

# 2021 ANNUAL REPORT

Year Ended 30 June 2021



**VULCAN ENERGY**  
**ZERO CARBON LITHIUM™**

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# 2021 Year at a glance

## Zero carbon process development focus

During the year, the rapidly growing Vulcan team was focused on the process development of our Zero Carbon Lithium™ Project with a strict exclusion of fossil fuels to power the process, whilst demonstrating best-in class environmental credentials through independent study and verification.

### Project Execution



#### **POSITIVE PRE-FEASIBILITY STUDY**

Positive Pre-Feasibility Study showed post-tax NPV of €2.256B (full project, no phasing)

**Lithium extraction pilot plant commissioned & successfully operating with first results announced in May** that target specification for Direct Lithium Extraction (DLE) were achieved.



#### **STRENGTHENED CASH POSITION**

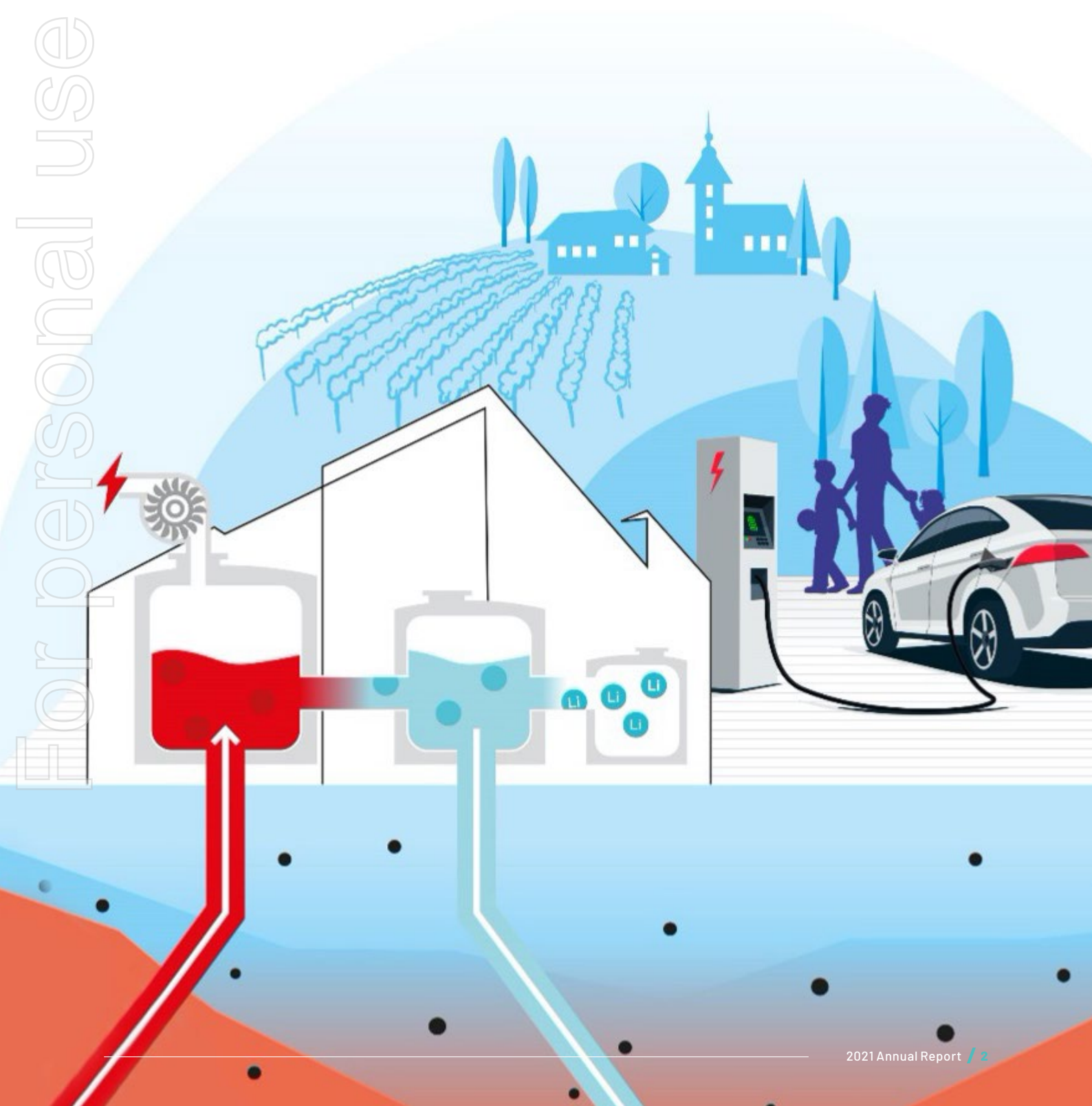
**\$120m raised from ESG investors** to accelerate Zero Carbon Lithium™ Project development.



#### **GROWTH OF BEST IN CLASS TEAM**

Best-in-class team **now over 75 personnel**, with the acquisition of expert geothermal engineering companies and expansion of chemicals team.





# CEO's Message



**Dr Francis Wedin**  
Managing Director  
& Founder-CEO

Dear Shareholders,

**FY 21 has been a transformational year for Vulcan, on our journey as we develop our globally unique Zero Carbon Lithium™ and renewable energy business. During the year, we showed that it doesn't need to cost more to be green, with the right rigorous scientific approach, by demonstrating outstanding financial metrics in our Pre-Feasibility Study for our planned renewable energy and lithium battery chemicals project in Germany, which will have a net negative carbon footprint (Scopes 1, 2 and 3) and will use zero fossil fuels to power the process.**

Because of our uncompromising approach to the climate and the environment, we have attracted, retained, and continue to grow, a unique world-leading scientific and commercial team in the fields of lithium chemicals and geothermal renewable energy. This best-in-class team is one of the key strengths of Vulcan and will be instrumental in our ability to successfully execute on our project development strategy in the months and years to come. We continue to be approached by the world's best, who want to work for a company that fits with their values.

We were the first to commission a Life Cycle Assessment (LCA) study on the global lithium hydroxide supply chain in 2019, which put lithium under the spotlight as having a high carbon and water footprint. We have since updated our study this year, which meticulously backs up the environmental credentials of our Zero Carbon Lithium™ business, demonstrating world-beating figures on all ecological metrics, including the lowest Greenhouse Gas (GHG) option for the global supply chain. Importantly, we don't intend to be net zero at some arbitrary point in the future, postponing the issue for future generations, but net zero now and throughout our development and production ramp up. We don't believe a company should be called "green" without doing the hard scientific work to build a green process.

We ensured that we are fully funded to completion of our Definitive Feasibility Study (DFS) for our current projects, by raising \$120m with Goldman Sachs and Canaccord Genuity in February. As part of this, we saw highly respected Australian institutions such as Hancock Prospecting join our register, as well as ESG-focused European funds such as the BNP Paribas Energy Transition Fund. The strong support from our shareholders old and new is much appreciated.

We have now commenced our Definitive Feasibility Study (DFS), which includes a Pilot Plant that was constructed and commissioned by the Vulcan team and has been successfully extracting lithium from "live" geothermal brine for a few months now. Putting in place the correct precautions, we have ensured that we continue to meet our tight targets for rapid project development. We hope to continue to execute our DFS and project development for our Upper Rhine Valley projects steadily and methodically in the coming year.



During the year, we added to our Zero Carbon Lithium™ Project resource base, which was already the largest lithium resource in Europe.

A key differentiating factor for us is expected to be our ability to scale up to meet the unprecedented demand that is building in the European markets. We will be assessing further avenues to build out our future production capability, as we seek to make a significant decarbonising impact on the lithium industry.

I would like to thank the whole Vulcan family, our shareholders and all our other stakeholders for their contributions during this transformational year. As we continue to challenge and disrupt the industry towards our mission of decarbonising the battery materials sector, it is our shared drive to decarbonise the world, coupled with our strict environmental values, that will be fundamental to ensuring that our journey together is a successful one.



# Chairman's Message



**Gavin Rezos**  
Chairman

Dear Shareholders,

**Your company has made great strides in the past 12-months towards bringing our valuable Zero Carbon Lithium™ Project in the Upper Rhine Valley, Germany, closer to fruition. Following upon the release of the Pre-Feasibility Study in January, we secured significant equity capital through Goldman Sachs and Canaccord Genuity, acquired additional permits as well as acquiring leading businesses in Germany in both below ground geothermal wells and above ground geothermal plant engineering. We have also successfully operated our pilot plant for lithium chloride extraction from live brines with over 90% initial recovery and secured valuable binding offtake agreements with LG Energy Solutions and Renault, post the end of the 2021 Financial Year.**

In addition to a number of key hires in management during the period to support our MD, Dr Francis Wedin, we also welcomed new Directors, Dr Heidi Grön, Annie Liu and Josephine Bush, who respectively add considerable experience and expertise to the Board in the chemicals industry, lithium supply chain, and renewable energy funding, tax and ESG reporting. These skills add to the ESG communication skills brought to the Board by Ranya Alkadamani appointed in 2020. We are also fortunate to have Julia Poliscanova, a senior Director of EU's Transport and Environment, appointed as a Board Advisor bringing additional experience on EU policy shaping renewables, energy efficiency and sustainable transport.

Your company is not only an important part of Europe's pathway to a local source of sustainable lithium to support the European battery metals industry and EV revolution but is also leading the way as an ESG centric company that ensures ESG goals are not merely aspirations but govern the way your company operates in practice.

Under the leadership of Dr Francis Wedin and his management team in Germany and Australia we have developed a success driven culture orientated towards delivering our Zero Carbon Lithium™ Project utilising the best technologies and world-leading experts to deliver shareholder value with consequent benefits to the local communities in which we operate; the European battery metals industry and OEMs in the EV revolution. Our efforts are dovetailed with German local and Federal Government and EU climate change policies and will help achieve carbon emission reduction targets. Independent life cycle assessment studies of our Zero Carbon Lithium™ Project show an unrivalled net reduction of 15 tonnes of carbon dioxide for every tonne of lithium hydroxide produced relative to traditional hard rock mining.

Our move to list on the regulated market of the Frankfurt Stock Exchange is an important step to enable greater ownership by the European investment community for what is an important European asset.

In the next 12 months, as we progress our Definitive Feasibility Study and commence the financing stage for the Zero Carbon Lithium™ Project, we will also use the expertise we have developed in geothermal lithium to grow our business in other parts of the world where the right geological conditions occur for geothermal lithium production. Such opportunities must represent similar environmental benefits and low operating costs as demonstrated in the Upper Rhine Valley.

On behalf of the Board and of the Company, I thank you all for your support and I look forward to Vulcan continuing to deliver valuable returns for shareholders in the years to come.





We have developed a success driven culture orientated towards delivering our Zero Carbon Lithium™ Project utilising the best technologies and world leading experts.

# About Vulcan

## Our Purpose is Zero Carbon Lithium to Decarbonise E- mobility & Produce Renewable Energy.

**Vulcan is aiming to become the world's first lithium producer with net zero greenhouse gas emissions. Its ZERO CARBON LITHIUM™ Project intends to produce a battery-quality lithium hydroxide chemical product from its combined geothermal energy and lithium resource, which is Europe's largest lithium resource, in Germany.**

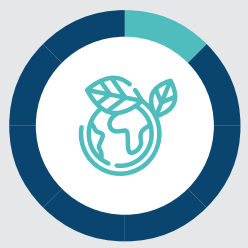
Vulcan's unique, Zero Carbon Lithium™ Project aims to produce both renewable geothermal energy, and lithium hydroxide, from the same deep brine source. In doing so, Vulcan intends to address the EU market's lithium requirements by reducing the high carbon and water footprint of production, and total reliance on imports.

Vulcan aims to supply the lithium-ion battery and electric vehicle market in Europe, which is the fastest growing in the world. The Vulcan Zero Carbon Lithium™ Project has a resource which can satisfy Europe's needs for the electric vehicle transition, from a source with net zero greenhouse gas emissions, for many years to come.

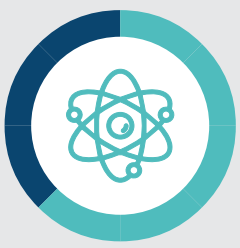


# Our Culture and Values

We come from all over the globe. We are united by a passion for environmentalism and leveraging scientific solutions to fix man-made problems.



Environmentalism



Progress  
Through Science



Fortitude



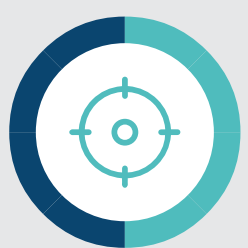
Family



Integrity



Quality of Life



Stretch Targets



Future Focused

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# Vulcan Zero Carbon Lithium™



World-first Zero  
Carbon Lithium™  
Project



In the heart of the  
fastest growing lithium  
market in the world



Strong cash  
position



Geothermal &  
DLE in Germany



Largest JORC lithium  
Resource in Europe



Team of world  
leading experts



Dual revenue  
Green energy & lithium



Potential for very low  
OPEX operation



Project supported  
by the EU



**ENERGY  
BUSINESS**

74MW Renewable  
Electricity

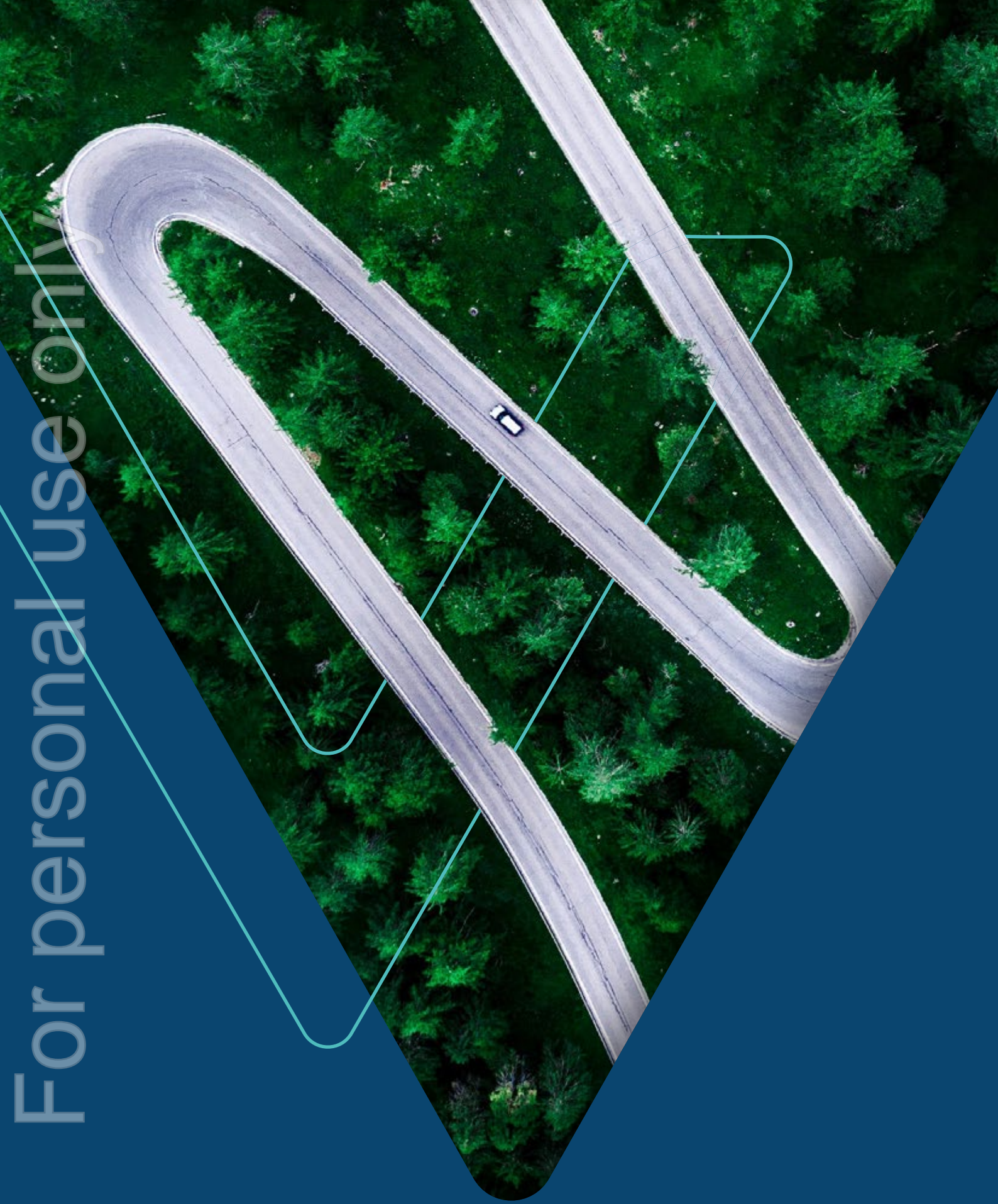


**LITHIUM  
BUSINESS**

40,000 tonnes  
per year Lithium  
Hydroxide



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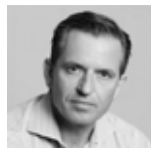
# Meet the Team

## Board of Directors



**Dr. Francis Wedin**  
**Managing Director  
& Founder-CEO**

- Founder of Vulcan Zero Carbon Lithium™ Project. Lithium industry executive since 2014.
- Previously Executive Director of ASX-listed Exore Resources Ltd.
- Track record of success in lithium industry as an executive since 2014, including the discovery of three resources on two continents.
- PhD in Geology, MBA in Renewable Energy, global experience in battery metals sector.



**Gavin Rezos**  
**Chairman**

- Executive Chair/CEO positions of two companies that grew from start-ups to the ASX 300.
- Extensive international investment banking experience.
- Investment banking Director of HSBC with senior multi-regional roles in investment banking, legal and compliance functions.
- Currently Chair of Resource and Energy Group, principal of Viaticus Capital and Non-Executive Director of Kuniko Limited.
- Previously Non-Executive Director of Iluka Resources, Alexium International Group.



**Dr. Horst Kreuter**  
**Co-Founder  
& Board Advisor**

- Ex-CEO of Geothermal Group Germany GmbH and GeoThermal Engineering GmbH (GeoT).
- Co- Founder of Vulcan Zero Carbon Lithium™ Project.
- Successful geothermal project development & permitting in Germany and worldwide.
- Widespread political, investor and industry network in Germany and Europe.
- Based in Karlsruhe, local to the project area in the Upper Rhine Valley.



**Annie Liu**  
**Non-Executive Director**

- Former Tesla Head of Battery and Energy Supply Chain.
- Led and managed Tesla's multi-billion-dollar strategic partnerships and sourcing portfolios that support Tesla's Energy and Battery business units including Battery, Battery Raw Material, Energy Storage, Solar and Solar Glass, including raw materials sourcing efforts such as lithium for battery cells.
- 20 years' experience with Tesla and Microsoft.





**Dr. Heidi Grön**  
Non-Executive Director

- Dr. Grön is a chemical engineer by background with 20 years' experience in the chemicals industry.
- Since 2007, Dr. Grön has been a senior executive with Evonik, one of the largest specialty chemicals companies in the world, with a market capitalization of €14B and 32,000 employees.
- At Evonik, Dr. Grön is currently responsible for:
  - Global product;
  - Impact assessment and development of solutions for the chemicals strategy for sustainability; and
  - Management of Evonik's major investment volumes.



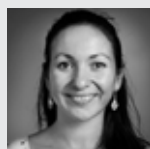
**Ranya Alkadamani**  
Non-Executive Director

- Founder of Impact Group International.
- A communications strategist, focused on amplifying the work of companies that have a positive social or environmental impact.
- Experience in working across media markets and for high profile people, including one of Australia's leading philanthropists, Andrew Forrest and Australia's former Foreign Minister and former Prime Minister, Kevin Rudd.



**Josephine Bush**  
Non-Executive Director

- Member of the EY Power and Utilities Board.
- Led and delivered the EY Global Renewables and Sustainable Business Plan and spearheaded a series of major Renewable Market Transactions.
- Successfully advised on the first environmental yieldco London Stock Exchange listing, Greencoat UK Wind PLC.
- Ms. Bush is a Chartered Tax Advisor, holds an MA Law degree from St Catharine's College, Cambridge, and brings a wealth of experience in ESG strategic advisory.



**Julia Poliscanova**  
Special Advisor

- Senior Director with the EU's Transport and Environment.
- Instrumental in shaping policies around EU vehicle CO<sub>2</sub> standards & sustainable batteries.
- On the steering committee for the Battery CO<sub>2</sub> Passport program of the Global Battery Alliance.
- Previously worked for the Mayor of London and in the European Parliament following EU legislation on renewables, energy efficiency and sustainable transport.



Our team of world-renowned experts in geology, chemistry and engineering is supported by a Board with decades of leadership and expertise in renewable energy, project finance, chemicals and the lithium-ion battery industry.



70+ People



World-Class Team



World Leading Engineering Team



40% Female Workforce



**Rob Ierace**  
Chief Financial Officer

- Robert is a Chartered Accountant and Chartered Secretary with over 20 years experience, predominately with ASX and AIM listed resource and oil and gas exploration and production companies.
- He has extensive experience in financial and commercial management including experience in corporate governance, debt and capital raising, tax planning, risk management, treasury management, insurance, corporate acquisitions and divestment and farm in/farm out transactions.
- Robert holds a Bachelor of Commerce degree from Curtin University, a Graduate Diploma in Applied Corporate Governance from the Governance Institute of Australia and a Graduate Certificate of Applied Finance and Investment from the Securities Institute of Australia.



**Vincent Ledoux-Pedailles**  
Vice President  
– Business Development

- Vincent was previously Executive Director – Corporate Strategy at Infinity Lithium Corporation, where Vincent led the project to become the first to secure EU funding.
- Vincent was also appointed as a Lithium Expert by the European Commission.
- He previously worked at IHS Markit where he led the lithium and battery materials research team covering the entire industry's supply chain from raw materials to E-mobility.
- Vincent holds a Business Masters in Risk Management and International Purchasing from ESDS Business School in France.



**Daniel Tydde**  
Company Secretary &  
In-House Legal Counsel

- Daniel is an experienced corporate lawyer with over 15 years' experience across a wide range of corporate, commercial and finance areas including initial public offerings; equity and debt capital raisings; corporate regulatory compliance; asset and share sales and purchases; corporate governance; corporate restructuring and re-organisations; and litigation.
- Most recently, Daniel held a senior position at Steinepreis Paganin and prior to that, worked at Clayton Utz and Phillips Fox (now DLA Piper).



**Jess Bukowski**  
Public & Investor  
Relations Manager

- Jess has extensive experience advising top 20 ASX companies on communications, media and investor relations including six years with Fortescue Metals Group as Senior Media and Corporate Affairs Specialist.
- Jess was previously an adviser to Prime Minister Kevin Rudd working across government and international organisations.
- She brings academic qualifications in social policy and community development from the University of Queensland and post-graduate qualifications in public relations and investor relations.





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## An Experienced Development Team



VULCAN ENERGY  
ZERO CARBON



**Thorsten Weimann**  
Chief Operating Officer

- Expert in geothermal and drilling technology, with more than 25 years of professional experience.
- Thorsten is Technical Manager of the German Geothermal Association (Bundesverband Geothermie e.V.) and he is well connected in the German geothermal industry.
- Thorsten has a diploma in Engineering (Technical University of Munich) and an MBA (Universities of Augsburg and Pittsburgh).



**Markus Ritz**  
Vulcan Energy  
CFO

- Markus has over 20 years' experience in the chemicals industry.
- His previous role was as Head of Finance at a park service provider in Germany with a 1.7bn turnover, ~5,300 employees.
- Markus was also CFO of the Bayer Group in Korea and Head of Corporate M&A.

## Renewable Energy Business



**Markus Ruff**  
CEO Global Engineering and  
Consulting Company GmbH

Project manager with +10 years' experience across all aspects of geothermal project development. Extensive knowledge including plant technology and thermodynamics of geothermal, technical due diligence, mechanical and electronic engineering, risk analysis and deep drilling technologies.



**Tobias Hochschild**  
CEO GeoThermal  
Engineering GmbH

Exploration geologist with +15 years' experience in deep geothermal project development and realisation team lead of Vulcans reservoir experts wide range of know-how from data acquisition to interpretation, modelling and operations.



Engineering company focused on deep geothermal projects at surface: power plant, heat stations, drill pads, and permitting. More than 300 years engineering knowledge of Gec-Co's team. Created in 2012.



Planning and Engineering company for deep geothermal energy projects, based in the Upper Rhine Valley, Germany. Highly credentialed scientific team with >100 years of combined worldleading expertise. Created in 2005.

auer

ence in finance roles within

Finance at Currenta, a chemical  
y formerly part of Bayer, with ~EUR  
es and ~EUR 250m EBITDA.

er Group of companies in South  
A in the APAC region for Bayer.



**Dr. Stephen Harrison**  
Chief Technical Officer

- CTO of Simbol Materials for seven years (2008-2015), where he led the scientific and engineering teams through a rapid process development, taking less than one year to develop a process to extract lithium from geothermal brine.
- As CEO of Rakehill Technology LLC, Dr. Harrison has since consulted to the lithium industry on various lithium extraction technologies including sorbents.

## Lithium Chemicals Business



**Project Development team based in Germany. World-leading experts in the fields of lithium chemistry, DLE and chemical engineering.**



**Dr Thomas Aicher**  
Chemical Engineer Lead

Leading chemical engineering expert with +25 years' experience in chemical process innovation and industrial scale-up. Thomas was Business Development Manager for KIC Innoenergy and Head of Group at Fraunhofer Institute. Thomas has a PhD and MSc in Chemical Engineering.

**Laboratory Team**

**Chemical Engineering Team**



**VULCAN ENERGIE**  
**ZERO CARBON LITHIUM™**



# Sustainability Report

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Process development and R&D development of world-first lithium and renewable energy co-production process in Pre- Feasibility Study: Zero Carbon Lithium™.

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Life cycle assessment shows peerless environmental credentials including negative carbon footprint (Scope 1, 2, 3) for planned lithium production, a world first.

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Working with Circular to achieve world-first lithium traceability and dynamic CO<sub>2</sub> measurement across supply chain.

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Admission to Global Battery Alliance toward advancing battery materials traceability and transparency.

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**CARBON NEUTRAL NOW,  
NOT IN THE FUTURE.**

## Commitment to the United Nations Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) adopted in 2015, set the 2030 global agenda for sustainable development. The SDGs are a call for global action by national governments to end poverty, protect the planet and to ensure all people are able to enjoy peace and prosperity. We have aligned Vulcan's approach to sustainability with the SDGs and will continue to work to meet these goals.

Vulcan is particularly focusing on 10 of those SDGs: Good Health and Well-Being; Gender Equality; Clean Water and Sanitation; Affordable and Clean Energy; Decent Work and Economic Growth; Industry, Innovation and Infrastructure; Sustainable Cities and Communities; Responsible Consumption and Production; Climate Action; and Life on Land.









## ENVIRONMENT

### Vulcan certified as a carbon neutral business in Australia

Vulcan's Australian business has been certified as carbon neutral by Climate Active. Climate Active is a partnership between the Australian Government and Australian businesses, to encourage voluntary climate action. It is the most rigorous and credible carbon neutral certification available in Australia and supports and guides businesses as they account for, and reduce, carbon emissions. The certification helps the community take action by making it easier to identify and choose brands that are making a

real difference and the brand unites Australian businesses and Government to amplify positive impacts. As part of the Climate Active Network, Vulcan has joined a network of organisations and businesses leading voluntary action on climate change. While Vulcan is still working towards production, the company is dedicated to being net zero carbon verified. Vulcan is seeking similar certification for its European Union operations.

### Environmental Performance and Life Cycle Assessment

#### INTRODUCTION

Vulcan's mission is to decarbonise the manufacturing of lithium chemicals for electric vehicle batteries. The company and its combined geothermal energy and lithium project in the Upper Rhine Valley in Germany are built around this mission. Vulcan recognises the importance of the three tenets of the Environmental, Social, and Governance (ESG) movement. This chapter will focus on the "E" of "ESG", and explain what the Company is doing to develop its project to have the highest environmental performance, with the lowest impacts, of any lithium project anywhere in the world.

Vulcan uses prospective life cycle assessment (LCA) as part of our geothermal lithium process development in order to reduce environmental impacts of our process for making lithium hydroxide monohydrate ( $\text{LiOH} \cdot \text{H}_2\text{O}$ ) before capital expenditures are incurred. This allows us to quantify our environmental impacts, understand drivers of our impacts, and make decisions about our supply chains and energy use to minimise those impacts.

We work with Minviro, global experts in battery metals LCA, to build ISO-compliant LCA models of our process at both Scoping Study stage (late 2019) and more recently at Pre-Feasibility Study (PFS) stage (early 2021). We believe that environmental impact modeling at each stage of development is

essential for understanding and controlling impacts while we scale up our project. This activity is essential for us to achieve our mission.

We do not believe in calling our project "green" without doing the hard work of making it "green" first. In this section, we share the breakdown of our LCA results and comparison to legacy lithium production to demonstrate our planned leading environmental performance resulting from our deliberate technical decisions.



**We do not believe in calling our project "green" without doing the hard work of making it "green" first.**

## LEGACY PRODUCTION ROUTES VS. VULCAN'S APPROACH

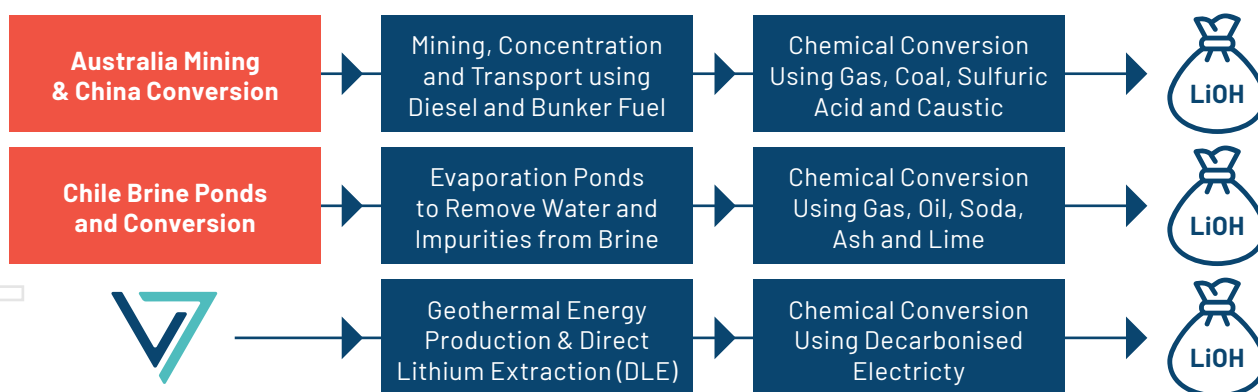
Lithium chemicals are essential for manufacturing high-performance batteries used in electric vehicles. Lithium hydroxide is necessary for building the European EV fleet. Lithium chemicals are made using different processes from different resources. Each process has a different set of environmental impacts. Two of the largest sources of supply are from brines (salty groundwater) at the Salar de Atacama in Chile, and spodumene minerals mined in Western Australia, concentrated, and shipped to China, where they are processed into chemicals. Vulcan will produce lithium hydroxide using technologies with significantly lower environmental impacts than legacy production routes.

At the Salar de Atacama and some other operations in Argentina, brines are pumped from underground and placed into evaporation ponds to remove water, crystallising impurity salts from the brine, in order to produce a lithium chloride concentrate which can be converted into lithium chemicals. Meanwhile, Western Australian spodumene minerals are blasted,

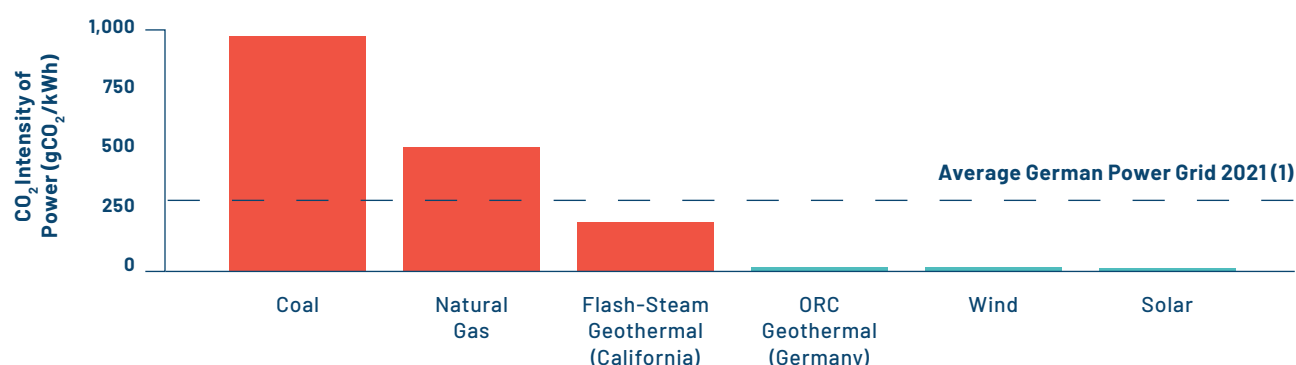
mined, crushed, and concentrated to produce a mineral concentrate which is processed into lithium chemicals in China. In this section we compare Vulcan's geothermal lithium process with these legacy operational routes.

Vulcan will process a deep, hot brine by first extracting the energy using conventional geothermal energy technology already operating in the Upper Rhine Valley, then extracting the lithium using direct lithium extraction ("DLE"). The use of DLE will result in all of the water and impurities in the brine being reinjected into the same aquifer from which the brine was produced, just without the heat and lithium. Vulcan's project will produce two products with almost zero CO<sub>2</sub> emissions: lithium and electricity. Low CO<sub>2</sub> intense electricity is needed in Germany to decarbonise the country's coal-heavy electrical grid. Germany has made numerous pledges to reduce its CO<sub>2</sub> footprint, but its electricity sector has been slow to decarbonise. Vulcan's renewable power production will play a crucial role in decarbonising Germany's electrical grid.

### Legacy Lithium Production Routes



### CO<sub>2</sub> Emissions from Different Energy Sources



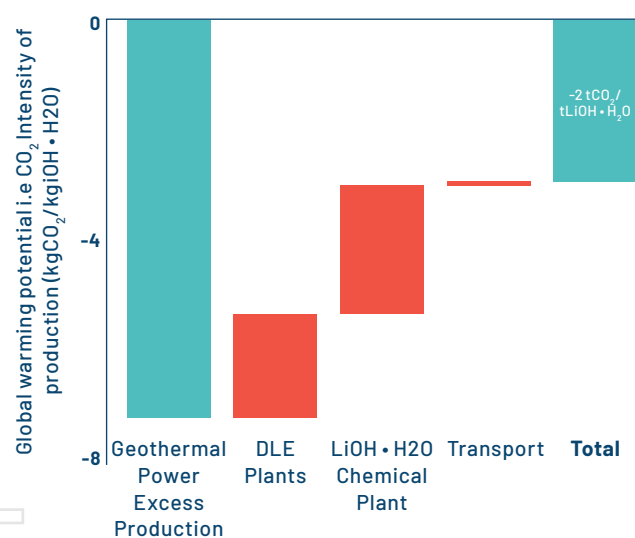
## PROSPECTIVE LIFE CYCLE ASSESSMENT RESULTS FOR VULCAN'S LITHIUM PRODUCT

The LCA conducted on our PFS-level extraction and chemical process shows that Vulcan will most likely have the lowest CO<sub>2</sub> intensity of production of any lithium chemical in the world. This is due to three main reasons:

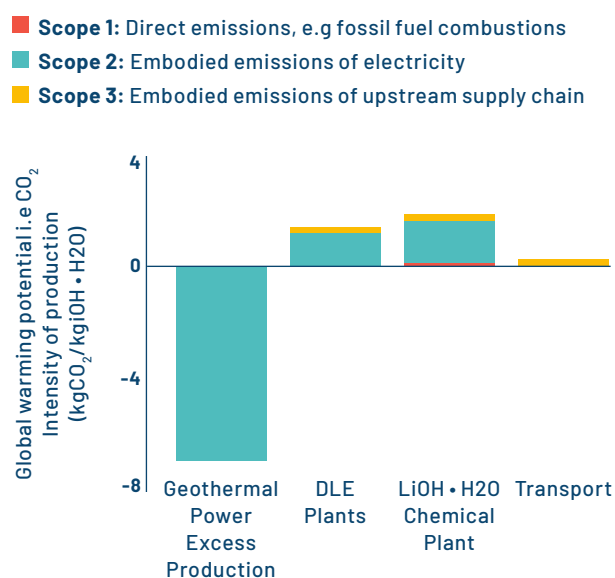
- Vulcan will burn zero fossil fuels while producing lithium chemicals and electricity.
- Vulcan will co-produce low-CO<sub>2</sub> electricity for the high CO<sub>2</sub> intensity German grid. We will produce more power than we will use, decarbonising the grid.
- Vulcan is making deliberate technology decisions to reduce CO<sub>2</sub> emissions, notably the choice of electrochemical lithium hydroxide conversion instead of reagent intense processing through lithium carbonate.

The breakdown of our expected CO<sub>2</sub> footprint is shown below.

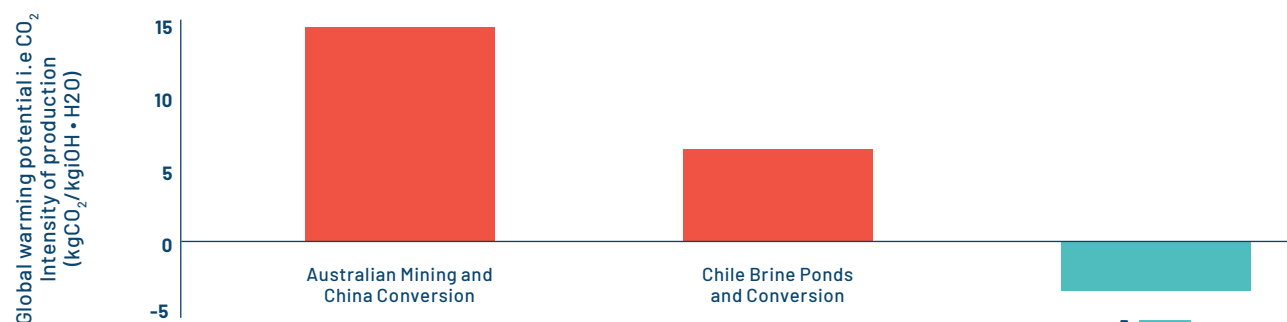
**Breakdown of the Expected Global Warming Potential of Vulcan's Lithium Chemical**



**Vulcan's Expected Global Warming Potential by Scope of Emission**



**Global Warming Potential, or CO<sub>2</sub> Emissions, of Different Lithium Chemicals**





Vulcan's CO<sub>2</sub> emissions can be broken down into "scopes" of emissions according to the Greenhouse Gas Protocol. In alignment with future European regulations and best practice CO<sub>2</sub> emission reporting, we disclose our expected Scopes 1, 2, and 3 emissions up to the "gate" of lithium hydroxide product delivery to our customers.

- 0.2 kgCO<sub>2</sub>/kgLiOH•H<sub>2</sub>O scope 1 emissions because Vulcan will not burn any fossil fuels, and will not release CO<sub>2</sub> in the brine to the atmosphere.
- -3.7 kgCO<sub>2</sub>/kgLiOH•H<sub>2</sub>O Scope 2 emissions because Vulcan will produce excess zero-carbon power which will decarbonise the coal-heavy German electrical grid.
- 0.6 kgCO<sub>2</sub>/kgLiOH•H<sub>2</sub>O Scope 3 emissions (upstream and downstream to gate of delivery to customer) due to Vulcan's decision to use ultra-low reagent consumption electrochemical lithium hydroxide chemical processing.
- We will engage in continuous dialogue with future customers and investors to ensure our reporting is aligned with their long-term net-zero CO<sub>2</sub> commitments.

LCAs have been conducted by Minviro and Argonne National Laboratory on lithium chemicals produced from the Salar de Atacama in Chile and lithium chemicals produced by Chinese converters using Australian spodumene concentrate as feedstock. Vulcan's lithium product will have a far lower CO<sub>2</sub> emissions intensity than existing modes of production.

**LOCAL IMPACTS ON HUMANS AND ENVIRONMENT: WATER AND LAND USE**

Water is consumed in all lithium extraction and processing. In evaporation ponds, large quantities of water are evaporated from brine to produce lithium chloride concentrates which are converted into lithium chemicals.

Despite the fact that water in brine cannot be consumed or used for agriculture directly, withdrawal of water in brine from the ecosystem has been found to be causing dehydration of soil and reduction of flora in places like the Salar de Atacama. There is also concern about the impact of depletive brine extraction on freshwater aquifers which sit on top of brine aquifers at the Atacama.

Vulcan's geothermal lithium process will involve replacement of all the water in the brine back to where it originally came from, and separated from shallow freshwater aquifers by kilometres of impermeable rock formations.  
The Available Water Remaining ("AWARE")

methodology in LCA involves the use of regional water scarcity factors in order to make comparisons of water use in different locations globally. The water scarcity factor quantifies the potential for water deprivation to humans or ecosystems per unit of surface in a given watershed relative to the world average.

Scarcity factors range from 0.1(plenty of water available) to 100(no water available with more extraction than is sustainable). Since there is significantly more water in Germany than is needed by humans or ecosystems, the scarcity factor is 0.7. In the Atacama it is 100, the highest water scarcity factor possible. Though Australian hard rock may have a similar direct water use profile to Vulcan, the Australian route leads to ~70x higher local stress on humans and ecosystems due to the aridity of Western Australia.

Vulcan's water use will have virtually no local impact on water availability compared to water used in places like the Atacama and Western Australia.

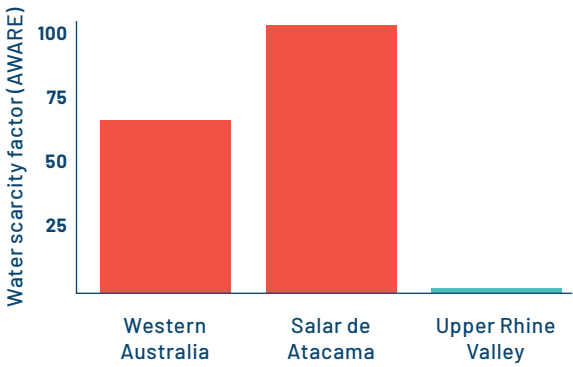
Spodumene mines and evaporation ponds for brine processing occupy large areas of land in rural places that are important to indigenous people, natural ecosystems, and tourism industries. Vulcan's geothermal lithium process will produce large quantities of lithium chemicals and power from an exponentially smaller physical footprint. Geothermal lithium projects like Vulcan's involve no open pits, no mining, no blasting, no digging, no tailings piles, and no tailings dams. They also do not require evaporation ponds.

**Direct Water Use by Different Lithium Chemical Operations**

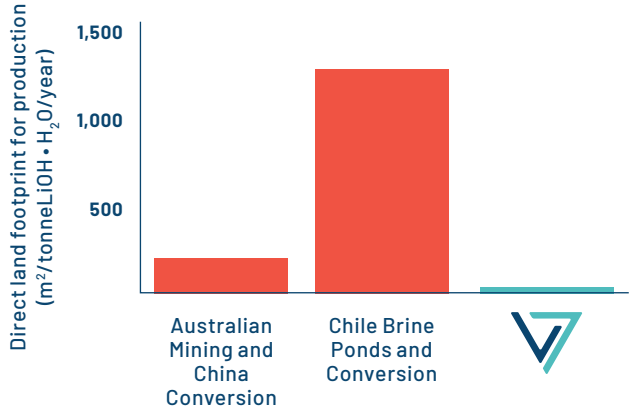


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**Water Scarcity Factors for Different Lithium Production Locations**



**Direct Water Use by Different Lithium Chemical Operations**



**OTHER IMPACTS: REAGENT CONSUMPTION, WASTE PRODUCTION, AND TRANSPORT DISTANCE**

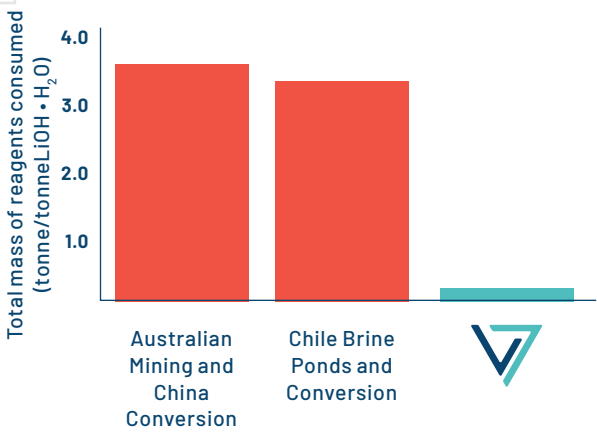
Significant quantities of chemicals are used to manufacture lithium chemicals from legacy production routes. Using evaporation ponds, significant quantities of lime and soda ash are used to extract lithium from lower grade, less pure brines, meaning the data shown here for Chilean production is comparatively low.

Vulcan’s process will use electricity for chemical processing, thus removing upstream scope 3 CO<sub>2</sub> emissions from its supply chain. The use of specific process technologies is what enables Vulcan’s Zero Carbon Lithium™ Project.

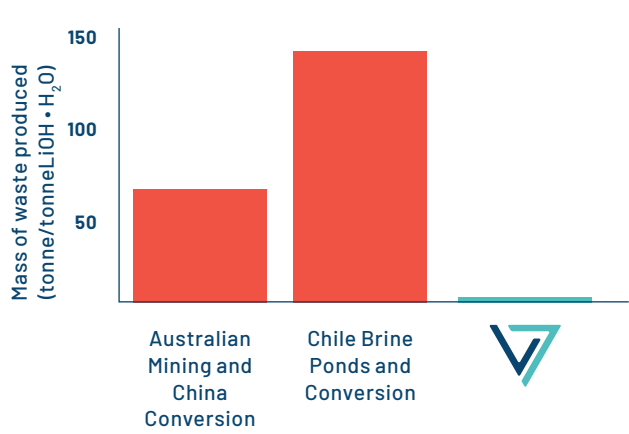
Natural resources contain low concentrations of lithium with concentrations never above 1%. This means that significant quantities of waste materials can be produced from separating lithium from waste rock or other salts which are usually stacked in tailings piles instead of being put back where they came from.

Vulcan’s DLE process will selectively remove lithium from geothermal brine and almost 100% of the contents of the brine will be returned to where it came from underground. Above ground, Vulcan’s low-reagent process minimises waste production as well. Vulcan’s lithium chemicals will be produced with virtually no associated waste products.

**Mass of Reagents Consumed by Different Processes**



**Mass of Waste Produced by Different Processes**



Convolutd global supply chains introduce unnecessary complexity, and allow for exploitation of people in developing nations. This represents supply interruption risk and higher social impact on indigenous people compared to lithium production in Europe.



## SUPPLY CHAIN

### Supply Chain Traceability & CO<sub>2</sub> Measurement

Vulcan announced in March 2021 that it will use Circular's full traceability and dynamic CO<sub>2</sub> measurement solution for its lithium products across the European Lithium-ion battery and Electric Vehicle (EV) supply chain, in a world-first for the lithium sector.

Circular's customers include major European automotive manufacturers such as Volvo Cars, Daimler, Polestar and Jaguar Land Rover, indicating OEMs' growing need to demonstrate responsible sourcing of raw materials like lithium, allowing them to track and manage the embedded CO<sub>2</sub> emissions in their upstream supply chain for EVs as they strive towards their net zero targets.

Circular offers a software solution that enables customers to track raw materials through supply chains to demonstrate responsible sourcing and sustainability. This system implementation enables reputational protection, proof of compliance with regulations and dynamic carbon tracking.

Circular's CO<sub>2</sub> solution provides a dynamic month-to-month visibility of CO<sub>2</sub> intensity across the supply chain and its participants. Battery raw materials transparency, traceability and sustainability were directly targeted in the latest European Commission Battery Regulation proposed in December 2020.

Vulcan will be implementing Circular's solution to its future lithium supply contracts with European OEMs to help meet their sustainability objectives for material traceability and CO<sub>2</sub> transparency. Circular's solution will first be used during Vulcan's project development, including at a pilot and demonstration plant level, when the first samples are dispatched to customers. Circular and Vulcan will work together to prepare Vulcan and its supply chain for full traceability of Vulcan's lithium product at the production start in 2024.

### Vulcan joins Lithium ISO standards committee

Vulcan's lithium team has joined the German National Committee of ISO/TC 333 that coordinates the standardisation process in the field of lithium chemicals at national level and is responsible for organising German participation in standards work at European and international level.

Together with experts from the other 15 countries that currently embody the global ISO/TC 333 Committee, the team will help to improve the quality and value proposition of sustainable lithium products made in Europe.



I have always been a nature-loving person. In my spare time I love to ride my bike and often go hiking. As a self-supporter, I also have a small vegetable garden at home and we get part of the energy from solar power. I am proud to be a part of Team Zero Carbon to contribute further to the fight against climate change.

**Gerlinde Sterns | Executive Assistant**



## Vulcan admitted to the Global Battery Alliance

Vulcan has been accepted as a Member of the Global Battery Alliance (GBA), an umbrella partnership made up of 70 members working towards a globally sustainable battery value chain.



Industry members include BMW Group, BASF, BP, Google, Renault Group, LG Chem, Umicore, Volkswagen Group and Volvo Group. Vulcan joins SQM and Wesfarmers as members from the lithium sector.

The GBA follows ten guiding principles covering issues including the circular recovery of battery materials, ensuring transparency of greenhouse gas emissions and their progressive reduction, and eliminating child and forced labour.

The GBA is also developing the Battery Passport, a global solution for securely sharing information and data to prove responsibility and sustainability to consumers with a “quality seal”, while enabling resource efficiency across the battery life cycle.

Vulcan will be participating in advancing projects and initiatives around battery materials traceability and transparency that will shape the industry.

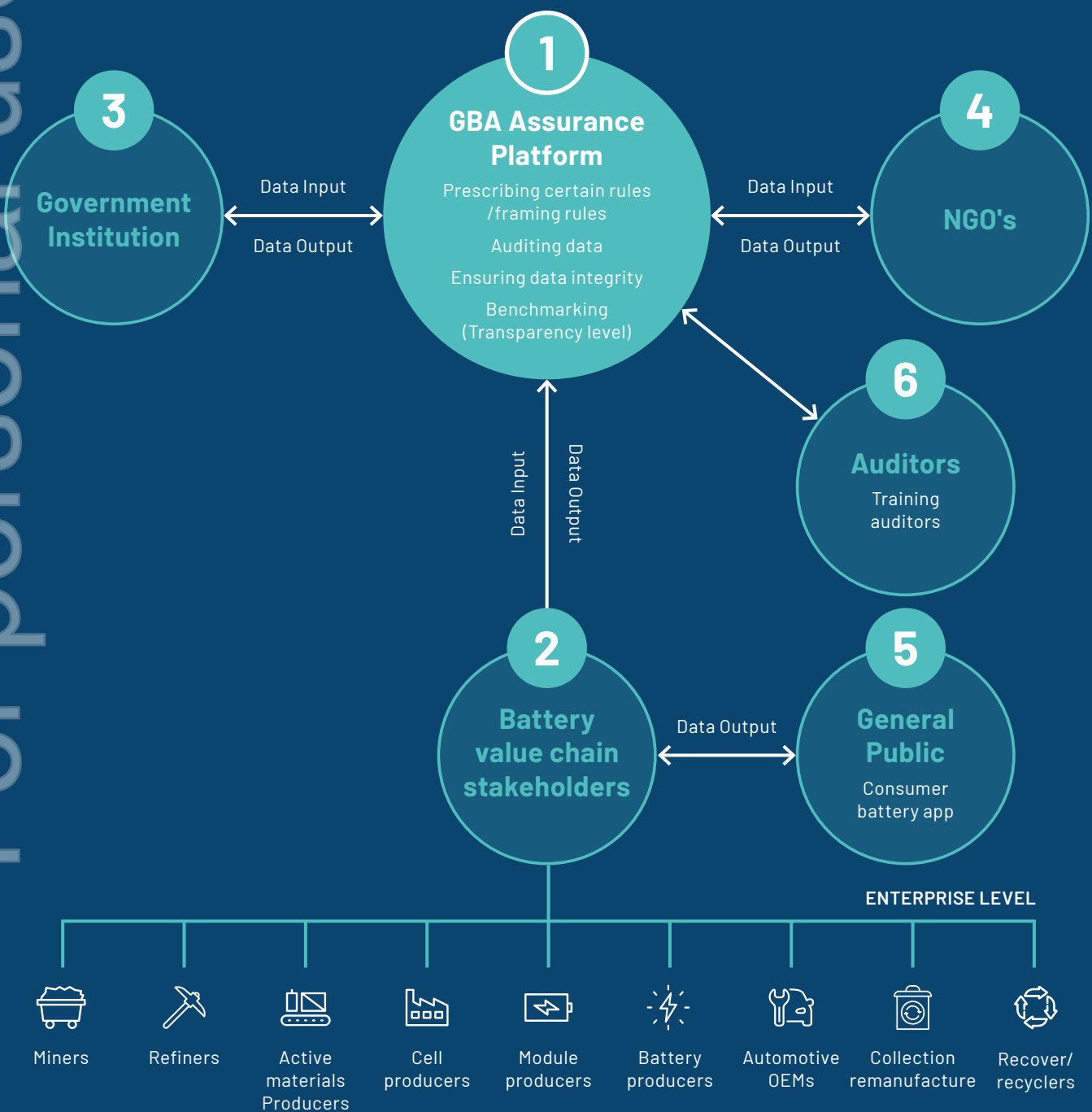
### 10 GBA PRINCIPLES FOR A SUSTAINABLE BATTERY VALUE CHAIN

 Establish a circular battery value chain as a major driver to achieve the Paris Agreement	<ol style="list-style-type: none"><li>1. Maximising the productivity of batteries in their first life</li><li>2. Enabling productive and <b>safe second life use</b></li><li>3. Ensuring the <b>circular recovery of battery materials</b></li></ol>
 Establish a low carbon economy in the value chain, create new jobs and additional economic value	<ol style="list-style-type: none"><li>4. Ensuring <b>transparency</b> of greenhouse gas <b>emissions</b> and their <b>progressive reduction</b></li><li>5. Prioritising energy efficiency measures and <b>substantially increasing the use of renewable energy</b> as a source of power and heat when available</li><li>6. Fostering <b>battery-enabled renewable energy integration and access</b> with a focus on developing countries</li><li>7. Supporting <b>high quality job creation</b> and skills development</li></ol>
 Safeguard human rights and economic development consistent with the UN Sustainable Development Goals	<ol style="list-style-type: none"><li>8. Immediately and urgently <b>eliminating child and forced labour</b>, strengthening communities and respecting the human rights of those employed by the value chain</li><li>9. Fostering protection of public health and the environment, <b>minimising and remediating the impact from pollution in the value chain</b></li><li>10. Supporting <b>responsible trade and anti-corruption practices, local value creation and economic diversification</b></li></ol>

### WHAT IS THE GBA BATTERY PASSPORT?

The Battery Passport is a digital representation of a battery that conveys information about all Environmental-Social-Governance (ESG) and lifecycle requirements based on a comprehensive definition of a sustainable battery. The Battery Passport will enable the following outcomes:

- Provide transparency in practices and impact of the battery along the value chain.
- Create a framework for benchmarking batteries against criteria by identifying those that are best and worst in class and providing minimum acceptable standards for a sustainable and responsible battery.
- Validate and track progress on the pathway to sustainable, responsible and resource-efficient batteries.



## Lithium Offtake Agreements

Vulcan has recently entered into two agreements with LG Energy Solution and Renault Group to provide solutions that will reduce their carbon footprint. LG Energy Solution is the largest producer of lithium-ion batteries for electric vehicles in the world and supplies its products to top global OEMs. The Agreement is for a binding, initial five-year lithium offtake term sheet with start of commercial delivery set for 2025. LG Energy Solution will purchase 5,000 metric tonnes of battery grade lithium hydroxide for the first year of the supply term, ramping up to 10,000 metric tonnes per year during the second and subsequent years of the supply term.

Managing Director, Dr Francis Wedin, commented: "This is the first binding lithium offtake term sheet for the Zero Carbon Lithium™ Project, so it is fitting that it is with the largest EV battery producer in the world. LGES' operations are of course global, but it is already producing batteries in Europe. The agreement is in line with our strategy to work with Tier One battery and automotive companies in the European market. We look forward to a long and productive relationship with LGES."

Renault Group and Vulcan have also signed a five-year strategic partnership for Vulcan to supply Renault with battery grade lithium chemicals. In line with Renault Group's ambition to offer 'made in Europe'

cars, and following the launch of Renault ElectriCity – the most competitive and efficient production unit for electric vehicles in Europe – the Group will purchase between 6,000 to 17,000 metric tonnes per year of battery grade lithium chemicals produced in Germany by Vulcan. Renault Group, which has set the aim to achieve carbon neutrality worldwide in 2050, continues to accelerate its EV strategy to reach the greenest mix in the European market in 2025, with over 65% of electric and electrified vehicles in the sales mix, and up to 90% battery electric vehicles sales mix in 2030. Thanks to Vulcan, which intends to produce a battery quality lithium chemical product from its combined geothermal energy and lithium resource while reducing lithium's high carbon and water footprint on production, Renault Group will be able to avoid from 300 to 700 kg of CO<sub>2</sub> for a 50-kWh battery.

Gianluca De Ficchy, Alliance EVP, Purchasing and Managing Director of Alliance Purchasing Organisation at Renault Group, explained: "We are very proud to partner with a European lithium producer with net zero greenhouse gas emissions such as Vulcan Energy. Our environmental and social responsibility is at the heart of the Renault Group and this must also apply to the providers we partner with if we want to create real value and offer the most sustainable vehicles in the market."



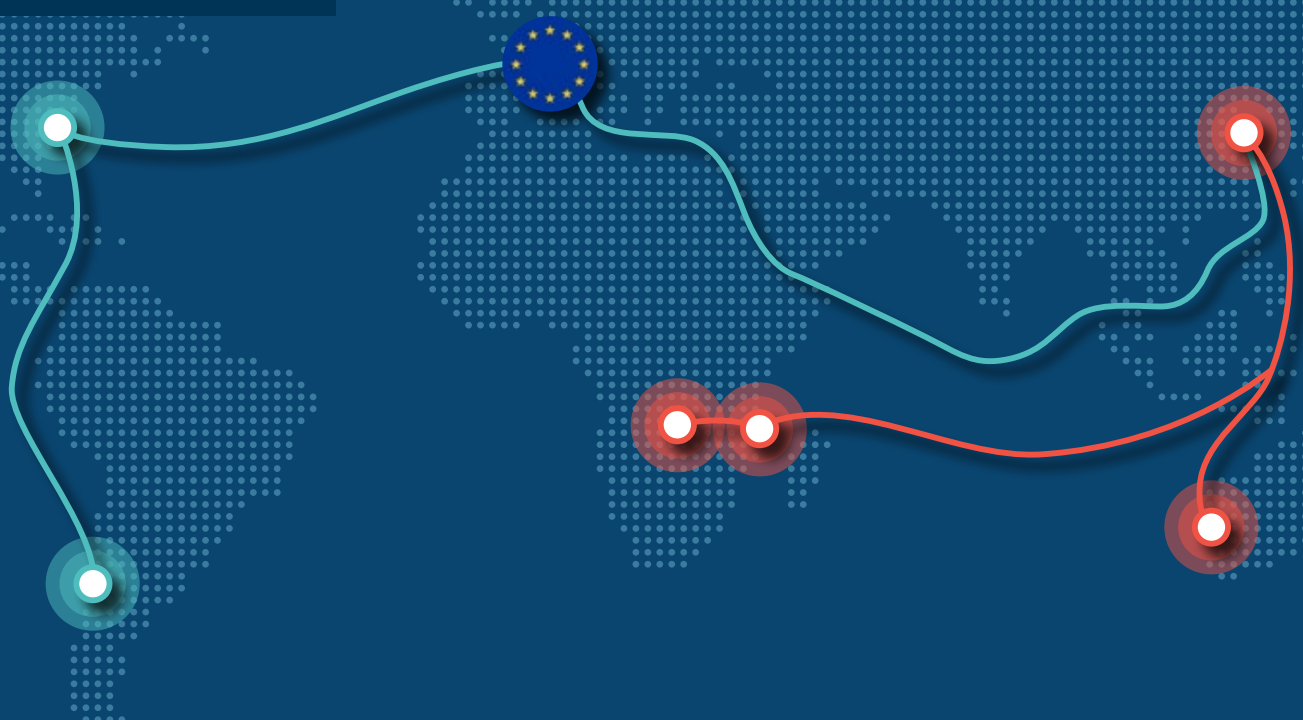
Renewable energies have been the focus of my professional life for the last 20 years. For the most part, I have been working on renewable hydrogen production, hydrogen storage and the conversion of biomass to bio-fuels. Since July 2020, I am glad to work on our Zero Carbon Lithium™ Project because this fits perfectly with my attitude to life. Personally, I ride my bike in the city and use the train for long distance travelling. In fact, I do not own a car, but with electric vehicles taking over mobility, I might be open to change this. When I am not at work I like the outdoors, going on long bike tours, hiking in the black forest and doing alpine tours in the Swiss Alps.

**Thomas Aicher | Project Manager Extraction**



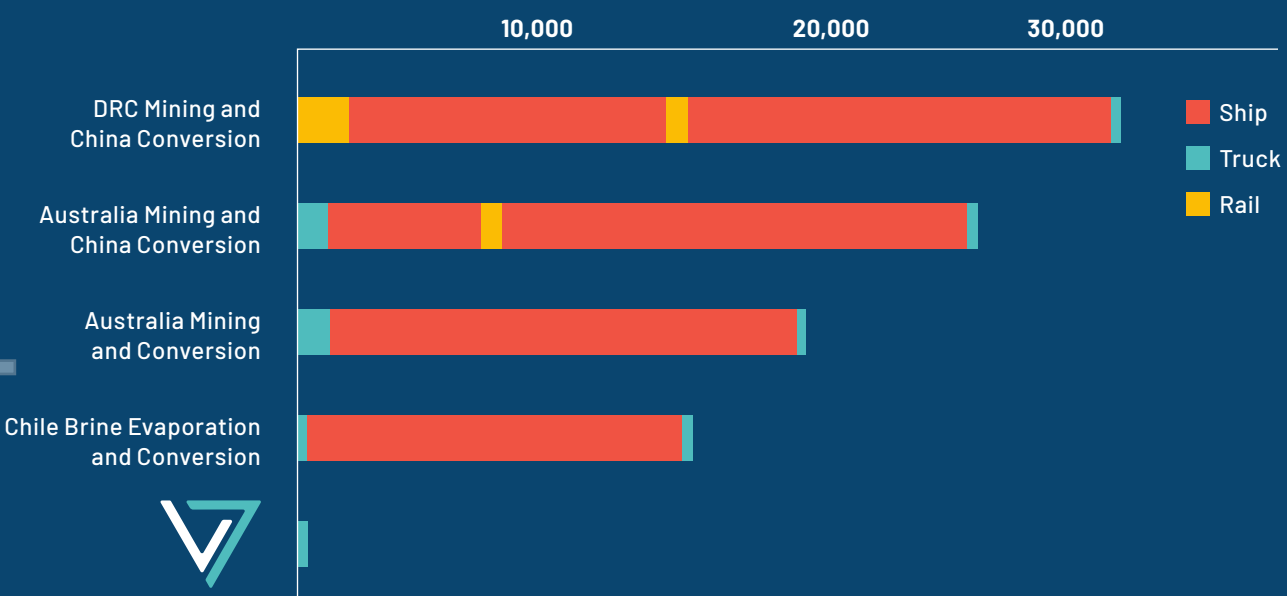
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Lithium Chemicals  
Spodumene



# Transport Distances for Different Lithium Chemicals

Transport Distances for Different Lithium Chemicals



As well as having a carbon neutral process, the Vulcan Zero Carbon Lithium™ Project also intends to reduce the transport distance of lithium chemicals into Europe to almost zero, compared with Europe’s current options which are geopolitically undesirable and/or have a large carbon footprint of transport.



## PEOPLE

### People

Vulcan's public relations team in Germany is focused on the general communication of the topic of lithium extraction from thermal water in the Upper Rhine Graben. Thus, a communication concept is being tailored gradually for each project location.

Communication measures include:

- Letters to Mayors and community stakeholders
- Organisation of personal meetings, Informational materials including flyers, posters and handouts as well as townhall meetings.
- Social media positioning.
- Project and community landing pages.
- Press articles.

#### COMMUNICATION TEAM

Vulcan has built a team of local communication experts to tailor Vulcan's messaging to best inform local stakeholders about Vulcan's planned activities. Vulcan has attracted significant interest in its Zero Carbon Lithium™ Project at a federal and international level.

Local project websites are being set up for each area within the Upper Rhine Valley, such as the local website for the license area of Ortenau (<https://natuerlich-ortenau.de/>) which was recently deployed in preparation for the exploration activities starting in September. Editorial contributions have been initiated in the local community news, and Vulcan has local project channels on Facebook and Instagram to inform local stakeholders. Meetings with community stakeholders and politicians as well as town hall meetings are a regular platform to inform about Vulcan and its activities. In addition, regional institutions in charge of permitting and supervising Vulcan's technical developments are informed beforehand and advice is given by them to facilitate the administrative steps in the development of the projects.

#### COMMUNITY ENGAGEMENT AND INVOLVEMENT

With planned field activities scheduled to begin shortly, the communication team supported by students will be present in the marketplaces of the

main communities in the region. A trailer has been fitted as a billboard to attract attention (see picture on page 36). The trailer itself contains information material to attract discussions about Vulcan and the Zero Carbon Lithium™ Project. At all stages going forward, local stakeholders will be informed regularly about further project development. In cooperation with the State Ministry of Baden-Württemberg and the University of Stuttgart, a participation concept will also be carried out, following the guidelines of the State of Baden-Württemberg, to involve stakeholders.

#### COOPERATION WITH UNIVERSITIES AND RESEARCH

While Vulcan is focused on project development using proven technology where possible, R&D will be performed with research partners like the Karlsruhe Institute of Technology, the University of Stuttgart, TU Darmstadt and other institutions to clarify geological parameters and optimise lithium extraction processes during the scale up of the project. Masters and PhD theses are currently performed by students of different universities in conjunction with Vulcan. Several of the students from these universities have already joined the Vulcan family and we expect more to do so in the future.

#### MEMBERSHIP

Memberships in associations help us network and raise awareness of renewable energy and E-mobility. Company association helps to develop partnerships and alliances, and meeting members of the administration also helps support us toward project development.

Vulcan and/or its local subsidiaries have memberships of or associations with the following organisations:

### Geothermal

- International Geothermal Association (IGA), Bonn <https://www.geothermal-energy.org/>
- European Geothermal Energy Council (EGEC), Brussels <https://www.egec.org/>
- Bundesverband Geothermie (BVG), Berlin <https://www.geothermie.de/>

### Lithium and Batteries

- Kompetenznetzwerk Lithium Ionen Batterie (KLiB), Berlin <https://klib-org.de/>
- European Battery Alliance (EBA250), Brussels <https://www.eba250.com/>
- Global Battery Alliance

### Energy

- EIT InnoEnergy SE, Eindhoven <https://www.innoenergy.com/>

### Business Community

- Wirtschaftsrat Deutschland, Berlin <https://www.wirtschaftsrat.de/>
- BVMW – Bundesverband mittelständische Wirtschaft,
- Unternehmerverband Deutschlands e.V., Berlin <https://www.bvmw.de/>

### Automotive

- Automotive Engineering Network (aen), Karlsruhe <https://ae-network.de/en/>

### RESEARCH & DEVELOPMENT

Vulcan recently acquired geothermal engineering companies GeoThermal Engineering (GeoT) and Global Engineering and Consulting (gec-co), which are now both members of the Vulcan group. Both companies have been involved in numerous research & development projects on European and national German level. Examples are:

#### Europe (Horizon 2020)

- Georisk (gec-co & GeoT)
- Crowdthermal (GeoT & gec-co)
- S4CE (Science for Clean Energy)(GeoT)
- MEET (GeoT)

### German

- Tiger (gec-co)
- Pether (GeoT & gec-co)
- Auge (GeoT)
- DG Rollout (GeoT)
- EIV (GeoT)
- Trace (GeoT)
- Simon (GeoT)
- PlayType (GeoT)

Gec-co is an advisor on the topic of geothermal energy to the German federal Ministry of Economy and Energy and is in charge of the review of all geothermal developments producing electricity in Germany.



**Vulcan is now leading the way with a 67% female Board composition.**





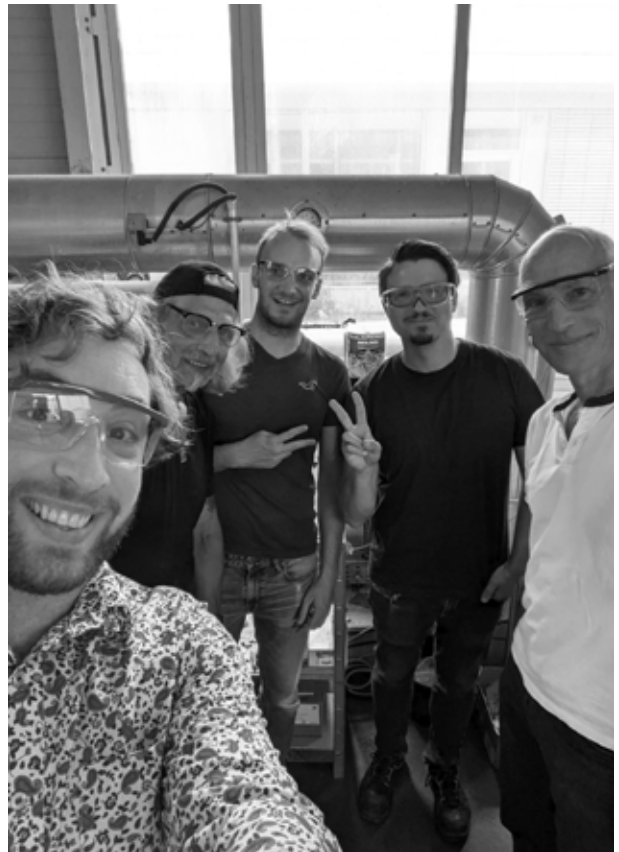


## INNOVATION

### Pilot Plant

Vulcan has designed, built, commissioned and is now successfully operating its own Pilot Plant to sustainably extract lithium. The team has successfully achieved target specification for Direct Lithium Extraction (DLE) feed into its Pilot Plant and has also achieved target recovery of greater than 90% for lithium chloride from Upper Rhine Valley brine. Initial success provided further momentum as the Pilot Plant operation scaled up to full capacity and Vulcan's systematic execution on our Zero Carbon Lithium™ Project ensures that the global transition to renewables, energy storage, and electric mobility is conducted in a sustainable, net zero manner.

Alongside the Pilot Plant, Vulcan have also secured our own laboratory based in Karlsruhe and are working with world-leading research organisations to achieve the best possible performance across our zero fossil fuels, zero carbon flowsheet. Vulcan have worked strategically over the last year to attract world-leading experts and build the facilities required to innovate traditional forms of lithium extraction and move successfully into full operation in the shortest amount of time while also ensuring that we are always adhering to our net zero emissions, environmentally focused purpose.



I am from Syria and I have been living in Germany for 6 years. I finished my education as a chemical lab technician in Germany. My hobbies are painting, sports and reading.

As a chemical technical assistant in Vulcan's laboratory, I am working with lithium extraction and ICP-OES instruments. I am a part of the Vulcan team because I like new challenges: exploring how to extract and produce lithium optimally so that in the future we can supply many European countries with lithium and reduce our climate and land of as much CO<sub>2</sub> as possible.

**Aziz Mohadeen | Technician**



## GOVERNANCE

### DISCLOSE THE ORGANISATION'S GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES

#### BOARD'S OVERSIGHT OF CLIMATE RELATED RISKS AND OPPORTUNITIES

Climate-related risks and opportunities are overseen by the Board, and specifically addressed within the Audit, Risk and ESG Committee, which is chaired by former EY Senior Partner in Renewables Josephine Bush, who is a Non-Executive Director on the Board of Vulcan. The other Committee Members are Vulcan Non-Executive Director Dr. Heidi Grön, and Vulcan Non-Executive Chair Gavin Rezos. The Committee meets regularly to discuss risks and opportunities associated with climate-related matters and subsequently presents these findings at monthly Board meetings.

Climate-related issues are considered when reviewing and guiding strategy at Board meetings. Management is invited to participate at these meetings and provide information to the Committee on climate-related issues for the business. Strategy and major plans of action for the Company have been demonstrably guided by climate-related issues, including the decision in 2019 to acquire and develop a Zero Carbon Lithium™ business, with a strict exclusion of fossil fuels from process development flowsheets, and the use of renewable geothermal energy to drive the lithium extraction process. This was further demonstrated when Vulcan decided to spin-out a business with a strict focus on zero carbon battery metals development (Kuniko Ltd), focused on Norway, where 98% of power comes from renewable sources. Risk management is also linked to climate-related issues, with the Board encouraging management to incorporate climate issues into Enterprise Risk Management (ERM) processes.

Climate-related issues are factored into annual budgets and financial models, with specific examples such as modelling of a potential premium linked to the carbon avoidance associated with Vulcan's planned product. Business plans drafted by the management team and presented to the Board, including the Company's Pre-Feasibility Study (PFS), are entirely designed around climate-related issues, since the core mission of the Company is to decarbonise the battery metals supply chain, as well as to build out baseload renewable power and heating projects. Performance objectives linked

to climate-related issues have been set for the management team, i.e., achieving lowest quartile GHG emissions from operations, and certified net zero carbon footprint across all operations. To monitor implementation and performance, as well as relying on feedback from the management team, the Committee and Board also rely on third party independent consultancies to provide guidance as to the climate impact of the Company's current and planned operations, with recommendations to eliminate these impacts provided where they arise. This takes the form of ESG ratings providers such as Sustainalytics, Life Cycle Assessment (LCA) provider Minviro, and carbon neutral assessment and certifying bodies such as Climate Active.

Almost the entirety of the capital investment of the Company, as reviewed and approved by the Board, is focused around its Zero Carbon Lithium™ Project, and is therefore demonstrably linked to climate-related risks and opportunities. Other tangible examples of considering climate-related issues when reviewing and guiding capital expenditure, acquisitions and divestitures, include the Company's development of its Kuniko spin-out, with its focused Zero Carbon Battery Metals™ strategy (excluding lithium), the investment into solar panels and electric vehicle charging points on the Company's new laboratory facilities, and the strict usage of only electric vehicles as Company vehicles. Other examples include the recent acquisition of the geothermal consultancies GeoT and gec-co, which the Company regards as a long-term climate-related investment, since the need for geothermal development teams is likely to increase significantly in the years to come as Europe accelerates its decarbonisation efforts.

Goals and targets for addressing climate related issues, such as "zero carbon" certification of Vulcan's lithium extraction process as well as current operations, are monitored and overseen by the Board, which is regularly updated by management at Board meetings.

## MANAGEMENT'S ROLE IN ASSESSING AND MANAGING CLIMATE RELATED RISKS AND OPPORTUNITIES

Climate-related responsibilities have been sub-divided and delegated amongst the management team, with the Administration Manager being in charge of ensuring activities are carbon neutral, and the Business Development Manager leading the ESG performance rating and monitoring, as well as the LCA workstream. Management regularly liaises with independent third-party consultants to guide the assessment and benchmarking of climate-related matters. These include LCA, which the Company regularly updates for its planned project developments, to assess Global Warming Potential (GWP), water use and AWARE factor, acidification potential, freshwater eutrophication potential, terrestrial eutrophication potential, marine eutrophication potential, land use – biotic production, land use – erosion potential, land use – groundwater regeneration, land use – infiltration reduction, and land use – physicochemical filtration. Structurally, these managers report to the Managing Director, who reports on climate-related issues and performance to the Board. By invitation, management is periodically invited to

participate and provide input to discussions on climate related risks and opportunities at the regular Audit, Risk and ESG Committee meetings. Short term incentive (STI) components of remuneration for key management personnel have been linked to ESG performance including climate, i.e., lowest quartile GHG emissions from operations, and certified net zero carbon footprint across all operations. In addition, as part of its Enterprise Risk Management (ERM), Vulcan seeks to involve all key management personnel in periodical risk review workshops, which include the assessment of climate related risks and opportunities. Management is informed about climate-related issues through internal reports and communications, for example the Zero Carbon Lithium™ Project's LCA and the Company's Climate Neutral certification process. Specific climate-related issues are monitored by the Executive Director in Germany, who is closely involved with geothermal project development and decarbonisation in Germany, and the management team is also updated on climate-related issues by Special Advisor Julia Poliscanova, who is Senior Director with the EU's Transport and Environment, and instrumental in shaping policies around EU vehicle CO<sub>2</sub> standards and sustainable batteries.

## The Task Force on Climate-Related Financial Disclosures (TCFD)

**The Financial Stability Board established the Task Force on Climate-Related Financial Disclosures (TCFD) to develop recommendations for more effective climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks.**

The TCFD is committed to market transparency and stability. They believe that better information will allow companies to incorporate climate-related risks and opportunities into their risk management and strategic planning processes. As this occurs, companies' and investors' understanding of the financial implications associated with climate change will grow, empowering the markets to channel investment to sustainable and resilient solutions, opportunities, and business models.

Vulcan will follow the guidance of the TCFD as it evolves its recommendations for listed companies over the coming years.



## Strategy

In accordance with TCFD guidelines, the Company provides a description of what they consider to be the relevant short, medium, and long term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms. The Company outlines that, considering the Zero Carbon Lithium™ Project business case has been based on a thirty year project, asset and infrastructure life, the Company should treat "short term" as within the next four years until 2025, when the Company is expected to be entering into full production, "medium term" as within the first half of the Zero Carbon Lithium™ Project's currently modelled life, i.e. until 2040, and "long term" as being the second half of the Project's modelled life, until 2054.

A description of the specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organisation, and a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation.

### **CLIMATE RELATED RISKS AND OPPORTUNITIES THE ORGANIZATION HAS IDENTIFIED OVER THE SHORT, MEDIUM, AND LONG TERM**

Since Vulcan's whole strategy and project development has been built around a "zero carbon" strategy with its Zero Carbon Lithium™ Project, much of what would be considered as a climate-related risk for most companies can be seen as opportunities for Vulcan.



## **IMPACT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON THE ORGANISATION'S BUSINESSES, STRATEGY, AND FINANCIAL PLANNING**

Since 2019, Vulcan has been focused on the development of its Zero Carbon Lithium™ business. This strategy has been driven almost entirely by the recognition that decarbonisation efforts need to ramp up across the world, and the electrification of transportation with mass battery production should be a part of the solution, not a part of the problem. Vulcan's strategy and financial planning has therefore been entirely focused, since 2019, on making sure its planned developments use zero fossil fuels, and have a net zero greenhouse gas emission footprint.

As mentioned in the previous section, Vulcan's products and value chain has been entirely designed around the production of a lithium product for batteries used in electric vehicles, with net zero carbon footprint and zero use of fossil fuels to power the process, with a renewable energy by-product. Therefore, the increasing prominence of climate-related factors on policy and consumer behaviour should only stand to benefit Vulcan's planned operations in the future. As described in the sections above, while climate-related risks to the business exist, these are generally far outweighed by the opportunities, since the Company has been built from the ground up to be zero carbon, including

early investment into R&D and process development in these fields. Vulcan has made conscious strategic and financial planning choices at a management and Board level to exclude fossil fuels from its power requirements for its process flowsheets and include technologies such as electrolysis which can use green power for its lithium chemicals production.

Vulcan's long term financial planning is generally conducted over a 30-year time frame, in that the planned project life is currently 30 years, and its financial models for its project are designed accordingly.

Climate-related issues, as previously mentioned, represent the core of this financial planning, since the project is focus on decarbonisation and production of renewable energy and battery chemicals to enable the transition to zero emissions e-mobility. This financial planning includes operating costs and revenues, capital expenditure, acquisitions or divestments and access to capital of which all are being driven by the Company's climate-related Zero Carbon Lithium™ strategy. Risks and opportunities are discussed and prioritised among management, both within the individual geothermal and lithium teams, and at a strategic cross-business level. Risks and opportunities are then prioritised using a series of industry standard metrics, and presented to the Board on a regular basis, as well as being presented and discussed at the Audit, Risk and ESG Committee.



Vulcan's ability to create value in the future is interdependent on its ability to scale up and roll out its dual geothermal-DLE plants, and downstream lithium chemical plant, whilst having continued regulatory and stakeholder support, assuming a public environment which continues to support climate-related action to transition to renewable power, renewable heating and e-mobility.

Since Vulcan does not have any current commercial operations and is in the development stage, Vulcan uses a third-party Life Cycle Assessment (LCA) tool as a means of scenario analysis to examine future climate-related impacts and examine ways to further reduce Vulcan's footprint. As an example, scenario analysis was conducted to determine the environmental impact of modifying Vulcan's project configuration to produce a lithium carbonate intermediate from geothermal brine, which further is refined into an equivalent lithium hydroxide product, as opposed to Vulcan's current preferred route to use green power to create a direct lithium hydroxide product. The more traditional route to produce lithium carbonate initially was found to have a higher carbon footprint, which, along with financial considerations, was a major driver in informing strategic planning towards the direct lithium hydroxide production route.

## **RESILIENCE OF THE ORGANISATION'S STRATEGY, TAKING INTO CONSIDERATION DIFFERENT CLIMATE-RELATED SCENARIOS**

Since Vulcan's entire business model has been built around its Zero Carbon Lithium™ business, the whole premise of which is to decarbonise battery metals for e-mobility with co-production of renewable heat and power, Vulcan considers its strategy to be very resilient to climate-related risks and very good exposure to climate-related opportunities, taking into consideration a transition to a lower-carbon economy which Vulcan considers itself at the forefront of. This also takes into account a 2°C or lower scenario, which Vulcan believes is critical to maintaining our ecosystem and way of life. Vulcan is constantly assessing physical climate-related risks, and will continue to do so as part of its Enterprise Risk Management and Audit, Risk and ESG Committee. At present, despite increased climactic instability worldwide, Vulcan believes it is at a low risk of being affected by physical climate-related risks. Risks and opportunities related to Vulcan's Zero Carbon Lithium™ Project, including their time horizons and potential future changes in strategies are substantially outlined in the previous sections.



## Risk Management

### ORGANISATION'S PROCESSES FOR IDENTIFYING AND ASSESSING CLIMATE RELATED RISKS

Climate-related risks are identified, assessed and managed by executive management. These risks are also presented and discussed at the Audit, Risk and ESG Committee meetings, and further discussed and assessed at Board meetings. Since Vulcan has consciously put climate-related risks at the core of its strategy, product and branding, building its entire business around a zero-carbon process and product, the relative significance of climate-related risks in relation to other risks is clearly major. Vulcan's approach to risk management to date has been an iterative approach, which has involved some elements, but not all, of the COSO approach to Enterprise Risk Management (ERM). Vulcan's senior management, i.e. CEO, CFO and Executive Director, have been running the ERM process to date. Non-executive Board and Audit, Risk and ESG Committee input and oversight has been sought when the Risk Register has been shared and discussed at meetings, which generally occur monthly or bi-monthly. An inventory of the existing Risk Management practices of the organisation has been carried out, however, the recent acquisitions of two new businesses in Germany (GeoT and gec-co), and as the project has advanced and the company grown, means Vulcan needs to restart this process, take feedback from the different newly acquired sectors of the business, and establish a common risk language. Initial assessment of key strategies and related strategic risks has been conducted from the inception of the company and the process to date has been broadly in line with COSO's recommended process, but needs restarting and refreshing with the increasing size of the business.

### ORGANISATION'S PROCESSES FOR MANAGING CLIMATE RELATED RISKS

A consolidated action plan is developed based on each risk, and communicated to the Board and management. Actions arising from the Risk Register to date have been woven into the "to-do list" of management, and continuous improvement has been achieved to date from action plans arising out of this. Communication has been to the Board and management via regular meetings. Going forward: a larger, more consolidated action plan is likely to arise out of the next ERM process. In terms of risk reporting, the approach has comprised a Risk Register including scorecards, colour-based visuals

and clear language for ease of understanding. Going forward, visual tools showing the organisation's objectives and strategies, and how they link to risk management, should be the next goal of the ERM process, with a particular focus on climate-related risk given the importance of climate goals for the business.

### HOW PROCESSES FOR IDENTIFYING, ASSESSING, AND MANAGING CLIMATE-RELATED RISKS ARE INTEGRATED INTO THE ORGANISATION'S OVERALL RISK MANAGEMENT

Vulcan does not see climate-related risks or opportunities as separate to its overall risk management, but an integral part of the risk management process, and therefore by its nature is already integrated into the organisation's overall risk management identification, assessment and management.

## Metrics and Targets

### METRICS USED BY THE ORGANISATION TO ASSESS CLIMATE-RELATED RISKS AND OPPORTUNITIES IN LINE WITH ITS STRATEGY AND RISK MANAGEMENT PROCESS

Vulcan is not currently in commercial operation and therefore currently has a negligible climate-related impact. However, in line with its strategy to develop an operation with zero carbon footprint, zero fossil fuel consumption, and industry leading environmental metrics across other systems of measurement, Vulcan regularly updates its Life Cycle Assessment of its planned developments, and uses the metrics generated by this LCA to assess climate-related risks and opportunities in line with its strategy and risk management process. These metrics are outlined in greater detail throughout the LCA component of this document, but in brief cover: Global Warming Potential (GWP), water use and AWARE factor, acidification potential, freshwater eutrophication potential, terrestrial eutrophication potential, marine eutrophication potential, land use – biotic production, land use – erosion potential, land use – groundwater regeneration, land use – infiltration reduction, and land use – physicochemical filtration.

### SCOPE 1, SCOPE 2, AND SCOPE 3 GREENHOUSE GAS (GHG) EMISSIONS

Vulcan is not currently operating any commercial sized renewable energy or lithium extraction plants, and is in the process of conducting feasibility studies towards funding and constructing such operations. Vulcan's current operations have a negligible GHG footprint, since the operations comprise only a series of offices, a laboratory, a modest-sized pilot lithium extraction plant and some limited travel for management. Vulcan has quantified its GHG emissions from current operations in Australia, and purchased 283 tonnes recognised offsets to achieve carbon neutral certification from Climate Active. Vulcan is seeking a similar certification for its German operations. In this manner, Vulcan intends to be not "net zero" at some date in the future, but net zero in the present day and throughout Vulcan's development of its Zero Carbon Lithium™ Project. Vulcan's planned CO<sub>2</sub> emissions for its Zero Carbon Lithium™ Project development has been estimated with an independent, ISO-compliant Life Cycle Assessment (LCA). This can be broken down into "scopes" of emissions according to the Greenhouse Gas Protocol. In alignment with future European regulations and best practice CO<sub>2</sub> emission reporting, we disclose our expected scopes 1, 2, and 3 emissions up to the "gate" of LiOH•H<sub>2</sub>O product delivery to our customers:

- 0.2 kg CO<sub>2</sub>/kg LiOH•H<sub>2</sub>O Scope 1 emissions because Vulcan will not burn any fossil fuels, and will not release CO<sub>2</sub> in the brine to the atmosphere.
- -3.7 kg CO<sub>2</sub>/kg LiOH•H<sub>2</sub>O Scope 2 emissions because Vulcan will produce excess zero-carbon power which will decarbonize the coal-heavy German electrical grid.
- 0.6 kg CO<sub>2</sub>/kg LiOH•H<sub>2</sub>O Scope 3 emissions (upstream and downstream to gate of delivery to customer) due to Vulcan's decision to use ultra-low reagent consumption electrochemical lithium hydroxide chemical processing.

We will engage in continuous dialogue with future customers and investors to ensure our reporting is aligned with their long-term net zero CO<sub>2</sub> commitments. Vulcan will be using Circulor's CO<sub>2</sub> solution providing a dynamic month-to-month visibility of CO<sub>2</sub> intensity across the supply chain and its participants. Battery raw materials transparency, traceability and sustainability were directly targeted in the latest European Commission Battery

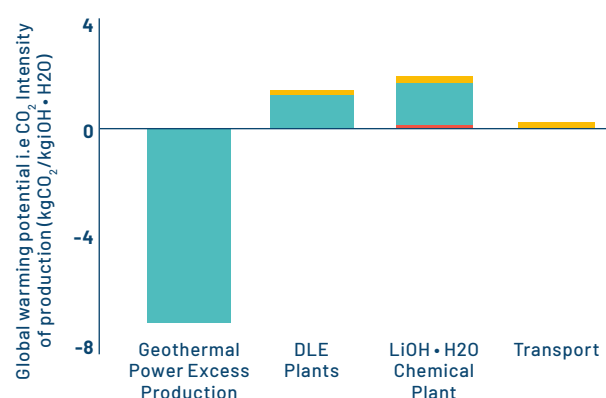
Regulation proposed in December 2020. Vulcan will be implementing Circulor's solution to its future lithium supply contracts with European OEMs to help them meet their sustainability objectives for material traceability and CO<sub>2</sub> transparency.

### TARGETS USED BY THE ORGANISATION TO MANAGE CLIMATE RELATED RISKS AND OPPORTUNITIES AND PERFORMANCE AGAINST TARGETS

As well as negative carbon emissions, Vulcan is also targeting minimum environmental impact on a number of other factors such as water consumption, harmful chemicals consumption, land use and waste generation. Vulcan's goal is to be a world leader in sustainable lithium production and is targeting to stay in line with the results published in Minviro's LCA (section III). Those targets will be based on our commercial operations. However, until then, Vulcan's Australian business has already been certified as carbon neutral by Climate Active and the European business is looking at implementing the same practise by the end of the year.

#### Vulcan's Expected Global Warming Potential by Scope of Emission

- **Scope 1:** Direct emissions, e.g fossil fuel combustions
- **Scope 2:** Embodied emissions of electricity
- **Scope 3:** Embodied emissions of upstream supply chain



## CLIMATE-RELATED RISKS & OPPORTUNITIES



### POLICY & LEGAL

#### Increased pricing of GHG emissions

Short-Medium Term

**Risk:** While Vulcan will make every effort to source material for its plant and equipment from sustainable sources, Vulcan will need to purchase materials such as steel and cement to build its plants. The cost of these materials may increase with a rising carbon price in Europe, if Vulcan cannot source “green steel” or “green cement”.

**Opportunity:** According to its Life Cycle Assessment (LCA), Vulcan will have a negative carbon footprint of 2.9 tonnes of CO<sub>2</sub> per ton of Lithium Hydroxide Monohydrate (LHM) produced. As well as helping battery and automakers to decarbonise their cells and EVs from the Zero Carbon Lithium™ Project as opposed to using carbon-intensive lithium chemicals from China, Vulcan could potentially also sell carbon avoidance credits from its operations. Additionally, the European Parliament is looking at implementing a carbon border adjustment mechanism (CBAM) as quickly as possible which is a levy on carbon-intensive products imported into Europe.

This CBAM mechanism will decrease the risk of carbon leakage which occurs when companies transfer production to or source products from countries that are less strict about emissions, by putting a carbon price on imports of certain goods from outside the EU. A European committee stated that the CBAM should cover all imports, but as a starting point already by 2023, it should cover the power sector and energy-intensive industrial sectors such as manufacturing of cement, steel, chemicals and fertilisers. The levy will be linked to a reformed emissions trading scheme (ETS) and the money raised used for climate objectives in the EU and internationally. As stated by Thierry Breton, EU Commissioner, “We (the EU) are 100% dependent on lithium chemical imports”.

Lithium could eventually fall into the “chemicals” category targeted by the CBAM. Today, more than 80% of the global lithium hydroxide supply comes from China. Production of lithium chemicals production in China is estimated to be the most polluting in the world. According to an LCA by the London-based consulting firm Minviro, every tonne of LHM produced in China generates 15 tonnes of CO<sub>2</sub> emissions. As an example, assume the CBAM is in place by 2025 for lithium and that a European buyer was going to purchase 10,000 tonnes of LHM from a Chinese producer emitting 15 tonnes of CO<sub>2</sub> per tonne of LHM. Assuming that the CBAM is in place with strict CO<sub>2</sub> neutrality targets and the carbon prices are at US\$100 per tonne, as targeted by the Bank of England, the buyer would be charged an additional US\$1,500 per tonne of LHM to account for the CBAM, or an additional US\$15M per year. This and any increase of GHG emissions would push buyers to secure volume from local and sustainable producers like Vulcan, making this a climate-related opportunity for Vulcan.

#### Enhanced emissions-reporting obligations

Medium Term

**Risk:** increasing reporting costs as emissions reporting obligations are advanced. It should be noted however, that Vulcan already follows very high reporting standards compared to industry norms.

**Opportunity:** Vulcan was the first lithium company in the world to look at live-tracking its CO<sub>2</sub> emissions from its operations. As reported in the above Supply Chain section, Vulcan and Circular are working together to establish a world-first full lithium traceability and CO<sub>2</sub> measurement. Circular’s CO<sub>2</sub> solution provides a dynamic month-to-month visibility of CO<sub>2</sub> intensity across the supply chain and its participants. Battery raw materials transparency, traceability and sustainability were directly targeted in the latest European Commission Battery Regulation proposed in December 2020. Vulcan will be implementing Circular’s solution to its future lithium supply contracts with European OEMs to help meet their sustainability objectives for material traceability and CO<sub>2</sub> transparency.

Circular’s solution will first be used during Vulcan’s project development including at a pilot and demonstration plant level, when the first samples are dispatched to customers. Circular and Vulcan will work together to prepare Vulcan and its supply chain for full traceability of Vulcan’s lithium product at the production start in 2024. This ability to provide a first and best-in-class dynamic CO<sub>2</sub> tracing for Vulcan’s lithium products is a climate-related opportunity for Vulcan to become a preferred customer for lithium buyers.



## Mandates on and regulation of existing products and services

Medium Term 

**Risk:** Vulcan is working within the Global Battery Alliance and with ISO on lithium and battery standards. There is a risk that proposed regulation on carbon footprint for raw materials within batteries, and for lithium production, could be watered down by certain industry participants. Vulcan still believes its product would be preferred compared to competitors, however this could slow the market impetus to decarbonise battery raw materials.

**Opportunity:** EU Battery Regulation. The European Commission proposed a new Batteries Regulation on 10 December 2020. This Regulation aims to ensure that batteries placed in the EU market are sustainable and safe throughout their entire life cycle. Vulcan welcomes the ambition of the proposed Regulation concerning batteries and waste batteries – in particular the envisioned carbon thresholds as well as environmental and social due diligence standards for the entire supply chain, including lithium. Vulcan most notably supports the introduction of a carbon footprint declaration, maximum carbon thresholds and mandatory social and environmental due diligence. To maximise the benefit, it is key that these requirements holistically cover the supply chain of batteries, including the extraction of raw materials such as lithium. The inclusion of these requirements is a climate-related opportunity for Vulcan, since Vulcan plans to produce the lowest carbon footprint lithium chemicals on the market.



## TECHNOLOGY

### Substitution of existing products and services with lower emissions options

Medium Term 

**Risk:** Although it has taken decades for lithium-ion batteries to be accepted by the auto-industry, with its tough standards for safety and durability, there will always be the risk that a lower emission battery technology that does not contain lithium could emerge, relative to lithium-ion or solid state (lithium metal). Given the long development lead time from laboratory to commercialisation for batteries, and given that Vulcan has the flexibility to produce lithium chloride, lithium carbonate and/or lithium hydroxide, which covers most of the conceived battery technologies on the horizon, Vulcan believes the risk of battery technology substitution which will not use Vulcan's lithium products is relatively low. Vulcan also notes that it will also derive revenue from its geothermal renewable energy operations, albeit the planned energy revenue is much less than the planned revenue from lithium sales.

**Opportunity:** Historically, lithium buyers were mostly looking at price, volume and quality when securing lithium. Now there are two additional requirements for them: location and sustainability. Automakers are looking at regionalising their supply chain and developing vertical integration, potentially all the way up to mining and refining. Additionally, almost all automakers have announced their goals to become carbon neutral and will be working with suppliers who are operating sustainably. Vulcan offers a unique solution to European companies, being local, sustainable but also low cost and large scale. As its Zero Carbon Lithium™ Business is centred on the premise of substituting existing products with a lower emissions option, this is an opportunity for Vulcan.

### Unsuccessful investment in new technologies

Medium Term 

**Opportunity:** Investment in new technologies: in order to demonstrate that Vulcan's process flowsheet, using adaptations of predominantly commercially available technology, will be able to produce lithium at a large commercial scale and at low cost, significant piloting work needs to be carried out. Our first pilot plant has been operating since February 2021 and has been directly connected to an existing geothermal plant since April 2021, and our piloting activities will be further scaled up during the course of the coming year. Our piloting campaign is allowing us to de-risk our production process further and takes us towards commercial production. Our project development phase is fully financed up to our Final Investment Decision (FID) following a capital raise executed in January 2021. While we are confident in the Direct Lithium Extraction (DLE) and geothermal expertise of our team, and we have had encouraging results from our piloting to date, there is always the risk that our investment in our technology to produce lithium with net zero greenhouse gas emissions will be unsuccessful.

## Costs to transition to lower emissions technology

Medium Term 

**Opportunity:** Vulcan's project is designed with a zero-carbon emission output at the centre of its decision process. The lithium part of the business requires a larger investment than the geothermal but also generates more revenues. Our project is also organised in two phases. Based on our PFS published in January 2021, phase one will require an investment of around €700M, €230M of which will be allocated to the two geothermal plants construction and €470m will be used to build our two DLE plants and our central lithium plant. This will allow the production of around 15,000 tonnes per year of battery quality lithium hydroxide, which can be directly consumed in European batteries. Phase two targets an investment of more than one billion euros, €700M on the lithium side, to reach a total of around 40,000 tonnes per year of lithium hydroxide production. Despite a significant upfront cost, the project has a four-year payback period thanks to a very low operating cost. Based on our PFS published in January 2021, our production costs are around \$3,100 per ton of lithium hydroxide. It would represent the lowest lithium production cost in the world and this is explained by three main reasons:

- Vulcan's "feedstock", its brine, is secured at no cost from its own operations and has a dual purpose: lithium production and energy production in the form of renewable electricity. As a comparison, a Chinese lithium producer would have to purchase feedstock, in the form of a mineral called spodumene, which is currently mined and concentrated in Australia. The cost of this feedstock today to produce one tonne of lithium hydroxide is estimated at more than \$3,500. Our feedstock is essentially a waste brine from a geothermal plant, so can be considered "free", and is also used to generate revenues, in the form of heat and electricity, which pays for the geothermal wells and plant.
- Vulcan uses DLE to isolate lithium as opposed to using large volumes of chemicals to process the brine, like in South America, where the largest production costs are chemicals. DLE generally requires the brine to be heated to work. This is expensive in South America, which is why DLE operations are rare. In our operations, our brine will be re-heated, as it is geothermal in nature. This also lowers the production cost.
- Vulcan also uses low-cost energy directly from its geothermal operations, in the form of steam, to drive the concentration process of its lithium product.

This means sustainably and locally produced lithium doesn't have to be more expensive relative to the conventional way of producing the metal, but could actually be a lot cheaper.

Finally, because Vulcan is not "transitioning" to lower emissions technology, but actually building its whole process around zero emissions technology, it has a competitive advantage compared to competitors with sunk capital in higher emissions lithium production plants.



Hiking in the Bunter Sandstone reservoir rocks on the shoulder of the Upper Rhine Graben. For a geologist and the Vulcan project the Bunter Sandstone reservoir and its permeability is key. The Vulcan project combines the merit of renewable energy and the value of Zero Carbon Lithium™ for batteries. To support the transitions from conventional to renewable energies and from combustion engine cars to electric cars and fight climate change is my main motive to help make Vulcan a success.

**Dr Horst Kreuter | Co-Founder & Board Advisor**



## MARKET

### Changing customer behaviour

Medium Term

**Risk:** There is a risk that vehicles will be increasingly shared in the future as a means of reducing carbon footprint, leading to overall lower consumption of lithium-ion batteries and thus lower than forecast lithium demand. However, lithium demand to electrify global transport will still be substantial, even in this scenario.

**Opportunity:** A few years ago market observers, when looking at EVs, were wondering if the transition to e-mobility was going to happen. A couple of years ago the question changed from if to when, and now the question is how quickly will Internal Combustion Engines (ICE) disappear. In July 2021, the European Commission proposed that by 2030 carmakers must reduce emissions of new cars by 55%, rising to 100% in 2035, effectively spelling the end of the ICE. According to Macquarie, sales volumes of electric vehicles are forecast to increase at 33% per year from 2021 to 2025, with equivalent Lithium-ion Battery (LIB) production increasing from 244GWh in 2021 to 968GWh by 2025. Led by this transition to a lower emission option by rapidly changing customer behaviour, the global annual demand of lithium is expected to increase from 278,000 tonnes in 2020 to 2.4 million tonnes in 2030, multiplied by 9 in 10 years, according to Canaccord Genuity<sup>1</sup>. Automakers and battery/cathode makers are also increasingly favouring sustainable sources of battery raw materials. Therefore, changing customer behaviour towards increased electric vehicle purchasing leading to increased lithium demand, as well as changing customer behaviour toward more sustainable sources of lithium, represents an opportunity for Vulcan.

<sup>1</sup>Please refer to [v-er.eu/investor-centre](https://v-er.eu/investor-centre) for Canaccord Genuity report

### Uncertainty in market signals

Medium Term

**Risk:** There is a risk that a slower shift to electric vehicles than anticipated could result in lower demand for lithium, and too much supply relative to demand.

**Opportunity:** There is a possibility that rate of EV uptake will surpass current forecasts, resulting in higher demand for lithium and perhaps therefore a higher price environment, if supply cannot keep up with demand.

### Increased cost of raw materials

Medium Term

**Risk:** There is a risk that the raw materials required to build Vulcan's plant increase in price, if green alternatives cannot be found, for example for steel and cement.

**Opportunity:** If a price premium for "green" lithium emerges, Vulcan is likely to benefit, by producing from the only Zero Carbon Lithium™ Project in the world.





## REPUTATION

### Shifts in consumer preferences

Medium Term

**Opportunity:** Vulcan's Zero Carbon Lithium™ business and branding stands to potentially gain from increased customer awareness around sustainability of sources of raw materials going into batteries and electric vehicles.

**Opportunity:** Vulcan's renewable energy business stands to potentially gain from increasing consumer preference for renewable heating and power.

### Stigmatisation of sector

Medium Term

**Risk:** There is a perception in some groups that EVs have a high carbon footprint of production. While Vulcan is part of the solution, not the problem, and, while studies have shown that EVs are much greener over their life cycle than ICE vehicles, Vulcan is aware of a small risk of stigmatisation of EVs, and part of Vulcan's mission is to correct this.

**Opportunity:** Vulcan's Zero Carbon Lithium™ business can potentially gain market share as higher carbon or higher water footprint sources of lithium become increasingly stigmatised and undesirable, in an increasingly climate-aware world, for customers buying EVs.

Vulcan's renewable energy business can potentially gain customers for heating and power, as traditional suppliers from the fossil fuel sector become increasingly stigmatised due to their carbon footprint.

### Increased stakeholder concern or negative stakeholder feedback

Medium Term

**Risk:** Just like solar and wind, geothermal energy has its opponents, especially from climate change sceptics. While not climate-related, Vulcan will always work closely with local stakeholders to ensure that any stakeholder concern is listened to and mutually resolved.

**Opportunity:** While capital availability and reduced share prices are negatively affecting the fossil fuel industry, Vulcan may benefit from a more attractive valuation, and better ability to raise capital, due to its zero carbon mission and credentials.




## PHYSICAL RISKS

### Increased severity of extreme weather events such as cyclones and floods

Medium Term

**Risk:** As seen in recent weeks, no place on Earth is safe from the effects of climate change. Germany, where Vulcan's main operations are and will be located, is no different, and some regions of Germany have experienced severe flooding. While Vulcan's operations have not been affected to date, there remains a risk that operations could be affected by more acute weather events in the future, this could have a negative impact on revenue due to decreased production capacity, and higher costs from negative impacts on workforce, for example health, safety and absenteeism. Increased insurance premiums could also result from this, albeit we are not aware that any of our planned locations are in a particularly high risk zone for flooding. This is another reason to decarbonise the global economy and more impetus behind the need for our Zero Carbon Lithium™ Project.

### Changes in precipitation patterns and extreme variability in weather patterns

Medium Term 

**Risk:** Reduced precipitation in the Upper Rhine region could reduce the ability to barge our lithium product to a chemical processing facility. This could lead to higher trucking costs, albeit trucking has already been factored into our financial model.


### Rising mean temperatures

Medium Term 

**Risk:** Geothermal plants operate with lower efficiency in higher temperature environments. The trend in Germany with climate change has been towards a warming climate. There could be some periods over the summertime when the efficiency of the plant is reduced, reducing revenue from energy production.

**Opportunity:** Increased demand for electricity during the summer months to run air conditioning units could increase demand for Vulcan's planned renewable electricity production.

### Rising sea levels

Medium Term 

Vulcan's operations are not thought to be affected by rising sea levels associated with climate change.



## RESOURCE EFFICIENCY

### Use of more efficient modes of transport

Medium Term 

**Opportunity:** As discussed above, the increasing use of e-mobility by consumers should have a favourable effect on the outlook for lithium demand and pricing, which should favour Vulcan's Zero Carbon Lithium™ Project economics. Within the planned Project, electric trucks are intended to be used for transportation of lithium chloride to the central lithium processing plant. The wider availability and expected lower cost of such modes of transport could be an opportunity for Vulcan to lower its operating costs in the future.

### Use of more efficient production and distribution processes

Medium Term 

**Opportunity:** Vulcan is evaluating ways to make renewable energy generation and distribution more efficient from its planned geothermal operations, and more efficient usage of the renewable heat and power to drive its lithium extraction process. This could, if proven, result in more efficient production and therefore increased revenues.

### Use of recycling

Medium Term 

**Opportunity:** Vulcan is intending to build as much water recycling capability as possible into its process, allowing for a potentially cheaper and more efficient DLE process which could increase revenue in the future.

### Move to more efficient buildings

Medium Term 

**Opportunity:** Vulcan is in the process of moving one of its offices and its laboratory in Germany to more efficient buildings. This should have benefits to workforce management and planning, including improved health and employee satisfaction outcomes, as well as lower costs.

### Reduced water usage and consumption

Medium Term 

**Opportunity:** Vulcan is evaluating a range of high performing DLE sorbents, some of which present the opportunity to reduce water consumption further during the DLE process. This and the attempt to recycle as much water as possible during the process could reduce costs.




## ENERGY SOURCE

### Use of lower-emission sources of energy

Medium Term 

**Opportunity:** As well as using geothermal heat to drive its lithium extraction process, selling geothermal energy into the grid and buying green power to run its lithium chemicals process, Vulcan is in the process of installing solar power at its laboratory, and will do so at its planned future operations as well. This use of renewable electricity may present potential for lower costs in the future. Vulcan's exclusive use of renewable energy to power its processes means that it may have increased capital availability, as more investors favour lower-emissions producers. It also means that Vulcan will in effect have no material exposure to future fossil fuel price increases.

### Use of supportive policy incentives

Medium Term 

**Opportunity:** Vulcan intends to produce renewable electricity and power from its geothermal operations. This should benefit from a €0.252/kWh Feed-in Tariff for geothermal power under the German Renewable Energy Law. No supportive policy incentives at the German Federal Level are currently in place for the production of lithium with net zero greenhouse gas emissions, but the potential of such incentives exist, and represents a future opportunity.

### Use of new technologies

Medium Term 

**Opportunity:** Vulcan is pursuing a world-leading effort to produce lithium for batteries with a net zero greenhouse gas footprint. This may have reputational benefits resulting in increased demand for product bought from the Vulcan Zero Carbon Lithium™ Project.

### Participation in carbon market

Medium Term 

**Opportunity:** Vulcan's Zero Carbon Lithium™ Project may have the potential to be counted as a form of monetisable carbon abatement, given it plans to decarbonise the currently high carbon footprint of the lithium industry. This potential participation in the carbon market is an opportunity for Vulcan.



### Shift toward decentralised energy generation

Medium Term 

**Opportunity:** Vulcan intends to build a number of distributed geothermal renewable energy plants across the Upper Rhine Valley region. Germany is increasingly trying to decarbonise its heating and power grids, with a focus on decentralised, renewable energy. This policy and consumer shift toward decentralised energy generation favours Vulcan's business model.



## PRODUCTS AND SERVICES

### Development and/or expansion of low emission goods and services

Medium Term 

**Opportunity:** Since Vulcan is aiming to produce the world's first lithium products with net zero greenhouse gas emissions from its Zero Carbon Lithium™ Project, with co-production and sales of renewable energy, increasing demand for lower emissions products and services represents an opportunity for Vulcan.

### Development of climate adaptation and insurance risk solutions

Medium Term 

**Opportunity:** Vulcan has the ability, without having sunk significant capital into plant and infrastructure at this early stage of the project's life, to enable the development of climate adaptation solutions to its plant and buildings which could lower insurance costs and lower future CAPEX requirements in the event of climate-related incidents.

### Development of new products or services through R&D and innovation

Medium Term 

**Opportunity:** Vulcan is seeking to adapt existing technologies to most efficiently extract lithium from its geothermal brine areas with net zero carbon footprint, and is therefore investing into its planned product through R&D and innovation. This should put Vulcan in a better competitive position to reflect the shifting consumer preference towards sustainable products, which has shifted rapidly.

### Ability to diversify business activities

Medium Term 

**Opportunity:** Vulcan's strategic decision to develop both a renewable energy and battery chemicals business means that it is able to potentially source revenue from multiple sources, allowing de-risking diversification.

### Shift in consumer preferences

Medium Term 

**Opportunity:** Most Original Equipment Manufacturers (OEMs) have sustainability-focused procurement policies for battery raw materials, and aim to produce net zero carbon EVs. This shift in consumer preferences is an opportunity for Vulcan to become a preferred supplier, something borne out by the execution of lithium offtake term sheets by Vulcan with Tier One battery and EV producers.



## MARKETS

### Access to new markets

Medium Term

**Opportunity:** Vulcan's team has a unique set of skills in the fields of surface and sub-surface geothermal project development and DLE. All three sets of skills are quite rare, and to have all three teams in one company is really quite unique. This unique know-how in lithium and geothermal could help Vulcan unlock access to new markets in the future, which could bring in new revenue streams.

### Use of public-sector incentives

Medium Term

**Opportunity:** Because of the green and climate credentials of the Zero Carbon Lithium™ Project, Vulcan may have the opportunity in the future to obtain use of public sector incentives, including grants. The European Investment Bank (EIB) is also potentially able to support a project like Vulcan's, which fits with many of the objectives of the European Green Deal. This public-sector support is a potential opportunity for Vulcan.

### Favourable forms of funding

Medium Term

**Opportunity:** Vulcan may have the potential to secure so-called "green financing", and once in production, has the potential to re-finance using "green bonds", which could reduce the cost of borrowing.



## RESILIENCE

### Participation in renewable energy programs and adoption of energy efficiency measures

Medium Term

**Opportunity:** Vulcan's Zero Carbon Lithium™ business and strong ESG focus, which is at the core of its business plan, has the potential to result in increased market valuation since companies with a strong ESG focus and track record have been shown to outperform those that do not.

### Resource substitutes/diversification

Medium Term

**Opportunity:** Vulcan intends to increasingly evaluate the production and sale of heat as well as power from its planned geothermal projects, as heating is expected to play a bigger part in decarbonisation in Europe. Vulcan is also evaluating the production of lithium carbonate as well as lithium hydroxide, as battery chemistry preferences shift, which it is well positioned to do. This flexibility around production is an opportunity for Vulcan.



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# Review & Results of Operations

## Zero carbon process development & ESG excellence

### LIFE CYCLE ASSESSMENT

In February, Minviro was appointed by Vulcan to conduct an updated cradle-to-gate life cycle assessment (LCA) on the production of lithium hydroxide monohydrate (LHM) from project and process data produced at a PFS level. Five different impact categories were evaluated: global warming potential, acidification potential, eutrophication potential, water use, and land use. Results of the updated LCA estimate negative 2.9t of CO<sub>2</sub> emitted per tonne of LHM to be produced from Vulcan's Zero Carbon Lithium™ Project, including Scope 1, 2 and 3 emissions.

### CIRCULAR

During the year, Vulcan announced that it would use Circular's full traceability and dynamic CO<sub>2</sub> measurement solution for its carbon neutral lithium products across the European lithium-ion battery and electric vehicle (EV) supply chain, a world first for the lithium sector. Circular's customers include major European automotive manufacturers such as Volvo Cars, Daimler, Polestar and Jaguar Land Rover, which indicates Original Equipment Manufacturer's (OEMs) growing need to demonstrate responsible sourcing of raw materials like lithium, and to track and manage the embedded CO<sub>2</sub> emission in their upstream supply chain, as they strive towards their net zero targets. Circular's system implementation enables reputational protection, proof of compliance with regulations and dynamic carbon tracking.

### GLOBAL BATTERY ALLIANCE & CLIMATE ACTIVE

During the year, Vulcan was accepted as a Member of the Global Battery Alliance (GBA), an umbrella partnership made up of 70 members working towards a sustainable battery value chain

globally. Industry members include BMW Group, BASF, BP, Google, Renault Group, LG Chem, Umicore, Volkswagen Group and Volvo Group. Vulcan joins SQM and Wesfarmers as members from the lithium sector. The GBA follows ten guiding principles, covering including the circular recovery of battery materials, ensuring transparency of greenhouse gas emissions and their progressive reduction and eliminating child and forced labour. The GBA is also developing the Battery Passport, a global solution for securely sharing information and data to prove responsibility and sustainability to consumers with a "quality seal" while enabling resource efficiency across the battery life cycle. Vulcan will be participating in advancing projects and initiatives around battery materials traceability and transparency that will shape the industry.

Vulcan's Australian business has been certified as carbon neutral by Climate Active for the Australian operations. Climate neutral certification confirms that a carbon neutral claim is based on best practice, international standards and represents genuine emissions reduction. Climate Active has a network of Members who have achieved this certification through rigorous process and testing, this means that these certified organisations and their customers can be sure they are genuinely carbon neutral. The Australian Government's carbon neutral certification is the most rigorous and credible carbon neutral certification available in Australia<sup>1</sup>. Vulcan is seeking similar certification for its German operations.

These represent important steps as part of Vulcan's stated mission to decarbonise the lithium supply chain.

<sup>1</sup>(<https://www.climateactive.org.au/buy-climate-active/certified-members/vulcan-energy-resources>)



## Strengthened cash position: \$120m raised from ESG investors

In February, the Company raised \$120 million (before costs) through a strongly supported placement at \$6.50 per share to a suite of ESG-focused institutions, including the BNP Paribas Energy Transition Fund. Goldman Sachs and Canaccord Genuity acted as Joint Lead Managers. Proceeds from the Placement will support the Company through to final investment decision at its Zero Carbon Lithium™ Project, with funds being applied to:

- Project development, feasibility study costs and permitting;
- Drill site acquisition and preparation; and
- Strategic opportunities to accelerate project development.

The cornerstone investment was provided by Hancock Prospecting Pty Ltd, one of the most successful private companies in Australian history and a leader in the resources industry, which is led by Executive Chair Mrs. Gina Rinehart.



## Project Execution

### DLE PILOT PLANT & DFS

Vulcan has designed, built, commissioned, and is now operating a DLE Pilot Plant to demonstrate lithium extraction from live geothermal brine. The team is focused on demonstrating pre-treatment and DLE processes, as well as the durability of the process over hundreds of cycles, which will feed into its Definitive Feasibility Study (DFS).

Vulcan will use the data from the Pilot Plant to inform and finalise design of a larger, Demonstration Plant, which will also contribute information towards the DFS. Vulcan's technology partners and internal experts have indicated that key process operations will scale up to commercial scale with minimal risk from the Demonstration scale.

In May, Vulcan announced that the Pilot Plant team had successfully achieved target specification for Direct Lithium Extraction (DLE) feed into its pilot plant. They also achieved target recovery of greater than 90% for lithium chloride from Upper Rhine Valley brine. The laboratory team also successfully demonstrated, via the first step of test work, post-treated DLE brine to be materially the same composition, within analytical error, as production brine, excluding extracted lithium and silica.

#### Next steps will include:

- Ramp up of DLE pilot plant to 24/7 operation.
- Production of lithium chloride solution to be converted to lithium hydroxide.
- Production of samples for potential customers/offtakers.
- Further work on post-treatment of brine.

#### Post June 2021 Quarter to date:

- Key consultants Hatch Ltd. and GLJ Ltd. have been engaged to assist Vulcan with its Definitive Feasibility Study (DFS).
- New exploration license granted in Upper Rhine Valley.
- Binding Lithium Offtake term sheet signed with LG Energy Solution to supply 10,000 metric tonnes per year of lithium hydroxide.
- Strategic partnership signed with Renault Group for Vulcan to supply Renault with between 6,000 and 17,000 metric tonnes per year of battery grade lithium chemicals.

Vulcan's in-house technical team continues to methodically execute on and progressively de-risk its Zero Carbon Lithium™ Project development in a stepwise manner.

### POSITIVE PRE-FEASIBILITY STUDY (PFS)

In January, Vulcan announced the successful completion of its PFS, which was conducted with world-leading experts in the fields of lithium extraction, chemistry, chemical engineering, geothermal plant engineering and geology. Hatch Ltd. led the lithium processing plant design, engineering and cost estimates. German geothermal experts geco and Geo-T (now in-house and part of Vulcan) led the engineering studies and cost estimates for the geothermal plant and the sub-surface well design and production study respectively.

GLJ Ltd. provided review and sign-off on the Maiden Probable JORC Ore Reserves. APEX Geoscience Ltd. conducted the resource modelling and estimation for the Upper Rhine Valley Project (URVP) Li-brine Indicated Resources used in the PFS as announced to market on November 12, 2020 (Taro Licence) and December 15, 2020 (Ortenau Licence). Laboratory test work was conducted with brine experts IBZ Salzchemie, alongside other providers. Optiro Ltd. carried out the financial modelling.

### PFS ECONOMICS

The PFS showed a positive post-tax NPV of €2.25B (full project, no phasing); phased option shows €700m NPV in Phase 1 and €1.4B NPV in Phase 2. Combined renewable energy-lithium project (no phasing) showed a pre-tax IRR of 26% and post-tax IRR of 21%. Lithium as a separate entity from energy shows pre-tax IRR of 31% and post-tax IRR of 26%.



**Vulcan has designed, built, commissioned, and is now operating a DLE Pilot Plant to demonstrate lithium extraction from live geothermal brine.**

## INTEGRATED BUSINESSES

	Full project developed at the same time and integrated under one business.	Phase 1 developed first and is an integrated business	Phase 2 developed second and is an integrated business
	<b>FULL PROJECT NO PHASING 2024 Start</b>	<b>PHASE 1 2024 Start</b>	<b>PHASE 2 2025 Start</b>
	<b>INTEGRATED BUSINESS</b>	<b>INTEGRATED BUSINESS</b>	<b>INTEGRATED BUSINESS</b>
	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3
	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3
	CLP1 CLP2	CLP1 CLP2	CLP1 CLP2
	74MW & 40Ktpy LiOH	21MW & 15Ktpy LiOH	52MW & 25Ktpy LiOH
Revenues €/M/y	652	232	420
Net Op. Cash Fl. €/M/y	507	171	324
NPV Pre-tax €/M	3,443	1,114	2,145
<b>NPV Post-tax €/M</b>	<b>2,250</b>	<b>703</b>	<b>1,403</b>
IRR Pre-tax	26%	23%	27%
<b>IRR Post-tax</b>	<b>21%</b>	<b>18%</b>	<b>22%</b>
Payback (year)	5	5	6
CAPEX €/M	1,738	700	1,138
CAPEX Geo	665	226	438
CAPEX DLE	751	291	460
CAPEX CLP	322	182	240
<b>OPEX €/KWh or LiOH€/t</b>	<b>2,640</b>	<b>3,139</b>	<b>2,792</b>

## SEPARATE BUSINESSES

	Full project developed at the same time but separated in two different businesses: Energy and Lithium.	Phase 1 developed first, separated in two different businesses: Energy and Lithium.	Phase 2 developed second, separated in two different businesses: Energy and Lithium.
	<b>FULL PROJECT - NO PHASING 2024 Start</b>	<b>PHASE 1 2024 Start</b>	<b>PHASE 2 2025 Start</b>
	<b>ENERGY BUSINESS</b>	<b>ENERGY BUSINESS</b>	<b>ENERGY BUSINESS</b>
	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3
	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3
	CLP	CLP1 CLP2	CLP1 CLP2
	74MW	22MW	52MW
	<b>LITHIUM BUSINESS</b>	<b>LITHIUM BUSINESS</b>	<b>LITHIUM BUSINESS</b>
	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3	GB1 GB2 GC1 GC2 GC3
	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3	DB1 DB2 DC1 DC2 DC3
	CLP	CLP1 CLP2	CLP1 CLP2
	40Ktpy LiOH	15Ktpy LiOH	25Ktpy LiOH
Revenues €/M/y	157	46	111
Net Op. Cash Fl. €/M/y	114	31	83
NPV Pre-tax €/M	685	155	530
<b>NPV Post-tax €/M</b>	<b>470</b>	<b>99</b>	<b>371</b>
IRR Pre-tax	16%	13%	18%
<b>IRR Post-tax</b>	<b>13%</b>	<b>11%</b>	<b>15%</b>
Payback (year)	6	4	7
CAPEX €/M	665	226	438
CAPEX Geo		226	438
CAPEX DLE			460
CAPEX CLP	0.066	182	240
<b>OPEX €/KWh or LiOH€/t</b>	<b>2,681</b>	<b>0.078</b>	<b>2,855</b>

For further details on the PFS please refer to ASX announcement dated 15 January 2021.

## MAIDEN JORC RESERVES

Vulcan also published a maiden Probable Ore Reserve of 1.12 Mt LCE at 181 mg/l Li across the Ortenau and Taro licenses.

Classification	Million Tonnes LCE	Grade (Li ppm)
Proven	-	-
Probable - Taro	0.42	181
Probable - Ortenau	0.70	181
<b>Total</b>	<b>1.12</b>	<b>181</b>

For further details on the Maiden JORC Ore Reserve please refer to ASX announcement dated 15 January 2021.

The company confirms that 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 relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

## LITHIUM EXTRACTION TEST WORK RESULTS SHOW EXCELLENT LITHIUM RECOVERIES

Vulcan successfully completed initial bench-scale test work on Upper Rhine Valley geothermal brine, using absorbent-type direct lithium extraction (DLE) technological approaches. Vulcan was able to quickly identify and test the best DLE technology options for the Upper Rhine Valley brine by leveraging the experiences of its in-house chemical engineering team and external consultants, who have worked on multiple geothermal lithium projects with numerous DLE technologies. Lithium chloride (LiCl) concentrates were produced from real geothermal brine that was supplied at ambient pressure from Vulcan's area of focus in the Upper Rhine Valley.

Materials and techniques used during the extraction process are similar to those already used in other commercial and near-commercial lithium brine projects. The produced LiCl concentrate is an industry standard precursor used for conversion into battery-quality lithium hydroxide using conventional, off the shelf processes. This initial test work campaign was performed on the 10L scale and showed >90% lithium recovery. This is an important first step to demonstrate that LiCl can be extracted from the geothermal brine without the need to evaporate the water, or remove the calcium, sodium, or large quantities of other salts. This is required in evaporative processes in South America, which creates major waste streams, and also may disturb freshwater aquifers connected to brine aquifers

if brine is not reinjected. The Upper Rhine Valley brine is a unique geothermal brine which contains both high grades of lithium and lower impurities compared to other lithium-rich geothermal brines. The concentration of LiCl concentrate produced from geothermal brine will be further increased using reverse osmosis and mechanical evaporation. The power and heat needed for these processes will come from renewable geothermal energy which Vulcan will co-produce alongside lithium chemicals. Different, industry-standard downstream process flowsheets are then available to produce battery grade lithium hydroxide, with a focus on carbon-neutral processing and minimal environmental and physical footprints. Results from this test work were used in Vulcan's Pre-Feasibility Study.

## COMPLETION OF ACQUISITION OF 3D SEISMIC PACKAGE TO ACCELERATE PROJECT DEVELOPMENT

Vulcan completed the acquisition of a data package over several of its license application areas, within the Vulcan Zero Carbon Lithium™ Project in the Upper Rhine Valley, Germany, consisting of:

- A 3D seismic survey of approx. 50km<sup>2</sup> size.
- Eight 2D seismic lines of a total length of 80 km.
- Several reports and studies on the geology of the explored area.

With this acquisition Vulcan has saved over a year of exploration time in certain areas and approximately 70% of the survey cost.



### **UPDATED TARO INDICATED AND INFERRED LITHIUM-BRINE RESOURCE & INCREASED ZERO CARBON LITHIUM™ PROJECT JORC RESOURCE**

Vulcan announced the grant of its Taro license in the Vulcan Zero Carbon Lithium™ Project area in the Upper Rhine Valley during the year. In December, Vulcan announced an updated Indicated and Inferred lithium-brine (Li-brine) Resource Estimation for its Taro License in the Vulcan Zero Carbon Lithium™ Project area in the Upper Rhine Valley. In conjunction with this, Vulcan re-totaled the collective Mineral Resource estimations for the Upper Rhine Valley Project (URVP) area within the Zero Carbon Lithium™ Project.

The Taro Exploration License has been granted to Global Geothermal Holding UG (GGH), which has now been 100% acquired by Vulcan.

The updated JORC Indicated Mineral Resource Estimation at Taro is 0.83 Mt contained LCE at a grade of 181 mg/l Li. The updated Inferred Mineral Resource Estimation at Taro is 1.44 Mt contained LCE at a grade of 181 mg/l Li.

### **UPDATED ORTENAU INDICATED AND INFERRED LITHIUM-BRINE RESOURCE & ZERO CARBON LITHIUM™ PROJECT JORC RESOURCE**

Vulcan also announced updated Indicated and Inferred Li-brine Resource Estimations for its Ortenau license in the Vulcan Zero Carbon Lithium™ Project area in the Upper Rhine Valley. In conjunction with this, Vulcan re-totaled the collective Mineral Resource estimations for the Company's URVP area within the Zero Carbon Lithium™ Project.

The Ortenau Exploration License is held 100% held by Vulcan. The now disclosed and updated JORC Indicated Mineral Resource Estimation at Ortenau is 2.06 Mt contained LCE in the Buntsandstein Group fault zone domain at a grade of 181 mg/l Li. The updated Inferred Mineral Resource Estimation at Ortenau is 10.80 Mt contained LCE in the remaining Buntsandstein Group domain at a grade of 181 mg/l Li.

With the addition of the updated Ortenau Li-brine mineral resources, Vulcan's total combined URVP resource is now estimated at 15.85 Mt LCE at a grade of 181 mg/l Li (Indicated & Inferred Resources), the largest JORC lithium resource in Europe, and with further growth potential. The Ortenau project was subsequently integrated into the PFS at the Vulcan Zero Carbon Lithium™ Project.

## VULCAN'S COMBINED UPPER RHINE VALLEY PROJECT LI-BRINE INDICATED AND INFERRED MINERAL RESOURCE ESTIMATES.

URVP Resources	Aquifer Volume (km3)	Brine Volume (km3)	Avg. Li Conc. (mg/l Li)	Avg. Porosity (%)	Contained Elemental Li Resource Tonnes	Contained LCE Million Tonnes
<b>Ortenau Inferred Resource estimation</b>	117.974	11.208	181	9.50	2,029,000	10.80
<b>Ortenau Indicated Resource estimation</b>	17.001	2.142	181	12.60	388,000	2.06
<b>Taro Inferred Resource estimation</b>	15.924	1.497	181	9.5 (Bunt) 9.0 (Rot)	217,000	1.44
<b>Taro Indicated Resource estimation</b>	8.419	0.861	181	12.6 (BFZ) 9.5 (BHRE) 12.1 (RFZ) 9.0 (RHRE)	156,000	0.83
<b>Geothermal MoU area Indicated Resource estimation</b>	8.322	0.749	181	9.00 (P-T)	136,000	0.72
<b>Total URVP Indicated Resources used in PFS</b>	25.42	3.003	181	/	544,000	2.89
<b>Total URVP Indicated and Inferred Resource</b>	167.64	16.457	181	/	2,980,000	15.85

Note 1: Mineral resources are not mineral reserves and do not have demonstrated economic viability. 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 values percentages (rounded to the nearest 1,000 unit). Note 3: The total volume and weights are estimated at the average porosities cited in the table. Taro resource abbreviations: Bunt – Buntsandstein Group; Rot – Rotliegend Group; P-T – Permo-Triassic; BFZ – Buntsandstein fault zone; BHRE – Buntsandstein host rock envelope; RFZ – Rotliegend fault zone; RHRE – Rotliegend host rock envelope. Note 4: The Vulcan Li-brine Project estimation was completed and reported using a lower cutoff of 100 mg/L Li. Note 5: In order to describe the resource in terms of industry standard, a conversion factor of 5.323 is used to convert elemental Li to Li2CO3, or Lithium Carbonate Equivalent (LCE). 6: The Mineral Resources that underpin the PFS results are reported inclusive of any reserves. 7: There has been no change to this Mineral Resource statement since publication. The Company confirms that 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 relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

## ZERO CARBON LITHIUM™ PROJECT INTELLECTUAL PROPERTY UPDATE

The Company was recently granted a utility patent in Germany for its system of direct lithium extraction and production of low carbon intensity lithium chemicals from geothermal brines. An international Patent Cooperation Treaty (PCT) application has been submitted and is pending.

## DUPONT COLLABORATION

Vulcan announced that it will collaborate with DuPont Water Solutions, a leader in water filtration and purification, to test and scale up DLE solutions for Vulcan's lithium extraction process.

DuPont will leverage its portfolio of proprietary DLE products to assist Vulcan with input and test-work during Vulcan's DFS. As part of the project, DuPont will be developing and testing an integrated DLE Process for Vulcan's brine. DuPont's multi-technology portfolio of lithium selective sorbent, nanofiltration, reverse osmosis, ion exchange resins, ultrafiltration, and close circuit reverse osmosis will be leveraged for the study. This agreement is in line with the Company's strategy to test and pursue commercially mature DLE products from major suppliers for its project to minimise technical risks and accelerate development of the project.

For further details on the DuPont collaboration Please refer to the ASX Announcement dated 15 December 2020 which refers to the Company's Mineral Resource.

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## Strengthened cash position – \$120m raised from ESG investors

### \$120 MILLION INSTITUTIONAL PLACEMENT

The Company raised \$120 million (before costs) through a strongly supported placement at \$6.50 per share to a suite of ESG-focused institutions. Goldman Sachs and Canaccord Genuity acted as Joint Lead Managers. Proceeds from the Placement will support the Company through to final investment decision at its Zero Carbon Lithium™ Project, with funds being applied to:

- Project development, feasibility study costs and permitting;
- Drill site acquisition and preparation;
- Strategic opportunities to accelerate project development – Vulcan is assessing options to acquire existing infrastructure in Germany to accelerate development.

The cornerstone investment was provided by Hancock Prospecting Pty Ltd, one of the most successful private companies in Australian history and a leader in the resources industry, which is led by Executive Chair Mrs. Gina Rinehart. Chairman, Gavin Rezos, participated in the Placement for \$250,000 (38,461 New Shares), which was approved by shareholders at the Extraordinary General Meeting (EGM) on 24 June 2021.

## Regulatory Environment

### EU BACKED INVESTMENT & PROJECT SUPPORT AGREEMENT

A project support agreement and investment agreement was signed with EU-backed EIT InnoEnergy during the year.

### EUROPEAN COMMISSION REGULATION ON SUSTAINABLE BATTERIES AND CARBON FOOTPRINT

A proposed new Regulation from the European Commission during the year included mandatory requirements on carbon footprint rules and responsibly sourced materials within lithium-ion batteries production and consumption in the EU. From 1 January 2026, lithium-ion batteries will have to bear a carbon intensity performance class label and from 1 July 2027, must comply with maximum carbon footprint thresholds.

Manufacturers will have to demonstrate that they are sourcing raw materials in a responsible way through a digital passport, tracking all battery materials used in the battery composition. European Commission Vice-President Maroš Šefčovič: “[The new EU battery CO<sub>2</sub> regulation] will have an

immediate impact on the market, which up until now has been driven only by price.” EU commissioner Thierry Breton “We are 100% dependent on lithium imports. The EU, if finding the right environmental approach, will be self-sufficient in a few years, using its resources.”

This announcement is highly relevant to Vulcan’s strategy to develop the world’s first Zero Carbon Lithium™ Project directly supplying the European market from within Europe.

### GERMAN LEGISLATION EMBRACES GEOTHERMAL ENERGY

During the year, the German Parliament and Federal Council (Bundesrat) voted to encourage geothermal electricity production by postponing the degression of the Feed-in Tariff of €0.252/kWh, one of the most favourable geothermal Feed-in Tariffs in the world.

Vulcan’s Zero Carbon Lithium™ Project has the potential to generate dual revenue from geothermal renewable electricity and lithium sales.

## Growth of best-in class team

### GENERAL COMMENTARY ABOUT GROWING INTO A WORLD-CLASS, 70+ STRONG TEAM

Vulcan continues to assemble a best-in-class team of professionals in the fields of geothermal renewable energy project development and lithium extraction across its two business sectors.

### ACQUISITION OF WORLD-LEADING GERMAN BASED GEOTHERMAL CONSULTANCY TEAM

The Company signed a Binding agreement to acquire 100% of geothermal sub-surface engineering company GeoThermal Engineering GmbH (GeoT). GeoT has a highly credentialed, world-leading scientific team with over a century of combined expertise in sub-surface development of geothermal projects, encompassing everything from exploration to production drilling. GeoT is based in the Upper

Rhine Valley, Germany, and is owned by Vulcan Executive Director Dr Horst Kreuter. GeoT has been working closely with the Vulcan team since the inception of Vulcan's Zero Carbon Lithium™ Project. This acquisition was completed following the close of the 2021 Financial Year.

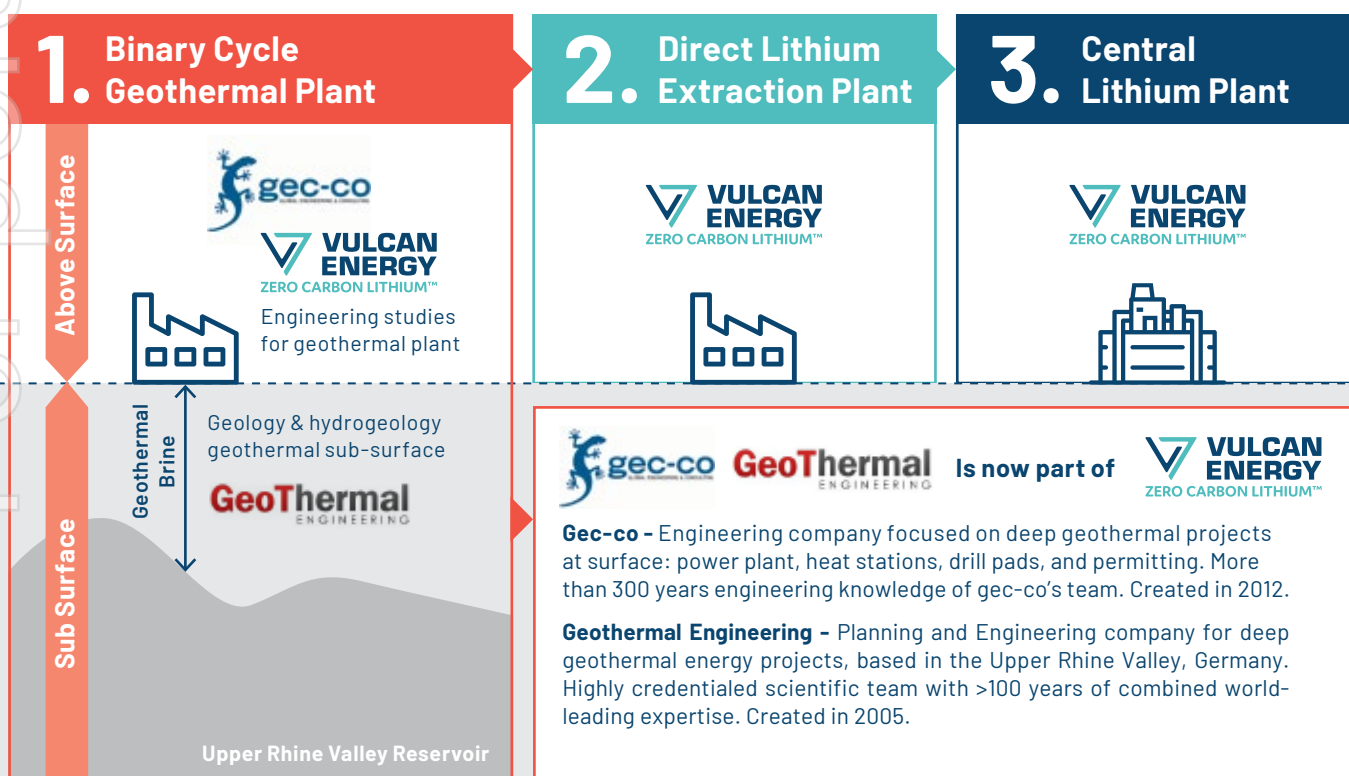
*For further information on the acquisition of GeoT, please refer to ASX announcement dated 10 February 2021.*

### ACQUISITION OF GLOBAL ENGINEERING & CONSULTING GMBH

The Company has acquired 100% of geothermal surface consultancy company Global Engineering and Consulting GmbH (Gec-co). Gec-co has a world-leading engineering team with significant experience in surface development of geothermal projects world-wide.

*For further information on the acquisition of Gec-Co, please refer to ASX announcement dated 27 April 2021.*

Our process replicated existing operations taking place commercially across the world. What is unique about us is the combination of these different steps.



## ACQUISITION OF GLOBAL GEOTHERMAL HOLDING UG

Vulcan signed a Binding agreement to acquire 100% of Global Geothermal Holding UG (GGH), subject to shareholder approval. GGH is Vulcan's joint venture partner holding the granted Taro license in the Upper Rhine Valley as well as the Ludwig and Heßbach (formerly Rheinau) exploration license applications. The Taro license has a JORC Resource Estimation of 2.27 Mt contained Lithium Carbonate Equivalent (LCE) at a grade of 181 mg/l Li (Indicated and Inferred). This acquisition consolidates Vulcan's major strategic holding in the Upper Rhine Valley, as part of the plan to rapidly advance the Zero Carbon Lithium™ Project towards production. The acquisition was completed following the close of the 2021 Financial Year.

*For further details on the acquisition of GGH please refer to ASX announcement dated 15 February 2021.*

## VULCAN TEAM APPOINTMENTS

The Company employed a Chief Operating Officer in Germany, Mr Thorsten Weimann. Mr Weimann has +25 years' experience in geothermal project development and operation in Germany, with a strong track record since 2007 of successful geothermal project execution as CEO of Global Engineering & Consulting GmbH. Mr Weimann is a mechanical engineer with a diploma from Technical University of Munich and an MBA from the University of Augsburg and Pittsburgh.

New Board appointments include former Tesla head of Battery Supply Chain Ms. Annie Liu, and Senior Executive for German chemicals company Evonik, Dr. Heidi Grön, as Non-Executive Directors. Ms. Liu led and managed Tesla's multi-billion-dollar strategic partnerships and sourcing portfolios that support Tesla's Energy and Battery business units including Batteries, Battery Raw Material, Energy Storage, Solar and Solar Glass, including raw materials sourcing efforts such as lithium for battery cells. Ms. Liu is also a cofounder of Alto Group Inc, a trusted advisor and counsellor to many of the world's influential businesses in the EV value chain. Dr Grön is a chemical engineer by background with 20 years' experience in the chemicals industry. In her capacity as Senior Vice President Production & Technology at Evonik, Dr Grön is currently responsible for Global Product Safety of nine large growth business units, impact assessment and development of solutions for the chemicals strategy for sustainability as an essential part of the EU Green Deal, and management of Evonik's major investment volumes.

In parallel to the new Board appointments, Dr Horst Kreuter retired from the Vulcan Board to fully focus on his role as Executive Director for Vulcan's project development company in Germany. Dr Kreuter has been appointed as a Board Advisor in relation to geothermal project development. This change is in line with the Board policy of having a majority of independent directors.

The Company also welcomed Julia Poliscanova, EU sustainable battery and CO<sub>2</sub> policy expert, as special advisor to the Board. Ms. Poliscanova is a Senior Director with the EU's Transport and Environment (T&E). She has been instrumental in shaping policies around EU vehicle CO<sub>2</sub> standards and sustainable batteries, heading T&E's vehicles programme since 2019 which recently culminated in the EU CO<sub>2</sub> battery regulations announced in December 2020, effectively banning high-CO<sub>2</sub> & "uncircular" batteries in the EU.

Former EY Senior Global Renewables Partner Josephine Bush joined the Vulcan Board as a Non-Executive Director. Ms Bush led the Renewables Tax Practice of EY from a greenfield proposal to a multi-million pound annual turnover business. Ms Bush also advised on the structuring of the first environmental yieldco London Stock Exchange listing, Greencoat UK Wind (with a market cap. of £2 billion) and successfully advised on a series of OFTO and offshore wind investments in the United Kingdom and United States for both Pension Fund, Infra and Corporate Investors.

The Company appointed lithium process expert Dr Stephen Harrison as Chief Technical Officer. Dr. Harrison has a diverse multi-industry background in electrochemistry and lithium extraction, with thorough knowledge of all steps of industry process and product commercialisation in the lithium industry dating back to 1998. Dr Harrison was CTO of Simbol Materials for seven years where he oversaw their patent DLE process. Dr. Harrison holds a PhD for Chemical Engineering from the University of Newcastle-upon-Tyne and Master of Science (M.Sc.), Electrochemical Science, from the University of Southampton.

The Company also appointed Daniel Tydde as Company Secretary and In-House Legal Counsel. Mr Tydde brings over 15 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. Most recently, Daniel held a senior position at Steinepreis Paganin and



prior to that, worked at Clayton Utz and Phillips Fox (now DLA Piper). Daniel holds a Bachelor of Laws and a Bachelor of Commerce from the University of Notre Dame Australia.

Vincent Ledoux-Pedailles was announced to have joined Vulcan as Vice President – Business Development. Vincent was previously Executive Director – Corporate Strategy at Infinity Lithium Corporation, where he led the project to become the first to secure EU funding. Vincent was also appointed as a Lithium Expert by the European Commission.

Vincent previously worked at IHS Markit where he led the lithium and battery materials research team covering the entire industry's supply chain from raw materials to E-mobility. When he joined IHS Markit he first focused on chemical trading and led the EMEA Chlor-alkali team.

Earlier in his career, he worked for Talison Lithium located in Perth, Australia, tracking the lithium industry in China and Europe. He also worked for Roskill, an international metals and minerals research and consulting company. Vincent is a regular speaker at various industry events across the world presenting at chemical, mining, and energy related conferences.

Vincent holds a Business Masters in Risk Management and International Purchasing from ESDS Business School in France. He wrote his master's thesis on the development and deployment of electric vehicles powered by lithium-ion batteries. He has also studied at Copenhagen Business School, Denmark and Marshall University, US.

Vulcan announced the appointment of expert chemical & mechanical engineer Dr. Thomas Aicher to the Vulcan Zero Carbon Lithium™ team, as Chemical Engineering Lead.

Dr. Aicher has 25 years' experience in chemical process innovation and industrial scale-up across a range of industries. Awarded a PhD and MSc in Chemical Engineering from the world-renowned Karlsruhe Institute of Technology (KIT), Dr. Aicher was also a visiting scientist at the Massachusetts Institute of Technology (MIT). Dr. Aicher was Head of Group at Fraunhofer Institute, one of the most prestigious organisations of applied sciences in Europe, and Process Engineer at Fortune 500

engineering company Fluor Inc.

### **SPIN-OFF OF NON-CORE SCANDINAVIAN BATTERY METALS PROJECTS**

In June, the Company announced the lodgement of the Kuniko Limited IPO Prospectus to raise \$7,886,213 (before costs) to form a new standalone 'Zero Carbon Copper, Nickel, Cobalt' company. The spin-off of the Scandinavian projects enables the Company to be fully focused on development of its core Zero Carbon Lithium™ combined renewable energy and lithium chemicals Project in Germany.

#### **Focus will be on Kuniko's 262km<sup>2</sup> Ni-Co-Cu license portfolio:**

- Nickel: Ni-Cu-Co projects in the historically important Feøy and Romsås mining districts located in south-western Norway.
- Cobalt: Co-Cu-Au project, part of the historically important Skuterud mining district of central-southern Norway, previously the largest cobalt mining area in the world.
- Copper: Undal Cu-Zn-Co project and Vangrøfta Cu-Co-Au projects located in the Trondheim region of central Norway.

Antony Beckmand, a highly experienced senior mining executive who has over 25 years' experience in financial and executive roles within the mining industry, including significant experience in Norway, commenced as Chief Executive Officer of Kuniko on 1 September 2021.

The spin-off of Kuniko allows the Vulcan team to be fully focused on the development of its Zero Carbon Lithium™ Business, whilst creating value for the Company's shareholders.

# Corporate Directory

## Board of Directors

<b>Mr Gavin Rezos</b>	Non-Executive Chairman (appointed 4 September 2019)
<b>Dr Francis Wedin</b>	Managing Director (appointed 4 September 2019)
<b>Ms Ranya Alkadamani</b>	Non-Executive Director (appointed 29 April 2020)
<b>Ms Annie Liu</b>	Non-Executive Director (appointed 18 March 2021)
<b>Dr Heidi Grön</b>	Non-Executive Director (appointed 25 March 2021)
<b>Ms Josephine Bush</b>	Non-Executive Director (appointed 19 April 2021)
<b>Dr Horst Kreuter</b>	Executive Director (appointed 20 December 2019, resigned 25 March 2021)
<b>Dr Katharina Gerber</b>	Non-Executive Director (appointed 11 May 2020, resigned 1 September 2020)

## Company Secretary

**Mr Daniel Tydde**

## Registered Office

**Level 11, Brookfield Place**  
125 St Georges Terrace  
Perth WA 6005

Telephone: 08 6189 8767  
Website: [www.v-er.eu](http://www.v-er.eu)

## Stock Exchange Listing

**Listed on the Australian Securities Exchange (ASX Code: VUL)**

## Auditors

**RSM Australia Partners**  
Level 32, 2 The Esplanade  
Perth WA 6000

## Solicitors

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**Ashurst**  
Brookfield Place Tower II  
Level 10 & 11 St Georges Terrace  
Perth WA 6000

## Bankers

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**Westpac Banking Corporation**  
Level 4, Brookfield Place, Tower Two  
123 St Georges Terrace  
Perth WA 6000

## Share Registry

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**Automic Share Registry**  
Level 2, 267 St Georges Terrace  
Perth WA 6000

Telephone: 1300 288 664

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# Financial Report

## Directors' Report

The Directors of Vulcan Energy Resources Limited ("Vulcan" or "the Company") present their report, together with the financial statements, on the consolidated entity consisting of Vulcan Energy Resources Limited and its controlled entities (the "Group") for the financial year ended 30 June 2021.

### 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 year unless otherwise stated.

Mr Gavin Rezos  
Dr Francis Wedin  
Dr Horst Kreuter (resigned on 25 March 2021)  
Ms Ranya Alkadamani  
Ms Annie Liu (appointed 18 March 2021)  
Dr Heidi Grön (appointed 25 March 2021)  
Ms Josephine Bush (appointed 16 April 2021)  
Dr Katharina Gerber (resigned 1 September 2020)

### INTERESTS IN SHARES AND OPTIONS OF THE COMPANY

The following table sets out each current Director's relevant interest in shares, performance rights and performance shares of the Company as at the date of this report.

Director	Ordinary Shares	Performance Rights	Performance Shares
Mr Gavin Rezos	6,068,668	3,250,000	-
Dr Francis Wedin	13,005,834	-	4,180,000
Ms Ranya Alkadamani	100,000	200,000	-
Ms Annie Liu	22,080	12,896	-
Dr Heidi Grön	-	12,896	-
Ms Josephine Bush	4,214	12,896	-
<b>Total</b>	<b>19,200,796</b>	<b>3,488,688</b>	<b>4,180,000</b>

### PRINCIPAL ACTIVITIES

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

### REVIEW OF OPERATIONS

The review and results on operations form part of the Director's Report for the financial year ended 30 June 2021.

# Directors' Report

## 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 year unless otherwise stated.

**Name**  
**Title**  
**Qualifications**  
**Experience and expertise**

**Mr Gavin Rezos**  
**Non-Executive Chairman**

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

Mr Rezos has extensive Australian and international investment banking experience and is a former investment banking Director of HSBC Group with regional roles during his career in London, Sydney and Dubai. Gavin 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 and Non-Executive Chairman of Kuniko Limited. During the past three years, Mr Rezos held the following directorships in other ASX listed companies:

- Non-Executive Chairman of Resource and Energy Group (current).

**Name**  
**Title**  
**Qualifications**  
**Experience and expertise**

**Dr Francis Wedin**  
**Managing Director**

**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 founded the Vulcan Zero Carbon Lithium™ 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. He is bilingual in English and Turkish, with proficiencies in other languages.

During the past three years, Dr Wedin held the following directorships in other ASX listed companies:

- Executive Director of Exore Resources Limited (resigned).

**Name**  
**Title**  
**Qualifications**  
**Experience and expertise**

**Dr Horst Kreuter (resigned 25 March 2021)**  
**Executive Director (Vulcan Energie Ressourcen) and Board Advisor**

**PhD Engineering Geology, MSc Applied Geology**

Dr. Horst Kreuter is a highly experienced businessman and engineering geologist, with an outstanding record of project development and consulting in the geothermal sector. Dr Kreuter is Executive Director of Vulcan Energie Ressourcen GmbH as well as Board Advisory to Vulcan Energy Ltd. Previous to this, Dr Kreuter was CEO of Geothermal Group Germany GmbH, and GeoThermal Engineering GmbH (GeoT). He is based in Karlsruhe, local to Vulcan's Zero Carbon Lithium™ Project area in the Upper Rhine Valley and has a broad political and corporate network in Germany.

## Directors' Report

### Name

### Title

### Qualifications

### Experience and expertise

#### **Ms Ranya Alkadamani**

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

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

Ms Alkadamani is currently Founder and CEO of Impact Group International, an experienced team of experts focused on strategic communications advice for innovators, incredible organisations, ASX-listed companies, and philanthropists that are all doing something that will better our society or environment.

She 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.

She is also a Non-Executive Director of Australian Associated Press, Australia's 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 Minderoo Group; Press Secretary to former Australian Prime Minister, the Hon. Kevin Rudd during his time as Australian Foreign Minister; and a

spokesperson for the Australian Department of Foreign Affairs and Trade.

### Name

### Title

### Qualifications

### Experience and expertise

#### **Ms Annie Liu (appointed 18 March 2021)**

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

#### **BEng Industrial Engineering & Operations Research**

Ms Liu led and managed Tesla's multi-billion-dollar strategic partnerships and sourcing portfolios that support Tesla's Energy and Battery business units including Battery, Battery Raw Material, Energy Storage, Solar and Solar Glass, including raw materials sourcing efforts such as lithium for battery cells. Ms Liu has 20 years' experience with Tesla and Microsoft, building and leading teams from product incubation stage to mature market.

Ms. Liu is a cofounder of Alto Group Inc, a trusted advisor and counsellor to many of the world's influential businesses in the EV value chain. Alto Group also serves private and institutional investor clients in deal generation and due diligence with a focus on sustainable energy sectors.

### Name

### Title

### Qualifications

### Experience and expertise

#### **Dr Heidi Grön (appointed 25 March 2021)**

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

#### **PhD Chemical Process Engineering, Dip. Chemical Engineering**

Dr Grön is a chemical engineer by background with 20 years' experience in the chemicals industry.

Since 2012, Dr Grön has been a senior executive with Evonik, one of the largest specialty chemicals companies in the world, with a market capitalization of €14B and 32,000 employees.

At Evonik, Dr Grön is currently responsible for:

- Global product stewardship;
- Asset & portfolio strategy development based on the impact assessment of the EU Chemicals Strategy for Sustainability; and
- Management of Evonik's major investment volumes.



## Directors' Report

**Name** **Ms Josephine Bush (appointed 16 April 2021)**  
**Title** **Independent Non-Executive Director**  
**Qualifications** **CTA, MA (Hons) Law CFA, ESG investing, Sustainable Finance Certification**

**Experience and expertise**

Ms Bush was a member of the EY Power and Utilities Board. She led and delivered the EY Global Renewables and Sustainable Business Plan and spearheaded a series of major Renewable Market Transactions, including Public Listings, Global Reorganisations and Cross Border Tax structuring assignments.

Ms Bush successfully advised on the first environmental yieldco London Stock Exchange listing, Greencoat UK Wind PLC (with a current market cap. of over £2 billion). She also advised on a series of OFTO and offshore wind investments, and other renewable technologies, in the UK, Europe and USA for pension fund, infrastructure and corporate investors and developers. Ms Bush is currently Non-Executive Director of Net Zero Now Limited, a member of the investment committee for Gresham Houses sustainable infrastructure investment fund, and a strategic advisor to Guernsey Green Finance.

**Name** **Dr Katharina Gerber (resigned 1 September 2020)**  
**Title** **Non-Executive Director**  
**Qualifications** **PhD Inorganic Chemistry, MA Inorganic Chemistry, BSc Chemistry**

**Experience and expertise**

Dr Gerber is a Project Manager at the California Energy Commission (CEC) where she provides scientific & technical leadership in determining research priorities for R&D programs with focus on emerging energy storage technologies and lithium extraction from geothermal brine. In her role at the CEC Dr Gerber directs and executes requests for proposals (RFPs) and leads evaluation of project applications & contract bids.

In addition, Dr Gerber participates in multiple interagency working groups, such as the "California Lithium Valley" initiative, conducting complex technological and market assessments on future availability of critical minerals used in lithium-ion battery technology, and develops recommendations for policymakers and stakeholders.

### SPECIAL ADVISORS TO THE BOARD

**Ms Julia Poliscanova**  
(appointed 16 March 2021)

Ms Poliscanova is a senior director with the EU's Transport and Environment. She is instrumental in shaping policies around EU vehicle CO<sub>2</sub> standards and sustainable batteries and previously worked for the Mayor of London as a senior EU policy officer. Julia is also on the steering committee for the Battery CO<sub>2</sub> Passport program of the Global Battery Alliance.

**Horst Kreuter**  
(appointed 25 March 2021)

Role as Board Advisor as noted above.

### COMPANY SECRETARY & IN-HOUSE LEGAL COUNSEL

**Mr Daniel Tydde**  
(appointed 15 June 2021)

Mr Tydde is an experienced corporate lawyer with over 15 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. Most recently, Mr Tydde 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' Report

### Mr Robert Ierace

(resigned as Company Secretary 14 June 2021, continuing as Chief Financial Officer)

Mr Ierace is a Chartered Accountant and Chartered Secretary with over 20 years' experience, predominately with ASX and AIM-listed resource and oil and gas exploration and production companies. He has extensive experience in financial and commercial management including experience in corporate governance, debt and capital raising, tax planning, risk management, treasury management, insurance, corporate acquisitions and divestment and farm in/farm out transactions. Mr Ierace holds a Bachelor of Commerce degree from Curtin University, a Graduate Diploma in Applied Corporate Governance from the Governance Institute of Australia and a Graduate Certificate of Applied Finance and Investment from the Securities Institute of Australia. Robert has previously served in senior finance roles with a number of ASX-listed companies including Gulf Manganese Corporation Limited, Key Petroleum Limited, Amadeus Energy Limited, Kimberley Diamond Company NL and Rio Tinto Iron Ore.

### DIRECTORS' MEETINGS

The number of Directors' meetings held during the financial year and the number of meetings attended by each Director during the time the Director held office are:

Director	Full Board		Audit, Risk &, ESG Committee		People & Performance	
	Attended	Held	Attended	Held	Attended	Held
Mr Gavin Rezos	10	10	1	1	1	1
Dr Francis Wedin	10	10	1	1	1	1
Dr Horst Kreuter	7	7	-	-	-	-
Ms Ranya Alkadamani	9	10	-	-	1	1
Ms Annie Liu	3	3	-	-	1	1
Dr Heidi Grön	3	3	1	1	-	-
Ms Josephine Bush	2	2	1	1	-	-
Dr Katharina Gerber	1	1	-	-	-	-

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

### CORPORATE

### FINANCIAL PERFORMANCE

The financial results of the Group for the year ended 30 June 2021 and period ended 30 June 2020 are:

	30 June 2021	30 June 2020
Cash and cash equivalents (\$)	114,705,865	6,421,557
Net Assets (\$)	128,984,547	8,886,039
Revenue (\$)	631,542	95,342
Net loss after tax (\$)	(10,744,614)	(3,553,359)
Loss per share (cents per share) (\$)	(12.32)	(7.37)

### DIVIDENDS

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

### SIGNIFICANT CHANGES IN THE STATE OF AFFAIRS

#### Positive Pre-Feasibility Study (FPS)

In January 2021, Vulcan announced the successful completion of its PFS, which was conducted with world-leading experts in the fields of lithium extraction, chemistry, chemical engineering, geothermal plant engineering and geology. Hatch Ltd. led the lithium processing plant design, engineering, and cost estimates. German geothermal experts gec-co and GeoT (now in-house and part of Vulcan) led the engineering studies and cost estimates for the geothermal plant and the sub-surface well design and production study respectively.

## Directors' Report

The PFS showed a positive post-tax NPV of €2.25B (full project, no phasing); phased option shows €700m NPV in Phase 1 and €1.4B NPV in Phase 2. Combined renewable energy-lithium project (no phasing) showed a pre-tax IRR of 26% and post-tax IRR of 21%. Lithium as a separate entity from energy shows pre-tax IRR of 31% and post-tax IRR of 26%.

### **\$120 million Capital Raise to strengthen cash position**

In February 2021, the Company raised A\$120 million (before costs) through a strongly supported placement at \$6.50 per share to a suite of ESG-focused institutions including Hancock Prospecting Pty Ltd. Goldman Sachs and Canaccord Genuity acted as Joint Lead Managers. Proceeds from the Placement will support the Company through to financial investment decision at its Zero Carbon Lithium™ Project.

### **DLE Pilot Plant & DFS**

The Company has designed, built, commissioned, and is now operating a Direct Lithium Extraction (DLE) Pilot Plant to demonstrate lithium extraction from live geothermal brine. The team is focused on demonstrating pre-treatment and DLE processes, as well as the durability of the process over hundreds of cycles, which will feed into its Definitive Feasibility Study (DFS).

Vulcan will use the data from the Pilot Plant to inform and finalise design of a larger, Demonstration Plant, which will also contribute information towards the DFS. Vulcan's technology partners and internal experts have indicated that key process operations will scale up to commercial scale with minimal risk from the Demonstration scale.

In May 2021, the Company announced that the pilot plant team had successfully achieved target specification for DLE feed into its pilot plant. They also achieved target recovery of greater than 90% for lithium chloride from Upper Rhine Valley brine. The laboratory team also successfully demonstrated, via the first step of test work, post-treated DLE brine to be materially the same composition, within analytical error, as production brine, excluding extracted lithium and silica.

### **Spin-off of non-core Scandinavian battery metals projects**

In June 2021, the Company announced the lodgement of the Kuniko Limited IPO Prospectus to raise \$7,886,213 (before costs) to form a new standalone 'Zero Carbon Copper, Nickel, Cobalt' company. The spin-off of the Scandinavian projects enables the Company to be fully focused on development of its core Zero Carbon Lithium™ combined renewable energy and lithium chemicals Project in Germany. Kuniko listed on 24 August 2021 (ASX:KNI), with Vulcan Energy Resources Limited retaining 25.85% of the company.

### **Acquisition of world-leading German based geothermal consultancy team**

The Company signed a Binding agreement to acquire 100% of geothermal sub-surface engineering company GeoThermal Engineering GmbH (GeoT). GeoT has a highly credentialed, world-leading scientific team with over a century of combined expertise in sub-surface development of geothermal projects, from exploration to production drilling. This acquisition is part of Vulcan's plans to accelerate its Zero Carbon Lithium™ Project in Germany.

### **Acquisition of Global Geothermal Holding UG**

The Company signed a Binding agreement to acquire 100% of Global Geothermal Holding UG (GGH), subject to shareholder approval. GGH is Vulcan's joint venture partner holding the granted Taro license in the Upper Rhine Valley as well as the Ludwig and Heßbach (formerly Rheinau) exploration license applications. The Taro license has a JORC Resource Estimation of 2.27 Mt contained Lithium Carbonate Equivalent (LCE) at a grade of 181 mg/l Li (Indicated and Inferred). This acquisition consolidates Vulcan's major strategic holding in the Upper Rhine Valley, as part of the plan to rapidly advance the Zero Carbon Lithium™ Project towards production.

### **Acquisition of Global Engineering and Consulting GmbH**

In April 2021, the Company announced that a binding agreement had been signed to acquire 100% of geothermal surface consultancy company Global Engineering and Consulting GmbH ("Gec-co"), subject to shareholder approval. Gec-co has a world-leading engineering team of 33 personnel, with significant experience in surface development of geothermal projects in Germany and world-wide, with offices in Augsburg, Bremen, and Karlsruhe. This acquisition is part of Vulcan's plans to accelerate its Zero Carbon Lithium™ Project in Germany.

## Directors' Report

### MATTERS SUBSEQUENT TO THE REPORTING PERIOD

On 6 July 2021, the Company issued 336,396 shares and 91,174 performance shares in the Company, comprising:

- 11,396 shares and 91,174 performance shares, being the security consideration for the acquisition of Global Geothermal Holding UG (a company incorporated under the laws of Germany); and
- 325,000 shares (216,667 of which are escrowed until 6 July 2022) being the share consideration for the acquisition of Global Engineering & Consulting Company GmbH (a company incorporated under the laws of Germany),

in both cases, as approved by shareholders at a General Meeting held on 24 June 2021. The Company also completed the acquisition of GeoThermal Engineering GmbH on 2 July 2021. Dr Horst Kreuter was a Key Management Personnel (KMP) of Vulcan for the financial year ended 30 June 2021 and is a shareholder of Global Geothermal Holding UG and GeoThermal Engineering GmbH.

On 12 July 2021, the Company announced that new exploration license for geothermal energy, geothermal heat, brine and lithium has been granted in the Upper Rhine Valley for a three-year period. The license covers 108km<sup>2</sup> of area considered by the Company to be prospective for geothermal and lithium brine.

On 13 July 2021, Markus Ritzauer was appointed as CFO of Vulcan's German operations, effective from 1 September 2021. Mr. Ritzauer has over 20 years' experience in finance roles within the chemicals industry. He is currently Head of Finance at Currenta, a chemical park service provider in Germany formerly part of Bayer.

On 19 July 2021, the Company signed a binding lithium hydroxide offtake term sheet ("Agreement") with LG Energy Solution ("LGES"). LGES is the largest producer of lithium-ion batteries for electric vehicles in the world and supplies its products to top global OEMs. The Agreement is for an initial five-year term which can be extended by a further five years, with start of commercial delivery set for 2025. LGES are set to purchase 5,000 metric tonnes of battery grade lithium hydroxide for the first year of the supply term, ramping up to 10,000 metric tonnes per year during the second and subsequent years of the supply term. Pricing will be based on market prices for lithium hydroxide. Conditions precedent to start of commercial delivery include the execution of a definitive formal offtake agreement on materially the same terms by the end of November 2021, successful start of commercial operation and full product qualification.

On 27 July 2021, the Company announced, further to its announcement of 21 April 2021, the close of the \$7.88 million IPO raise for the spin out of its wholly owned subsidiary Kuniko Limited. The Company is expecting the spin off and listing of Kuniko Limited to complete on 24 August 2021. Following the spin-off Vulcan will retain a 25.15% holding in Kuniko Limited.

On 2 August 2021, the Company and Renault Group, top automotive player and pioneer in the European EV market have signed a lithium offtake term sheet. The agreement is for an initial five-year term which can be extended if mutually agreed, with a start of commercial delivery set for 2026. In line with Renault Group's ambition to offer 'made in Europe' cars and following the launch of Renault ElectricCity - the most competitive and efficient production unit for electric vehicles in Europe - the Group will purchase between 6,000 to 17,000 metric tonnes per year of battery grade lithium chemicals produced in Germany by Vulcan.

On 4 August 2021, the Company announced that, after having originally commissioned the world's first Life Cycle Assessment (LCA) and global study on the environmental footprint of lithium hydroxide (LHM) production, it again commissioned Minviro Ltd. to update its independent LCA based on more recent data from Vulcan's Pre-Feasibility Study (PFS). Results of the updated LCA estimates a negative 2.9t of CO<sub>2</sub> emitted per tonne of LHM to be produced from Vulcan's Zero Carbon Lithium™ Project, including Scope 1, 2 and 3 emissions. Vulcan's negative CO<sub>2</sub> emission intensity is a product of the significant impact offset generated by renewable geothermal energy production as well as use of geothermal heat to drive lithium processing, and Vulcan's industry-leading move to strictly exclude fossil fuels as an energy source from its planned operations. According to public data, this result confirms that Vulcan's Zero Carbon Lithium™ Project has the lowest planned carbon footprint in the world compared to any LCA results previously published in the lithium industry.

On 9 August 2021, the Company announced that it is to apply for dual listing on the regulated market of the Frankfurt Stock Exchange (FSE), in the Prime Standard market segment, which has the very highest transparency requirements of all segments on the FSE.



## Directors' Report

On 19 August 2021 the Company announced it had signed a partnership agreement with Mr. Nico Rosberg (2016 Formula One Champion) and the Rosberg X Racing (RXR) electric racing team. Mr Rosberg is a leading figure in motor sports and an active leader promoting sustainability initiatives and climate change awareness. The Partnership Agreement sees Vulcan Energy becoming an Official Partner of RXR and RXR and Mr Rosberg becoming shareholders in Vulcan in return for advertising and promotional rights for the 2021 and 2022 racing seasons.

On 23 August 2021 the Company announced it had signed BNP Paribas as financial advisor towards financing the Zero Carbon Lithium™ Project.

On 24 August 2021 Kuniko Limited successfully listed on the Australian Stock Exchange (ASX:KNI), thereby completing the Norwegian assets spin-off announced in June 2021. The Company still retains a 25.85% shareholding.

Apart from the above, no other matter or circumstance has arisen since 30 June 2021 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.

### Likely Developments and Expected Results

Over the next 12 months, the Group plans to rapidly advance the Vulcan Zero Carbon Lithium™ Project to completion of a Definitive Feasibility Study and construction of a Demonstration Plant.

### Remuneration Report (AUDITED)

This remuneration report for the year ended 30 June 2021 outlines the remuneration arrangements of the Group in accordance with the requirements of the Corporations Act 2001 ("the Act") and its regulations. This information has been audited as required by section 308(3C) of the Act.

The Remuneration Report details the remuneration arrangements for Key Management Personnel (KMP). KMP in 2021 comprised the Managing Director and other key executives (Executive KMP), as well as Non-Executive Directors

#### a) Key Management Personnel Disclosed in this Report

##### Managing Director

Dr Francis Wedin

Managing Director

##### Current Executive KMP

Dr Horst Kreuter

Chief Executive Officer Germany

Mr Robert Ierace

Chief Financial Officer

Mr Vincent Ledoux-Pedailles

Vice President – Business Development

##### Current Non-Executive Directors

Mr Gavin Rezos

Non-Executive Chairman

Ms Ranya Alkadmani

Non-Executive Director

Ms Annie Liu

Non-Executive Director (appointed 18 March 2021)

Dr Heidi Grön

Non-Executive Director (appointed 25 March 2021)

Ms Josephine Bush

Non-Executive Director (appointed 16 April 2021)

##### Former Non-Executive Directors

Dr Katharina Gerber

Non-Executive Director (resigned 1 September 2020 & ceased to be a KMP)

# Directors' Report

## Remuneration Report (CONT)

There have been no other changes after the reporting date and up to the date that the financial report was authorised for issue.

The Remuneration Report is set out under the following main headings:

A	Remuneration Philosophy
B	Remuneration Governance, Structure and Approvals
C	Remuneration and Performance
D	Details of Remuneration
E	Contractual Arrangements
F	Share-based Compensation
G	Equity Instruments Issued on Exercise of Remuneration Options
H	Voting and Comments Made at the Company's 2018 Annual General Meeting
I	Loans with KMP
J	Other Transactions with KMP
K	Additional Information

### A Remuneration Philosophy

KMP have authority and responsibility for planning, directing and controlling the activities of the Group.

The Group's broad remuneration policy is to ensure the remuneration package properly reflects the person's duties and responsibilities and that remuneration is competitive in attracting, retaining and motivating people of the highest quality.

### B Remuneration Governance, Structure and Approvals

Remuneration of Directors is currently set by the People and Performance Committee which was established during the year. The Company engaged a tax advisor for tax advice relating to proposed Director long-term incentive awards. The People and Performance Committee, acting as a Remuneration Committee, is primarily responsible for:

- The over-arching executive remuneration framework;
- Operation of the incentive plans which apply to Executive Directors and senior executives, including key performance indicators and performance hurdles;
- Remuneration levels of executives; and
- Non-Executive Director fees.

Their objective is to ensure that remuneration policies and structures are fair and competitive and aligned with the long-term interests of the Company.

#### ❖ Non-Executive Remuneration Structure

The remuneration of Non-Executive Directors consists of Board and Committee fees. The total aggregate fixed sum per annum to be paid to Non-Executive Directors shall be no more than \$650,000 as approved by ordinary resolution of the Shareholders in General Meeting held on 24 June 2021.

Remuneration of Non-Executive Directors is based on fees approved by the People and Performance Committee and is set at levels to reflect market conditions and encourage the continued services of the Directors. The Chair's fees are determined independently to the fees of the Non-Executive Director's based on comparative roles in the external market. In accordance with the Company's Constitution, the Directors may at any time, subject to the Listing Rules, adopt any scheme or plan which they consider to be in the interests of the Company and which is designed to provide superannuation benefits for both present and future Non-Executive Directors, and they may from time to time vary this scheme or plan.

The remuneration of Non-Executive Directors is detailed in Table 1 and their contractual arrangements are disclosed in "Section E – Contractual Arrangements".

Remuneration may also include an invitation for Non-Executive Directors to participate in share-based incentives.

## Directors' Report

### Remuneration Report (CONT.)

The nature and amount of remuneration is collectively considered by the Board of Directors with reference to relevant employment conditions and fees commensurate to a company of similar size and level of activity, with the overall objective of ensuring maximum stakeholder benefit from the retention of high-performing Directors with the requisite skills and experience required by the Company based upon its business and level of development from time to time.

#### ❖ Executive Remuneration Structure

The nature and amount of remuneration of executives is assessed on a periodic basis with the overall objective of ensuring maximum stakeholder benefit from the retention of high-performance Directors.

The main objectives sought when reviewing executive remuneration is that the Company has:

- Coherent remuneration policies and practices to attract and retain Executives;
- Executives who will create value for shareholders; and
- Fair and responsible rewards to Executives having regard to the performance of the Group, the performance of the Executives and the general pay environment.

Refer below for details of Executive Directors' remuneration.

### C Remuneration and Performance

The following table shows the gross revenue, losses, earnings per share ("EPS") and share price of the Group as at 30 June 2021 and 30 June 2020.

	30-Jun-21	30-Jun-20
Revenue (\$)	631,542	95,342
Net loss after tax (\$)	(10,744,614)	(3,553,359)
EPS (cents per share)	(12.32)	(7.37)
Share price (\$)	7.70	0.57

#### Relationship between Remuneration and Company Performance

Given the current phase of the Company's development, the Board does not consider earnings during the current financial year when determining, and in relation to, the nature and amount of remuneration of KMP.

The pay and reward framework for key management personnel may consist of the following areas:

- a) Fixed Remuneration – base salary
- b) Variable Short-Term Incentives
- c) Variable Long-Term Incentives

The combination of these would comprise the key management personnel's total remuneration.

#### a) Fixed Remuneration – Base Salary

The fixed remuneration for each KMP is influenced by the nature and responsibilities of each role and knowledge, skills and experience required for each position. Fixed remuneration provides a base level of remuneration which is market competitive and comprises a base salary inclusive of statutory superannuation or equivalent in the place of employment. It is structured as a total employment cost package.

Key management personnel are offered a competitive base salary that comprises the fixed component of pay and rewards. External remuneration consultants may provide analysis and advice to ensure base pay is set to reflect the market for a comparable role.

## Directors' Report

### Remuneration Report (CONT.)

No paid external advice was taken during the financial year. Determination of remuneration was based upon publicly available data, surveys and trends for comparable roles in Australia and Europe, published by remuneration consultants. Base salary for key management personnel is reviewed annually to ensure the KMP's pay is competitive with the market. The pay of key management personnel is also reviewed on promotion. There is no guaranteed pay increase included in any key management personnel's contract.

#### b) **Variable Remuneration – Short -Term Incentives (STI)**

Discretionary cash bonuses may be paid to KMP annually, subject to the requisite Board and shareholder approvals (where applicable). Bonus payments were made during the financial year. For the 2021 Financial year, KMP's have been set milestone based KPI's which, if achieved, will lead to cash bonus payments.

#### c) **Variable Remuneration – Long-Term Incentives (LTI)**

##### **Options**

There have been no options issued to employees at the date of this financial report.

##### **Performance Rights Plan**

The Performance Rights Plan ("Plan") was adopted by the Group at the 30 November 2018 Annual General Meeting ("AGM").

The current Plan provides the Board with the discretion to grant Performance Rights to eligible participants which will vest subject to the achievement of performance hurdles as determined by the Board from time to time.

The objective of the Plan is to attract, motivate and retain KMPs and it is considered by the Group that the Plan and the future issue of Performance Rights under the Plan will provide selected participants with the opportunity to participate in the future growth of the Group. The Plan will enable the Group to make grants to Eligible Participants so that long-term incentives form a key component of their total annual remuneration.

The Board believes that grants under the Plan will serve a number of purposes including:

- to act as a key retention tool; and
- to focus attention on future shareholder value generation.

Under the Plan, eligible Participants will be granted Performance Rights. Vesting of any of these Performance Rights will be subject to the achievement of various KPIs which can be varied each year and aligned to the individual's performance.

Each Performance Right represents a right to be issued one share at a future point in time, subject to the satisfaction of any vesting conditions. No exercise price is payable. The quantum of the Performance Rights to be granted will be determined with reference to market practice and will be subject to approval by the Board.

Performance will be assessed at the end of the performance period.

Any grants under the Plan will be subject to the achievement of KPIs. Appropriate KPIs may be formulated for each Eligible Participant to participate in the Plan based on their role and responsibilities in the Group.

Performance Rights will lapse if the participant leaves the Group prior to all the vesting conditions being fulfilled although the Board has the ability, at its sole discretion, to vest some or all the Rights if "good leaver" exemptions apply to the ceasing of employment. Persons who are terminated for "bad leaver" reasons automatically lose their entitlement.

#### **D Details of Remuneration**

Details of the nature and amount of each major element of the remuneration of each KMP of the Group during the financial year are:



# Directors' Report

## Remuneration Report (CONT.)

Table 1 – Remuneration of KMP of the Group for the year ended 30 June 2021 is set out below:

30-Jun-2021	Short-term Employee Benefits			Post-Employment	Share Based Payments	Total
	Salary & fees	Non-monetary benefits	Others	Superannuation	Shares & Rights	
	\$	\$	\$	\$	\$	
<b>Non-Executive Directors</b>						
Mr Gavin Rezos	113,150	-	-	-	1,170,356	1,283,506
Ms Ranya Alkadamani	31,963	-	-	3,036	449,279	484,278
Dr Heidi Grön	13,542	-	-	-	1,010	14,552
Ms Annie Liu	14,249	-	-	-	1,010	15,259
Ms Josephine Bush	10,725	-	-	-	1,010	11,735
<b>Former Non-Executive Directors</b>						
Dr Katharina Gerber <sup>1</sup>	5,000	-	-	-	-	5,000
<b>Executive KMP</b>						
Dr Francis Wedin	300,417	-	30,000	31,389	-	361,806
Dr Horst Kreuter	230,302	-	19,239	-	2,000,344	2,249,885
Mr Robert Ierace	187,446	-	-	17,807	69,997	275,250
Mr Vincent Ledoux-Pedailles	167,316	-	1,352	-	324,621	493,289
<b>Total</b>	<b>1,074,110</b>	<b>-</b>	<b>50,591</b>	<b>52,232</b>	<b>4,017,627</b>	<b>5,194,560</b>

<sup>1</sup> Resigned as a Director and ceased to be a KMP on 1 September 2020.

# Directors' Report

## Remuneration Report (CONT.)

Details of the remuneration of KMP of the Group for the year ended 30 June 2020 is set out below:

30-Jun-2020	Short-term Employee Benefits			Post-Employment	Share Based Payments	Total
	Salary & fees	Non-monetary benefits	Other	Superannuation	Shares & Rights	
	\$	\$	\$	\$	\$	\$
<b>Non-Executive Directors</b>						
Mr Gavin Rezos	70,125	-	-	-	252,372	322,497
Ms Ranya Alkadamani	4,566	-	-	434	-	5,000
Dr Katharina Gerber	4,194	-	-	-	-	4,194
Mr Patrick Burke	45,000	-	-	-	72,837	117,837
Mr William Oliver	24,000	-	-	-	56,284	80,284
Ms Rebecca Morgan	10,667	-	-	-	-	10,667
<b>Executive KMP</b>						
Dr Francis Wedin	185,625	-	-	17,634	-	203,259
Dr Horst Kreuter	102,357	-	-	-	-	102,357
Mr Robert Ierace	25,000	-	-	2,375	3,123	30,498
<b>Total</b>	<b>471,534</b>	<b>-</b>	<b>-</b>	<b>20,443</b>	<b>384,616</b>	<b>876,593</b>

The following table shows the relative proportions of remuneration that are linked to performance and those that are fixed, based on the amounts disclosed as statutory remuneration expense in the tables above:

Table 2 – Relative proportion of fixed vs variable remuneration expense

Name	Fixed Remuneration		At Risk – STI (%)		At Risk – LTI (%)	
	2021	2020	2021	2020	2021	2020
<b>Non-Executive Directors</b>						
Mr Gavin Rezos	9%	22%	0%	-	91%	78%
Ms Ranya Alkadamani	7%	100%	0%	-	93%	-
Dr Heidi Grön	93%	n/a	0%	n/a	7%	n/a
Ms Annie Liu	93%	n/a	0%	n/a	7%	n/a
Ms Josephine Bush	91%	n/a	0%	n/a	9%	n/a
<b>Former Non-Executive Directors</b>						
Dr Katharina Gerber	100%	100%	-	-	-	-
<b>Executive KMP</b>						
Dr Francis Wedin	92%	100%	8%	-	-	-
Dr Horst Kreuter	10%	100%	1%	-	89%	-
Mr Robert Ierace	75%	90%	0%	-	25%	10%
Mr Vincent Ledoux-Pedailles	34%	n/a	0%	-	66%	n/a

# Directors' Report

## Remuneration Report (CONT.)

Table 3 – Shareholdings of KMP (direct and indirect holdings)

30 June 2021	Balance 1/07/2020	Granted as Remuneration	Place- ment	Exercise of Listed Options	Exercise of Performan ce Rights	Exercise of Performan ce Shares	Net Change Other	Balance 30/06/2021
<b>Non-Executive Directors</b>								
Mr Gavin Rezos	3,680,207	-	38,461	100,000	2,250,000	-	-	6,068,668
Ms Ranya Alkadamani	-	100,000	-	-	-	-	-	100,000
Dr Katharina Gerber	-	-	-	-	-	-	-	-
Dr Heidi Grön	-	-	-	-	-	-	-	-
Ms Annie Liu	-	-	-	-	-	-	-	-
Ms Josephine Bush	-	-	-	-	-	-	4,214	4,214
<b>Former Non-Executive Directors</b>								
Dr Katharina Gerber	-	-	-	-	-	-	-	-
<b>Executive KMP</b>								
Dr Francis Wedin	11,163,334	-	-	162,500	-	4,180,000	(2,500,000)	13,005,834
Dr Horst Kreuter	553,333	-	-	-	-	220,000	(100,000)	673,333
Mr Robert Ierace	-	-	-	-	80,000	-	(80,000)	-
Mr Vincent Ledoux-Pedailles	-	-	-	-	60,000	-	(60,000)	-
<b>TOTAL</b>	<b>15,396,874</b>	<b>100,000</b>	<b>38,461</b>	<b>262,500</b>	<b>2,390,000</b>	<b>4,400,000</b>	<b>(2,735,786)</b>	<b>19,852,049</b>

Table 4 – Option holdings of KMP (direct and indirect holdings)

30 June 2021	Balance 1/07/2020	Granted as Remuneration	Vested during the period	Exercise of Listed Options	Lapse/ expired	Balance 30/06/2021
<b>Non-Executive Directors</b>						
Mr Gavin Rezos	100,000	-	-	(100,000)	-	-
Ms Ranya Alkadamani	-	-	-	-	-	-
Dr Katharina Gerber	-	-	-	-	-	-
Dr Heidi Grön	-	-	-	-	-	-
Ms Annie Liu	-	-	-	-	-	-
Ms Josephine Bush	-	-	-	-	-	-
<b>Former Non-Executive Directors</b>						
Dr Katharina Gerber	-	-	-	-	-	-
<b>Executive KMP</b>						
Dr Francis Wedin	162,500	-	-	(162,500)	-	-
Dr Horst Kreuter	-	-	-	-	-	-
Mr Robert Ierace	-	-	-	-	-	-
Mr Vincent Ledoux-Pedailles	-	-	-	-	-	-
<b>TOTAL</b>	<b>262,500</b>	<b>-</b>	<b>-</b>	<b>(262,500)</b>	<b>-</b>	<b>-</b>

# Directors' Report

## Remuneration Report (CONT.)

Table 5 – Performance Rights holdings of KMP (direct and indirect holdings)

30 June 2021	Balance 1/07/2020	Granted as Remune- ration	Vested during the period	Exercise of Performance Rights	Balance 30/06/2021	Vested – not exercised	Unvested
<b>Non-Executive Directors</b>							
Mr Gavin Rezos	2,500,000	3,000,000	2,250,000	(2,250,000)	3,250,000	-	3,250,000
Ms Ranya Alkadamani	-	200,000	-	-	200,000	-	200,000
Dr Heidi Grön	-	12,896	-	-	12,896	-	12,896
Ms Annie Liu	-	12,896	-	-	12,896	-	12,896
Ms Josephine Bush	-	12,896	-	-	12,896	-	12,896
<b>Former Non-Executive Directors</b>							
Dr Katharina Gerber	-	-	-	-	-	-	-
<b>Executive KMP</b>							
Dr Francis Wedin	-	-	-	-	-	-	-
Dr Horst Kreuter	-	4,500,000	1,500,000	-	4,500,000	1,500,000	3,000,000
Mr Robert Ierace	500,000	-	250,000	(80,000)	420,000	170,000	250,000
Mr Vincent Pedailles	-	750,000	250,000	(60,000)	690,000	190,000	500,000
<b>TOTAL</b>	<b>3,000,000</b>	<b>8,488,688</b>	<b>4,250,000</b>	<b>(2,390,000)</b>	<b>9,098,688</b>	<b>1,860,000</b>	<b>7,238,688</b>

Table 6 – Performance Shares holdings of KMP (direct and indirect holdings)

30 June 2021	Balance 1/07/2020	Granted as Remune- ration	Vested during the period	Exercise of Performance Shares	Lapse/ expired	Balance 30/06/2021	Vested – not exercised	Unvested
<b>Non-Executive Directors</b>								
Mr Gavin Rezos	-	-	-	-	-	-	-	-
Ms Ranya Alkadamani	-	-	-	-	-	-	-	-
Dr Heidi Grön	-	-	-	-	-	-	-	-
Ms Annie Liu	-	-	-	-	-	-	-	-
Ms Josephine Bush	-	-	-	-	-	-	-	-
<b>Former Non-Executive Directors</b>								
Dr Katharina Gerber	-	-	-	-	-	-	-	-
<b>Executive KMP</b>								
Dr Francis Wedin	8,360,000	-	4,180,000	(4,180,000)	-	4,180,000	-	4,180,000
Dr Horst Kreuter	440,000	-	220,000	(220,000)	-	220,000	-	220,000
Mr Robert Ierace	-	-	-	-	-	-	-	-
Mr Vincent Pedailles	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>8,800,000</b>	<b>-</b>	<b>4,400,000</b>	<b>(4,400,000)</b>	<b>-</b>	<b>4,400,000</b>	<b>-</b>	<b>4,400,000</b>



# Directors' Report

## Remuneration Report (CONT.)

### E Contractual Arrangements

#### Executive KMP's

##### Francis Wedin – Managing Director

- Director's Fee: \$375,000 per annum plus superannuation.
- With effect from 1 July 2021, director's fee increased to \$390,000 per annum plus superannuation.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

##### Horst Kreuter – Chief Executive Officer – Germany

- Director's Fee: Euro 115,000 per annum.
- With effect from 1 September 2020, director's fee increased to Euro 150,000 per annum.
- With effect from 1 January 2021, a company car is provided.
- Resigned from the Board on 25/03/2021, however continues to serve as CEO of Vulcan Germany and Board Advisor.

##### Robert Ierace – Chief Financial Officer

- Salary: \$200,000 per annum plus superannuation.
- With effect from 1 April 2021, salary increased to \$210,000 per annum plus superannuation.
- With effect from 1 July 2021, salary increased to \$220,000 per annum plus superannuation.

##### Vincent Ledoux-Pedailles – Vice President Business Development

- Contract: Commenced on 1 September 2020.
- Fees: Euro 110,000 per annum.
- With effect from 24 March 2021, salary increased to GBP 130,000 per annum.

#### Non-Executive Directors

##### Gavin Rezos – Non-Executive Chairman

- Director's Fee: \$85,000 per annum.
- With effect from 1 April 2021, director's fee increased to \$162,000 per annum.
- With effect from 1 July 2021, Committee Fee of \$5,000 per annum as a member of Audit, Risk and ESG Committee and People & Performance Committee.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

##### Gavin Rezos – Non-Executive Chairman for Kuniko Limited

- Limited Agreement commenced: 11 June 2021
- Term of 12 Months
- Director fee's of \$75,000 per annum or 2.5 times the fees paid to a Non-Executive Director of Kuniko.

##### Ranya Alkadamani – Non-Executive Director

- Director's Fee: \$30,000 per annum.
- With effect from 1 April 2021, director's fee increased to \$50,000 per annum.
- With effect from 1 July 2021, director's fee increased to \$60,000 per annum.
- With effect from 1 July 2021, Committee Fee of \$10,000 per annum as Chair of the People & Performance Committee.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

##### Annie Liu – Non-Executive Director

- Contract: Commenced on 18 March 2021.
- Director's Fee: \$50,000 per annum.
- With effect from 1 July 2021, director's fee increased to \$60,000 per annum.
- With effect from 1 July 2021, Committee Fee of \$5,000 per annum as a member of the People & Performance Committee.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

# Directors' Report

## Remuneration Report (CONT.)

### Heidi Grön – Non-Executive Director

- Contract: Commenced on 25 March 2021.
- Director's Fee: \$50,000 per annum.
- With effect from 1 July 2021, director's fee increased to \$60,000 per annum.
- With effect from 1 July 2021, Committee Fee of \$5,000 per annum as a member of the Audit, Risk and RSG Committee.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

### Josephine Bush – Non-Executive Director

- Contract: Commenced on 16 April 2021.
- Director's Fee: \$50,000 per annum.
- With effect from 1 July 2021, director's fee increased to \$60,000 per annum.
- With effect from 1 July 2021, Committee Fee of \$10,000 per annum as Chair of the Audit, Risk and ESG Committee.
- Term: See Note 1 below for details pertaining to re-appointment and termination.

Note 1: The term of each Director is open to the extent that they hold office subject to retirement by rotation, as per the Company's Constitution, at each AGM and are eligible for re-election as a Director at the meeting. Appointment shall cease automatically in the event that the Director gives written notice to the Board, or the Director is not re-elected as a Director by the shareholders of the Company. There are no entitlements to termination or notice periods.

### F Share-based Compensation

The Company complements non-executive cash salaries with a service-based share award subject to shareholder approval. Any such award is subject to forfeiture if each service period is not completed. This enables the Company to attract and retain highly skilled and competent non-executive directors and ensures ongoing independence of Non-Executive Directors on the basis such awards are independent of company performance once approved and are not related to any milestones or objectives in any way.

### Shares

Details of shares issued to Directors and other key management personnel as part of compensation during the current financial year are set below:

Name	Grant Date	Shares	Issue Price	\$
Ms Ranya Alkadamani <sup>1</sup>	27/11/2020	100,000	\$2.38	238,000

<sup>1</sup> Shares were approved by Shareholders at the 2020 Annual General Meeting and are service based remuneration based on continuous service as a director.

### Options

There were no unlisted options provided to KMP during the current financial year.

### Performance Rights

During the financial year, the Company issued 8,488,688 performance rights to Directors and other key management personnel. The terms and conditions of each tranche of performance rights affecting remuneration in the current or future reporting period are as follows:

# Directors' Report

## Remuneration Report (CONT.)

Name	Grant Date	Number Granted	Expiry Date	Value of each Right (\$)	Lapsed	Vested	Exercised
Mr Gavin Rezos							
Class J	10/09/2020	1,000,000	16/09/2023	0.57	-	-	-
Class K(i)	10/09/2020	1,000,000	16/09/2023	0.72	-	1,000,000	1,000,000
Class L	10/09/2020	1,000,000	16/09/2023	0.89	-	-	-
Dr Horst Kreuter							
Class J	10/09/2020	1,500,000	16/9/2023	0.57	-	-	-
Class M(ii)	10/09/2020	1,500,000	1/12/2023	0.89	-	1,500,000	-
Class N	10/09/2020	1,500,000	1/12/2023	0.89	-	-	-
Mr Vincent Ledoux-Pedailles							
Class H (iii)	15/09/2020	250,000	1/12/2023	0.90	-	250,000	60,000
Class I	15/09/2020	250,000	1/12/2023	0.90	-	-	-
Class P	15/09/2020	250,000	1/12/2023	0.90	-	-	-
Ms Ranya Alkadamani							
Class Q <sup>1</sup>	25/11/2020	100,000	27/11/2021	2.38	-	-	-
Class R <sup>1</sup>	25/11/2020	100,000	27/11/2022	2.38	-	-	-
Dr Heidi Grön, Ms Annie Liu, Ms Josephine Bush							
Class S <sup>1</sup>	24/06/2021	12,896	24/06/2022	7.80	-	-	-
Class S <sup>1</sup>	24/06/2021	12,896	24/06/2023	7.80	-	-	-
Class S <sup>1</sup>	24/06/2021	12,896	24/06/2024	7.80	-	-	-

(i) Class K vesting was subject to the Company announcing, within 36 months from the date of issue, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium™ 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 150% of the Reference Price. This class vested in January 2021 and was converted to shares.

(ii) Class M vesting was subject to Company announcing, on or before 21 May 2021, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium™ Project confirming it is commercially viable. This class vested in January 2021, but has not yet elected to convert to shares as at 30 June 2021.

(iii) Class H vesting was subject to the Company announcing, on or before 18 May 2022, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium Project™ confirming it is commercially viable. This class vested in January 2021 and has converted 60,000 to shares.

<sup>1</sup> Class Q R & S

The Company complements non-executive cash salaries with a service-based share award subject to shareholder approval and issued in the form of Performance Rights. Any such award is subject to forfeiture if each service period is not completed. This enables the Company to attract and retain highly skilled and competent Non-Executive Directors and ensures ongoing independence of Non-Executive Directors on the basis such awards are independent of company performance once approved and are not related to any milestones or objectives in any way.

# Directors' Report

## Remuneration Report (CONT.)

The Performance Rights were issued for nil consideration and no consideration will be payable upon the vesting of the Performance Rights. Rights granted under the Performance Rights Plan carry no dividend or voting rights. Details of Performance Rights provided as part of remuneration to key management personnel are shown below.

The assessed fair value at grant date of Performance Rights granted to the individuals is allocated equally over the period from grant date to vesting date, and the amount is included in the remuneration tables above.

Further information on the performance rights is set out in Note 19 to the financial statements.

### G Equity Instruments Issued on Exercise of Remuneration Options, Performance Rights and Performance Shares

No remuneration options were exercised during the financial year.

During the year, the company issued 2,390,000 shares upon exercise of 2,390,000 performance rights, 4,400,000 shares upon the exercise of 4,400,000 performance shares, and 262,500 shares upon exercise of 262,500 options.

### H Voting and Comments made at the Company's 2020 Annual General Meeting ('AGM')

At the 2020 AGM, 99.43% of the votes received supported the adoption of the Remuneration Report for the year ended 30 June 2020. The Company did not receive any specific feedback at the AGM or throughout the year on its remuneration practices.

### I Loans with KMP

There were no loans made to any KMP during the year ended 30 June 2021 (2020: Nil).

### J Other Transactions with KMP

During the financial year, payments for corporate advisory services outside of Australia of \$45,000 (2020: \$73,185) were made to Viaticus Capital, a related party of Mr Rezos. Viaticus Capital also received fees of \$49,256 (2020: \$18,000) for capital raising fees associated with a placement undertaken in year ending 30 June 2021. The outstanding balance to Viaticus Capital at 30 June 2021 was \$68,836 (2020: \$33,000). The corporate advisory services agreement with Viaticus Capital entered into in 2018 was amended by mutual agreement during the reporting period to exclude any capital raising, M&A or related services.

Dr Kreuter was CEO of GeoThermal Engineering GmbH (GeoT). GeoThermal Engineering GmbH provides engineering services to Vulcan Energie Ressourcen GmbH, wholly sub of the Vulcan Energy Resources Ltd. During the financial year, GeoThermal Engineering received €736,609 or A\$1,176,710 from Vulcan Energie Ressourcen GmbH (2020: €77,035 or A\$130,128). There were no amounts outstanding at 30 June 2021 (2020: Nil).

During the financial year payments for consulting fees of \$43,044 (2020: Nil) were made to Alto Group Inc., a related party of Ms Annie Liu. The outstanding balance to Alto Group Inc., at 30 June 2021 was \$17,493 (2020: Nil).

There were no other related party transactions during the previous financial year.

There were no loans made to any KMP during the year ended 30 June 2021 (2020: Nil).

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

Other than the above, there were no other transactions with KMP during the year ended 30 June 2021.

### K Additional Information

The earnings of the consolidated entity for the two years to 30 June 2021 are summarised below. The Company was incorporated on 5 February 2018.

	30-Jun-21	30-Jun-20	30-Jun-19
Revenue (\$)	631,542	95,342	56,055
Net loss after tax (\$)	(10,744,614)	(3,553,359)	(836,664)
EPS (cents per share)	(12.32)	(7.37)	(2.64)
Share price (\$)	7.70	0.57	0.18



## Directors' Report

### Remuneration Report (CONT.)

#### Diversity

During the financial year, the Company had five female Directors and three male Directors. As at the date of this report the Company has four female Directors and two male Directors. As of the date of this report the Company has 30 female and 46 male employees.

#### [End of Audited Remuneration Report]

### 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 period, 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.

### 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. The Australian operations of the Company have been certified as carbon neutral under the Australian Climate Active initiative and are investigating similar certification in Germany.

### 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.

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

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

### SHARE UNDER OPTION/PERFORMANCE RIGHTS/PERFORMANCE SHARES

At the date of this report there were the following unissued ordinary shares for which options, performance rights and performance shares are outstanding:

Securities	Number	Expiry Date	Exercise Price
Unlisted Warrants	479,519	16/9/2023	Nil
Unlisted Warrants	32,928	08/01/2024	Nil
Unlisted Warrants	8,857	09/08/2024	Nil

## Directors' Report

### Remuneration Report (CONT.)

Performance rights	Number	Expiry Date	Exercise Price
Class F	1,250,000	4/9/2022	Nil
Class G	250,000	1/12/2023	Nil
Class H	990,000	1/12/2023	Nil
Class I	1,000,000	1/12/2023	Nil
Class J	2,500,000	16/9/2023	Nil
Class L	1,000,000	16/9/2023	Nil
Class M	1,500,000	1/12/2023	Nil
Class N	1,500,000	1/12/2023	Nil
Class P	310,000	1/12/2023	Nil
Class Q	100,000	27/11/2021	Nil
Class R	100,000	27/11/2022	Nil
Class S	38,688	30/06/2025	Nil
Class T	250,000	1/12/2024	Nil
Class U	250,000	1/12/2024	Nil
Class V	100,000	1/12/2024	Nil
Class W	100,000	1/12/2024	Nil

Performance shares	Number	Expiry Date	Exercise Price
Class C	4,400,000	4/9/2022	Nil

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

#### SHARE ISSUED ON THE EXERCISE OF OPTIONS

There were 13,513,424 ordinary shares issued during the year ended 30 June 2021 and up to the date of this report on the exercise of options.

## Directors' Report

### AUDITOR'S INDEPENDENCE DECLARATION

The lead auditor's independence declaration for the year ended 30 June 2021 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

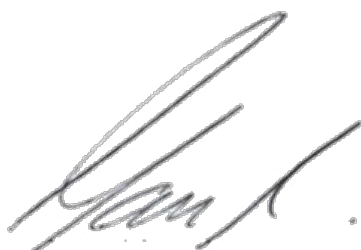
The Company may decide to employ the auditor on assignments additional to their statutory audit duties where the auditor's expertise and experience with the Company and/or the Group are important.

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 23 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 Board of Directors, pursuant to section 298(2)(a) of the Corporations Act 2001.



**Gavin Rezos**  
**Chairman**

2 September 2021

# Auditor's Independence Declaration



## RSM Australia Partners

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[www.rsm.com.au](http://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 30 June 2021, 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.

A handwritten signature in black ink that reads 'Rsm'.

RSM AUSTRALIA PARTNERS

A handwritten signature in black ink that appears to read 'Tutu Phong'.

TUTU PHONG  
Partner

Perth, WA  
Dated: 2 September 2021

## THE POWER OF BEING UNDERSTOOD AUDIT | TAX | CONSULTING

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



# Consolidated Statement of Profit or Loss and Other Comprehensive Income

For the Financial Year Ended 30 June 2021

	Note	2021 \$	2020 \$
<b>Revenue from continuing operations</b>			
Other income	4	631,542	95,342
<b>Expenses</b>			
Administrative expenses	5(a)	(888,145)	(320,920)
Compliance and regulatory expenses		(551,639)	(98,906)
Consulting and legal fees	5(b)	(1,922,771)	(424,603)
Depreciation		(131,522)	-
Employee benefit expenses		(624,829)	(234,551)
Investor relations		(410,338)	(314,510)
Introducer fee		-	(150,000)
Occupancy costs		(55,930)	(18,148)
Impairment expense	10	(228,663)	(286,017)
Share-based payments expense	19	(6,517,484)	(1,690,473)
Other expenses		(120,877)	(103,406)
Foreign currency gain/(losses)		76,042	(7,167)
<b>Loss from continuing operations before income tax</b>		(10,744,614)	(3,553,359)
Income tax expense	6	-	-
<b>Loss from continuing operations after income tax</b>		(10,744,614)	(3,553,359)
Other comprehensive income		(99,993)	(22,016)
<b>Other comprehensive income for the year, net of tax</b>		(99,993)	(22,016)
<b>Total comprehensive loss attributable to the members of Vulcan Energy Resources Limited</b>		(10,844,607)	(3,575,375)
<b>Loss per share for the year attributable to the members Vulcan Energy Resources Limited:</b>			
Basic loss per share (cents)	7	(12.32)	(7.37)
Diluted loss per share (cents)	7	(12.32)	(7.37)

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 30 June 2021

	Note	2021 \$	2020 \$
<b>ASSETS</b>			
<b>Current assets</b>			
Cash and cash equivalents	8	114,705,865	6,421,557
Trade and other receivables	9	1,197,500	116,071
<b>Total current assets</b>		<b>115,903,365</b>	<b>6,537,628</b>
<b>Non-current assets</b>			
Exploration and evaluation expenditure	10	13,793,798	2,556,980
Plant and equipment	11	1,480,672	13,353
Right-of-use asset	12	566,246	-
<b>Total non-current assets</b>		<b>15,840,716</b>	<b>2,570,333</b>
<b>Total assets</b>		<b>131,744,081</b>	<b>9,107,961</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Trade and other payables	13	2,113,014	208,222
Lease liabilities	12	62,389	-
Provisions	14	87,584	13,700
<b>Total current liabilities</b>		<b>2,262,987</b>	<b>221,922</b>
<b>Non Current liabilities</b>			
Lease liabilities	12	496,547	-
<b>Total Non current liabilities</b>		<b>496,547</b>	<b>-</b>
<b>Total liabilities</b>		<b>2,759,534</b>	<b>221,922</b>
<b>Net assets</b>		<b>128,984,547</b>	<b>8,886,039</b>
<b>EQUITY</b>			
Contributed equity	15	136,500,372	11,836,741
Reserves	16	7,899,461	1,719,970
Accumulated losses	24	(15,415,286)	(4,670,672)
<b>Total equity</b>		<b>128,984,547</b>	<b>8,886,039</b>

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

## Consolidated Statement of Changes in Equity

For the Financial Year Ended 30 June 2021

	Issued Capital	Reserves	Accumulated Losses	Total
	\$	\$	\$	\$
<b>At 1 July 2020</b>	11,836,741	1,719,970	(4,670,672)	8,886,039
Loss for the year	-	-	(10,744,614)	(10,744,614)
Other comprehensive loss for the year	-	(99,993)	-	(99,993)
<b>Total comprehensive loss for the year after tax</b>	-	(99,993)	(10,744,614)	(10,844,607)
<i>Transactions with owners in their capacity as owners:</i>				
Issue of share capital	130,803,628	-	-	130,803,628
Share issue costs	(6,139,997)	-	-	(6,139,997)
Share-based payments	-	6,279,484	-	6,279,484
<b>Balance at 30 June 2021</b>	<b>136,500,372</b>	<b>7,899,461</b>	<b>(15,415,286)</b>	<b>128,984,547</b>

	Issued Capital	Reserves	Accumulated Losses	Total
	\$	\$	\$	\$
<b>At 1 July 2019</b>	<b>4,746,416</b>	<b>164,013</b>	<b>(1,117,313)</b>	<b>3,793,116</b>
Loss for the year	-	-	(3,553,359)	<b>(3,553,359)</b>
Other comprehensive loss for the year	-	(22,016)	-	<b>(22,016)</b>
<b>Total comprehensive loss for the year after tax</b>	-	(22,016)	(3,553,359)	<b>(3,575,375)</b>
<i>Transactions with owners in their capacity as owners:</i>				
Issue of share capital	7,438,810	-	-	7,438,810
Share issue costs	(348,485)	-	-	(348,485)
Share-based payments	-	1,577,973	-	1,577,973
<b>Balance at 30 June 2020</b>	<b>11,836,741</b>	<b>1,719,970</b>	<b>(4,670,672)</b>	<b>8,886,039</b>

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

# Consolidated Statement of Cash Flows

For the Financial Year Ended 30 June 2021

	Note	2021 \$	2020 \$
<b>Cash flows from operating activities</b>			
Payments to suppliers and employees		(3,446,209)	(1,427,391)
Interest received		100,937	45,342
Other income		510,879	50,000
Interest paid		(6,752)	-
<b>Net cash used in operating activities</b>	8(a)	(2,841,145)	(1,332,049)
<b>Cash flows from investing activities</b>			
Payments for exploration and evaluation costs		(5,832,409)	(1,205,783)
Net cash acquired from acquisition of subsidiary	17	-	404
Payments for software		-	(13,353)
Payment for plant and equipment		(1,312,818)	-
<b>Net cash used in investing activities</b>		(7,145,227)	(1,218,732)
<b>Cash flows from financing activities</b>			
Proceeds from exercise of listed and unlisted options		4,430,809	-
Proceeds from issued shares		120,000,000	5,976,310
Share issue costs		(6,139,997)	(330,545)
Lease repayments		(22,888)	-
<b>Net cash from financing activities</b>		118,267,924	5,645,765
<b>Net increase in cash and cash equivalents</b>		108,281,552	3,094,984
<b>Cash and cash equivalents at the beginning of the year</b>		6,421,557	3,348,996
Effect of exchange rate fluctuations on cash held		2,756	(22,423)
<b>Cash and cash equivalents at the end of the year</b>	8	114,705,865	6,421,557

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



# Notes to the Consolidated Financial Statements

## NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### (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 disclosed in the Corporate Directory of the Annual Report. The consolidated financial statements of the Company as at and for the year ended 30 June 2021 comprise the Company and its subsidiaries (together referred to as the "consolidated entity" or the "Group").

### (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 2 September 2021.

#### **Basis of measurement**

The consolidated financial statements have been prepared on a going concern basis in accordance with the historical cost convention, unless otherwise stated.

#### **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 26.

#### **New, revised or amended standards and interpretations adopted by the Group**

The Group has adopted all of the new, revised or amending Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ("AASB") that are mandatory for the current reporting period.

The following Accounting Standards and Interpretations are most relevant to the consolidated entity:

#### **Conceptual Framework for Financial Reporting (Conceptual Framework)**

The consolidated entity has adopted the revised Conceptual Framework from 1 July 2020. The Conceptual Framework contains new definition and recognition criteria as well as new guidance on measurement that affects several Accounting Standards, but it has not had a material impact on the consolidated entity's financial statements.

#### **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.

# Notes to the Consolidated Financial Statements

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

### Equity Instruments

Where the Group's management has elected to present fair value gains and losses on equity investments in OCI, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognised in the profit or loss as other income when the Group's right to receive payments is established.

### Assets - Impairment

From 1 July 2019, the Group assesses on a forward-looking basis the expected credit losses (ECLs) associated with its debt instruments carried at amortised cost and FVOCI. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive. The shortfall is then discounted at an approximation to the asset's original effective interest rate.

The Group assesses at each balance date whether there is objective evidence that a financial asset or group of financial assets is impaired. For trade and other receivables, the Group applies the simplified approach permitted by AASB 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables. The expected credit losses on these financial assets are estimated using a provision matrix based on the Group's historical credit loss experience.

### Employee benefits

#### *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.

#### *Share-based payments*

Equity-settled and cash-settled share-based compensation benefits are provided to employees.

Equity-settled transactions are awards of shares, or options over shares, that 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 either the Binomial or Black-Scholes option pricing 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 either the Binomial or Black-Scholes option pricing 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:

- 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.
- 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.

# Notes to the Consolidated Financial Statements

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

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.

### 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 effective, have not been adopted by the Group for the period ended 30 June 2021 and are outlined in the table below:

Reference	Summary	Applicati on date of the standard	Applies to financial year ended
AASB 2020-8	<b>Amendments to Australian Accounting Standards – Interest Rate Benchmark Reform – Phase 2 Requires that for-profit private sector entities:</b> This Standard amends the Standards to help entities to provide financial statement users with useful information about the effects of the interest rate benchmark reform on those entities' financial statements. As a result of these amendments, an entity: <ul style="list-style-type: none"> <li>a) will not have to derecognise or adjust the carrying amount of financial instruments for changes required by the reform, but will instead update the effective interest rate to reflect the change to the alternative benchmark rate;</li> <li>b) will not have to discontinue its hedge accounting solely because it makes changes required by the reform, if the hedge meets other hedge accounting criteria; and</li> <li>c) will be required to disclose information about new risks arising from the reform and how it manages the transition to alternative benchmark rates.</li> </ul>	1 January 2021	30 June 2022
AASB 2020-3	<b>Annual Improvements to IFRS Standards 2018–2020 and Other Amendments</b> This Standard amends: <ul style="list-style-type: none"> <li>a) the application of AASB 1 by a subsidiary that becomes a first-time adopter after its parent in relation to the measurement of cumulative translation differences;</li> <li>b) AASB 3 to update references to the Conceptual Framework for Financial Reporting;</li> <li>c) AASB 9 to clarify when the terms of a new or modified financial liability are substantially different from the terms of the original financial liability;</li> <li>d) AASB 116 to require an entity to recognise the sales proceeds from selling items produced while preparing property, plant and equipment for its intended use and the related cost in profit or loss, instead of deducting the amounts received from the cost of the asset;</li> <li>e) AASB 137 to specify the costs that an entity includes when assessing whether a contract will be loss-making; and</li> <li>f) AASB 141 to align the fair value measurement requirements in AASB 141 with those in other Australian Accounting Standards.</li> </ul>	1 January 2022	30 June 2023

# Notes to the Consolidated Financial Statements

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

AASB 2020-1	<b>Amendments to Australian Accounting Standards – Classification of Liabilities as Current or Non-Current</b> Amends AASB 101 to clarify that liabilities are classified as either current or non-current, depending on the rights that exist at the end of the reporting period. Classification is unaffected by the expectations of the entity or events after the reporting date (for example, the receipt of a waiver, a breach of covenant, or settlement of the liability). The mandatory application date of the amendment has been deferred by 12 months to 1 January 2023 by AASB 2020-6.	1 January 2023	30 June 2024
AASB 2021-2	<b>Amendments to Australian Accounting Standards – Disclosure of Accounting Policies and Definition of Accounting Estimates</b> This Standard amends: <ul style="list-style-type: none"> <li>a) AASB 7, to clarify that information about measurement bases for financial instruments is expected to be material to an entity's financial statements;</li> <li>b) AASB 101, to require entities to disclose their material accounting policy information rather than their significant accounting policies;</li> <li>c) AASB 108, to clarify how entities should distinguish changes in accounting policies and changes in accounting estimates;</li> <li>d) AASB 134, to identify material accounting policy information as a component of a complete set of financial statements; and</li> </ul> AASB Practice Statement 2, to provide guidance on how to apply the concept of materiality to accounting policy disclosures.	1 January 2023	30 June 2024

### New standards and interpretations not yet mandatory or early adopted (cont.)

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) Comparatives

The comparative period is 1 July 2019 to 30 June 2020.

#### (d) 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 30 June 2021 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.

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.



## Notes to the Consolidated Financial Statements

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

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

#### (e) Foreign Currency Translation

##### **Functional and presentation currency**

Items included in the financial statements of each of the consolidated entity's 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 Australian dollars, which is Vulcan Energy Resources Limited's functional and presentation currency.

##### **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.

#### (f) Asset Acquisition not constituting a Business

When an asset acquisition does not constitute a business combination, the assets and liabilities are assigned a carrying amount based on their relative fair values in an asset purchase transaction and no deferred tax will arise in relation to the acquired assets and assumed liabilities as the initial recognition exemption for deferred tax under AASB 112 applies. No goodwill will arise on the acquisition and transaction costs of the acquisition will be included in the capitalised cost of the asset.

#### (g) Dividends

Dividends are recognised when declared during the financial period and no longer at the discretion of the Company.

### 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.

##### *Coronavirus (COVID-19) pandemic*

Judgement has been exercised in considering the impacts that the Coronavirus (COVID-19) pandemic has had, or may have, on the consolidated entity based on known information. This consideration extends to the nature of the products and services offered, customers, supply chain, staffing and geographic regions in which the consolidated entity operates. Other than as addressed in specific notes, there does not currently appear to be either any significant impact upon the financial statements or any significant uncertainties with respect to events or conditions which may impact the consolidated entity unfavourably as at the reporting date or subsequently as a result of the Coronavirus (COVID-19) pandemic.

##### *Exploration and evaluation expenditure*

Exploration and evaluation costs have been capitalised on the basis that activities in the area have not yet reached a stage that permits reasonable assessment of the existence of economically recoverable reserves. 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.

## Notes to the Consolidated Financial Statements

### 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 share-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.

### NOTE 3 SEGMENT INFORMATION

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision makers. The chief operating decision makers, who are responsible for allocating resources and assessing performance of the operating segments, have been identified as the Board of Directors.

For the financial years ended 30 June 2020 and 30 June 2021 and following the acquisition of a 100% interest in the Vulcan Lithium Project in the Upper Rhine Valley of Germany on 4 September 2019, it was determined that the Group operates in three operating segments being, energy metals exploration in Germany, copper and zinc mineral exploration in Norway and resources allocated to administration. This is the basis in which internal reports are provided to the Directors for assessing performance and determining the allocation of resources within the Group.

#### For the year ended 30 June 2021

Segment performance	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2021				
Revenue				
Interest income	-	-	120,678	120,663
Other income	327,380	-	183,484	510,879
Total segment revenue	327,380	-	304,162	631,542

Reconciliation of segment results to net loss before tax

Amounts not included in segment results but reviewed by the Board

- Administration, consulting and other expenses	(11,376,156)
Net loss before tax from continuing operations	(10,744,614)

# Notes to the Consolidated Financial Statements

## NOTE 3 SEGMENT INFORMATION (CONT.)

Segment assets	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2021				
<b>Total segment asset</b>	16,504,072	388,045	114,851,964	131,744,081

Segment liabilities	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2021				
<b>Total segment liabilities</b>	1,796,085	360,341	603,108	2,759,534

### For the year ended 30 June 2020

Segment performance	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2020				
Revenue				
Interest income	-	-	45,342	45,342
Other income	-	-	50,000	50,000
<b>Total segment revenue</b>	-	-	95,342	95,342

Reconciliation of segment results to net loss before tax

Amounts not included in segment results but reviewed by the Board

- Administration, consulting and other expenses (3,648,701)

Net loss before tax from continuing operations (3,553,359)

Segment assets	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2020				
<b>Total segment asset</b>	2,279,731	290,602	6,537,628	9,107,961

Segment liabilities	Exploration Germany \$	Exploration Norway \$	Administration \$	Total \$
30 June 2020				
<b>Total segment liabilities</b>	30,984	668	190,270	221,922

### 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 one reportable segment.

# Notes to the Consolidated Financial Statements

## NOTE 4 REVENUE

	2021 \$	2020 \$
<b>Other income</b>		
Interest income	120,678	45,342
Cash Boost	50,000	50,000
R&D tax incentive	133,484	-
InnoEnergy Funding	327,380	-
	<u>631,542</u>	<u>95,342</u>

## NOTE 5 EXPENSES

	2021 \$	2020 \$
<b>(a) Administration expenses</b>		
Accounting, audit and company secretarial fees	103,559	151,336
Travel expenses	51,926	107,183
General expenses	732,660	62,401
	<u>888,145</u>	<u>320,920</u>
<b>(b) Consultancy and legal expenses</b>		
Corporate advisory fees	87,456	105,000
Consulting fees	1,054,926	314,961
Legal fees	780,390	4,642
	<u>1,922,771</u>	<u>424,603</u>

## NOTE 6 INCOME TAX

	2021 \$	2020 \$
<b>(a) The components of tax expense comprise:</b>		
Current tax	-	-
Deferred tax	-	-
Income tax expense reported in the of profit or loss and other comprehensive income	<u>-</u>	<u>-</u>
<b>(b) The prima facie tax on loss from ordinary activities before income tax is reconciled to the income tax as follows:</b>		
Loss before income tax expense	(10,744,614)	(3,553,359)
Prima facie tax benefit on loss before income tax at 30% (2020: 30%)	<u>(3,223,384)</u>	<u>(1,066,008)</u>
Tax effect of amounts that are not deductible/taxable in calculating taxable income		
Non-deductible expense	2,271,803	603,944
Tax losses and temporary differences not brought to account	797,865	451,694
Foreign corporate rate differential	<u>153,716</u>	<u>10,370</u>
Income tax expense	<u>-</u>	<u>-</u>



# Notes to the Consolidated Financial Statements

## NOTE 6 INCOME TAX (CONT.)

### (c) Deferred tax assets/(liabilities) not brought to accounts are:

Accruals	93,062	26,411
Prepayments	(21,970)	(5,743)
Other	65,140	20,042
Tax losses	1,050,391	606,194
Total deferred tax balances not brought to account	1,186,623	646,904

Potential deferred tax assets attributable to tax losses and other temporary differences have not been brought to account at 30 June 2021 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 Company 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 Company in realising the benefit from the deductions for the expenditure.

### 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.

## Notes to the Consolidated Financial Statements

### NOTE 6 INCOME TAX (CONT.)

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 7 LOSS PER SHARE

	2021 \$	2020 \$
Net loss for the year	(10,744,614)	(3,553,359)
Weighted average number of ordinary shares for basic and diluted loss per share.	87,204,203	48,226,596
Basic and diluted loss per share (cents)	(12.32)	(7.37)

#### 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 8 CASH AND CASH EQUIVALENTS

	2021 \$	2020 \$
Cash at bank and in hand	6,156,871	4,621,557
Short-term deposits	108,548,994	1,800,000
	<u>114,705,865</u>	<u>6,421,557</u>

## Notes to the Consolidated Financial Statements

### NOTE 8 CASH AND CASH EQUIVALENTS (CONT.)

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

Loss for the financial year	(10,744,614)	(3,553,359)
<i>Adjustments for:</i>		
Share-based payments expense	6,857,484	2,040,473
Impairment expense	228,663	286,017
Depreciation	131,522	-
<i>Changes in assets and liabilities</i>		
Trade and other receivables	(113,153)	(81,008)
Trade and other payables	725,069	(24,172)
Provisions	73,884	-
<b>Net cash used in operating activities</b>	<b>(2,841,145)</b>	<b>(1,332,049)</b>

#### Accounting Policy

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 9 TRADE AND OTHER RECEIVABLES

	2021 \$	2020 \$
GST receivable	23,479	47,049
Other receivables	182,124	17,592
VAT receivable	573,384	51,430
Other deposits	418,513	-
	<b>1,197,500</b>	<b>116,071</b>

#### Allowance for impairment loss

Other receivables are non-interest bearing and are generally on terms of 30 days.

#### Trade Receivables

Trade and other receivables include amounts due from customers for goods sold and services performed in the ordinary course of business. Receivables expected to be collected within 12 months of the end of the reporting period are classified as current assets. All other receivables are classified as non-current assets. Refer to Note 1 for expected credit loss allowance assessment.

#### 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 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.

## Notes to the Consolidated Financial Statements

### NOTE 9 TRADE AND OTHER RECEIVABLES (CONT.)

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.

#### Other Receivables

Other receivables are recognised at amortised cost, less any provision for expected credit loss. Other receivables do not contain impaired assets and are not past due. Based on the credit history, it is expected that these other balances will be received when due.

#### 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.

#### Other Deposits

Other deposits represent an unconditional performance bond.

### NOTE 10 EXPLORATION AND EVALUATION EXPENDITURE

	2021 \$	2020 \$
Carrying amount of exploration and evaluation expenditure	13,793,798	2,556,980
At the beginning of the year	2,556,980	526,001
Exploration expenditure incurred	5,670,681	1,195,871
Vulcan Energy Europe acquisition (1)	5,794,800	1,121,125
Impairment expense	(228,663)	(286,017)
At the end of the year	13,793,798	2,556,980

(1) -- During the 2020/2021 period, the Company issued 1,320,000 shares to various parties involved in introducing the Zero Carbon Lithium Project™ ('Project') in Germany, through the acquisition of Vulcan Energy Resources Europe Pty Ltd, as initially announced on 10 July 2019. The issue of these shares remained subject to shareholder approval and meeting certain milestones. On 21 February 2020, the Company reached Milestone 1 by announcing a positive scoping study in relation to the Project. On 15 January 2021, the Company also reached Milestone 2 by announcing a positive pre-feasibility study in relation to the Project. The Company obtained shareholder approval for the issue of the Milestone 1 shares (being 660,000 shares) and Milestone 2 shares (being 660,000 shares) on 10 September 2020 and 24 June 2021 respectively. The issue of these shares were valued at \$587,400 and \$5,207,400 respectively (refer to Note 15).

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.



## Notes to the Consolidated Financial Statements

### NOTE 11 PLANT AND EQUIPMENT

	2021 \$	2020 \$
Software	173,188	13,353
Plant & Equipment	564,447	-
Assets under Construction	743,037	-
	<u>1,480,672</u>	<u>13,353</u>

Movement in carrying amounts of plant and equipment for year ended 30 June 2021

	Software \$	Plant & Equipment \$	Assets under construction \$	Total \$
Balance at 1 July 2020	13,353	-	-	13,353
Additions	164,136	662,135	743,037	1,569,308
Depreciation	(4,301)	(97,688)	-	(101,989)
Balance at 30 June 2021	<u>173,188</u>	<u>564,447</u>	<u>743,037</u>	<u>1,480,672</u>

Movement in carrying amounts of plant and equipment for year ended 30 June 2020

	Software \$	Plant & Equipment \$	Assets under construction \$	Total \$
Balance at 1 July 2019	-	-	-	-
Additions	13,353	-	-	13,353
Depreciation	-	-	-	-
Balance at 30 June 2021	<u>13,353</u>	<u>-</u>	<u>-</u>	<u>13,353</u>

#### Accounting Policy

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	2-15 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

## Notes to the Consolidated Financial Statements

### NOTE 12 LEASES

Right-of-use asset	Office space	Vehicles	Total
<b>Cost</b>			
At 1 July 2020	-	-	-
Additions	528,584	60,011	588,595
At 30 June 2021	528,584	60,011	588,595
<b>Accumulated Depreciation</b>			
At 1 July 2020	-	-	-
Depreciation for the year	16,348	6,001	22,349
	16,348	6,001	22,349
Carrying amount			
At 1 July 2020	-	-	-
At 30 June 2021	512,236	54,010	566,246
<b>Lease Liabilities</b>			
At 1 July 2020	-	-	-
New lease liabilities entered during the period	528,584	60,011	588,595
Add: Interest	5,242	1,510	6,752
Less: Payment	(18,513)	(17,898)	(36,411)
Closing Balance	515,313	43,623	558,936
<b>Represented by:</b>			
Current lease liabilities	54,429	7,960	62,389
Non-current lease liabilities	460,884	35,663	496,547
	<b>515,313</b>	<b>43,623</b>	<b>558,936</b>

### 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.

## Notes to the Consolidated Financial Statements

### NOTE 12 LEASES (CONT.)

#### 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.

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 and vehicles through its German subsidiary Vulcan Energie Ressourcen GmbH.

### NOTE 13 TRADE AND OTHER PAYABLES

	2021 \$	2020 \$
Trade payables <sup>(i)</sup>	1,442,980	72,203
Accrued expenses	129,405	74,335
Other payables	167,765	61,684
VAT Payable	372,864	-
	<u>2,113,014</u>	<u>208,222</u>

(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 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 14 PROVISION

	2021 \$	2020 \$
Annual leave provision	<u>87,584</u>	<u>13,700</u>

#### 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.

# Notes to the Consolidated Financial Statements

## NOTE 15 CONTRIBUTED EQUITY

### (a) Issued and fully paid

	2021		2020	
	No.	\$	No.	\$
Ordinary shares	108,422,717	136,500,372	67,217,555	11,836,741

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.

### (b) Movement reconciliation

	Date	Number	Issue Price	\$
<b>At 1 July 2019</b>		31,750,001		4,746,416
Placement to sophisticated investors	10/07/2019	2,820,000	0.15	423,000
Placement to sophisticated investors	19/07/2019	3,513,334	0.15	527,000
Shares issued for services rendered	5/08/2019	1,000,000	0.20	200,000
Shares to Vendors and Introducers as part of consideration for the Acquisition	4/09/2019	7,666,667	0.15	1,150,000
Shares issued to Director to incentive performance and retain services	4/09/2019	750,000	0.15	112,500
Share issue to Director for participation in Placement	4/09/2019	1,000,000	0.15	150,000
Less Capital raising costs		-	-	(58,425)
Conversion of Class A performance shares and Class D performance rights	28/02/2020	5,170,000	-	-
Conversion of Class A performance rights	30/06/2020	800,000	-	-
Conversion of Class A performance shares	30/06/2020	480,000	-	-
Conversion of listed options	30/06/2020	267,753	0.29	76,310
Placement to sophisticated investors	30/06/2020	12,000,000	0.40	4,800,000
Less Capital raising costs	30/06/2020	-	-	(290,060)
<b>At 30 June 2020</b>		<b>67,217,755</b>		<b>11,836,741</b>
<b>At 1 July 2020</b>		67,217,755		11,836,741
Shares issued in lieu of cash fees for services rendered	6/10/2020	400,000	0.85	340,000
Conversion of Listed Options	2/7/2020 - 17/12/2020	8,930,765	0.29	2,545,268
Conversion of Unlisted Options	15/10/2020-26/11/2020	1,125,250	0.80	900,200
Conversion of Class B Performance Rights	16/09/2020	500,000	-	-
Introducer shares	16/09/2020	660,000	0.89	587,400
Shares issued to Director	27/11/2020	100,000	2.38	238,000
Conversion of Class B Performance Shares	15/01/2021	4,400,000	-	-
Conversion of Class E & K Performance Rights	15/01/2021	2,250,000	-	-
Conversion of Listed Options	20/12/2020-20/01/2021	3,457,409	0.29	985,362
Placement	6/02/2021	18,423,077	6.50	119,750,001
Conversion of Class H Performance shares	11/05/2021	260,000	-	-
Less capital raising costs		-	-	(6,139,997)
Placement to Director	30/06/2021	38,461	6.50	249,997
Introducer shares	30/06/2021	660,000	7.89	5,207,400
<b>At 30 June 2021</b>		<b>108,422,717</b>		<b>136,500,372</b>

## Notes to the Consolidated Financial Statements

### NOTE 15 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 16 RESERVES

	2021 \$	2020 \$
Share-based payment reserve	8,021,470	1,741,986
Foreign currency translation reserve	(122,009)	(22,016)
Total	7,899,461	1,719,970

	Number of Warrants	Number of Listed options	Number of Unlisted Options	Number of Performance Shares	Number of Performance Rights	\$
<b>Movement reconciliation</b>						
<b>On issue at 1 July 2019</b>	-	12,687,512	-	-	3,900,000	164,013
Issue of performance rights during the year	-	-	-	-	5,000,000	-
Recognition of share - based payment expense for performance rights issued to Directors and staff (Note 19)	-	-	-	-	-	689,625
Performance share issued during the year	-	-	-	13,200,000	-	-
Recognition of share - based payment expense for performance shares issued to Vendors on Acquisition (Note 19)	-	-	-	-	-	888,348
Performance rights cancelled during the year	-	-	-	-	(2,600,000)	-
Exercise of performance rights during the year	-	-	-	-	(2,050,000)	-
Exercise of performance shares during the year	-	-	-	(4,400,000)	-	-
Exercise of listed options during the year	-	(267,753)	-	-	-	-
<b>On issue at 30 June 2020</b>	-	12,419,759	-	8,800,000	4,250,000	1,741,986



## Notes to the Consolidated Financial Statements

### NOTE 16 RESERVES (CONT.)

	Number of Warrants	Number of Listed options	Number of Unlisted Options	Number of Performance Shares	Number of Performance Rights	\$
<b>Movement reconciliation</b>						
<b>On issue at 1 July 2020</b>	-	12,419,759	-	8,800,000	4,250,000	1,741,986
Issue of performance rights during the year	-	-	-	-	10,248,688	-
Recognition of share - based payment expense for performance rights issued to Directors, staff & consultants (Note 19)	-	-	-	-	-	4,419,668
Performance rights cancelled during the year	-	-	-	-	(250,000)	-
Recognition of share - based payment expense for performance rights issued to Vendors on Acquisition (Note 19)	-	-	-	-	-	752,017
Issue of unlisted options during the year	-	-	1,112,250	-	-	-
Exercise of unlisted options during the year	-	-	(1,112,250)	-	-	-
Recognition of share-based payment expense for unlisted options issued (Note 19)	-	-	-	-	-	369,757
Exercise of listed options during the year	-	(12,388,174)	-	-	-	-
Listed options expired during the year	-	(31,585)	-	-	-	-
Exercise of Performance rights during the year	-	-	-	-	(3,010,000)	-
Warrants issued during the year	512,447	-	-	-	-	-
Recognition of shared based payment expense for warrants issued during the year	-	-	-	-	-	373,836
Exercise of Performance Shares during the year	-	-	-	(4,400,000)	-	-
Recognition of shared based payment expense for performance rights issued to Directors & staff in prior periods (Note 19)	-	-	-	-	-	364,206
<b>On issue at 30 June 2021</b>	<b>512,447</b>	<b>-</b>	<b>-</b>	<b>4,400,000</b>	<b>11,238,688</b>	<b>8,021,470</b>

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

	2021 \$	2020 \$
<b>Foreign Currency Translation Reserve</b>		
Balance at the beginning of the year	(22,016)	-
Movement during the year	(99,993)	(22,016)
Balance at the end of the year	(122,009)	(22,016)

### NOTE 17 ACQUISITION OF SUBSIDIARY

On 4 September 2019, the Company successfully completed its acquisition of 100% of the issued capital of Vulcan Energy Resources Europe Pty Ltd ("the Vulcan Lithium Project"). The acquisition was assessed as an asset acquisition rather than a business combination. The Company issued 6,666,667 fully paid ordinary shares in the Company to the Vendors, Dr Wedin and Dr Horst Kreuter to acquire the asset.

# Notes to the Consolidated Financial Statements

## NOTE 17 ACQUISITION OF SUBSIDIARY (CONT.)

		<b>4</b>
		<b>September</b>
		<b>2019</b>
		<b>\$</b>
Fair value of shares issued		1,000,000
<b>Purchase consideration</b>		<b>1,000,000</b>
<b>Fair value of net assets acquired are as follows:</b>		
Cash and cash equivalents		404
Exploration and evaluation expenditure	Note 10	1,121,125
Trade and other payables		(121,529)
		<b>1,000,000</b>

## NOTE 18 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES

The Group's activities expose it to a variety of financial risks: market risk (including foreign exchange risk and interest rate risk), credit risk and liquidity risk. 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.

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

	<b>2021</b>	<b>2020</b>
	<b>\$</b>	<b>\$</b>
<b>Financial Assets</b>		
Cash and cash equivalents	114,705,865	6,421,557
Trade and other receivables	1,197,500	116,071
	<b>115,903,365</b>	<b>6,537,628</b>
<b>Financial Liabilities</b>		
Trade and other payables	2,113,014	221,922
Lease liabilities	558,936	-
	<b>2,671,950</b>	<b>221,922</b>

### (a) Market risk

#### (i.) Foreign exchange risk

The Group's exposure to foreign currency risk at the end of the reporting period, expressed in Australian dollar, was as follows:

	<b>30 June 2021</b>		<b>30 June 2020</b>	
	<b>AUD</b>	<b>EUR</b>	<b>AUD</b>	<b>EUR</b>
Other Receivables	146,096	1,051,404	66,118	49,953
Trade Payables	(615,398)	(827,581)	(85,903)	(1,510)
Other Payables	(348,053)	(968,502)	(105,035)	(30,984)
	<b>(817,355)</b>	<b>(744,679)</b>	<b>(124,820)</b>	<b>17,459</b>

## Notes to the Consolidated Financial Statements

### NOTE 18 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

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

	2021	2020
Net foreign exchange gains/losses recognised in the P&L were:	76,042	(7,167)

#### 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	
	2021	2020
	\$	\$
EUR/AUD exchange rate - increase 10% (2020 -10%)*	65,637	6,651
EUR/AUD exchange rate - decrease 10% (2020 -10%)*	(80,222)	(8,128)
*Holding all other variables constant	-	

#### (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:

	2021		2020	
	Weighted average interest rate	Balance	Weighted average interest rate	Balance
		\$		\$
Cash and cash equivalents	0.23%	114,705,865	0.08%	6,421,557

#### 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 30 June 2021, 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:

Judgements of reasonably possible movements:	Profit higher/(lower)	Profit higher/(lower)
	2021	2020
	\$	\$
+ 1.0% (100 basis points)	1,147,059	64,216
- 1.0% (100 basis points)	(1,147,059)	(64,216)

#### (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.

## Notes to the Consolidated Financial Statements

### NOTE 18 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONT.)

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.

#### (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:

	1 year or less \$	1-5 years \$	> 5 years \$	Total \$
<b>2021</b>				
Trade and other payables	2,113,014	-	-	2,113,014
Lease Liabilities	62,389	283,267	213,280	558,936
<b>2020</b>				
Trade and other payables	221,922	-	-	221,922

#### (d) 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").

# Notes to the Consolidated Financial Statements

## NOTE 19 SHARE-BASED PAYMENTS

	2021 \$	2020 \$
Recognised share-based payment transactions		
Performance rights issued to Directors, staff and consultants (i)	4,419,668	-
Performance rights issued to Directors & staff in prior periods (ii)	364,206	689,626
Performance shares issued to Vendors of Acquisition (iii)	752,017	888,348
Shares issued for consideration of services	340,000	462,500
Shares issued to Director	238,000	-
Warrants (iv)	373,836	-
Unlisted Options (v)	369,757	-
Shares issued to Introducers of Acquisition (Note 10)	5,794,800	-
	12,652,284	2,040,473

### Represented by

Shared-based payment expense	6,517,484	1,690,473
Investor relations expense	340,000	200,000
Introducer fee	-	150,000
Capitalised exploration assets (Note 10)	5,794,800	-
	12,652,284	2,040,473

- (i) The Company issued the total of 10,248,688 performance rights during the year to the Directors, staff and consultants to align their interests to that of the Company's shareholders and assist as an effective means of retaining staff.

Based on management assessment, a percentage of a share-based payment expense has been recognised in the Statement of Profit or Loss and Other Comprehensive Income.

Details of Performance Rights granted during the year are:

	Fair value of each right	Expected volatility	Grant date	Price at grant date (\$)	Expiry date	Vesting hurdle (5-day VWAP)	Interest rate	Number of Rights	Total value of Rights (\$)	Share based payment expense (\$)
<b>Class H</b>	\$1.05 & \$0.90	N/A	11/9/2020 & 15/9/2020	1.05 & 0.90	1/12/2023	N/A	N/A	250,000 & 250,000	487,500	487,500
<b>Class H</b>	\$2.38	N/A	25/11/2020	2.38	1/12/2023	N/A	N/A	250,000	595,000	595,000
<b>Class I</b>	\$1.05 & \$0.90	N/A	11/9/2020 & 15/9/2020	1.05 & 0.90	1/12/2023	N/A	N/A	250,000 & 250,000	487,500	115,805
<b>Class I</b>	\$2.38	N/A	25/11/2020	2.38	1/12/2023	N/A	N/A	250,000	595,000	- <sup>(1)</sup>
<b>Class J</b>	\$0.57	70%	10/09/2020	0.89	16/09/2023	1.84	0.26%	2,500,000	1,422,500	264,991
<b>Class K</b>	\$0.72	70%	10/09/2020	0.89	16/09/2023	1.23	0.26%	1,000,000	720,000	720,000



## Notes to the Consolidated Financial Statements

### NOTE 19 SHARE-BASED PAYMENTS (CONT.)

<b>Class L</b>	\$0.61	70%	10/09/2020	0.89	16/09/2023	1.64	0.26%	1,000,000	614,000	130,719
<b>Class M</b>	\$0.89	N/A	10/09/2020	0.89	1/12/2023	N/A	N/A	1,500,000	1,335,000	1,335,000
<b>Class N</b>	0.89	N/A	10/09/2020	0.89	1/12/2023	N/A	N/A	1,500,000	1,335,000	506,350
<b>Class P</b>	\$0.9 & \$7.6	N/A	15/09/2020 & 29/06/2021	\$0.9 & \$7.6	1/12/2023	N/A	N/A	250,000 & 60,000	681,000	47,032
<b>Class Q</b>	\$2.38	N/A	25/11/2020	2.38	27/11/2021	N/A	N/A	100,000	238,000	140,725
<b>Class R</b>	\$2.38	N/A	25/11/2020	2.38	27/11/2022	N/A	N/A	100,000	238,000	70,555
<b>Class S</b>	\$7.80	N/A	24/06/2021	\$7.80	30/06/2025	N/A	N/A	38,688	301,766	3,031
<b>Class T</b>	\$7.60	N/A	29/06/2021	\$7.60	1/12/2024	N/A	N/A	250,000	1,900,000	1,139
<b>Class U</b>	\$7.60	N/A	29/06/2021	\$7.60	1/12/2024	N/A	N/A	250,000	1,900,000	1,063
<b>Class V</b>	\$7.60	N/A	29/06/2021	\$7.60	1/12/2024	N/A	N/A	100,000	760,000	456
<b>Class W</b>	\$7.60	N/A	29/06/2021	\$7.60	1/12/2024	N/A	N/A	100,000	760,000	302

(1) Class I has no share-based payment expense for the year due to performance rights lapsed in June 2021 following Dr Katharina Gerber resignation from the Company.

Details of Performance Rights vesting conditions:

Class H

- the Company announcing, on or before 18 May 2022, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium Project™ confirming it is commercially viable.

Class I

- the Company announcing, on or before 18 May 2023, that it has secured either an off-take agreement representing a minimum of 30% of production volume over a three-year term, or a downstream lithium chemicals joint venture partner with a minimum of \$10,000,000 investment in relation to the Project.

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 the Meeting (the Reference Price).

Class K

- the Company announcing, within 36 months from the date of issue, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium 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 150% of the Reference Price.

Class L

- the Company announcing, within 36 months from the date of issue, that it has secured either an off-take agreement representing a minimum of 30% of production volume over a three-year term, or a downstream lithium chemicals joint venture partner with a minimum of \$10,000,000 investment in relation to the Project; and

## Notes to the Consolidated Financial Statements

### NOTE 19 SHARE-BASED PAYMENTS (CONT.)

- the VWAP for Shares as traded on ASX over 20 consecutive trading days is equal to or greater than 200% of the Reference Price.

Class M

- the Company announcing, on or before 21 May 2021, a positive Pre-Feasibility Study in relation to the Company's Zero Carbon Lithium Project™ confirming it is commercially viable.

Class N

- the Company announcing, on or before 21 May 2022, that it has secured either an off-take agreement representing a minimum of 30% of production volume over a three-year term, or a downstream lithium chemicals joint venture partner with a minimum of \$10,000,000 investment in relation to the Project.

Class P

- the Company announcing before 31 December 2022 a positive Definitive Feasibility Study in relation to the Project confirming it is commercially viable.

Class Q

- Vesting on issue, and converting to shares on a one for one basis on the date that is 12 months from the date of issue.

Class R

- Vesting on issue, and converting to shares on a one for one basis on the date that is 24 months from the date of issue.

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.

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;

(ii) In the prior year, 5,000,000 performance rights were granted and issued as follows:

On 4 September 2019, the Company issued 3,750,000 performance rights to Mr Gavin Rezos as an incentive in connection with his appointment as Chairman.

On 18 May 2020, the Company issued 1,250,000 performance rights to staff as incentive in connection with their appointment.

3,900,000 performance rights were granted and issued to directors in prior periods. These were issued on 20 December 2018.

Based on management assessment, percentage of a share-based payment expense has been recognised in the Statement of Profit or Loss and Other Comprehensive Income.

Details of Performance Rights granted in prior years are:

## Notes to the Consolidated Financial Statements

### NOTE 19 SHARE-BASED PAYMENTS (CONT.)

Details of Performance Rights vesting conditions:

	Fair value of each right	Expected volatility	Grant date	Price at grant date (\$)	Expiry date	Vesting hurdle (5-day VWAP)	Interest rate	Number of Rights	Total value of Rights (\$)	Share based payment expense (\$)
<b>Class A</b>	\$0.1463	90%	30/11/2018	0.18	30/11/2021	0.4	2.06%	1,200,000	175,560	– (1)
<b>Class B</b>	\$0.1124	90%	30/11/2018	0.18	30/11/2021	0.75	2.06%	1,200,000	134,880	10,683
<b>Class C</b>	\$0.0906	90%	30/11/2018	0.18	30/11/2021	1.1	2.06%	1,500,000	135,900	– (2)
<b>Class D</b>	\$0.15	N/A	4/09/2019	0.15	4/09/2020	N/A	N/A	1,250,000	187,500	– (1)
<b>Class E</b>	\$0.15	N/A	4/09/2019	0.15	4/09/2021	N/A	N/A	1,250,000	187,500	141,190
<b>Class F</b>	\$0.15	N/A	4/09/2019	0.15	4/09/2022	N/A	N/A	1,250,000	187,500	72,451
<b>Class G</b>	\$0.225	N/A	11/05/2020	0.225	1/12/2023	N/A	N/A	250,000	56,250	– (1)
<b>Class H</b>	\$0.225	N/A	11/05/2020 & 14/5/2020	0.225	1/12/2023	N/A	N/A	500,000	112,500	108,049
<b>Class I</b>	\$0.225	N/A	14/05/2020	0.225	1/12/2023	N/A	N/A	500,000	112,500	31,833

(1) Class A, D and G have no share-based payment expense for the year due to performance rights vested in the prior year.

(2) Class C has no share-based payment expense for the year due to performance rights cancelled in the prior year.

#### Class A

– Will vest if, at any time within 36 months following grant date of the Rights the VWAP of the Company's shares traded on the ASX over five (5) consecutive trading days is equal to or greater than \$0.40.

#### Class B

– Will vest if, at any time within 36 months following grant date of the Rights the VWAP of the Company's shares traded on the ASX over five (5) consecutive trading days is equal to or greater than \$0.75.

#### Class C

– Will vest if, at any time within 36 months following grant date of the Rights the VWAP of the Company's shares traded on the ASX over five (5) consecutive trading days is equal to or greater than \$1.10.

#### Class D

– Vest immediately and convert into Shares on the Company announcing a positive scoping study in relation to the Vulcan Lithium Project, confirming the Vulcan Lithium Project is commercially viable within 12 months of completion of the Acquisition.

#### Class E

– Vest immediately and will convert into shares on the Company announcing a positive preliminary feasibility study in relation to the Vulcan Lithium Project, confirming the Vulcan Lithium Project is commercially viable

# Notes to the Consolidated Financial Statements

## NOTE 19 SHARE-BASED PAYMENTS (CONT.)

Details of Performance Rights vesting conditions:

Class F

- Vest immediately and will convert into shares on the Company announcing that it has secured either an offtake agreement representing a minimum of 30% of production volume over a three-year term, or a downstream joint venture partner with a minimum \$10,000,000 investment in relation to the Vulcan Lithium Project within 36 months of completion of the Acquisition.

Class G

- Will vest upon the holder completing six months continuous employment with the Company, with an expiry date of 1 December 2023.

Class H

- Will vest upon the Company announcing a positive preliminary feasibility study in relation to the Vulcan Lithium Project, confirming the Lithium Project is commercially viable within two years of issue of the Performance Rights, with an expiry date of 1 December 2023.

Class I

- Will vest upon the Company announcing that it has secured either an off-take agreement representing a minimum of 30% of production volume over a three-year term, or a downstream lithium chemicals joint venture partner with a minimum \$10,000,000 investment in relation to the Vulcan Lithium Project within three years of issue of the Performance Rights, with an expiry date of 1 December 2023.

(iii) On 4 September 2019, the Company issued 13,200,000 Performance Shares (PS) issued to Vendors of the Vulcan Lithium Project Acquisition which will each convert into a Share on a one for one basis on the satisfaction of milestones. Based on management assessment, percentage of a share-based payment expense has been recognised in the Statement of Profit or Loss and Other Comprehensive Income.

	Fair value of each PS (\$)	Expected volatility	Grant date	Price at grant date	Expiry date	Vesting hurdle (5-day VWAP)	Interest rate	Number of PS	Total value of PS(\$)	Share based payment expense (\$)
<b>Class A</b>	\$0.15	N/A	4/09/2019	\$0.15	4/09/2020	N/A	N/A	4,400,000	660,000	– <sup>(1)</sup>
<b>Class B</b>	\$0.15	N/A	4/09/2019	\$0.15	4/09/2021	N/A	N/A	4,400,000	660,000	496,989
<b>Class C</b>	\$0.15	N/A	4/09/2019	\$0.15	4/09/2022	N/A	N/A	4,400,000	660,000	255,028

(1) Class A has no share-based payment expense for the year due to performance shares vested in the prior year.

(iv) On 10 September 2020, 25 November 2020, and 24 June 2021, shareholder approval was obtained to issue total of 521,304 warrants to EIT InnoEnergy. On 16 September 2020, and on

8 January 2021, the Company issued 479,519 and 32,928 warrants respectively, with 8,857 warrants issued on 9 August 2021, subsequent to 30 June 2021. The warrants can only be exercised after 1 September 2021 and at any time on or prior to expiry. These warrants were valued using a Black-Scholes valuation, with the valuation model inputs used to determine the fair value at grant date as follows:

## Notes to the Consolidated Financial Statements

### NOTE 19 SHARE-BASED PAYMENTS (CONT.)

Grant Date	10/09/2020	25/11/2020	24/06/2021
Expiry Date	16/09/2023	8/01/2023	9/08/2024
Share price at grant date	\$0.89	\$2.38	\$7.89
Exercise Price	\$0.00	\$0.00	\$0.00
Number of warrants	479,519	32,928	8,857
Fair value at grant date	\$0.88	\$2.38	\$7.89
Expected volatility	70%	70%	70%
Risk free rate	0.26%	0.11%	0.20%
Total value	\$426,772	\$78,369	\$69,873
Balance at the end of the year (No.)	479,519	32,928	8,857
Share based payment expense (\$)	349,658	18,103	6,075

- (v) On 16 September 2020, the Company issued 1,125,250 unlisted options exercisable at \$0.80 on or before 18 months expiry following shareholder approval at a GM held on 10 September 2020. The grant of options was agreed and finalised in June 2020 when the Company completed a capital raise for \$4.8 million however were subject to shareholder approval prior to issue. These options were valued using a Black-Scholes valuation, with the valuation model inputs used to determine the fair value at grant date as follows:

Grant Date	10/09/2020
Expiry Date	16/03/2022
Share price at grant date	\$0.89
Exercise Price	\$0.80
Number of options	1,125,250
Fair value at grant date	\$0.33
Expected volatility	70%
Risk free rate	0.26%
Total value	\$369,757
Share based payment expense (\$)	\$369,757
Exercised	1,125,250
Balance at the end of the year (No)	-

#### Accounting Policy

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.



## Notes to the Consolidated Financial Statements

### NOTE 19 SHARE-BASED PAYMENTS (CONT.)

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 20 RELATED PARTY DISCLOSURE

#### (a) Key Management Personnel Compensation

The aggregate compensation made to directors and other members of key management personnel of the consolidated entity is set out below.

	2021 \$	2020 \$
Short-term benefits	1,124,701	471,534
Post-employment benefits	52,232	20,443
Share-based payments	4,017,627	384,616
	<u>5,194,560</u>	<u>876,593</u>

#### (b) Transactions with related parties

##### *Terms and conditions*

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

During the financial year, payments for corporate advisory services outside of Australia of \$45,000 (2020: \$73,185) were made to Viaticus Capital, a related party of Mr Rezos. Viaticus Capital also received fees of \$49,256 (2020: \$18,000) for capital raising fees associated with a placement undertaken in year ending 30 June 2021. The outstanding balance to Viaticus Capital at 30 June 2021 was \$68,836 (2020: \$33,000). The corporate advisory services agreement with Viaticus Capital entered into in 2018 was amended by mutual agreement during the reporting period to exclude any capital raising, M&A or related services.

## Notes to the Consolidated Financial Statements

### NOTE 20 RELATED PARTY DISCLOSURE (CONT.)

Dr Kreuter was CEO of GeoThermal Engineering GmbH (GeoT). GeoThermal Engineering GmbH provides engineering services to Vulcan Energie Ressourcen GmbH, wholly sub of the Vulcan Energy Resources Ltd. During the financial year, GeoThermal Engineering received €736,609 or A\$1,176,710 from Vulcan Energie Ressourcen GmbH (2020: €77,035 or A\$130,128). There were no amounts outstanding at 30 June 2021 (2020: Nil).

During the financial year payments for consulting fees of \$43,044 (2020: Nil) were made to Alto Group Inc., a related party of Ms Annie Liu. The outstanding balance to Alto Group Inc., at 30 June 2021 was \$17,493 (2020: Nil).

There were no other related party transactions during the previous financial year.

There were no loans made to any KMP during the year ended 30 June 2021 (2020: Nil).

Other than the above, there were no other transactions with KMP during the year ended 30 June 2021.

### NOTE 21 COMMITMENTS

Below are the commitments in relation to its exploration and evaluation assets:

	2021 \$	2020 \$
Within one year	1,589,594	163,639
One to five years	2,155,391	163,639
	<u>3,744,985</u>	<u>327,278</u>

### NOTE 22 CONTINGENCIES

As part of the acquisition of Vulcan Lithium Project, the Company agrees to pay the following by way of deferred consideration of remaining 4,400,000 (13,200,000 less 8,800,000) Performance Shares to be issued to the Vendors, which will each convert into a Share on a one for one basis on satisfaction the following milestones:

- (i.) 4,400,000 Shares on the Company announcing that it has secured an off-take agreement representing a minimum of 30% of production volume over a three-year term, or a downstream joint venture partner with a minimum \$10,000,000 investment in relation to the Vulcan Lithium Project within 36 months of completion of the Acquisition (Milestone 3), (together, the Deferred Consideration).

Other than the above, there are no other contingent assets or contingent liabilities as at 30 June 2021.

### NOTE 23 AUDITOR'S REMUNERATION

	2021 \$	2020 \$
Amounts received or due and receivable by RSM Australia Partners for:		
Audit or review of the annual financial report	59,000	31,500
Other services - RSM Australia Pty Ltd for:		
- Corporate Finance	1,500	-
	<u>60,500</u>	<u>31,500</u>

# Notes to the Consolidated Financial Statements

## NOTE 24 ACCUMULATED LOSSES

	2021 \$	2020 \$
Balance at beginning of the year	(4,670,672)	(1,117,313)
Loss after income tax for the year	(10,744,614)	(3,553,359)
Balance at end of the year	(15,415,286)	(4,670,672)

## NOTE 25 INVESTMENT IN CONTROLLED ENTITIES

	Principal Activities	Country of Incorporation	Ownership Interest	Ownership Interest
			2021 %	2020 %
Kuniko Limited	Exploration	Australia	100	100
Vulcan Energy Resources Europe Pty Ltd	Exploration	Australia	100	100
Vulcan Energie Ressourcen GmbH	Exploration	Germany	100	100

## NOTE 26 PARENT ENTITY

	2021 \$	2020 \$
<b>Statement of Financial Position</b>		
ASSETS		
Current Assets	114,598,014	6,330,432
Non-Current Assets	14,989,640	2,745,876
<b>TOTAL ASSETS</b>	<b>129,587,654</b>	<b>9,076,308</b>
LIABILITIES		
Current Liabilities	603,110	190,270
<b>TOTAL LIABILITIES</b>	<b>603,110</b>	<b>190,270</b>
EQUITY		
Issued Capital	136,500,372	11,836,741
Reserves	8,021,740	1,741,986
Accumulated losses	(15,537,568)	(4,692,689)
<b>TOTAL EQUITY</b>	<b>128,984,544</b>	<b>8,886,038</b>
<b>Statement of Profit or Loss and other comprehensive income</b>		
Loss for the year	(10,844,879)	(3,575,376)
Total Comprehensive Income	(10,844,879)	(3,575,376)

## Notes to the Consolidated Financial Statements

### NOTE 26 PARENT ENTITY (CONT.)

#### *Contingent liabilities*

Other than disclosed at Note 22, the parent entity has no other contingent assets or contingent liabilities as at 30 June 2021 and 30 June 2020.

#### *Capital commitments - Property, plant and equipment*

The parent entity had no capital commitments for property, plant and equipment as at 30 June 2021 and 30 June 2020.

#### *Exploration commitments*

The parent entity has no exploration commitments.

#### *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:

Investments in subsidiaries are accounted for at cost, less any impairment, in the parent entity.

### NOTE 27 EVENTS AFTER THE REPORTING DATE

On 6 July 2021, the Company issued 336,396 shares and 91,174 performance shares in the Company, comprising:

- 11,396 shares and 91,174 performance shares, being the security consideration for the acquisition of Global Geothermal Holding UG (a company incorporated under the laws of Germany); and
- 325,000 shares (216,667 of which are escrowed until 6 July 2022) being the share consideration for the acquisition of Global Engineering & Consulting Company GmbH (a company incorporated under the laws of Germany),

in both cases, as approved by shareholders at a General Meeting held on 24 June 2021. The Company also completed the acquisition of GeoThermal Engineering GmbH on the 2 July 2021. Dr Horst Kreuter is a KMP of Vulcan for the year ended 30 June 2021 and is a shareholder of Global Geothermal Holding UG and of GeoThermal Engineering GmbH.

On 12 July 2021, the Company announced that new exploration license for geothermal energy, geothermal heat, brine and lithium has been granted in the Upper Rhine Valley for a three-year period. The license covers 108km<sup>2</sup> of area considered by the Company to be prospective for geothermal and lithium brine.

On 13 July 2021, Markus Ritzauer was appointed as CFO of Vulcan's German operations, effective from 1 September 2021. Mr. Ritzauer has over 20 years' experience in finance roles within the chemicals industry. He is currently Head of Finance at Currenta, a chemical park service provider in Germany formerly part of Bayer.

On 19 July 2021, the Company signed a binding lithium hydroxide offtake term sheet ("Agreement") with LG Energy Solution ("LGES"). LGES is the largest producer of lithium-ion batteries for electric vehicles in the world and supplies its products to top global OEMs. The Agreement is for an initial five-year term which can be extended by a further five years, with start of commercial delivery set for 2025. LGES to purchase 5,000 metric tonnes of battery grade lithium hydroxide for the first year of the supply term, ramping up to 10,000 metric tonnes per year during the second and subsequent years of the supply term. Pricing will be based on market prices for lithium hydroxide. Conditions precedent to start of commercial delivery include the execution of a definitive formal offtake agreement on materially the same terms by end November 2021, successful start of commercial operation and full product qualification.

On 27 July 2021, the Company announced, further to its announcement of 21 April 2021, the close of the \$7.88 million IPO raise for the spin out of its wholly owned subsidiary Kuniko Limited.

On 2 August 2021, the Company and Renault Group, top automotive player and pioneer in the European EV market have signed a lithium offtake term sheet. The agreement is for an initial five-year term which can be extended if mutually agreed, with a start of commercial delivery set for 2026. In line with Renault Group's ambition to offer 'made in Europe' cars and following the launch of Renault ElectricCity – the most competitive and efficient production unit for electric vehicles in Europe – the Group will purchase between 6,000 to 17,000 metric tonnes per year of battery grade lithium chemicals produced in Germany by Vulcan.

## Notes to the Consolidated Financial Statements

### NOTE 27 EVENTS AFTER THE REPORTING DATE (CONT.)

On 4 August 2021, the Company announced that, after having originally commissioned the world's first Life Cycle Assessment (LCA) and global study on the environmental footprint of lithium hydroxide (LHM) production, it again commissioned Minviro Ltd., to update its independent LCA based on more recent data from Vulcan's Pre-Feasibility Study (PFS). Results of the updated LCA estimates a negative 2.9t of CO<sub>2</sub> emitted per tonne of LHM to be produced from Vulcan's Zero Carbon Lithium™ Project, including Scope 1, 2 and 3 emissions. Vulcan's negative CO<sub>2</sub> emission intensity is a product of the significant impact offset generated by renewable geothermal energy production as well as use of geothermal heat to drive lithium processing, and Vulcan's industry-leading move to strictly exclude fossil fuels as an energy source from its planned operations. According to public data, this result confirms that Vulcan's Zero Carbon Lithium™ Project has the lowest planned carbon footprint in the world compared to any LCA results previously published in the lithium industry.

On 9 August 2021, the Company announced that it is to apply for dual listing on the regulated market of the Frankfurt Stock Exchange (FSE), in the Prime Standard market segment, which has the very highest transparency requirements of all segments on the FSE.

On 19 August 2021 the Company announced it had signed a partnership agreement with Mr. Nico Rosberg and the Rosberg X Racing (RXR) electric racing team. The Partnership Agreement sees Vulcan Energy becoming an Official Partner of RXR and RXR and Mr Rosberg becoming shareholders in Vulcan, in return for advertising and promotional rights for the 2021 and 2022 racing seasons.

On 23 August 2021 the Company announced it had signed BNP Paribas as financial advisor towards financing the Zero Carbon Lithium™ Project.

On 24 August 2021 Kuniko Limited successfully listed on the Australian Stock Exchange (ASX:KNI), thereby completing the spin-off of the Norwegian assets announced in June 2021, with the Company retaining a 25.85% shareholding.

Apart from the above, no other matter or circumstance has arisen since 30 June 2021 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 30 June 2021 and of its performance for the financial 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:



**Gavin Rezos**  
**Chairman**

2 September 2021

# Independent Auditor's Report



## 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 30 June 2021, 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 30 June 2021 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.

### THE POWER OF BEING UNDERSTOOD AUDIT | TAX | CONSULTING

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

# Independent Auditor's Report



## 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
<b>Exploration and Evaluation Expenditure</b> Refer to Note 10 in the financial statements	
<p>The Group has capitalised exploration and evaluation expenditure with a carrying value of \$13,793,798 as at 30 June 2021.</p> <p>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:</p> <ul style="list-style-type: none"><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>	<p>Our audit procedures included:</p> <ul style="list-style-type: none"><li>• Ensuring that the right to tenure of the area of interest was current;</li><li>• Agreeing a sample of additions to supporting documentation and ensuring the amounts are capital in nature and relate to the area of interest;</li><li>• Enquiring with management and reviewing 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 and evaluating management's assessment of whether indicators of impairment existed at the reporting date; and</li><li>• Assessing that the impairment expense recognised for the year ended was appropriately calculated.</li></ul>

# Independent Auditor's Report



Key Audit Matter	How our audit addressed this matter
<b>Share-based payments</b> Refer to Note 19 in the financial statements	
During the year, the Group issued options, warrants and performance rights to key management personnel, employees, advisors and suppliers.  Management have accounted for these instruments in accordance with AASB 2 <i>Share-Based Payments</i> .  We have considered this to be a key audit matter because: <ul style="list-style-type: none"><li>• The complexity of the accounting required to value these instruments;</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>	Our audit procedures included: <ul style="list-style-type: none"><li>• Obtaining an understanding of the terms and conditions of the instruments issued;</li><li>• Reviewing the completeness of the instruments issued at reporting date;</li><li>• Reviewing management's valuation methodology;</li><li>• Reviewing the key inputs used for each instrument in the valuation model;</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>• Reviewing 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 30 June 2021 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.

# Independent Auditor's Report



## 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: [https://www.auasb.gov.au/auditors\\_responsibilities/ar2.pdf](https://www.auasb.gov.au/auditors_responsibilities/ar2.pdf). 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 30 June 2021.

In our opinion, the Remuneration Report of Vulcan Energy Resources Limited, for the year ended 30 June 2021, 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.

A stylized, handwritten-style signature of 'RSM' in black ink.

RSM AUSTRALIA PARTNERS

A handwritten signature in black ink, appearing to read 'Tutu Phong'.

TUTU PHONG  
Partner

Perth, WA  
Dated: 2 September 2021



## 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 27 August 2021.

### 1. Fully paid ordinary shares

- There is a total of 108,791,364 fully paid ordinary shares on issue which are listed on the ASX.
- The number of holders of fully paid ordinary shares is 23,646.
- 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.

### 2. Distribution of fully paid ordinary shareholders is as follows:

Range	Number of holders	Number of shares	% of Issued Capital
1 - 1,000	17,353	5,801,202	5.33
1,001 - 5,000	4,703	10,960,163	10.07
5,001 - 10,000	833	6,313,561	5.80
10,001 - 100,000	681	19,011,667	17.48
100,001 Over	76	66,704,771	61.31
<b>Total</b>	<b>23,646</b>	<b>108,791,364</b>	<b>100.00</b>

### 3. 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 373 shareholders who hold less than a marketable parcel of shares, amount to 0.0087% of issued capital.

### 4. 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	13,005,834	11.95
Mrs Georgina Hope Rinehart and Hancock Prospecting Pty Ltd (HPPL) and subsidiaries of HPPL	7,241,200	6.66
Vivien Enterprises Pte Ltd	6,068,668	5.58

### 5. Share buy-backs

There is currently no on-market buyback program for any of Vulcan's listed securities.

### 6. 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.

## ASX Additional Information

### 7. Major Shareholders

Twenty Largest Shareholders

Rank	Shareholders	Number Held	Percentage
1	MR FRANCIS EDWARD BARNABAS WEDIN	12,193,334	11.20%
2	HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	8,203,793	7.54%
3	BNP PARIBAS NOMINEES PTY LTD ACF CLEARSTREAM	7,852,888	7.22%
4	VIVIEN ENTERPRISES PTE LTD	6,068,668	5.58%
5	MR JOHN LANGLEY HANCOCK	5,248,997	4.82%
6	CITICORP NOMINEES PTY LIMITED	3,252,907	2.99%
7	TORRESAN GROUP	2,300,000	2.11%
8	J P MORGAN NOMINEES AUSTRALIA PTY LIMITED	1,600,476	1.47%
9	BNP PARIBAS NOMS PTY LTD <DRP>	1,084,693	1.00%
10	LHO LA PTY LTD <ACME FOUNDATION A/C>	1,004,059	0.92%
11	BNP PARIBAS NOMINEES PTY LTD <IB AU NOMS RETAILCLIENT DRP>	862,317	0.79%
12	MAGNI ASSOCIATES PTY LTD	812,500	0.75%
13	ALDOVALE PTY LIMITED	810,000	0.74%
14	BNP PARIBAS NOMINEES PTY LTD SIX SIS LTD <DRP A/C>	764,292	0.70%
15	RHODIUM CAPITAL PTY LTD <RHODIUM INVESTMENT A/C>	750,000	0.69%
16	BNP PARIBAS NOMS PTY LTD	709,974	0.65%
17	DR HORST DIETER KREUTER	679,031	0.62%
18	S3 CONSORTIUM HOLDINGS PTY LTD <NEXTINVESTORS DOT COM A/C>	655,770	0.60%
19	PULA HOLDINGS PTY LTD <HERATH SUPER FUND A/C>	620,000	0.57%
20	M & E EARTHMOVING PTY LTD	617,700	0.57%
<b>Total</b>		<b>56,091,399</b>	<b>51.53%</b>

### 8. Options

There are no listed or unlisted options on issue as at 27 August 2021. The Company has 521,304 warrants on issue as at 27 August 2021.

### 9. Tax Status

The Company is treated as a public company for taxation purposes.

### 10. Franking Credits

The Company has no franking credits.

## ASX Additional Information

### 11. 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.

### 12. Tenement Schedule

The following table sets out the tenement information as required by ASX Listing Rule 5.3.3.

#### Appendix One: Vulcan Zero Carbon Lithium™ Project License Summary

Name	Holder	Area (ha)	Status	Expiry date	Interest
Ortenau	Vulcan Energy Resources Europe Pty Ltd	37,360	Granted	06/2023 (extended by 2 years)	100%
Mannheim	Vulcan Energy Resources Europe Pty Ltd	14,427	Granted	09/2021 (extension ongoing)	100%
Taro	Global Geothermal Holding GmbH	3,268	Granted	04/2022	100%
Ludwig	Global Geothermal Holding GmbH	17,716	Application	N/A	100%
Heßbach	Global Geothermal Holding GmbH	5,848	Application	N/A	100%
Rheinland-Pfalz MoU Area <sup>2</sup>	Global Geothermal Holding GmbH	1,900	Granted		MoU to earn in to 80% after formation of formal JV
Lampertheim*	Vulcan Energy Resources Europe Pty Ltd	10,803	Granted	07/2024	100%

\*Granted subsequent to end of Quarter, 1/07/2021

<sup>2</sup> Refer ASX announcement 19/11/2019

## ASX Additional Information

### Appendix Two: Norwegian Projects License Summary – spin-out into Kuniko Limited IPO 24 August 2021

TENEMENTS	HOLDER	REG NUMBER	STATUS	DATE GRANTED	AREA (KM2)	INTEREST
Undal 101	Kuniko Ltd	1059/2018	Granted	05/07/2018	10.00	100%
Undal 102	Kuniko Ltd	1058/2018	Granted	05/07/2018	10.00	100%
Nyberget 101	Kuniko Ltd	1056/2018	Granted	05/07/2018	10.00	100%
Nyberget 102	Kuniko Ltd	1057/2018	Granted	05/07/2018	10.00	100%
Vangrofta 102	Kuniko Ltd	1161/2018	Granted	27/08/2018	10.00	100%
Skuterud 101	Kuniko Ltd	0285/2020	Granted	19/10/2020	4.01	100%
Skuterud 102	Kuniko Ltd	0286/2020	Granted	19/10/2020	4.01	100%
Skuterud 103	Kuniko Ltd	0287/2020	Granted	19/10/2020	4.01	100%
Skuterud 104	Kuniko Ltd	0288/2020	Granted	19/10/2020	7.01	100%
Skuterud 105	Kuniko Ltd	0289/2020	Granted	19/10/2020	4.01	100%
Skuterud 106	Kuniko Ltd	0290/2020	Granted	19/10/2020	8.02	100%
Skuterud 107	Kuniko Ltd	0291/2020	Granted	19/10/2020	5.01	100%
Skuterud 108	Kuniko Ltd	0292/2020	Granted	19/10/2020	8.02	100%
Skuterud 109	Kuniko Ltd	0293/2020	Granted	19/10/2020	5.01	100%
Skuterud 110	Kuniko Ltd	0294/2020	Granted	19/10/2020	3.01	100% (license applied for & granted)
Romsås 101	Kuniko Ltd	0298/2020	Granted	26/10/2020	10.00	100%
Romsås 102	Kuniko Ltd	0299/2020	Granted	26/10/2020	10.00	100%
Romsås 103	Kuniko Ltd	0300/2020	Granted	26/10/2020	10.00	100%
Romsås 104	Kuniko Ltd	0301/2020	Granted	26/10/2020	10.00	100% (license applied for & granted)
Romsås 105	Kuniko Ltd	0302/2020	Granted	26/10/2020	10.00	100%
Romsås 106	Kuniko Ltd	0303/2020	Granted	26/10/2020	10.00	100%
Romsås 107	Kuniko Ltd	0304/2020	Granted	26/10/2020	10.00	100%
Romsås 108	Kuniko Ltd	0305/2020	Granted	26/10/2020	10.00	100%
Romsås 109	Kuniko Ltd	0306/2020	Granted	26/10/2020	10.00	100%
Feøy 101	Kuniko Ltd	0307/2020	Granted	27/10/2020	9.00	100%
Feøy 102	Kuniko Ltd	0308/2020	Granted	27/10/2020	9.00	100%
Feøy 103	Kuniko Ltd	0309/2020	Granted	27/10/2020	10.00	100%
Feøy 104	Kuniko Ltd	0310/2020	Granted	27/10/2020	9.00	100%
Feøy 105	Kuniko Ltd	0311/2020	Granted	27/10/2020	10.00	100%
Feøy 106	Kuniko Ltd	0312/2020	Granted	27/10/2020	10.00	100%
Feøy 107	Kuniko Ltd	0313/2020	Granted	27/10/2020	6.25	100%
Feøy 108	Kuniko Ltd	0314/2020	Granted	27/10/2020	7.50	100%
Total					262.87	

## ASX Additional Information

### Appendix Three: Indicated and Inferred Mineral Resource Estimates

#### Current Indicated and Inferred Mineral Resource Estimate Table

URVP Resources	Aquifer Volume (km <sup>3</sup> )	Brine Volume (km <sup>3</sup> )	Avg. Li Conc. (mg/l Li)	Avg. Porosity (%)	Contained Elemental Li Resource Tonnes	Contained LCE Million Tonnes
<b>Ortenau Inferred Resource estimation</b>	117.974	11.208	181	9.50	2,029,000	10.80
<b>Ortenau Indicated Resource estimation</b>	17.001	2.142	181	12.60	388,000	2.06
<b>Taro Inferred Resource estimation</b>	15.924	1.497	181	9.5 (Bunt) 9.0 (Rot)	217,000	1.44
<b>Taro Indicated Resource estimation</b>	8.419	0.861	181	12.6 (BFZ) 9.5 (BHRE) 12.1 (RFZ) 9.0 (RHRE)	156,000	0.83
<b>Geothermal MoU area Indicated Resource estimation</b>	8.322	0.749	181	9.00 (P-T)	136,000	0.72
<b>Total URVP Indicated Resources used in PFS</b>	25.42	3.003	181	/	544,000	2.89
<b>Total URVP Indicated and Inferred Resource</b>	167.64	16.457	181	/	2,980,000	15.85

There has been an increase in the Mineral Resources and Reserves of the Company during the Year, following the acquisition, processing and analysis of exploration data in the Ortenau and Taro licenses, and the undertaking of a Pre-Feasibility Study on these license areas. Please refer below for the Mineral Resources in the previous year for comparison.

#### Prior Year Comparison Table

URVP Resources	Aquifer Volume (km <sup>3</sup> )	Brine Volume (km <sup>3</sup> )	Avg. Li Conc. (mg/l Li)	Avg. Porosity (%)	Contained Elemental Li Resource Tonnes	Contained LCE Million Tonnes
<b>Taro Inferred Resource estimate</b>	15.529	1.475	181	9.50	267,000	1.42
<b>Ortenau Indicated Resource estimation</b>	144.489	13.726	181	9.50	2,484,000	13.26
<b>Taro Inferred Resource estimation</b>	8.322	0.749	181	9.00	136,000	0.72
<b>Taro Indicated Resource estimation</b>	168.34	15.95	181	9.48	2,887,000	15.37



## ASX Additional Information

### Appendix Four: Ore Reserves

#### Maiden JORC Reserves

Vulcan also published a maiden Probable Ore Reserve of 1.12 Mt LCE at 181 mg/l Li across the Ortenau and Taro licenses.

Classification	Million Tonnes LCE	Grade (Li ppm)
Proven	-	-
Probable - Taro	0.42	181
Probable - Ortenau	0.70	181
<b>Total</b>	<b>1.12</b>	<b>181</b>

For further details on the Maiden JORC Ore Reserve please refer to ASX announcement dated 15 January 2021.

## Corporate Governance Statement

The Company's Directors are committed to conducting the Company's business in an ethical manner and in accordance with the highest standards of corporate governance. The Company has adopted and substantially complies with the ASX Corporate Governance Principles and Recommendations (3rd Edition) (Recommendations) to the extent appropriate to the size and nature of the Company's operations.

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://www.v-er.eu/#section-governance>

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