideration, based on management's assessment of the probability of achieving the milestones. Milestones are as follows:

- The successful complete staffing of the drilling rigs for the year 2023 on or before December 31, 2023. The rights will expire on December 31, 2024.
- The successful complete staffing of the drilling rigs for the year 2024 on or before December 31, 2024. The rights will expire on December 31, 2025.

The values identified in relation to acquisition of Comeback are final as at 31 December 2023.

Details of the acquisition are as follows:

	€′000
Cash	35
Trade and other receivables	458
Property, plant & equipment	23
Right-of-use assets	33
Loans and borrowings	(81)
Trade and other payables	(429)
Lease Liabilities	(33)
Fair value of net assets acquired	6
Intangible assets acquired	387
Deferred tax liabilities arising on acquisition	(115)
Acquisition-date fair value of total consideration	278

### Representing:

	€′000
Cash paid	150
Performance rights issued as consideration (note 36)	128
Total consideration	278

## NOTE 32 BUSINESS COMBINATIONS (CONT.)

### Accounting policy

#### Business combinations

The acquisition method of accounting is used to account for business combinations regardless of whether equity instruments or other assets are acquired.

The consideration transferred is the sum of the acquisition-date fair values of the assets transferred, equity instruments issued, or liabilities incurred by the acquirer to former owners of the acquiree and the amount of any non-controlling interest in the acquiree. For each business combination, the non-controlling interest in the acquiree is measured at either fair value or at the proportionate share of the acquiree's identifiable net assets. All acquisition costs are expensed as incurred to profit or loss.

On the acquisition of a business, the consolidated entity assesses the financial assets acquired and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic conditions, the consolidated entity's operating or accounting policies and other pertinent conditions in existence at the acquisition-date.

Where the business combination is achieved in stages, the consolidated entity remeasures its previously held equity interest in the acquiree at the acquisition-date fair value and the difference between the fair value and the previous carrying amount is recognised in profit or loss.

Contingent consideration to be transferred by the acquirer is recognised at the acquisition-date fair value. Subsequent changes in the fair value of the contingent consideration classified as an asset or liability is recognised in profit or loss. Contingent consideration classified as equity is not remeasured and its subsequent settlement is accounted for within equity.

The difference between the acquisition-date fair value of assets acquired, liabilities assumed and any noncontrolling interest in the acquiree and the fair value of the consideration transferred and the fair value of any preexisting investment in the acquiree is recognised as goodwill. If the consideration transferred and the pre-existing fair value is less than the fair value of the identifiable net assets acquired, being a bargain purchase to the acquirer, the difference is recognised as a gain directly in profit or loss by the acquirer on the acquisition-date, but only after a reassessment of the identification and measurement of the net assets acquired, the non-controlling interest in the acquiree, if any, the consideration transferred and the acquirer's previously held equity interest in the acquiree.

### NOTE 33 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES

The Group's overall risk management programme focuses on the unpredictability of the financial markets and seeks to minimise potential adverse effects on the financial performance of the Group. The Group uses different methods to measure and manage different types of risks to which it is exposed.

These include monitoring levels of exposure to interest rate and foreign exchange risk and assessments of market forecasts for interest rate and foreign exchange prices. Ageing analysis and monitoring of specific credit allowances are undertaken to manage credit risk. Liquidity risk is monitored through the development of future cash flow forecasts.

Risk management is carried out by Management and overseen by the Board of Directors with assistance from suitably qualified external advisors.

The main risks arising for the Group are foreign exchange risk, interest rate risk, credit risk and liquidity risk. The Board reviews and agrees policies for managing each of these risks and they are summarised below.

## NOTE 33 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

The carrying values of the Group's financial instruments are as follows:

	31-Dec-23 €'000	31-Dec-22 €'000
Financial Assets		
Cash and cash equivalents	78,728	134,107
Trade and other receivables	6,899	5,546
Other assets	11,775	770
	97,402	140,423
Financial Liabilities		
Trade and other payables Derivative financial instrument	17,194 133	9,418
Lease liabilities	4,411	3,316
	21,738	12,734

## (a) Market risk

#### (i.) Foreign exchange risk

The consolidated entity undertakes certain transactions denominated in foreign currency and is exposed to foreign currency risk through foreign exchange rate fluctuations.

Foreign exchange risk arises from future commercial transactions and recognised financial assets and financial liabilities denominated in a currency that is not the entity's functional currency. The risk is measured using sensitivity analysis and cash flow forecasting.

In order to protect against exchange rate movements, the consolidated entity has entered into forward foreign exchange contracts.

The maturity, settlement amounts and the average contractual exchange rates of the consolidated entity's outstanding forward foreign exchange contracts at the reporting date were as follows:

Sell Austral	ian dollars	Average excha	ange rates
31-Dec-23	31-Dec-22	31-Dec-23	31-Dec-22
€'000	€'000	€'000	€'000

## **Buy Euros**

Maturity:				
0 - 3 months	10,000	-	0.610	-

## NOTE 33 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

### (a) Market risk (cont)

### (i.) Foreign exchange risk (cont)

The carrying amount of the consolidated entity's foreign currency denominated financial assets and financial liabilities at the reporting date were as follows:

	Assets		Liabilitie	S
	31-Dec-23	31-Dec-22	31-Dec-23	31-Dec-22
Consolidated	€'000	€'000	€'000	€'00
US dollars	-	-	3,237	304
Canadian dollar	-	-	9,465	-
Australian dollar	44,007	35,358	-	1,008
_	44,007	35,358	12,702	1,312

The aggregate net foreign exchange gains/(losses) recognised in the P&L were:

	31 Dec 2023 €'000	31 Dec 2022 €′000
Net foreign exchange gains/(losses) recognised in the statement of profit or loss:	299	(105)

#### Sensitivity

As shown in the table above, the group is primarily exposed to changes in EUR/AUD exchange rates. The sensitivity of profit or loss to changes in the exchange rates is:

	Impact on post-tax profit		
	12 months	6 months	
	31-Dec-23	31-Dec-22	
	€′000	€′000	
EUR/AUD exchange rate - increase 5% *	(2,096)	(1,773)	
EUR/AUD exchange rate – decrease 5%*	2,096	1,773	
EUR/USD exchange rate – increase 5% $^{st}$	(162)	(64)	
EUR/USD exchange rate – decrease 5% *	162	64	
EUR/CAD exchange rate – increase 5% *	(473)	-	
EUR/CAD exchange rate - decrease 5% *	473	-	
*Holding all other variables constant			

## NOTE 33 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

## (ii) Interest rate risk

The Group is exposed to interest rate risk, which is the risk that a financial instrument's value will fluctuate as a result of changes in the market interest rates on interest bearing financial instruments. The Group's exposure to this risk relates primarily to the Group's cash and any cash on deposit. The Group does not use derivatives to mitigate these exposures. The Group manages its exposure to interest rate risk by holding certain amounts of cash in fixed and floating interest rate facilities. At the reporting date, the interest rate profile of the Group's interest-bearing financial instruments was:

	31 December 2023		31 December 2022	
	Weighted average interest rate	Balance	Weighted average interest rate	Balance
		€′000		€′000
Cash and cash equivalents	3.93%	63,359	1.53%	101,687

## Sensitivity

Within the analysis, consideration is given to potential renewals of existing positions and the mix of fixed and variable interest rates. The following sensitivity analysis is based on the interest rate risk exposures in existence at the reporting date. The 1% increase and 1% decrease in rates is based on reasonably expected possible changes over a financial year.

At 31 December 2023, if interest rates had moved, as illustrated in the table below, with all other variables held constant, losses and equity would have been affected as follows:

	Profit higher/(lower)	Profit higher/(lower)
	31 December 2023	31 December 2022
	€	€
+ 1.0% (100 basis points)	633,590	1,016,867
- 1.0% (100 basis points)	(633,590)	(1,016,867)

## (b) Credit risk

Credit risk arises from the financial assets of the Group, which comprise cash and cash equivalents, trade and other receivables and other financial assets. The Group's exposure to credit risk arises from potential default of the counterparty, with maximum exposure equal to the carrying amount of the financial assets.

The Group's policy is to trade only with recognised, creditworthy third parties. It is the Group's policy that all customers who wish to trade on credit terms will be subject to credit verification procedures.

In addition, receivable balances are monitored on an ongoing basis with the result that the Group's exposure to bad debts is not significant. There are no significant concentrations of credit risk within the Group except for cash and cash equivalents.

# NOTE 33 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

# (c) Liquidity risk

Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to its reputation.

The Group manages liquidity risk by maintaining adequate cash reserves from funds raised in the market and by continuously monitoring forecast and actual cash flows. The Group does not have any external borrowings. The following are the contractual maturities of financial liabilities:

31 Dec 23	1 year or less €'000	1-5 years €'000	>5 years €′000	Total €′000
Trade and other payables	17,194	-	-	17,194
Derivative liabilities	133	-	-	133
Lease Liabilities	1,086	2,596	729	4,411
31 Dec 22				
Trade and other payables	9,418	-	-	9,418
Lease Liabilities	646	1,801	869	3,316

## (d) Price risk

The Group is exposed to the commodity price risk, as its energy sales are predominantly subject to prevailing market prices. The contract with Pfalzwerke guarantees a minimum price of €0.25 per kWh. During the year months ending 31 December 2023 Vulcan sold 16,279 MWh at an average price of €0.26 per kWh.

At 50% of the upward movement in the price for Mwh, the Group's loss would decrease by €2.1m. At 100% upward price movement the loss would decrease by €4.2m.

# (e) Capital risk management

The Group's objectives when managing capital are to:

- Safeguard their ability to continue as a going concern, so that it can continue to provide returns for shareholders and benefits for other stakeholders; and
- Maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the number of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

Given the stage of the Company's development there are no formal targets set for return on capital. The Company is not subject to externally imposed capital requirements. The net equity of the Company is equivalent to capital. Net capital is obtained through capital raisings on the Australian Securities Exchange ("ASX").

# NOTE 34 CHANGES IN LIABILITIES ARISING FROM FINANCING ACTIVITIES

	Lease liabilities €'000	Loan €'000	Total €'000
Balance at 1 July 2022	3,005	-	3,005
Net cash used in financing activities	(462)	-	(462)
Additions to leases	776	-	776
Other changes	(3)	-	(3)
Balance at 31 December 2022	3,316	-	3,316
Net cash used in financing activities	(1,744)	(81)	(1,825)
Acquired in business combinations	33	81	114
Additions to leases	2,835	-	2,835
Other changes	(29)	-	(29)
Balance at 31 December 2023	4,411	-	4,411

# NOTE 35 NON-CASH INVESTING AND FINANCING ACTIVITIES

	12-months 31 Dec 2023 €'000	6-months 31 Dec 2022 €'000
Additions to the right of use assets	3,042	776
Performance shares issued for consideration of		
acquisition	128	
	3,170	776

# NOTE 36 SHARE-BASED PAYMENTS

	12-months 31 Dec 2023 €'000	6-months 31 Dec 2022 €'000
Recognised share-based payment transactions		
Performance rights issued to Directors, staff and consultants (i)	315	153
Performance rights issued to Directors & staff in prior periods (ii)	1,373	558
Performance rights issued as consideration for acquisition of subsidiary Comeback (note 32)	128	-
Shares issued for consideration of services	-	225
	1,816	936
Represented by		
Shared-based payment expense	1,688	711
Acquisition of subsidiary (note 32)	128	-
Investor relations expense		225
	1,816	936

(i) Details of new issues during the year:

On 28 February 2023, the company granted 244,853 performance rights to the staff to align their interests to that of the Company's shareholders and assist as an effective means of retention. On 10 September 2023 further 115,667 were granted to staff.

The rights were granted with the following vesting conditions:

- Successful execution of drilling operations in line with development plans
- Remaining an employee on the earlier of the date of 12 months from satisfaction of the Vesting Condition or 31 December 2024.

The value of performance rights was determined, as follows:

Туре	Fair value of each rights (EUR)	Number of Rights	Grant Date	Expiry date	Total value of Rights (EUR)	Share based payment expense (EUR)
Employee Incentive Plan	4.07	244,853	28/02/2023	1/07/2025	995,709	263,052
Employee Incentive Plan	1.82	115,667	10/09/2023	1/07/2025	210,753	30,472

## NOTE 36 SHARE-BASED PAYMENTS (CONT.)

On the 28<sup>th</sup> of May 2023, following AGM approval, the Company granted service-based performance rights to Non-Executive Director (NED Service Rights). Ranya Alkadamani received 25,234 service-based performance rights valued at EUR 65,720. Issued in three tranches as class AC. The rights expire a year after vesting.

Performance rights vest as follows:

- 1/3 vesting 12 months from the date of 28 May 2023.
- 1/3 vesting 24 months from the date of 28 May 2023.
- 1/3 vesting 36 months from the date of 28 May 2023.

Туре	Fair value of each rights (EUR)	Grant date	Number of Rights	Vesting date	Total value of Rights (EUR)	Share based payment expense (EUR)
Tranche 1	2.60	28/05/2023	8,411	28/05/2024	21,906	11,919
Tranche 2	2.60	28/05/2023	8,411	28/05/2025	21,906	5,967
Tranche 3	2.60	28/05/2023	8,412	28/05/2026	21,908	3,981

(ii) Details of performance rights issued during the previous periods:

Under the Company's Incentive Award plan, the Company issued the following incentives:

- an annual deferred incentive (ADI), designed to reward creation of exceptional short-term shareholder value as evidenced by the performance hurdles, issued in three Tranches as Class AA
- a long-term incentive (LTI), deigned to reward creation of exceptional long-term shareholder value as evidenced by performance hurdles, issued in seven tranches as Class AB

The incentives were issued on the following dates:

- on the 19<sup>th</sup> of September 2022; 52,000 ADIs and 102,000 LTIs were issued to the Executives.
- on the 13<sup>th</sup> of December 2022; 12,700 ADIs and 56,200 LTIs were issued to the Executives.
- On the 29<sup>th</sup> of November 2022; 26,000 ADI's and 116,000 LTI's were issued to the Managing Director.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Details of the ADIs for Executives:

ltem	Executive Rights – ADI									
	Tranc	che 1	Trano	che 2	Tranch	ie 3				
Grant date	19/09/2022	13/12/2022	19/09/2022	13/12/2022	19/09/2022	13/12/2022				
Fair value of each right (EUR)	5.24	4.30	5.24	4.30	5.24	4.30				
Commencement of performance period	1/07/2022	1/11/2022 & 14/11/2022	1/07/2022	1/11/2022 & 14/11/2022	1/07/2022	1/11/2022 & 14/11/2022				
Performance measurement date	30/06/2023	30/06/2023	30/06/2023	30/06/2023	30/06/2023	30/06/2023				
Vesting date	30/06/2024	30/06/2024	30/06/2024	30/06/2024	30/06/2024	30/06/2024				
Expiry date	30/06/2026	30/06/2026	30/06/2026	30/06/2026	30/06/2026	30/06/2026				
Volatility	n/a	n/a	n/a	n/a	n/a	n/a				
Risk-fee rate	n/a	n/a	n/a	n/a	n/a	n/a				
Dividend yield	nil	nil	nil	nil	nil	nil				
Number of Rights	15,600	3,810	15,600	3,810	20,800	5,080				
Price at grant (EUR)	5.24	4.30	5.24	4.30	5.24	4.30				
Valuation per Tranche (EUR)	81,744	16,383	81,744	16,383	108,992	21,844				

	Share based payment expense (EUR)	(9,395)	(751)	16,953	3,198	22,311	8,994
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		Managing Director's Rights – ADI <sup>1</sup>	
ltem	Tranche 1	Tranche 2	Tranche 3
Grant date	29/11/2022	29/11/2022	29/11/2022
Fair value of each right (EUR)	4.52	4.52	4.52
Commencement of performance period	1/07/2022	1/07/2022	1/07/2022
Performance measurement date	30/06/2023	30/06/2023	30/06/2023
Vesting date	30/06/2024	30/06/2024	30/06/2024
Expiry date	30/06/2026	30/06/2026	30/06/2026
Volatility	n/a	n/a	n/a
Risk-fee rate	n/a	n/a	n/a
Dividend yield	nil	nil	nil
Number of Rights	7,800	7,800	10,400
Price at grant (EUR)	4.52	4.52	4.52
Valuation per Tranche (EUR)	35,228	35,228	46,971
Share based payment expense (EUR)	(4,205)	3,350	15,991

<sup>1</sup> – MD's Rights relate to rights granted to Dr Francis Wedin, before the change of his role to the Executive Chair.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Details of ADI performance rights vesting conditions:

Tranche 1:

The Tranche 1 will vest subject to the obtaining sufficient funding in order to allow for completion of the first plant that will be able to produce lithium on a commercial scale and/or the first new commercial geothermal heating plant, in accordance with Vulcan's business plan (First Plant) by 30 June 2023.

Tranche 2:

The Tranche 2 will vest subject to the achievement of various individual and business KPIs. The STI targets reflect a balance of individual and organisational goals impacting overall STI. Individual goals in the assessment of the STI include items such as sustainability, cost performance, funding, approval of drilling permits, drilling activity, compliance and governance, growth and safety. Individual executive goals are all clearly defined and specifically measurable.

Tranche 3

The tranche 3 will vest subject to the achievement of the shared objectives as follows:

People:

a)>80% retention rate for agreed critical roles at all levels of the organisation for FY 23 onwards; and b) increased employee satisfaction rate based on previous annual internal employee satisfaction survey.

Environment:

a) obtain an ESG rating from a recognised third party ESG provider that is above 50%;

b) obtain a carbon neutral emission certification from a recognised third-party issuer where the Group's carbon emissions footprint is measured and offset by supporting credible carbon offset projects and verified across all business units by 30 June 2023; and

c) reporting of climate related impacts, risks and opportunities management by the Group according to the Taskforce for Climate-Related Financial Disclosures (TCFD) guidelines and/or report according to the Taskforce for Nature-Related Financial Disclosures (TNFD).

Social:

a) all exploration/production licenses to be in good standing as at 30 June 2023; and b) release an announcement on the ASX that it has commenced drilling in the Upper Rhine Valley.

Performance assessment has been completed during the year.

The above ADI performance rights are subject to continuous service until the vesting date.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Details of the LTIs for Executives:

lte	m	Grant date	Fair value of each right (EUR)	Expiry date	Volatility	Risk-fee rate	Number of Rights	Price at grant (EUR)	Valuation per Tranche (EUR)	Share based payment expense (EUR)
	Tranche	19/09/2022	5.24	30/06/2027	n/a	n/a	30,600	5.24	160,344	10,262
	1	13/12/2022	4.30	30/06/2027	n/a	n/a	16,860	4.30	72,498	9,493
	Tranche	19/09/2022	5.24	30/06/2027	n/a	n/a	15,300	5.24	80,172	5,131
	2	13/12/2022	4.30	30/06/2027	n/a	n/a	8,430	4.30	36,249	4,747
	Tranche	19/09/2022	5.24	30/06/2027	n/a	n/a	10,200	5.24	53,448	3,421
	3	13/12/2022	4.30	30/06/2027	n/a	n/a	5,620	4.30	24,166	3,164
Executive	Tranche	19/09/2022	5.24	30/06/2027	n/a	n/a	7,650	5.24	40,086	2,566
Rights	4	13/12/2022	4.30	30/06/2027	n/a	n/a	4,215	4.30	18,125	2,373
	Tranche	19/09/2022	5.24	30/06/2027	n/a	n/a	7,650	5.24	40,086	2,566
	5	13/12/2022	4.30	30/06/2027	n/a	n/a	4,215	4.30	18,125	2,373
	ATSR	19/09/2022	4.18	30/06/2027	75%	3.405%	10,200	5.24	42,636	5,448
	Rights	13/12/2022	3.24	30/06/2027	75%	3.115%	5,620	4.30	18,209	4,794
	RTSR	19/09/2022	4.57	30/06/2027	75%	3.405%	20,400	5.24	93,228	11,914
	Rights	13/12/2022	3.50	30/06/2027	75%	3.115%	11,240	4.30	39,340	9,587

lte	em	Grant date	Fair value of each right (EUR)	Expiry date	Volatility	Risk-fee rate	Number of Rights	Price at grant (EUR)	Valuation per Tranche (EUR)	Share based payment expense (EUR)
	Tranche 1	29/11/2022	4.52	30/06/2027	n/a	n/a	34,800	4.52	157,296	18,709
	Tranche 2	29/11/2022	4.52	30/06/2027	n/a	n/a	17,400	4.52	78,648	9,354
	Tranche 3	29/11/2022	4.52	30/06/2027	n/a	n/a	11,600	4.52	52,432	6,236
MD	Tranche 4	29/11/2022	4.52	30/06/2027	n/a	n/a	8,700	4.52	39,324	4,677
Rights <sup>1</sup>	Tranche 5	29/11/2022	4.52	30/06/2027	n/a	n/a	8,700	4.52	39,324	4,677
	ATSR Rights	29/11/2022	3.46	30/06/2027	75%	3.235%	11,600	4.52	40,136	9,566
	RTSR Rights	29/11/2022	3.69	30/06/2027	75%	3.235%	23,200	4.52	85,608	20,355

<sup>1</sup> – MD's Rights relate to rights granted to Dr Francis Wedin, before the change of his role to the Executive Chair.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Details of LTI performance rights vesting conditions:

#### Tranche 1:

The Tranche 1 Rights will vest subject to the achievement of the successful ramp up to nameplate capacity for Phase 1 energy and lithium chemicals production, and achievement of corresponding revenue.

Tranche 2:

The Tranche 2 Rights will vest subject to the achievement of obtaining a positive definitive feasibility study for Phase 2 energy and lithium chemicals production, and achievement of corresponding revenue.

## Tranche 3:

The Tranche 3 Rights will vest subject to the achievement of obtaining project financing for completion of Phase 2 capital expenditure.

## Tranche 4:

The Tranche 4 Rights will vest subject to the achievement of carbon neutral emission certification across all operations through each year in the four-year period commencing 30 June 2022.

## Tranche 5:

The Tranche 5 Rights will vest subject to the achievement of lowest quartile absolute greenhouse gas (GHG) emissions.

#### ATSR Rights:

The number of RTSR Rights that vest is based on the TSR of Vulcan over the performance period, relative to the returns of the Peer Group. The RTSR Rights will vest according to the following schedule:

Company's TSR performance	Percentage of ATSR Rights eligible to vest
Company's TSR < 7.5%	Nil
7.5% < Company's TSR <10%	50% to 75% on a pro-rata basis
10% < Company's TSR < 12.5%	75% to 100% on a pro-rata basis
Company's TSR > 12.5%	100%

# RTSR Rights:

The number of RTSR Rights that vest is based on the TSR of Vulcan over the performance period, relative to the returns of the Peer Group. The RTSR Rights will vest according to the following schedule.

Company's TSR performance relative to the Peer Group	Percentage of RTSR Rights eligible to vest
50th percentile	50%
Between 50th percentile and 75th percentile	Pro-rata
75th percentile	100%

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

On the 29<sup>th</sup> of November 2022 the Company issued Performance rights to Non-Executive Directors (NED Service Rights). Dr Günter Hilken and Mark Skelton each received 14,237 performance rights valued at EUR 67,746. Issued in three tranches as class AC.

Performance rights vest as follows:

- 1/3 vesting 12 months from the date of 29 November 2022.
- 1/3 vesting 24 months from the date of 29 November 2022.
- 1/3 vesting 36 months from the date of 29 November 2022.

Туре	Grant date	Number of Rights	Vesting date	Total value of Rights (EUR)	Share based payment expense (EUR)
Tranche 1	29/11/2022	9,491	29/11/2023	45,164	39,238
Tranche 2	29/11/2022	9,491	29/11/2024	45,164	9,796
Tranche 3	29/11/2022	9,491	29/11/2025	45,164	6,537

Details of performance rights issued in previous years:

Туре	Fair value of each right (EUR)	Expected volatility	Grant date	Price at grant date (EUR)	Expiry date	Vesting hurdle (5-day VWAP)	Interest rate	Number of Rights	Total value of Rights (EUR)	Share based payment expense (EUR)
Class J	0.55	70%	10/09/2020	0.55	16/09/2023	1.84	0.26%	2,500,000	1,368,598	205,597
Class S	4.95	N/A	24/06/2021	4.95	30/06/2025	N/A	N/A	38,688	191,561	35,397
Class T	4.82 & 7.54	N/A	29/06/2021& 16/12/2021	4.82 & 7.54	1/12/2024	N/A	N/A	250,000 & 18,000	1,341,080	364,904
Class U	4.82	N/A	29/06/2021	4.82	1/12/2024	N/A	N/A	250,000	1,205,360	332,199
Class V	4.82 & 7.54	N/A	29/06/2021& 16/12/2021	4.82 & 7.54	1/12/2024	N/A	N/A	100,000 & 18,000	617,864	159,581
Class W	4.82	N/A	29/06/2021	4.82	1/12/2024	N/A	N/A	100,000	482,144	(137,545)
Class Y	7.54	N/A	16/12/2021	7.54	1/12/2024	N/A	N/A	60,000	452,400	46,410
Class Z	7.54	N/A	16/12/2021	7.54	1/12/2024	N/A	N/A	50,000	377,000	102,770

Details of Performance Rights vesting conditions:

Class J

- the Company announcing, within 36 months from the date of issue, a positive (JORC-Compliant) Definitive Feasibility Study in relation to the Project confirming it is commercially viable; and
- the VWAP for Shares as traded on ASX over 20 consecutive trading days is equal to or greater than 225% of the VWAP for Shares for the last 5 trading days up to but not including the date of 10 September 2020.

Vesting conditions have been met during the year.

## NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Class S

one third vesting 12 months from the date of the 24 June 2021 General Meeting (EGM), one third vesting 24 months from EGM, one third vesting 36 months from EGM.

The first and second vesting conditions have been met.

Class T

the Company being issued a building permit for the first geothermal power plant or, in the case of a pure heating project with no electricity production, the transfer station, on or before the Expiry Date of 1st December 2024.

## Class U

the Company being issued a building permit for the first Direct Lithium Extraction system, on or before the Expiry Date of 1st December 2024.

## Class V

the Company being granted a permit according to BlmSchG for the first lithium refinery, on or before the Expiry Date of 1st December 2024.

## Class W

the Company announcing commissioning of the first commercial lithium extraction plant, on or before the Expiry Date of 1st December 2024.

#### Class Y:

the Company announcing successful listing of Vulcan Energy on the regulated market of the Frankfurt Stock Exchange on or before the expiry date of 1 December 2024.

The vesting condition has been met during the year.

Class Z:

Performance Rights will vest upon the Company obtaining project finance for the first commercial plant, on or before the Expiry Date of 1 December 2024.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

Set out below are summaries of performance rights movement during the year:

	As at 1 January 2023	Granted	Exercised	Cancelled	As at 31 December 2023	Exercisable performance rights
Class G	250,000	_	(250,000)	_	-	-
Class H	472,727	_	(472,727)	_	_	-
Class I	910,909	-	(910,909)	-	-	-
Class J	2,500,000	-	(2,500,000)	-	-	-
Class M	1,500,000	-	(1,500,000)	-	-	-
Class N	1,500,000	-	(1,500,000)	-	-	-
Class S	25,791	-	(12,897)	-	12,894	-
Class T	260,000	-	-	-	260,000	-
Class U	250,000	-	-	-	250,000	-
Class V	110,000	-	-	-	110,000	-
Class W	100,000	-	-	(100,000)	-	-
Class Y	60,000	-	-	-	60,000	60,000
Class Z	50,000	-	-	-	50,000	-
Class AA	90,700	-	-	(53,468)	37,232	-
Class AB	274,200	-	-	-	274,200	-
Class AC	28,474	-	-	-	28,474	9,491
Class IP	-	360,520	-	-	360,520	-
Class AE	-	82,714	-	-	82,714	41,357
Class AD	-	25,234	-	-	25,234	_
	8,382,801	468,468	(7,146,533)	(153,468)	1,551,268	110,848

No performance rights expired during the year.

# NOTE 36 SHARE-BASED PAYMENTS (CONT.)

	As at 1 July 2022	Granted	Exercised	Cancelled	Lapsed	As at 31 December 2022	Exercisable performance rights
Class G	250,000	-	-	-	-	250,000	250,000
Class H	553,636	-	(80,909)	-	-	472,727	472,727
Class I	1,000,000	-	(89,091)	-	-	910,909	910,909
Class J	2,500,000	-	-	-	-	2,500,000	-
Class M	1,500,000	-	-	-	-	1,500,000	1,500,000
Class N	1,500,000	-	-	-	-	1,500,000	1,500,000
Class P	368,000	-	-	(8,000)	(360,000)	-	-
Class R	100,000	-	(100,000)	-	-	-	-
Class S	38,688	-	(12,897)	-	-	25,791	-
Class T	268,000	-	-	(8,000)	-	260,000	-
Class U	250,000	-	-	-	-	250,000	-
Class V	118,000	-	-	(8,000)	-	110,000	-
Class W	100,000	-	-	-	-	100,000	-
Class Y	60,000	-	-	-	-	60,000	-
Class Z	50,000	-	-	-	-	50,000	-
Class AA (ADI)	-	90,700	-	-	-	90,700	-
Class AB (LTI)	-	274,200	-	-	-	274,200	-
Class AC (NED)	-	28,474	-	-	-	28,474	-
	8,656,324	393,374	(282,897)	(24,000)	(360,000)	8,382,801	4,633,636

Set out below are summaries of performance rights granted and exercised.

Set out below are summaries of performance shares granted and exercised.

	As at 1 Jan 2023	lssued	Exercised	Cancelled, Lapsed or Expired	As at 31 December 2023	Exercisable performance shares
Class D	91,174	-	(91,174)	-	-	-
	91,174	-	(91,174)	-	-	-
	As at 1 July 2022	lssued	Exercised	Cancelled, Lapsed or Expired	As at 31 December 2022	Exercisable performance shares
Class D	91,174	-	-	-	91,174	-
	91,174	-	-	-	91,174	-

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## NOTE 36 SHARE-BASED PAYMENTS (CONT.)

#### **Accounting Policy**

#### Share-based payments

Equity-settled and cash-settled share-based compensation benefits are provided to Key Management Personnel and employees.

Equity-settled transactions are awards of shares, or options over shares, which are provided to employees in exchange for the rendering of services. Cash-settled transactions are awards of cash for the exchange of services, where the amount of cash is determined by reference to the share price.

The cost of equity-settled transactions are measured at fair value on grant date. Fair value is independently determined using an appropriate valuation model that takes into account the exercise price, the term of the option, the impact of dilution, the share price at grant date and expected price volatility of the underlying share, the expected dividend yield and the risk free interest rate for the term of the option, together with non-vesting conditions that do not determine whether the consolidated entity receives the services that entitle the employees to receive payment. No account is taken of any other vesting conditions.

The cost of equity-settled transactions are recognised as an expense with a corresponding increase in equity over the vesting period. The cumulative charge to profit or loss is calculated based on the grant date fair value of the award, the best estimate of the number of awards that are likely to vest and the expired portion of the vesting period. The amount recognised in profit or loss for the period is the cumulative amount calculated at each reporting date less amounts already recognised in previous periods.

The cost of cash-settled transactions is initially, and at each reporting date until vested, determined by applying an appropriate valuation model, taking into consideration the terms and conditions on which the award was granted. The cumulative charge to profit or loss until settlement of the liability is calculated as follows:

- (a) During the vesting period, the liability at each reporting date is the fair value of the award at that date multiplied by the expired portion of the vesting period.
- (b) From the end of the vesting period until settlement of the award, the liability is the full fair value of the liability at the reporting date.

All changes in the liability are recognised in profit or loss. The ultimate cost of cash-settled transactions is the cash paid to settle the liability.

Market conditions are taken into consideration in determining fair value. Therefore, any awards subject to market conditions are considered to vest irrespective of whether or not that market condition has been met, provided all other conditions are satisfied.

If equity-settled awards are modified, as a minimum an expense is recognised as if the modification has not been made. An additional expense is recognised, over the remaining vesting period, for any modification that increases the total fair value of the share-based compensation benefit as at the date of modification.

If the non-vesting condition is within the control of the consolidated entity or employee, the failure to satisfy the condition is treated as a cancellation. If the condition is not within the control of the consolidated entity or employee and is not satisfied during the vesting period, any remaining expense for the award is recognised over the remaining vesting period, unless the award is forfeited.

If equity-settled awards are cancelled, it is treated as if it has vested on the date of cancellation, and any remaining expense is recognised immediately. If a new replacement award is substituted for the cancelled award, the cancelled and new award is treated as if they were a modification.

# NOTE 37 RELATED PARTY DISCLOSURE

#### Parent entity

Vulcan Energy Resources Limited is the parent entity.

#### Subsidiaries

Interests in subsidiaries are set out in note 31.

## Associates

Interests in associates are set out in note 29.

The aggregate compensation made to directors and other members of key management personnel of the consolidated entity is set out below.

	12 months	6 months
	31-Dec-23	31-Dec-22
	€	€
Short-term benefits	1,434,501	770,032
Post-employment benefits	100,608	38,325
Share-based payments	309,652	299,871
	1,844,761	1,108,228

## (a) Transactions with associates

#### Loans to or from associates

There were no loans to or from associates at 31 December 2023 (31 December 2022: nil).

#### (b) Transactions with related parties

During the year ending 31 December 2023 payments for consultancy fees of  $\pounds$ 12,056 (31 December 2022:  $\pounds$ 28,089) were made to JRB Consulting Ltd, a related party of Ms Josephine Bush, in respect of expert advice on ESG reporting. There were no amounts outstanding as at 31 December 2023 to JRB Consulting Ltd (31 December 2022:  $\pounds$ 8,709), however there was a prepayment for Ms Bush's director fee to the value of  $\pounds$ 3,605.

During the previous year Vulcan entered into a contract with Dr Horst Kreuter to rent a flat at the rate of  $\pounds$ 1,810 per month and  $\pounds$ 418 operating costs monthly. The contract was a short term lease. No amount was paid from inception of the contract and until 31 December 2022. The amount of  $\pounds$ 2,715 was outstanding as at 31 October 2022 and nil was outstanding as at 31 December 2022. Dr. Horst Kreuter ceased to be a key management personnel on 31 October 2022.

There was an outstanding balance payable to Gavin Rezos of €11,666 (31 December 2022: nil) in relation to his directors' fees.

# Loans to/from related parties

There were no loans to or from related parties at the 31 December 2023 (31 December 2022: nil).

Other than the above, there were no other transactions with related parties during the year ended 31 December 2023.

#### **Terms and conditions**

All transactions were made on normal commercial terms and conditions and at market rates.

# NOTE 38 COMMITMENTS

Below are the commitments in relation to its exploration and evaluation assets:

	31-Dec-23 €'000	31-Dec-22 €'000
Within one year	1,888	5,482
One to five years		4,708
	1,888	10,190

Below are the commitments in relation to capital expenditure:

	31-Dec-23 €'000	31-Dec-22 €'000
Within one year	22,472	30,383
One to five years	-	1,917
	22,472	32,300

#### NOTE 39 CONTINGENCIES

The Group has given bank guarantees as at 31 December 2023 of €958,000 (31 December 2022: €1,245,000)

The Group has no contingent assets and liabilities as at 31 December 2023 (30 December 2022 : nil).

# NOTE 40 AUDITOR'S REMUNERATION

31 Dec 2023	31 Dec 2022
€′000	€′000
102	73
111	-
46	95
46	-
135	
440	168
	€'000 102 111 46 46 46

## NOTE 41 ACCUMULATED LOSSES

	12 months	6 months
	31 Dec 23	31 Dec 22
_	€'000	€'000
Balance at beginning of the period/year	(41,872)	(28,422)
Loss after income tax for the period/year	(26,963)	(13,450)
Balance at end of the period/year	(68,835)	(41,872)
NOTE 42 PARENT ENTITY		
	31-Dec-23	31-Dec-22
	€'000	€'000
Statement of Financial Position		
ASSETS		
Current Assets	49,411	64,912
Non-Current Assets	219,929	169,934
Total Assets	269,340	234,846
LIABILITIES		
Current Liabilities	1,059	1,618
Non-Current Liabilities	-	68
Total Liabilities	1,059	1,686
EQUITY		
Issued Capital	323,739	259,158
Reserves	6,049	12,984
Accumulated losses	(61,507)	(38,981)
Total Equity	268,281	233,161
Statement of Profit or Loss and other comprehensive income		
Loss for the year/period	(22,526)	(7,682)
Total Comprehensive Loss	(22,526)	(7,682)

#### **Contingent liabilities**

Other than disclosed at Note 39, the parent entity has no other contingent assets or contingent liabilities as at 31 December 2023 and 31 December 2022.

#### Capital commitments - Property, plant and equipment

The parent entity had no capital commitments for property, plant and equipment as at 31 December 2023 and 31 December 2022.

#### **Exploration commitments**

The parent entity has no exploration commitments as at 31 December 2023 and 31 December 2022.

#### Significant accounting policies

The accounting policies of the parent entity are consistent with those of the consolidated entity, as disclosed in the financial statements, except for the following:

(i.) Investments in subsidiaries are accounted for at cost, less any impairment, in the parent entity.

#### NOTE 43 DIVIDENDS

No dividend has been declared or paid during the year ended 31 December 2023 (31 December 2022: nil), and the Directors do not recommend the payment of a dividend in respect of the year ended 31 December 2023.

#### **Accounting Policy**

#### Dividends

Dividends are recognised when declared during the financial year and no longer at the discretion of the Company.

#### NOTE 44 EVENTS AFTER THE REPORTING DATE

On 15 January 2024 announced the appointment of Felicity Gooding to the role of Group Chief Financial Officer for 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.

Mr. Mark Skelton retired from the Board as a non-executive director of the Company effective 1 February 2024. Mr. Skelton joined the Board of Vulcan in April 2022 whilst the Company was evolving from a development company into a project execution company. During his time on the Board, Mr. Skelton contributed to building a strong executive leadership team across Vulcan, and specifically, the build-out of the project execution team, which has already made significant strides with completion of the construction of the Lithium Extraction and Optimisation Plant.

The Company continues its debt and project level equity financing process, supported by BNP Paribas, following positive market sounding in 2023 from commercial banks, development banks, and government-backed export credit agencies. Vulcan aims to complete its finance program in the third quarter of 2024.

After preliminary due diligence, Vulcan's Phase One ZERO CARBON LITHIUM<sup>™</sup> Project appears potentially suitable for an EIB financing and the Project has advanced to the "Under Appraisal" stage. 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. It is expected to serve as a cornerstone to complement ongoing debt funding discussions with leading export credit agencies and international banks.

In April 2023, Nobian and Vulcan signed a Term Sheet to review potential areas of cooperation. The agreement followed a longer cooperation to assess the feasibility of producing lithium hydroxide from lithium chloride in Germany. The initial finance structure saw the financing of its upstream and downstream lithium projects separately, and the Term Sheet contemplated Nobian participating at the downstream lithium hydroxide project level only. Following feedback from its financiers and other stakeholders, Vulcan has decided to fund its upstream and downstream developments in an integrated lithium and renewable energy project (integrated project) in order to gain more operational synergies. Due to the changed project structure by Vulcan, Nobian has decided not to participate further in the equity financing process for the Integrated Project. Nobian recognises Vulcan's decision to raise equity at the Integrated Project level; at the same time, it also impacts Nobian's potential role in the project as a strategic partner. Nobian and Vulcan will continue to explore other forms of commercial collaboration.

Apart from the above, no other matter or circumstance has arisen since 31 December 2023 that has significantly affected, or may significantly affect the consolidated entity's operations, the results of those operations, or the consolidated entity's state of affairs in future financial years.

# **Directors' Declaration**

In the Directors' opinion:

- (a) The financial statements and accompanying notes are in accordance with the Corporations Act 2001, including:
  - (i) complying with Australian Accounting Standards, the Corporations Regulations 2001 and other mandatory professional reporting requirements; and
  - (ii) giving a true and fair view of the consolidated entity's financial position as at 31 December 2023 and of its performance for the year ended on that date.
- (b) The financial statements and notes comply with International Financial Reporting Standards.
- (c) There are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

The Directors have been given the declarations required by section 295A of the Corporations Act 2001.

This declaration is made in accordance with a resolution of the Board of Directors made pursuant to section 295(5)(a) of the Corporations Act 2001 and is signed for and on behalf of the Directors by:

Zanti

Dr Francis Wedin Executive Chair

27 March 2024



#### **RSM Australia Partners**

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#### INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF VULCAN ENERGY RESOURCES LIMITED

#### Opinion

We have audited the financial report of Vulcan Energy Resources Limited (the Company) and its subsidiaries (the Group), which comprises the consolidated statement of financial position as at 31 December 2023, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and the directors' declaration.

In our opinion, the accompanying financial report of the Group is in accordance with the Corporations Act 2001, including:

- (i) Giving a true and fair view of the Group's financial position as at 31 December 2023 and of its financial performance for the year then ended; and
- (ii) Complying with Australian Accounting Standards and the Corporations Regulations 2001.

#### **Basis for Opinion**

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report. We are independent of the Group in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 Code of Ethics for Professional Accountants (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We confirm that the independence declaration required by the *Corporations Act 2001*, which has been given to the directors of the Company, would be in the same terms if given to the directors as at the time of this auditor's report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

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# **Key Audit Matters**

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial report of the current period. These matters were addressed in the context of our audit of the financial report as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key Audit Matter	How our audit addressed this matter
Exploration and Evaluation Expenditure	now our audit addressed this matter
Refer to Note 15 in the financial statements	
<ul> <li>The Group has capitalised exploration and evaluation expenditure with a carrying value of €48,475,000 as at 31 December 2023.</li> <li>We considered this to be a key audit matter due to the significant management judgments involved in assessing the carrying value of the asset including:</li> <li>Determination of whether the exploration and evaluation expenditure can be associated with finding specific mineral resources and the basis on which that expenditure is allocated to an area of interest;</li> <li>Assessing whether exploration activities have reached a stage at which the existence of economically recoverable reserves may be determined; and</li> <li>Assessing whether any indicators of impairment are present and if so, judgement applied to determine and quantify any impairment loss.</li> </ul>	<ul> <li>Our audit procedures included:</li> <li>Assessing the Group's accounting policy for compliance with Australian Accounting Standards;</li> <li>Obtaining a schedule of the areas of interest held by the Group and testing on a sample basis that the right to tenure of each relevant area of interest remained current at reporting date;</li> <li>Testing a sample of additions to supporting documentation and ensuring the amounts capitalised are in compliance with the Group's accounting policy and relate to the area of interest;</li> <li>Enquiring with management and reading budgets and other documentation as evidence that active and significant operations in, or relation to, the area of interest will be continued in the future;</li> <li>Assessing and evaluating management's determination that exploration activities have not yet progressed to the stage where the existence or otherwise of economically recoverable reserves may be determined;</li> <li>Assessing the appropriateness of disclosures in the financial statements.</li> </ul>



Key Audit Matter	How our audit addressed this matter			
Property, plant and equipment				
Refer to Note 16 in the financial statements				
<ul> <li>The Group has property, plant and equipment with a carrying value of €138,605,000 as at 31 December 2023.</li> <li>We considered this to be a key audit matter due to significant amounts of costs capitalised and management judgments involved in assessing the carrying value of the assets including:</li> <li>Determination of the nature of costs incurred meet the specific recognition criteria in AASB 116 <i>Property, Plant and Equipment</i> for capitalisation;</li> <li>Determination of asset under construction be capable of operating in the manner intended by management; and</li> <li>Assessing whether any indicators of impairment are present and if so, judgement applied to determine and quantify any impairment loss.</li> </ul>	<ul> <li>Our audit procedures included:</li> <li>Assessing the Group's accounting policy for compliance with Australian Accounting Standards;</li> <li>Obtaining the schedule of property, plant and equipment and on sample basis, testing the additions to supporting documentation and ensuring the amounts were capital in nature;</li> <li>Critically assessing management's determination of when asset is available for use and challenge management assumptions used;</li> <li>Critically assessing management's determination of useful life of assets and challenge management assumptions used;</li> <li>Assessing and evaluating management's assessment of whether indicators of impairment existed; and</li> <li>Assessing the appropriateness of disclosures in</li> </ul>			
Chave beend novement	the financial statements.			
Share-based payment Refer to Note 36 in the financial statements				
During the year, the Group issued performance rights to key management personnel and employees.	Our audit procedures included:			
Management have accounted for these instruments in accordance with AASB 2 <i>Share-Based Payment</i> . We have considered this to be a key audit matter because:	<ul> <li>Assessing the Group's accounting policy for compliance with Australian Accounting Standards;</li> <li>Obtaining an understanding of the terms and conditions of these instruments granted;</li> <li>Assessing the completeness of the instruments granted/expired/lapsed at reporting date;</li> <li>Assessing the appropriateness of management's</li> </ul>			
<ul> <li>The complexity of the accounting associated with recording these instruments and management estimation in determining the fair value of instruments granted;</li> <li>Management judgement is required to determine the probability of vesting conditions of these instruments and the inputs used in the valuation model to value these instruments; and</li> <li>The recognition of the share-based payment expense is complex due to the variety of vesting conditions attached to these instruments.</li> </ul>	<ul> <li>Assessing the appropriateness of management's valuation methodology used to determine the fair value of these instruments granted;</li> <li>Testing the key inputs used in the valuation model for each instrument granted;</li> <li>Critically assessing management's determination of the vesting probability of each instrument;</li> <li>Recalculating the value of the share-based payment expense to be recognised in consolidated statement of profit or loss and other comprehensive income; and</li> <li>Assessing the appropriateness of disclosures in the financial statements.</li> </ul>			



#### **Other Information**

The directors are responsible for the other information. The other information comprises the information included in the Group's annual report for the year ended 31 December 2023 but does not include the financial report and the auditor's report thereon.

Our opinion on the financial report does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### **Responsibilities of the Directors for the Financial Report**

The directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Corporations Act 2001* and for such internal control as the directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the directors are responsible for assessing the ability of the Group to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

#### Auditor's Responsibilities for the Audit of the Financial Report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: <u>https://www.auasb.gov.au/admin/file/content102/c3/ar1\_2020.pdf</u> This description forms part of our auditor's report.



#### **Report on the Remuneration Report**

**Opinion on the Remuneration Report** 

We have audited the Remuneration Report included in the directors' report for the year ended 31 December 2023.

In our opinion, the Remuneration Report of Vulcan Energy Resources Limited, for the year ended 31 December 2023, complies with section 300A of the *Corporations Act 2001*.

#### Responsibilities

The directors of the Company are responsible for the preparation and presentation of the Remuneration Report in accordance with section 300A of the *Corporations Act 2001*. Our responsibility is to express an opinion on the Remuneration Report, based on our audit conducted in accordance with Australian Auditing Standards.

RSM

**RSM AUSTRALIA PARTNERS** 

AIK KONG TING Partner

Perth, WA Dated: 27 March 2024

# ASX ADDITIONAL INFORMATION

Additional information required by the Australian Securities Exchange and not shown elsewhere in this Annual Report is as follows. The information is current as of 21 March 2024.

# **FULLY PAID ORDINARY SHARES**

- There is a total of 172,073,008 fully paid ordinary shares on issue which are listed on the ASX.
- The number of holders of fully paid ordinary shares is 29,993.
- Holders of fully paid ordinary shares are entitled to participate in dividends and the proceeds on winding up of the Company.
- There are no preference shares on issue.

# DISTRIBUTION OF FULLY PAID ORDINARY SHAREHOLDERS IS AS FOLLOWS:

Range	Number of holders	Number of shares	% of Issued Capital
1 - 1,000	21,319	7,080,456	4.11%
1,001 - 5,000	6,376	15,171,959	8.82%
5,001 - 10,000	1,197	8,982,840	5.22%
10,001 - 100,000	1,015	26,535,901	15.42%
100,001 and over	86	114,301,852	66.43%
Total	29,993	172,073,008	100.00%

# HOLDERS OF NON-MARKETABLE PARCELS

Holders of non-marketable parcels are deemed to be those whose shareholding is valued at less than \$500.

There are 9,088 shareholders who hold less than a marketable parcel of shares, which amounts to 0.49% of issued capital based on a price per Share of \$2.80.

# SUBSTANTIAL SHAREHOLDERS OF ORDINARY FULLY PAID SHARES

The names of substantial shareholders who have notified the Company in accordance with section 671B of the *Corporations* Act 2001 are:

	Holding Balance	% of Issued Capital
Mr Francis Edward Barnabas Wedin and related parties	16,458,561	9.56
PSA Automobiles S.A	11,448,959	6.65
Vivien Enterprises Pte Ltd	8,635,000	5.02

# **SHARE BUY-BACKS**

There is currently no on-market buyback program for any of Vulcan Energy Resources' listed securities.

# **VOTING RIGHTS OF SHAREHOLDERS**

All fully paid ordinary shareholders are entitled to vote at any meeting of the members of the Company and their voting rights are on:

- Show of hands one vote per shareholders; and
- Poll one vote per fully paid ordinary share.

# **MAJOR SHAREHOLDERS**

#### **TWENTY LARGEST SHAREHOLDERS**

Rank	Shareholders	Number Held	Percentage (%)
1	BNP PARIBAS NOMINEES PTY LTD ACF CLEARSTREAM	33,306,875	19.36%
2	HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	12,751,705	7.41%
3	PSA AUTOMOBILES SA	11,448,959	6.65%
4	MR FRANCIS EDWARD BARNABAS WEDIN⁵7	6,096,667	3.54%
4	MR FRANCIS EDWARD BARNABAS WEDIN⁵7	6,096,667	3.54%
5	MR JOHN LANGLEY HANCOCK	4,718,000	2.74%
6	CITICORP NOMINEES PTY LIMITED	3,847,893	2.24%
7	MR FRANCIS EDWARD BARNABAS WEDIN⁵7	3,452,727	2.01%
8	J P MORGAN NOMINEES AUSTRALIA PTY LIMITED	2,851,196	1.66%
9	DR HORST DIETER KREUTER	2,217,345	1.29%
10	CGI3 PTY LIMITED	1,839,612	1.07%
11	MONSLIT PTY LTD < ANTHONY TORRESAN A/C>58	1,600,000	0.93%
12	DR HORST KREUTER	1,426,751	0.83%
13	BNP PARIBAS NOMS PTY LTD	1,197,874	0.70%
14	LHO LA PTY LTD <acme a="" c="" foundation=""></acme>	1,018,559	0.59%
15	VIVIEN ENTERPRISES PTE LTD	1,000,000	0.58%
16	BNP PARIBAS NOMINEES PTY LTD <ib au="" noms="" retailclient=""></ib>	960,887	0.56%
17	SNOWBALL 3 PTY LTD < ANTONIO TORRESAN SUPER A/C>58	937,000	0.54%
18	MAGNI ASSOCIATES PTY LTD <sup>57</sup>	812,500	0.47%
19	RHODIUM CAPITAL PTY LIMITED <rhodium a="" c="" investment=""></rhodium>	750,000	0.44%
20	MR HOANG HUY NGUYEN <hoang a="" c="" family="" huy="" nguyen=""></hoang>	660,000	0.38%
	Totals	98,991,217	57.53%

<sup>57</sup> Mr. Francis Edward Barnabas Wedin and his related parties hold a total of 16,458,561 shares (9.56%).

<sup>58</sup> Part of the Torresan Group which holds a total of 2,537,000 shares (1.47%).

# **OPTIONS**

There are no listed or unlisted options on issue as at 21 March 2024.

# **TAX STATUS**

The Company is treated as a public company for taxation purposes.

# **FRANKING CREDITS**

The Company has no franking credits.

# **BUSINESS OBJECTIVES**

Vulcan Energy Resources Limited has used its cash and cash equivalents held at the time of listing in a way consistent with its stated business objectives.

# **TENEMENT SCHEDULE**

Vulcan's Licences as at 31 December 2023

Name	State	Resources applied for	Area (km²)	Expiry	Ownership as at 31 December 2023	Change in ownership	Туре
Ried	Hessen	Geothermal, brine & lithium	289.92	7.2025	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	6.2027	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	7.2024	100 % VER GmbH	N/A	exploration
Ortenau II	BW	Geothermal, brine & lithium	374.1	12.2025	100 % VER GmbH	N/A	exploration
Mannheim	BW	Geothermal, brine & lithium	144.49	6.2024	100 % VER Pty Ltd	N/A	exploration
Taro	RLP	Geothermal	32.68	8.2025	100% GGH (part of VER Group)	N/A	exploration
Lisbeth	RLP	Lithium	02.00	9.2024	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	7.2024	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		12.2024	100 % VER GmbH	N/A	exploration
Fuchsmantel	RLP	Lithium	166.75	7.2025	100 % VER GmbH	N/A	exploration
Landau-Süd	RLP	Geothermal		5.2034	JV and brine offtake agreement Geox	N/A	production
llka	RLP	Lithium	19.41 11.2025		JV and brine offtake agreement Geox	N/A	exploration
Insheim	RLP	Geothermal		11.2037	100% Natürlich Insheim GmbH	N/A	production
LiThermEx	RLP	Lithium	19	3.2025	100% Natürlich Insheim GmbH	N/A	exploration

# **MINERAL RESOURCE**

Vulcan's combined Upper Rhine Valley Project Lithium Brine Measured, Indicated and Inferred Mineral Resource Estimates as at 31 December 2023.

Licence/Area	Reservoir	Classification	GRV km <sup>3</sup>	Avg. NTG %	Avg. Phie %	Avg. Li mg/L	Elemental Li t	LCE kt
Insheim	*MUS, BST, ROT, BM	Measured	13	69	9	181	151,823	808
Rift-Nord	*MUS, BST, ROT, BM	Measured	9.5	70	9	181	110,181	586
	*MUS, BST, ROT, BM	Indicated	29	71	9	181	355,443	1892
Landau- Süd	*MUS, BST, ROT; BM	Measured	12	68	9	181	134,677	717
	*MUS, BST, ROT; BM	Indicated	2.7	69	9	181	29,620	158
Flaggenturm	BST	Indicated	7	90	10	181	115,215	613
	BST	Inferred	37	65	9	181	391,201	2,082
Kerner	BST	Indicated	5	90	10	181	76,242	406
	BST	Inferred	13	65	9	181	132,558	705
Kerner Ost	*MUS, BST, ROT	Indicated	4.3	73	8	181	66,708	355
Taro	*MUS, BST, ROT	Indicated	14.5	73	8	181	237,362	1,263
Ortenau	*MUS, BST, ROT	Indicated	57	73	8	181	659,013	3,507
	BST	Inferred	105	73	8	181	1,883,212	10,024
Mannheim	BST	Indicated	4	90	10	153	54,111	288
	BST	Inferred	32	65	9	153	290,312	1,545
Ludwig	BST	Indicated	7	90	10	153	93,220	496
	BST	Inferred	22	65	9	153	199,226	1,060
Therese	BST	Indicated	2	90	10	153	29,907	159
	BST	Inferred	22	65	9	153	200,708	1,068
Total LCE		Measured				181 mg/L		2,112 kt
		Indicated				178 mg/L		9,137 kt
		Inferred				172 mg/L		16,484 kt

Note 1: Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. Refer to Competent Person Statement in Appendix for further information.

Note 2: The weights are reported in metric tonnes (1,000 kg or 2,204.6 lbs). Numbers may not add up due to rounding of the resource value percentages.

Note 3: Reservoir abbreviations: MUS – Muschelkalk Formation, BST – Buntsandstein Group; ROT Rotliegend Group; BM - Variscan Basement.

Note 4: To describe the resource in terms of industry standard, a conversion factor of 5.323 is used to convert elemental Li to Li<sub>2</sub>CO<sub>3</sub>, or Lithium Carbonate Equivalent (LCE).

Note 5: NTG and Phie averages have been weighted to the thickness of the reservoir.

Note 6: GRV refers to gross rock volume, also known as the aquifer volume.

Note 7: Mineral Resources are considered to have reasonable prospects for eventual economic extraction under current and forecast lithium market pricing with application of Vulcan's A-DLE processing.

Note 8: The values shown are an approximation and with globalised rounding of values in the presented summary table as per JORC guidelines, cannot be multiplied through to achieve the Mineral Resource estimated volumes shown above

Note 9: For further information, please refer to the Bridging Engineering Study announcement released on 16 November 2023 (BES Announcement).

# **ORE RESERVES**

The following table sets out the additions to Vulcan's Ore Reserves as at 31 December 2023, due to the updated Bridging Engineering Study conducted in November 2023, with increased data availability. The Ore Reserves otherwise remain unchanged.

#### INSHEIM, LANDAU SOUTH, AND RIFT NORTH

Reserves Classification	Lithium grade	Economic Reserves Quantity at Wellhead Reference Point
	mg/I Li	kt LCE
Proved	181	318
Probable	181	252

Note: see Competent Person Statement in the Appendix and the BES Announcement for further information.

# **CORPORATE DIRECTORY**

# **Board of Directors**

**DR FRANCIS WEDIN** Executive Chair (from 1 July 2023)

MR CRIS MORENO Managing Director & CEO (from 1 July 2023)

**MR GAVIN REZOS** Non-Executive Chair (from 1 July 2023) **DR HEIDI GRÖN** Non-Executive Director

MS RANYA ALKADAMANI Non-Executive Director

**MS JOSEPHINE BUSH** Non-Executive Director

**MS ANNIE LIU** Non-Executive Director

**DR GÜNTER HILKEN** Non-Executive Director

MR MARK SKELTON Non-Executive Director (retired 1 February 2024)

# **Board Advisers**

MS JULIA POLISCANOVA Board Advisor **DR HORST KREUTER** Chief Representative GER

# **Company Secretary**

**MR DANIEL TYDDE** 

# **Registered Office**

Level 2, 267 St Georges Terrace Perth WA 6000 Australia

Telephone: 08 6331 6156 Website: <u>https://v-er.eu</u>

# **Stock Exchange Listing**

Listed on the Australian Securities Exchange (ASX Code: VUL)

Listed on Prime Standard of Frankfurt Stock Exchange (FSE Code: VUL)

# **Auditors**

**RSM AUSTRALIA PARTNERS** Level 32, 2 the Esplanade Perth WA 6000

# **Solicitors**

ASHURST Brookfield Place Tower II Level 10 and 11 St Georges Terrace Perth WA 6000

# **Bankers**

#### WESTPAC BANKING CORPORATION

Level 4, Brookfield Place, Tower Two 123 St Georges Terrace Perth WA 6000

# **Share Registry**

#### AUTOMIC SHARE REGISTRY

Level 2, 267 St Georges Terrace Perth WA 6000 Telephone: 1300 288 664

# APPENDIX





# JORC RESOURCE STATEMENT

Vulcan's URVBF hosts a JORC 2012-compliant global resource estimation of 27.7 Mt lithium carbonate equivalent (LCE) at an average grade of 175mg/I Li in the Measured, Indicated, and Inferred categories as shown in Table 4. Vulcan's current Phase One Resource covers three licences in total, with Insheim as one of the Company's 16 licences in the URVBF, and two licences for which Vulcan has secured commercial agreements, designated Landau-Süd and Rift (Nord). An overview of licence locations and details is provided in figure 1.

In addition to Vulcan's Phase One licence, Vulcan also holds 15 additional licences in the URV, for a total secured licence area of 1,771km<sup>2</sup>, including the recently acquired licence "Luftbrücke" in the Frankfurt region. Vulcan has acquired the geothermal brine and lithium rights (licences) through direct application to the respective mining authorities of the German states of Rheinland-Pfalz, Baden-Württemberg, and Hessen. All exploration licences were in accordance with the German Federal Mining Act (Bundesberggesetz 'BBergG') for the purpose of commercial exploration of mining-free mineral resources: geothermal brine and lithium. Vulcan has also acquired the geothermal production licence at Insheim with 100% ownership.

Mineral Resources and Ore Reserves are estimated by suitably qualified Vulcan personnel, and reviewed, verified and signed off by external personnel in accordance with the requirements of the JORC code, industry standard techniques and internal guidelines for the estimation and reporting of Ore Reserves and Mineral Resources. All Mineral Resources estimates and supporting documentation are reviewed and signed off by an external, independent Competent Person. All Ore Reserve estimates and supporting documentation are reviewed and signed off by an external, independent Competent Person.

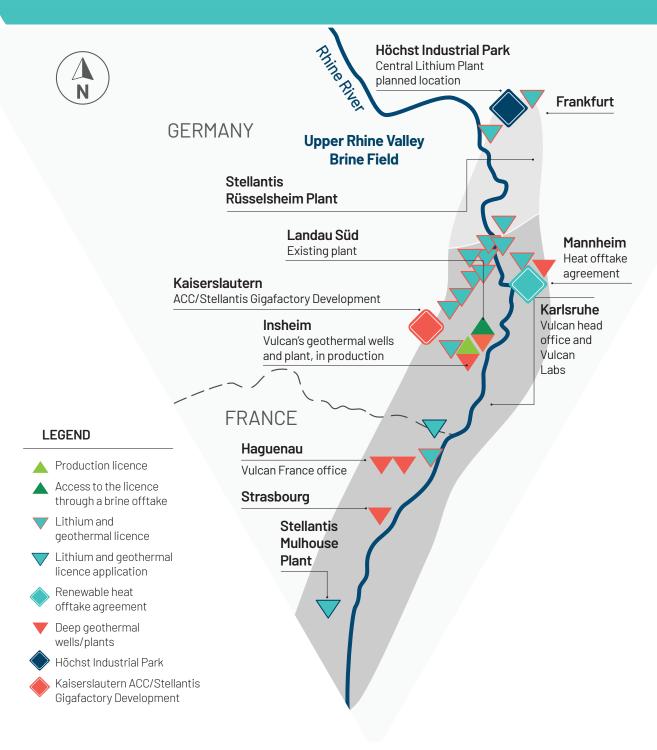
# **COMPETENT PERSON STATEMENT**

The information in this Report that relates to Mineral Resources and Ore Reserves, and any Exploration Results and Production Targets is extracted from the ASX announcement made by Vulcan on 16 November 2023 ("Positive ZERO CARBON LITHIUM™ Project Bridging Engineering Study Results")<sup>16</sup>, which is available to view on Vulcan's website at https://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 Report:

- 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.

# LICENCE AREA AND DESCRIPTION

The Project area is in the Upper Rhine Valley Brine Field (URVBF), a sub-surface geothermal-lithium brine reservoir on the border between Germany and France. The area is located centrally in Europe and is highly developed with many rural and urban centres which are interconnected via roadways, freeways, and railways. This proximity to urban and rural centres presents a significant opportunity to provide sustainable renewable energy and heat. The Rhine River dominates the region as a major shipping route, and access to both sides of the river is possible, with many bridges. There are well developed industrial areas for automotive manufacturing, chemical industry, and related service sectors, including the Opel manufacturing plants owned by Stellantis, one of Vulcan's lithium offtakers and investors. FIGURE 17 OVERVIEW MAP OF VULCAN'S LICENCE AREAS IN THE UPPER RHINE VALLEY, SHOWING WELL AND SEISMIC SURVEYS



The upstream area for Phase One of the ZERO CARBON LITHIUM<sup>™</sup> Project comprises the Löwenherz district, consisting of three licence areas. Lithium chloride (LiCl) production from wells in this area will be transported to the CLP, at Vulcan's downstream lithium chemicals production site at the Höchst Industrial Park near Frankfurt am Main (figures 5, 7 & 8), to which Vulcan has secured exclusive access. Within the upstream Phase One district, Vulcan

holds a 100% interest in the operating Insheim licence, including the operational geothermal wells and plant. It has a brine offtake agreement in place to access brine from the geothermal wells and plant in the Landau-Süd permit, as well as a Joint Venture Agreement to develop another project area in Landau-Süd. It also has an agreement to develop the Rift Nord licence neighbouring Insheim, subject to production compensation.



# www.v-er.eu

ABN 38 624 223 132