

**Fast Facts**

Issued Capital: 131,645,090  
Market Cap (@\$6.89): \$907m

## Sustainability and ESG Framework

Vulcan Energy Resources Limited (Vulcan; ASX: VUL, FSE: VUL, the Company) was founded in 2018 on a sustainability focused goal, namely, to decarbonise lithium production through developing the world's first Zero Carbon Lithium™ business, with co-production of renewable geothermal energy on a mass scale. Today, the Company is proud to launch its sustainability framework which outlines ESG initiatives, targets and risks.

### Sustainability Highlights

- Employment of ~120 people, up from 70 in 2021
- Carbon neutral certified (Australia)
- 35% female employment and a gender balanced board
- Leveraging the skillsets of significant numbers of ex-Oil & Gas industry experts employed towards decarbonisation
- ~20ktCO<sub>2</sub> annual avoidance through renewable electricity production from existing operations & ~3.6MtCO<sub>2</sub> to be avoided for LiOH material allocated to current offtakers
- Renewable heat offtake agreement signed with MVV to supply 25,000 – 35,000 households from 2025
- ESG linked KPIs for Executive Team
- UN Global Compact Member since 2022
- Budget allocated for biodiversity project support

### Key Targets

- Verify all organisations are carbon neutral across Vulcan Group each and every year
- Ensure 100% renewable energy is used to power demonstration and commercial plants
- Partner with local biodiversity projects to further enhance local climate efforts through nature positive approach
- Extend geothermal capacity with additional plants
- Implement 'Girls in Science' scholarship program
- Report to TNFD as an industry-first adopter alongside TCFD: nature-focused reporting to be incorporated alongside climate reporting
- Certification to ISO 14001:2015 & 9001

Vulcan's Managing Director Dr. Francis Wedin commented: *"As a positive disruptor, Vulcan's raison d'être is to be a leader in sustainability. We are excited to release our sustainability framework which will help us deliver on our strategy: to be global leaders in the production of carbon neutral, fossil-free lithium whilst being nature positive.*

*"We have made great headway to embed our sustainability and ESG framework by defining ESG roles, responsibilities, and accountability, as well as setting KPIs and reporting on our key risks and approach. This will continue to evolve in line with our growth strategy and will be further reported in our 2022 Sustainability Report."*

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## VULCAN ENERGY ZERO CARBON LITHIUM™

### About Vulcan

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 lithium's EU market 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 could satisfy Europe's needs for the electric vehicle transition, from a source with net zero greenhouse gas emissions, for many years to come.



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### Corporate Directory

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

### For and on behalf of the Board

Daniel Tydde | Company Secretary

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### Reporting calendar

June Quarterly Activities and Cashflow Reports	28 July 2022
FY22 Results	22 September 2022
September Quarterly Activities and Cashflow Reports	27 October 2022



## Disclaimer

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

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### Competent Person Statement:

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



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# Sustainability and ESG Framework

June 2022



# Intro from CEO & Chair



**Dr. Francis Wedin**  
CEO



**Gavin Rezos**  
Chairman

We founded Vulcan in 2018 on a sustainability focused goal, namely, to decarbonise lithium production through developing **the world's first Zero Carbon Lithium™ business**, with co-production of renewable geothermal energy on a mass scale. We wanted to build a new company from the ground up, as a global leader in our field, whilst both prosperous and sustainable. Our purpose was thus born; to empower a zero carbon future.

We embrace our dependency on and inter-relationship with nature in what we do. Our licence to operate is in part founded on our deep respect for the natural world within which we operate and natural resources we utilise, as well as the communities that surround us. A prosperous business for us means that we aim to deliver shareholder value without impacting the health of the natural environment and needs of future generations. What we do, and how we do it, are at the heart of Vulcan's sustainability framework. Our purpose, underpinned by our values, creates momentum to deliver on our strategy; to be global leaders in the production of carbon neutral, fossil-free lithium whilst being nature positive. Our sustainability framework helps us deliver on our strategy. It is at the heart of everything we do.

Our sustainability framework is founded on 3 key themes:

**Quality of Life:** *improving the quality of life for people, land and sea*

**Balance:** *maximising shareholder returns without compromising the needs of future generations*

**Positive Disruption:** *sustainable innovation and excellence in execution*

These themes are supported by environmental, social and governance (ESG) initiatives that bring to life our sustainable objectives. We have made great headway to embed our sustainability and ESG framework by defining ESG roles, responsibilities, and accountability, as well as setting KPIs and reporting on our key risks and approach. This will continue to evolve in line with our growth strategy.

We are setting the pace for the raw materials and lithium industry by having commissioned the world's first independent Life Cycle Assessment (LCA) for lithium hydroxide. The LCA demonstrates that our decision to strictly exclude zero fossil fuels to power our process, together with the fact that we are a net exporter of renewable energy from our geothermal operations to the grid, establishes Vulcan as a carbon negative business.

We are proud of what we have achieved to date and the contribution our people make everyday. We look forward to sharing our journey with you.

# Vulcan's ESG Lead



Storm Taylor  
ESG Lead

"To say that I feel privileged to hold this role for Vulcan is an understatement. We are just at the beginning of our journey but have made great strides in the development of our sustainability framework and ESG initiatives. We have a clear purpose, mission and strategy, delivered through our values driven culture where sustainability is at the heart of everything we do. Our people are passionate about sustainability which is why they are drawn to Vulcan. We have set our ambitions high because we strive to make a difference but ground our actions in the here and now. Having developed our Sustainability and ESG framework we are now embedding that into our core business model. We are proud to share with you what we have achieved so far and where we are headed. In the following pages, we articulate our current journey and future aspirations.

I can't help but feel the weight of the responsibilities of this role. I am keenly aware of the urgency with which we need to change 'business as usual' and am conscious of the challenges and opportunities of the world making the shift away from fossil fuel dependency.

Vulcan are a team of sustainability champions who are all doing their own part to help green the EV supply chain and pivot Europe towards a better future. Transformational change doesn't happen overnight but setting the intention, breaking down the steps and staying accountable makes radical achievements possible. I am excited for this journey and to be able to report our progress to the wider community."

# Sustainability Highlights



Employ ~120 people  
up from 70 in 2021



Carbon neutral  
certified (Australia)



35% female employment  
Gender balanced board



Leveraging the skillsets of  
significant numbers of ex-Oil  
& Gas industry experts  
employed towards  
decarbonisation



~20ktCO<sub>2</sub> annual avoidance  
renewable electricity<sup>1</sup> from  
existing operations & ~3.6MtCO<sub>2</sub> to  
be avoided for LiOH material  
allocated to current offtakers<sup>2</sup>



Renewable Heat offtake  
agreement signed with MVV  
supply 25,000 – 35,000  
households from 2025



ESG linked KPI's for  
Executive Team



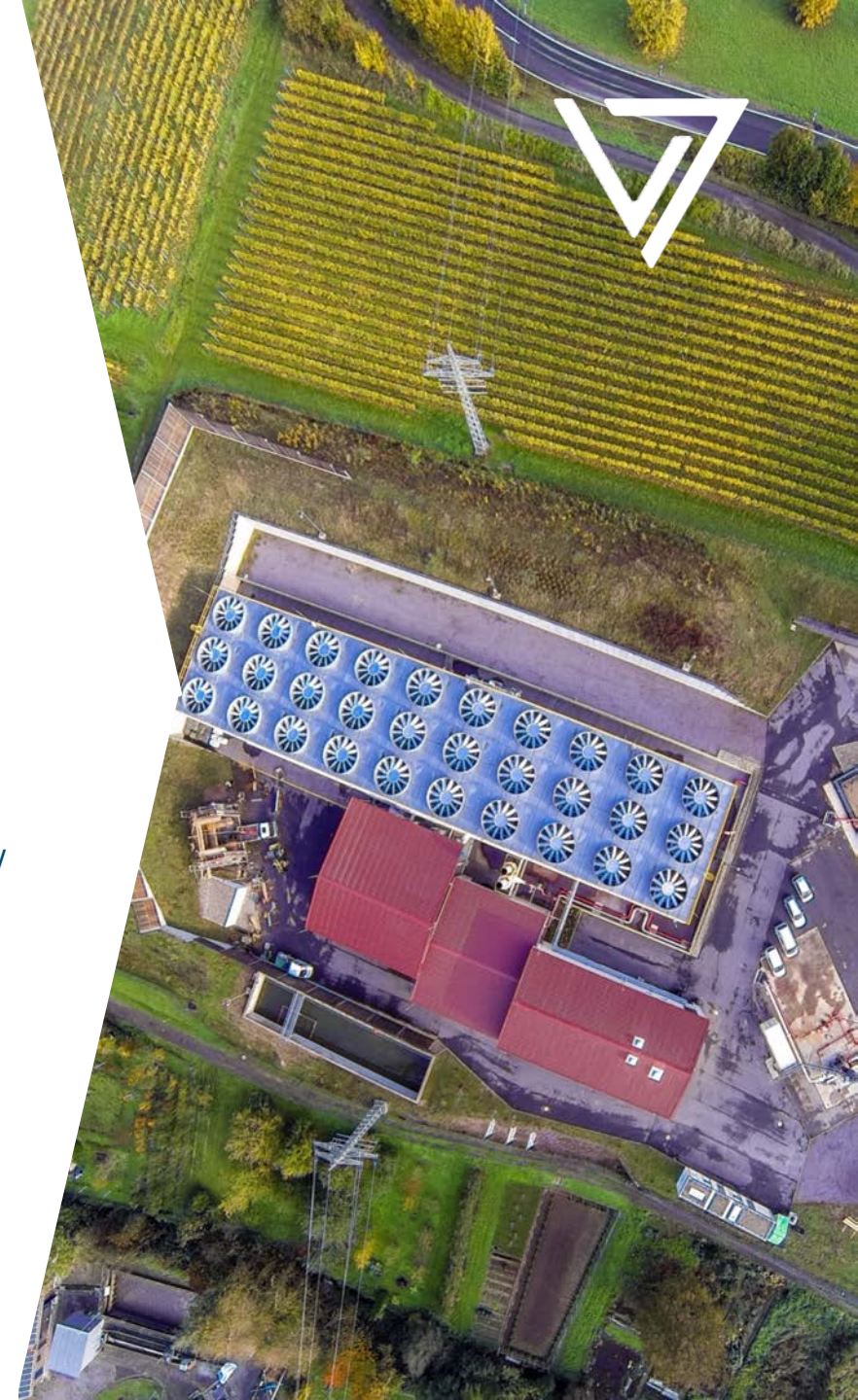
UN Global Compact  
Member since 2022



Budget allocated for  
biodiversity project  
support

<sup>1</sup> Comparative to coal fueled electricity, based on Natürlich Insheim annual production of ~20,000MWh

<sup>2</sup> Minviro Report – comparison to LiOH battery grade currently from China estimated at 15tCO<sub>2</sub> p/ton processed







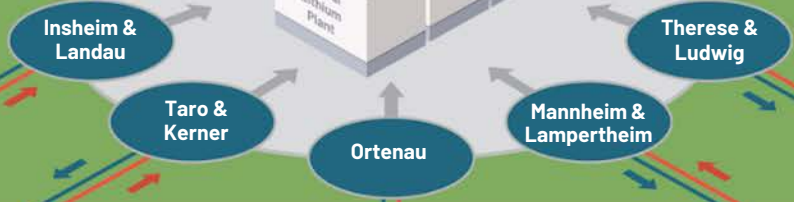
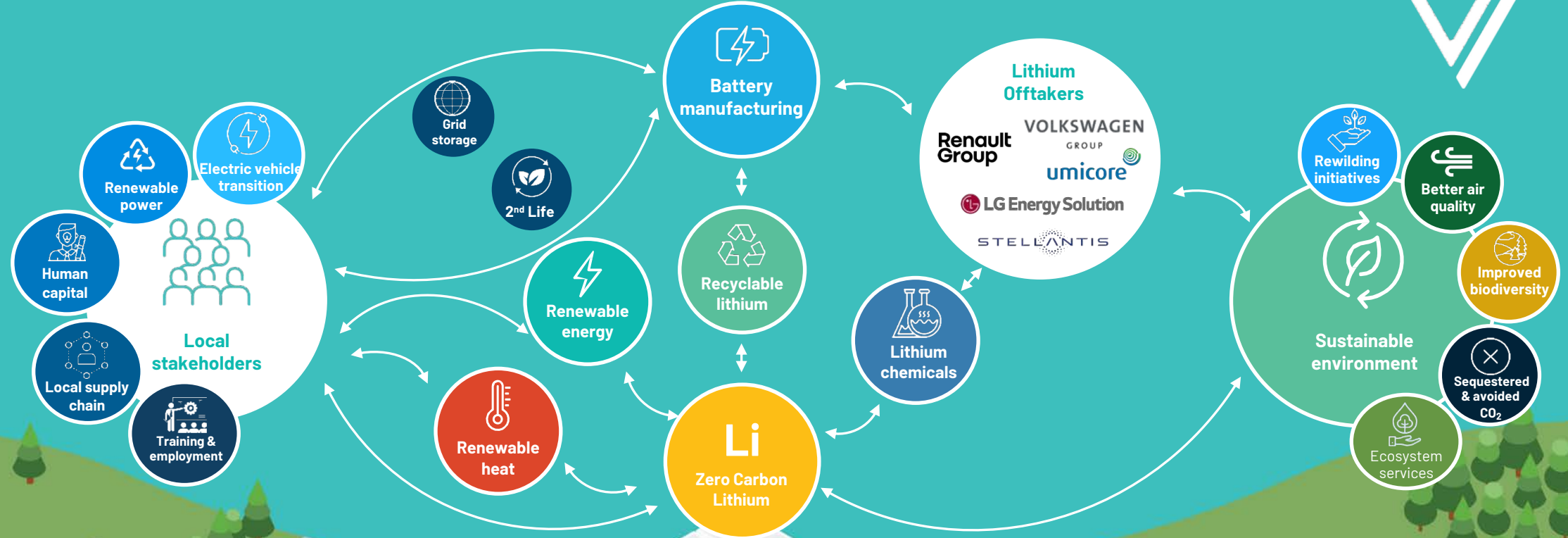
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Sustainability at Vulcan

# Our Circular Zero Carbon Business Model

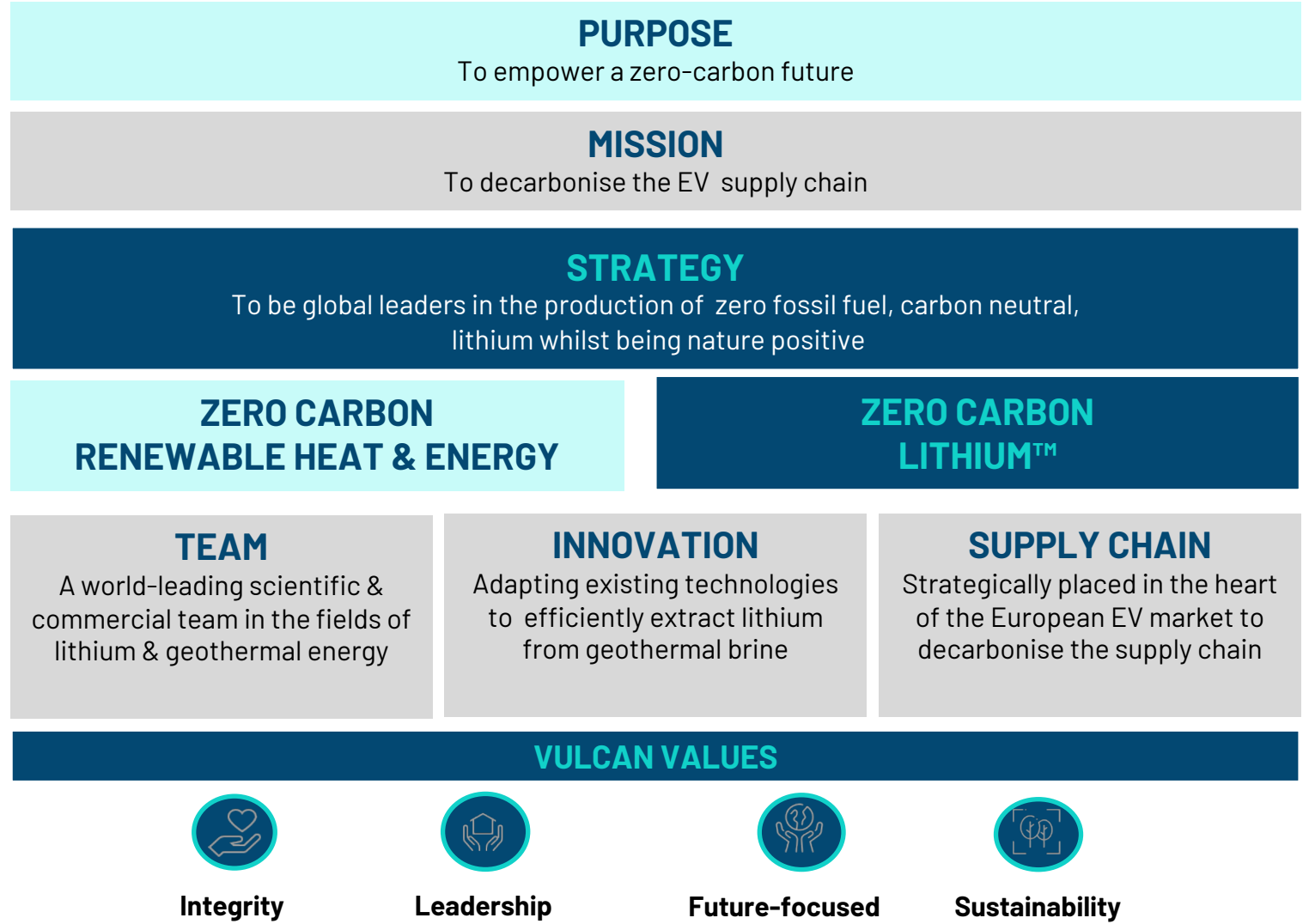


Vulcan's assets and technologies work in harmony with the environment by harnessing its natural energy to create lithium with a zero-carbon footprint

# Positioning our Sustainability and ESG framework



- As a positive disruptor, Vulcan’s *raison d’être* is to be a leader in Sustainability. Underpinned by our values, we are committed to ensuring our sustainability goals are not merely aspirations but govern the way Vulcan operates in practice, adding sustainable value to the business.
- We believe that our purpose: *to empower a zero-carbon future* clearly and succinctly represents the Vulcan Group’s identity. It showcases why we exist, what problems we are working to solve and what we aspire to do.
- We produce geothermal energy and heat for the local community, some of which is used to produce our zero-carbon lithium. United by a passion for environmentalism and leveraging scientific solutions, we are working towards a zero-carbon future across both the electric vehicle evolution and the renewable energy industry.



# Sustainability Framework

## The Vulcan Compass

The **Vulcan Compass** guides our sustainable decision making - binding our purpose, mission, strategy and values together.

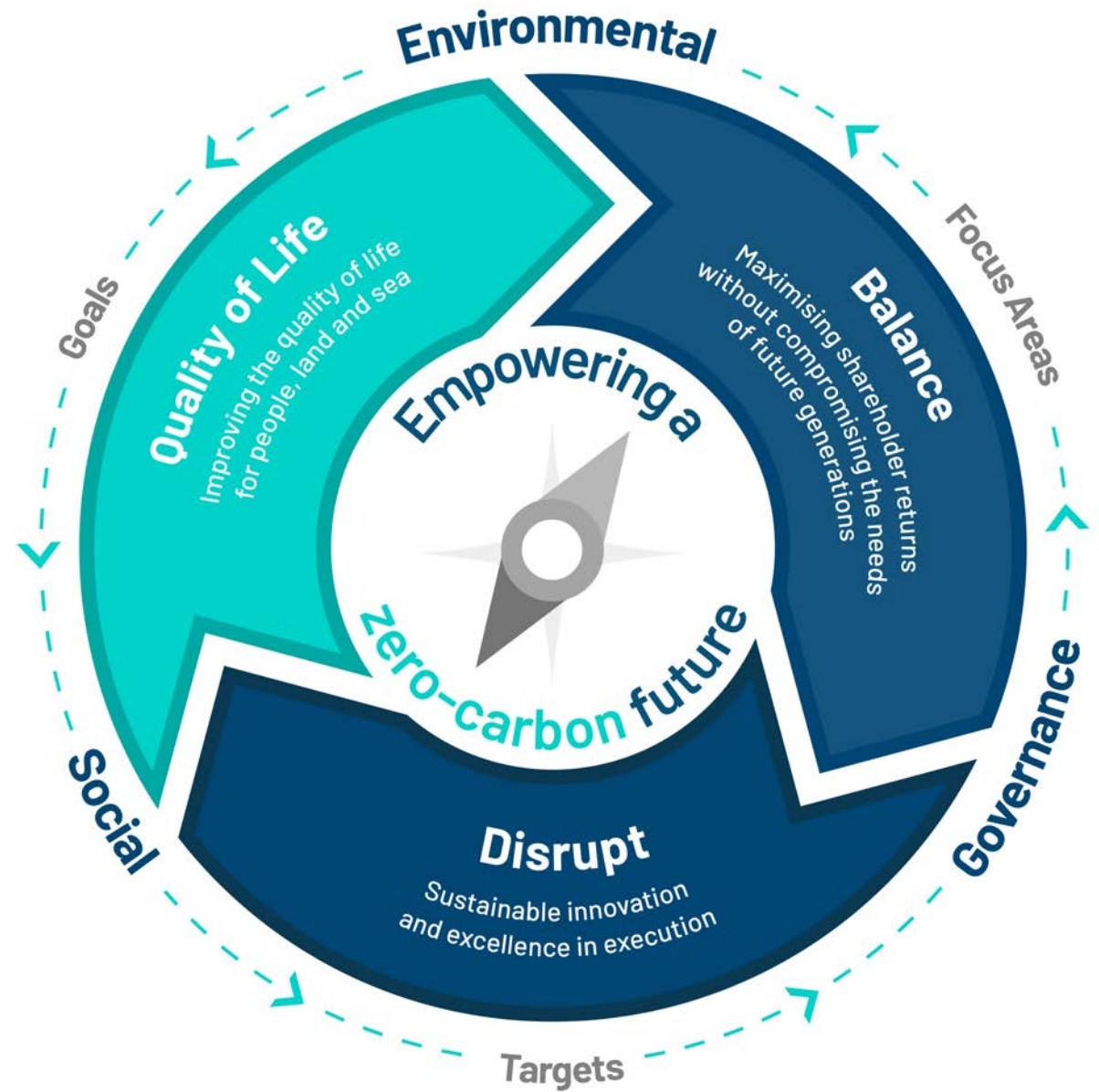
The **Vulcan Compass** incorporates our 3 sustainability themes:

**Quality of Life** - *improving the quality of life for people, land and sea*

**Balance** - *maximising shareholder returns without compromising the needs of future generations*

**Positive disruption** - *sustainable innovation and excellence in execution*

The **Vulcan Compass** is underpinned by 29 key ESG initiatives, summarised on the next page.



# Key ESG Initiatives



- Certified carbon neutral organisation across the Vulcan Group
- Ensure 100% renewable energy is used to power operations
- Increase renewable energy use by 50% for all office buildings
- Set GHG reductions target to SBTi's
- Update LCA with live data at both DFS and production
- Successfully implement Circular CO<sub>2</sub> traceability at production for lithium product
- Peer benchmarking
- Climate risk analysis linked to TCFD and TNFD frameworks



- Gender & diversity recruitment process
- External validation of gender pay parity
- Constantly improving employee satisfaction rating
- Mental wellbeing training for executive team
- Fully integrated internal training and development program



- Positive climate impact on surrounding environment at all Vulcan operational sites
- Partner with local biodiversity projects



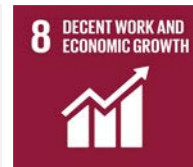
- Supply renewable heating to MVV
- Extend geothermal capacity with additional plants
- Certification to ISO 14001:2015 & 9001



- Water stewardship assessment pre-production



- Waste management assessment



- Carbon credit verification for DLE
- Support university research & development programs
- Robust sustainable procurement system
- Undertake supply chain risk analysis including environmental and modern slavery audit
- Local info centres near exploration licenses to increase local support
- Increased educational programs for the benefits of geothermal heat and energy
- Support 'girls in science' school scholarship
- Targeting zero environmental negative impacts
- Targeting zero health and safety incidents

# Environmental



Focus areas	Achievements so far	Targets	Timeframe	
Zero-carbon	Climate Active Minviro LCA Circular partnership	<ul style="list-style-type: none"> <li>Verify carbon neutral organisations across Vulcan Group</li> <li>Ensure 100% renewable energy used to power pilot plant &amp; central lithium plant</li> <li>Increase renewable energy use by 50% for all office buildings</li> <li>Set GHG reductions target to SBTi's</li> <li>Update LCA with live data at both DFS and production</li> <li>Successfully implement Circular CO<sub>2</sub> traceability at production</li> </ul>	2022 2025 2023 2022 2025 2025 2025	
Biodiversity	TNFD Forum membership TCFD disclosures reporting	<ul style="list-style-type: none"> <li>Verify carbon positive impact on surrounding environment at all Vulcan operational sites annually</li> <li>Partner with local biodiversity projects to further enhance local climate efforts</li> </ul>	annual 2023	
Renewable energy and heat	Acquired Natürlich Insheim MVV heat offtake	<ul style="list-style-type: none"> <li>Supply renewable heating to MVV</li> <li>Extend geothermal capacity with additional plants</li> </ul>	2025 annual	
Waste management	HAZOP certification	<ul style="list-style-type: none"> <li>Water stewardship assessment pre-production year</li> <li>Waste management assessment prior to production</li> </ul>	2024 2023	





# Social



Focus areas	Achievements so far	Targets	Timeframe	
Community engagement	Federal government support Local websites and hotline 'Show truck' roadshow Local presentations to councils & schools Interns program Nico Rosberg partnership	<ul style="list-style-type: none"> <li>Local info centres near exploration licenses to increase local support</li> <li>Increased educational programs for the benefits of geothermal heat and energy</li> <li>'Girls in Science' scholarship program</li> </ul>	2023	
			annual	
			2022	
Diversity and inclusion	Gender parity of Independent board Diversity Policy	<ul style="list-style-type: none"> <li>Gender &amp; diversity recruitment process</li> <li>External validation of gender pay equality</li> </ul>	2022	
			2023	
Employee wellbeing	Online survey platform set up Employee Wellbeing Project Manager employed HR platform set up	<ul style="list-style-type: none"> <li>Constantly improving employee satisfaction rating</li> <li>Mental wellbeing training for executive team by Q4</li> <li>Fully integrated internal training and development program by 2024</li> </ul>	annually benchmarked	
			2023	
			2024	
Research & development	Innoenergy Global Battery Alliance ISO Lithium committee University research support	<ul style="list-style-type: none"> <li>Carbon credit verification for DLE</li> <li>Support university research &amp; development programs</li> </ul>	2025	
annual				

# Governance



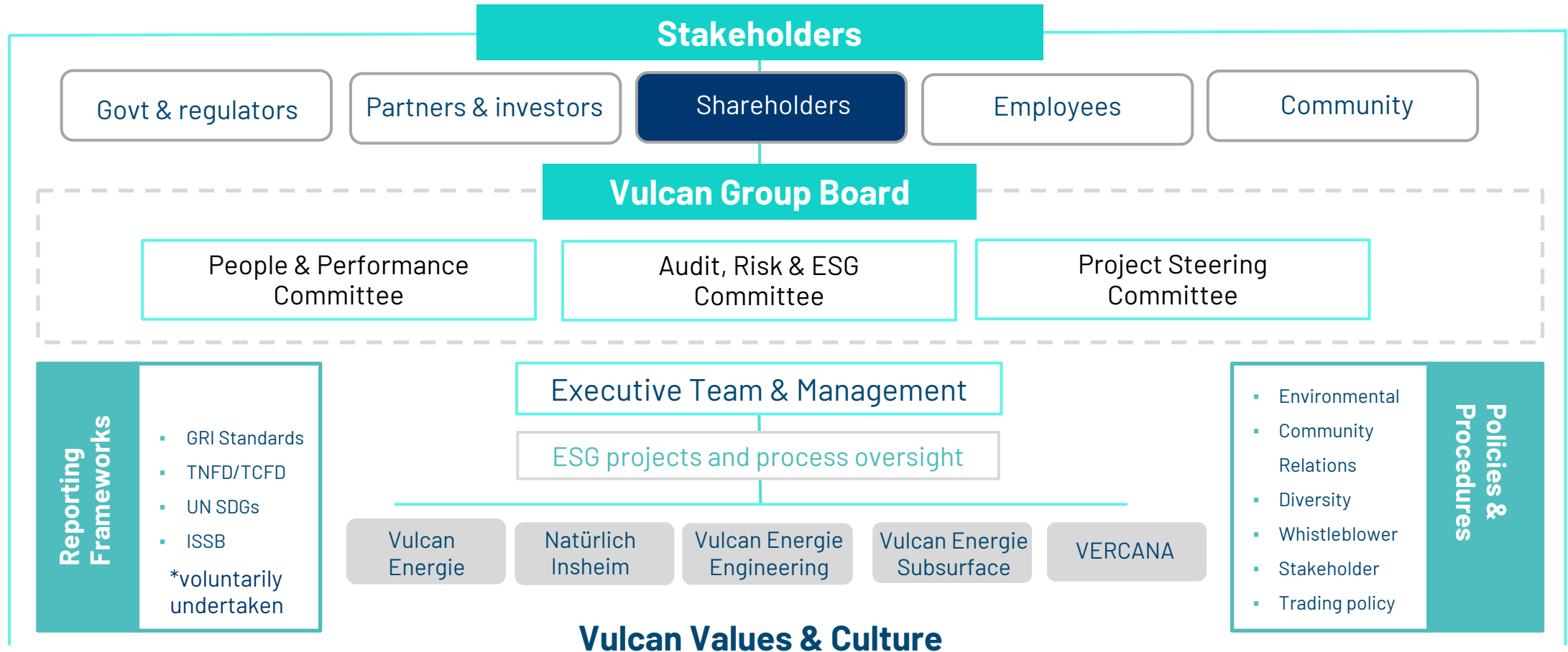
Focus areas	Achievements so far	Targets	Timeframe	
ESG Risks	Independent Board appointed Audit Risk and ESG committee formed ESG Lead appointed Report to TCFD Engaged ESG consultants to assist with reporting	• Climate risk forecasting & modelling	2022	
		• Perform peer benchmarking	2022	
		• Report to TNFD as a first adopter alongside TCFD	2022	
		• ESG Risk Rating from external body	2023	
		• Targeting zero negative environmental incidents	annual	
Remuneration structure	Project milestone linked remuneration People and Performance committee formed	• GRI Standards alignment	2022	
		• ESG linked KPI's for both Board and KMP's	2023	
Internal controls	360 Target Operating Model Process Management System Vulcan joins Lithium ISO standards committee	• Certification to ISO 14001:2015 & 9001	2022	
		• Robust sustainable procurement system	2022	
		• Targeting zero health and safety incidents	2023	
			annual	
Supply chain & value chain resilience	Circular partnership UN Compact Membership Offtake Agreements with Volkswagen, Renault, Umicore, LG Group, Stellantis, MVV	• Undertake supply chain risk analysis including environmental and modern slavery audit	2024	
		• Sustainable Procurement process	2022	





# Governance Framework

Good management and oversight of our ESG initiatives is a strong indicator of financial performance over the long-term. Vulcan are in the process of establishing our robust governance processes and controls this year.



# Managing ESG risks



Vulcan recently completed a 360 Target Operating Model process with PwC to ensure internal structures and governance are robust, efficient and effective to ensure timely execution of our Zero Carbon Lithium™ Project and to maximise value for all stakeholders.



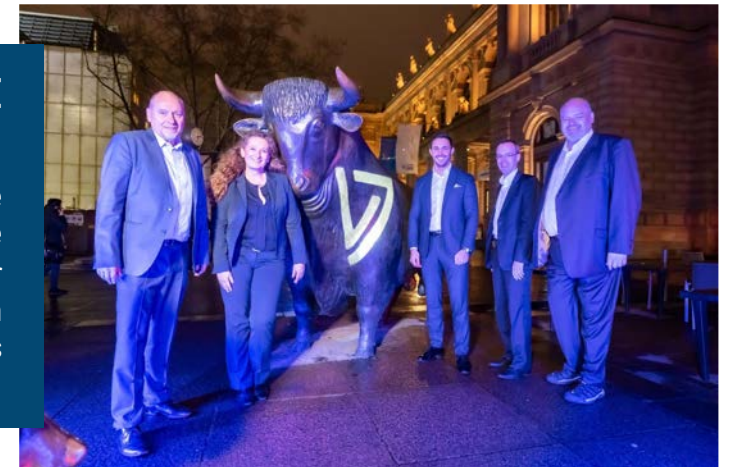
## BOARD OVERSIGHT

ESG related risks and opportunities are overseen by the independently appointed Board, and specifically addressed within the Audit, Risk and ESG Committee, the People and Performance Committee and the newly formed Projects Committee.

Board meetings are held ten times a year, with committee meetings at least every quarter. Regular reporting to the Board includes a live ESG risk matrix assessment and forecasting.

## MANAGEMENT'S ROLE

ESG responsibilities have been sub-divided and delegated amongst the management team with the Australian and German CFO's responsible for financial ESG related issues and the ESG Lead in charge of the development of Vulcan's ESG Strategy, Framework and Roadmap, as well as being the contact point for collaboration and third-party verification. Each of Vulcan's key management personnel (KMP's) are given responsibility for ESG matters as related to their role. KPI's are individualised and linked to each business unit to ensure accountability.



# ESG Risk Matrix



## Risk

## Mitigation

### Climate Resilience

Acute climate events could negatively affect operations, leading to the Company's inability to deliver results for investors and stakeholders.

Vulcan will undertake climate resilience analysis and disclose against both the TCFD and TNFD frameworks.

### Modern Slavery

Inadequate auditing and assessment across the supply chain could result in unintentional negative impacts on vulnerable groups.

Vulcan has committed to the UN Global Compacts 10 Principles focussed on identifying, assessing and mitigating human rights impacts . The Company is employing a GM Procurement who, together with the ESG Lead, will be responsible for implementing the framework.

### Environmental Management

Inability to implement robust frameworks, standards and procedures.

The Audit, Risk and ESG Committee oversees the implementation of environmental frameworks. ISO standards will also ensure continued management and accountability.

### Staff Retention

High turn over of staff could lead to high levels of dissatisfaction, project delays and a toxic culture.

Vulcan is implementing robust HR procedures, including employee satisfaction surveys and exit interviews to measure and review workplace culture. Vulcan's Employee Wellbeing Strategy is focused on resilience, team culture and personal education.

### Regulatory

State, Federal or International regulations and legislation that risks the development of the Zero Carbon Lithium Project.

Vulcan is committed to advocacy for all initiatives that support the decarbonisation effort. We utilize our significant scientific expertise to publicly support robust governmental policy that is positive for future generations.

### Social acceptance

As with virtually any sort of new development especially for infrastructure projects, we expect some opposition - as has and has been seen with wind and solar in Germany.

This is normal and we will work to address these concerns. Vulcan has an experienced public relations team. We use geothermal industry best practice, and we have commenced community engagement in the various areas where we intend to develop projects.

### HSEQ

Health and safety and environmental incidents and/or breaches of regulations could adversely affect our people, operations and reputation.

As Vulcan's operations across geothermal and lithium divisions expand, and as the Company progresses to the project construction phase, embedding a positive safety culture is critical.

### Cyber Security

Intrusion into the company network of infiltration may lead to data theft, manipulation of data or potentially blocking of company operations.

We maintain a robust IT security framework and back-up data and infrastructure which provides resilience and recovery capability in the event of a system outage. We monitor and control access to sensitive and private information maintained within our key systems.

### Supply Chain

Operational risks linked to supply chain resilience is on the rise, compounded by COVID-19 and other global events. Fragility within the system can cause financial loss, inefficiencies and exposure to future shocks.

Vulcan will continue to evolve our sustainable supplier process and procurement procedure. Risks are captured in our comprehensive risk matrix that is regularly maintained and reported to the Board.

# ESG Roadmap 2022



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Zero Carbon Lithium™ Project



# Thank you

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