



VULCAN ENERGY
ZERO CARBON LITHIUM™

Empowering
a Carbon
Neutral Future

Sustainability
Report

23

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ABOUT THIS REPORT

2023 HAS BEEN A TRANSFORMATIONAL YEAR FOR VULCAN ENERGY RESOURCES LIMITED ("VULCAN"). IN ADDITION TO GENERATING APPROXIMATELY 16,000 MWH RENEWABLE ENERGY AND AVOIDING AN ESTIMATED 6.5KT OF CO₂ EQUIVALENT EMISSIONS, THE COMPANY CONTINUED THE TRANSITION TO AN INTEGRATED RENEWABLE ENERGY AND ZERO CARBON LITHIUM™ PROJECT EXECUTION COMPANY.

The team is proud to share the Company's second stand-alone Sustainability Report ("Report") with you, Vulcan's stakeholders. This Report outlines why Vulcan exists, what the team is doing to empower a carbon neutral future and how they will deliver on Vulcan's purpose, while minimising environmental and social impacts.

This Report was prepared with reference to the Global Reporting Initiative Standards (GRI), Taskforce on Climate-related Financial Disclosures (TCFD), and United Nations Sustainable Development Goals (SDGs). The reporting period covers 1 January 2023 to 31 December 2023 and references in this Report to 'year' refers to this period unless otherwise stated (EUR/AUD Average as at Dec 23: €0.6144).

Entities included in the reporting scope include Vulcan and its subsidiaries (please see the group structure in the Report appendix). All references to Vulcan Energy Resources, Vulcan, the Company, Vulcan Group or the Group, as well as 'the team' are in reference to Vulcan and its subsidiaries. Currency is expressed in Euros (€) unless otherwise stated.

This Report has been approved for release by Vulcan's Board of Directors. The Materiality Assessment and structure of this report, which is in accordance with the GRI Standards,



THIS REPORT OUTLINES WHY VULCAN EXISTS, WHAT THE TEAM IS DOING TO EMPOWER A CARBON NEUTRAL FUTURE AND HOW THEY WILL DELIVER ON VULCAN'S PURPOSE, WHILE MINIMISING ENVIRONMENTAL AND SOCIAL IMPACTS.

has been achieved with the assistance of global consultancy firm ERM. The Greenhouse Gas (GHG) Emissions Inventory has been prepared with the assistance of Sustainable Business Consultants. Vulcan's Life Cycle Assessment (LCA) data, which forms the basis of the lithium hydroxide monohydrate (LiOH.H₂O) product forecasts, has been undertaken by Minviro Ltd (Minviro), while current emissions data has been externally verified by Climate Active for the Australian business and Climate Impact Partners for the German businesses. All other data contained in this Report has been prepared by internal subject matter experts and has not been subject to external assurance.

This Report should be read in conjunction with Vulcan's Annual Reporting Suite which includes the 2023 Annual Report, 2023 Group Management Report (Konzernlagebericht) and the 2023 Corporate Governance Statement.

Vulcan's Reporting Suite is available on the Company's website at <https://v-er.eu>.



FORWARD LOOKING STATEMENT

This Report contains certain forward-looking statements. Often, but not always, forward-looking statements may be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "target", "propose", "anticipate", "continue", "outlook" and "guidance", or other similar words. By their nature, forward-looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause actual results, performance, and achievements to be materially greater or less than estimated, including those generally associated with the lithium industry and/or resources exploration companies. Any such forward-looking statements, opinions and estimates in this Report (including any statements about market and industry trends) are based on assumptions

and contingencies, all of which are subject to change without notice, and may ultimately prove to be materially incorrect. Forward-looking statements are provided as a general guide only and should not be relied upon as, and are not, an indication or guarantee of future performance. Neither Vulcan nor any of its directors, officers, agents, consultants, employees, or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions, forward looking statements and conclusions contained in this Report.

Contact

Vulcan welcomes feedback and questions about ESG performance and related disclosures, please contact us on info@v-er.eu and direct your enquiries to the Head of ESG.

AUDIT, RISK, ESG COMMITTEE CHAIR MESSAGE



Dear Vulcan Shareholders,

On behalf of the Board, I am delighted to share Vulcan's 2023 Sustainability Report with you. In the following pages, we present how Vulcan is embedding sustainability across our business from our purpose of empowering a carbon neutral future, to our performance, by actively decarbonising the energy and lithium industries in a way which minimises environmental and social impacts.

In 2023, Vulcan made significant strides in delivering on our purpose of empowering a carbon neutral future. In addition to generating 16,000 MWh renewable energy and avoiding approximately 6.5kT of CO₂ equivalent emissions, we accelerated towards execution of Phase One of our integrated renewable energy and ZERO CARBON LITHIUM™ Project. Key advances included the completion of our Definitive Feasibility Study (DFS), followed by a more advanced Bridging Engineering Study and the commissioning of Vulcan's Lithium Extraction Optimisation Plant (LEOP). The start of operations at LEOP will signify the first lithium chemicals to be produced in Europe with an entirely locally sourced value chain. Finally, Vulcan added a total of 187 Full Time Equivalent (FTE) employees, primarily to support our in-house drilling team, Vercana. Growing our world-class multidisciplinary team, united under our refreshed Vulcan Values, is essential for successfully executing our project development strategy to decarbonise the energy and lithium supply chain.

This year the team also worked to strengthen understanding of our Project's forecasted environmental and social impacts by carrying out an Environmental and Social Impact Assessment (ESIA) aligned with the Equator Principles (EP4) and International Finance Corporation (IFC) Performance Standards. Not only is this study a prerequisite for the raising of "green" debt finance, but also identifies the best practices which Vulcan is implementing to maintain our high ESG performance moving forward to project execution. Our commitment to building sustainability into our strategy from the outset is a key competitive advantage which we will continue to leverage going forward.

On behalf of the Board, I welcome your feedback and as the Chair of the Audit, Risk and ESG Committee, I want to thank the Vulcan team for their commitment and hard work towards delivering the integrated renewable energy and ZERO CARBON LITHIUM™ Project. They are a stellar example of a passionate, dynamic, forward-thinking team; passionate about both what we do and how we do it and focused on delivering value to Vulcan shareholders.

Josephine Bush

Chair

2023 SUSTAINABILITY HIGHLIGHTS



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



In the top 2% for ESG rating in peer group, according to Sustainalytics. Ranked #11 out of 578 Chemicals industry peers.¹



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



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



Implemented ESG pre-qualification survey for suppliers.



Avoided ca. 6.5kT CO₂eq. through Natürlich Insheim renewable power plant.²



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

- Will not have any negative impacts classed as greater than "minor" post mitigation
- Will have several positive impacts, including renewable heating provision for local communities⁶.



Calculated that the absolute avoided climate impact over 10 years from 2026 to 2023 is estimated to be more than 4.1 million tonnes CO₂ eq. from Phase One of the integrated renewable energy and ZERO CARBON LITHIUM™ Project.³



Reinforced LCA metrics with Phase One Project Bridging Engineering Study data, finding that Vulcan is on track to have the lowest CO₂ footprint in the industry.⁴



Reduced footprint and impacts of Phase One of the Project, whilst maintaining same production capacity.⁴



56:44 gender balance on Vulcan's Board.⁵



Growth of OneVulcan Team Culture.

¹ Sustainalytics website (<https://www.sustainalytics.com/esg-rating/vulcan-energy-resources-ltd/2006029601>)

² Based on official feed-in numbers from grid operator and calculated with the latest local electricity mix emission factor

³ Minviro Preliminary Results: Vulcan Energy Resources GHG Avoidance 2024

⁴ 16/11/23 Vulcan Bridging Study Results <https://v-er.eu>

⁵ As at 31 December 2023. The gender split is 50/50 as at the date of this Report.

⁶ Vulcan ASX Announcement 8 December 2023

PERFORMANCE AGAINST 2023 TARGETS

Targets	Target achieved	Result
Zero Lost Time Incidents (LTIs)	✗	5.7 Lost Time Incident Frequency Rate (LTIR) The increase in Lost Time Incidents (LTIs) registered during the reporting period coincides with an increase in construction activity as well as rig refurbishment works, therefore, increased risk within Vulcan's operations. The team seek to learn from these incidents, all of which have been thoroughly investigated with stronger procedures and oversight implemented where appropriate.
40% female board representation	✓	Maintained good gender diversity on the board with 56:44 split across members.
Partner with local biodiversity projects	✓	Karlsruhe Species Protection Foundation (AZK): Vulcan partnered with AZK on a local nature conservation project fund to raise and re-introduce 34 lapwings, considered threatened species in the northern Upper Rhine region, into the local area. AZK and Vulcan are currently discussing the next phase of this partnership.
Open Karlsruhe InfoCentre	✓	Vulcan now has three public infoCentres, in Landau, Karlsruhe and Insheim.
Increased educational programs for the benefits of geothermal heat and energy	✓	Vulcan held three presentations at the Horticultural Show in Mannheim, focusing on resource efficiency, mobility and the energy transition. Dr Horst Kreuter was a keynote speaker at the June TRION Conference in Landau.
Fully integrated internal training and development program	✓	More than 10,000 online training sessions conducted, of which more than 400 were completed by external contractors. In 2023 employees received an average of 3.3 hours of health and safety training each.

2024 TARGETS

- 20 HSE leadership rounds per month.
- Score all new suppliers according to ESG criteria and create ESG risk management plans for each major supplier.
- Complete EU Corporate Sustainability Reporting Directive (CSRD)-aligned Materiality Assessment.
- Carry out a pre-assurance assessment for EU CSRD readiness.
- Board training on climate risks.

EMPOWERING A CARBON NEUTRAL FUTURE

WE ARE ONE VULCAN

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

Already a renewable energy producer, the Company is actively decarbonising two traditionally carbon-intensive industries, the energy industry and lithium supply chain, to empower a carbon neutral future for Europe. Vulcan is adapting existing commercial technologies to co-produce renewable energy, heat, and efficiently produce lithium from the same brine source, while minimising environmental and social impact. Sustainability is embedded throughout what Vulcan does, and how Vulcan does it.

Vulcan is dual listed on the Australian Securities Exchange (ASX), and the regulated Prime Standard segment of the Frankfurt Stock Exchange (FSE). The Company's combined geothermal energy and lithium brine field is the largest lithium Resource in Europe⁷, with licensed areas in the Upper Rhine Valley (URV)(Germany).

Guided by the Vulcan **Values of Climate Champion, Determined and Inspiring** that drive how the Company operates, and with Cris Moreno appointed as Managing Director and CEO alongside other key leadership appointments during the year, Vulcan is strategically positioned for the next steps to execution.

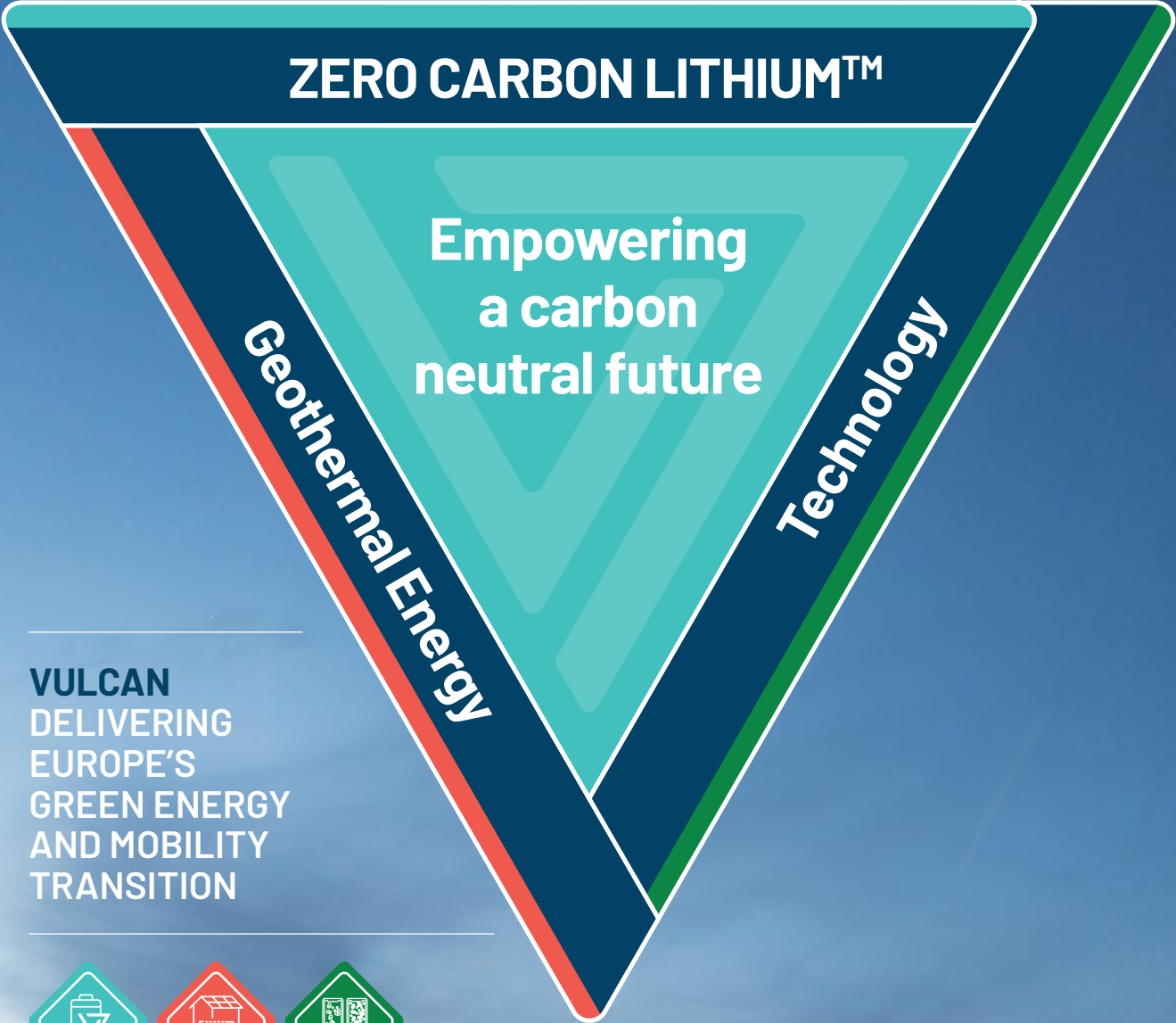
The OneVulcan team is united by a passion for leveraging scientific solutions to grow a sustainable business. Vulcan has a world-class scientific and commercial team, and partners with organisations who share the Company's decarbonisation ambitions such as Stellantis, who are Vulcan's second largest shareholder, and with whom the Company has entered into two phased project agreements to help decarbonise energy supply in Rüsselsheim in Germany and Mulhouse in France.

Vulcan has binding lithium offtake agreements with some of the largest cathode, battery, and automakers in the world. Vulcan is aiming to become the trusted green lithium solution of the European mobility transition during a time where supply is expected to outstrip demand.

Vulcan is a trusted partner for renewable energy supply. As well as actively providing renewable power to the grid, Vulcan has a geothermal heat offtake agreement with MVV Energie AG (MVV), the utility for the city of Mannheim, and is in discussions with other municipal and industrial partners for future phases of renewable heat supply.

In the past year, the Company continued transitioning to an integrated renewable energy and ZERO CARBON LITHIUM™ Project execution and operations company. 2023 was a big year of achievements, with the completion of the Bridging Engineering Study for Phase One of Vulcan's flagship integrated renewable energy and ZERO CARBON LITHIUM™ Project, of sufficiently advanced engineering definition that the team could commence project financing. In addition, Vulcan opened the Lithium Extraction Optimisation Plant (LEOP) in Landau, Germany, in November. The start of operations at LEOP will signify the first lithium chemicals to be produced in Europe with an entirely locally sourced value chain.

⁷ According to public, JORC-compliant data. Refer Vulcan Zero Carbon Lithium™ Project Phase One DFS results and Resources-Reserves update <https://www.investi.com.au/api/announcements/vul/e617fca6-6d4.pdf> 2022/02/13 (DFS Presentation).



VULCAN
DELIVERING
EUROPE'S
GREEN ENERGY
AND MOBILITY
TRANSITION

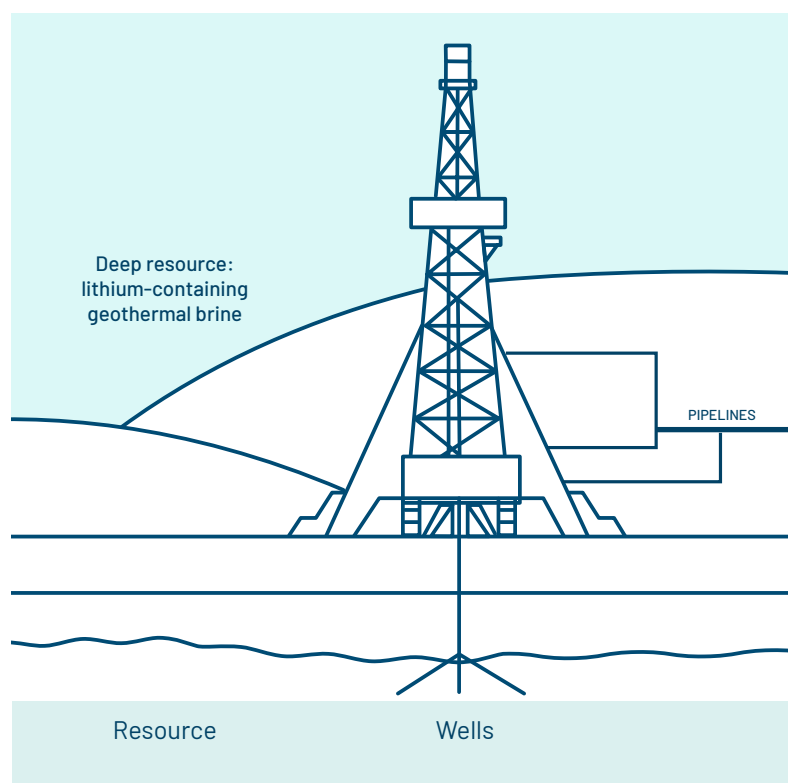


VULCAN'S INTEGRATED RENEWABLE ENERGY AND ZERO CARBON LITHIUM™ PROJECT

VULCAN'S INTEGRATED RENEWABLE ENERGY AND ZERO CARBON LITHIUM™ PROJECT IS THE FIRST OF ITS KIND. BY CO-PRODUCING GEOTHERMAL ENERGY AND BATTERY GRADE LITHIUM THROUGH LOWER-IMPACT EXTRACTION AND PROCESSING METHODS, VULCAN IS HARNESSING INNOVATION TO MEET EUROPE'S RENEWABLE POWER, HEAT AND SUSTAINABLE CRITICAL MATERIALS NEEDS.

At a global level, lithium extraction currently comes from two primary sources: lithium brine extraction from South American and Chinese salt flats or "salars" through evaporation ponds, and extraction through hard-rock mining, located principally in Western Australia. Processing of extracted lithium is concentrated in China, which controls 80 per cent of global production of battery grade lithium.

Vulcan offers a viable alternative to more carbon intensive lithium extraction methods. Vulcan applies Adsorption Direct Lithium Extraction (A-DLE), a proven lower-impact technology, through its proprietary inhouse sorbent, VULSORB®, to efficiently extract the mineral from geothermal brines, a resource which has, until now, been underutilised. Post-extraction, the lithium chloride mineral is electro-chemically converted into lithium hydroxide monohydrate (LHM), to be used in Electric Vehicle (EV) battery production. The outputs of this process are both renewable geothermal heat and energy, and battery grade lithium, contributing to providing renewable energy security for Europe and a domestic lithium supply chain.



Resource Assessment and Site Development

- Components: Well sites, Interconnected Pipeline and Power (ICCP)
- Process: drilling
- Outputs: geothermal Li-rich brine

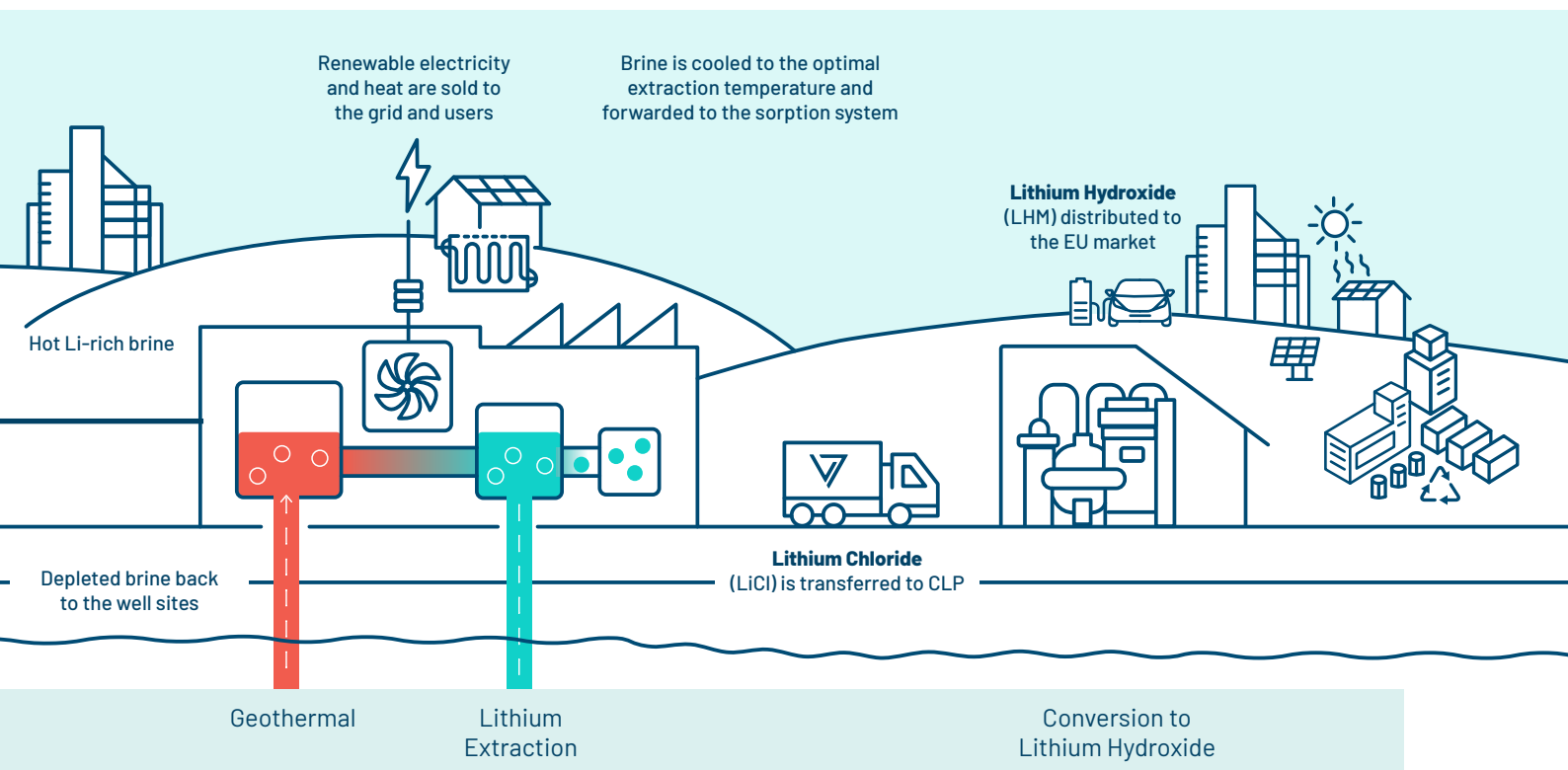
Vulcan's in-house drilling team, Vercana, drills geothermal wells, with electric drill rigs powered by the local grid, with the geothermal brine transported through the Interconnecting Pipeline & Power (ICPP).

PHASE ONE

Vulcan is rapidly advancing to executing Phase One of its integrated renewable energy and ZERO CARBON LITHIUM™ Project. Phase One consists of the first commercial phase of lithium production from Vulcan's proven, brine-producing Löwenherz development area, while ramping up the Company's existing geothermal energy generation in addition to commencing production of geothermal heat for local communities. Subsequent phases are planned for Vulcan's additional licence areas in the Upper Rhine Valley Brine Field, which contain the largest lithium resource in Europe⁸.

Vulcan's Phase One will produce:

- 275 GWh power p.a. and up to 560 GWh heat p.a.
- LiCl concentrate for 24,000tpa LHM equivalent, sufficient to supply around half a million electric vehicles per annum.



Geothermal Energy and Heat

- Components: Geothermal & Lithium Extraction Plant (G-LEP) geothermal power plant & ICCP
- Inputs: hot industrial water transported via ICCP
- Outputs: both geothermal energy and heat

Hot industrial water is transferred to the geothermal power plant, where geothermal power and heat are produced and transferred to the electricity grid and district heating networks.

Lithium Extraction

- Components: G-LEP, ICCP, Central Lithium Extraction Plant (CLP)
- Inputs: brine transported from well sites via ICCP to G-LEP
- Outputs: Lithium chloride
- Process: A-DLE, VULSORB®

After being transported to Vulcan's G-LEP via the ICCP, lithium chloride is produced from the geothermal brine using VULSORB® and natural waste heat from the brine.

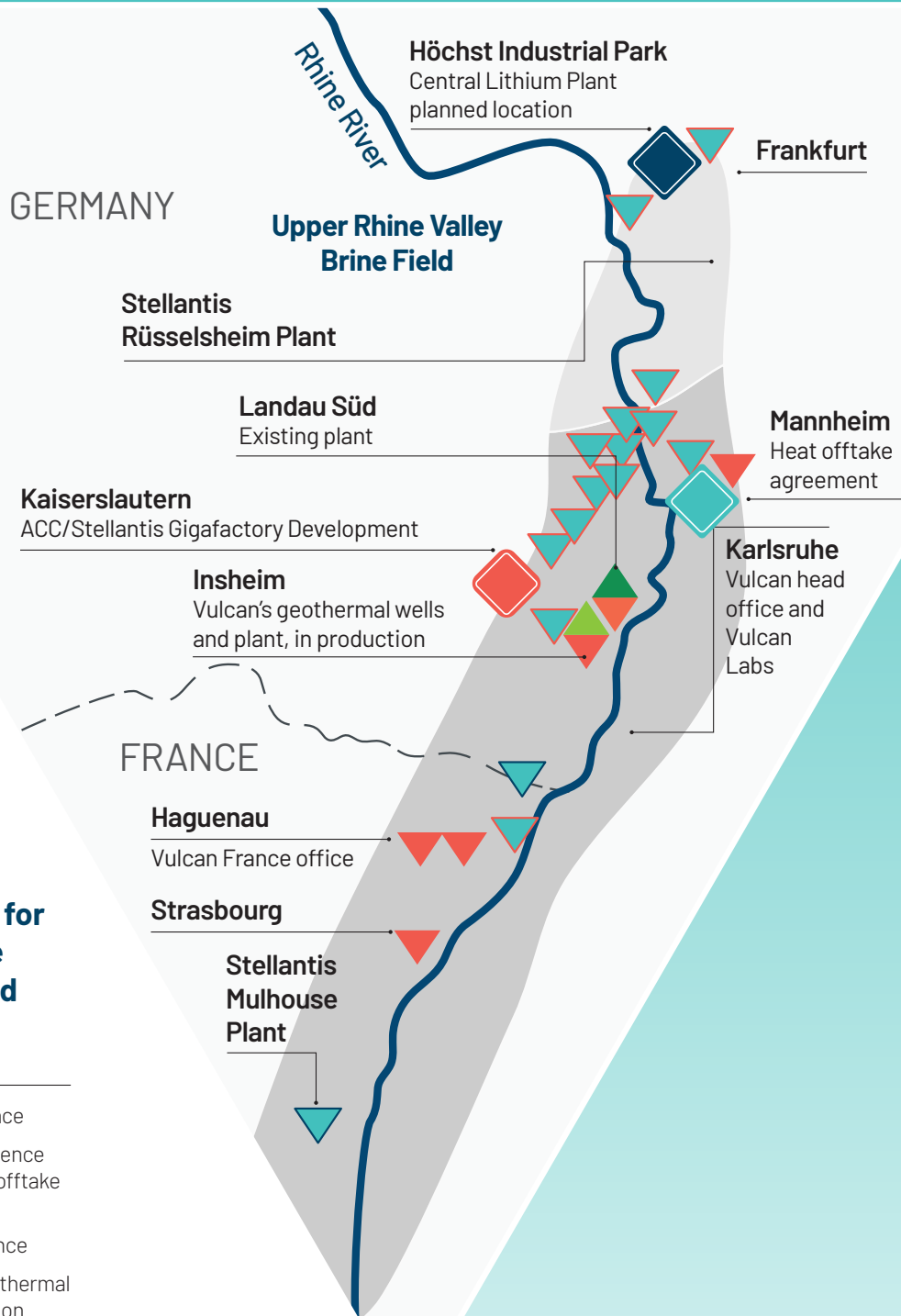
Lithium Processing

- Components: CLP
- Inputs: Lithium chloride, (geothermal heat to heat brine)
- Outputs: lithium hydroxide monohydrate
- Process: electrolysis

The lithium chloride is transferred via trucks to the Central Lithium Plant (CLP) in Höchst Industrie Park where, through electrolysis, it is converted into lithium hydroxide monohydrate (LHM). Finally the LHM is delivered to offtakers for use in EV batteries.

⁸ According to public, JORC-compliant data.

SITES



Licence Areas for Vulcan's Phase One and beyond

LEGEND

- Production licence
- Access to the licence through a brine offtake
- Lithium and geothermal licence
- Lithium and geothermal licence application
- Renewable heat offtake agreement
- Deep geothermal wells/plants
- Höchst Industrial Park
- Kaiserslautern ACC/Stellantis Gigafactory Development

FIGURE 1 OVERVIEW MAP OF VULCAN'S LICENCE AREAS IN THE URV

ZERO CARBON LITHIUM™

Europe currently has zero local supply of the LHM product its auto-industry needs for electric vehicle (EV) battery production, despite the European Union's (EU) predictions that the continent will see a 57-fold increase in demand in the coming years. At present, the battery grade lithium that Europe needs is highly dependent on China, which controls 80 per cent of global production, a reality that results in high transportation emissions, additional supply chain risks and instability. The EU has recognised that onshoring of lithium production is crucial for the continent, evidenced by the impending enactment of the Critical Raw Materials Act (CRMA) in early 2024 which is intended to significantly accelerate strategic projects like Vulcan⁹.

With companies increasingly taking a value chain approach to their sustainability, Vulcan is also well-placed to meet growing demand for sustainable lithium procurement from battery producers and automakers. Supported by the results of comparative LCA studies which were commissioned by Vulcan and carried out by Minviro, the Team believes that Vulcan's Adsorption-Direct Lithium Extraction (A-DLE) lithium production method has a lower environmental impact in terms of water and land use, as well as emissions, giving Vulcan a unique competitive edge. Using A-DLE, lithium can be extracted from geothermal brine with very high efficiency by using natural waste heat from the brine to drive the lithium extraction process, as opposed to burning fossil fuels. According to lithium market analysts Fastmarkets, A-DLE accounts for approximately 10% of current commercial global lithium supply and this is set to increase to 15% by 2030.

DEFINING ZERO CARBON LITHIUM™

Vulcan uses 'zero carbon' in its trademark to refer to the climate change impact of the lithium hydroxide monohydrate product (LHM) extraction and processing. Vulcan is currently expecting zero burning of fossil fuels in its process to produce LHM once fully operational.

Since 2020, Vulcan has commissioned Minviro to undertake a series of International Organisation for Standardisation (ISO) compliant Life Cycle Assessments (LCAs). These are cradle-to-gate studies which include the extraction of the raw lithium product, the geothermal plant, the brine handling, the purification, electrolysis and crystallisation, and the transport of the product from well sites through to the final processing plant. The LCA does not include emissions associated with construction of the ZERO CARBON LITHIUM™ production plant, or the Vulcan Group's corporate office emissions.

The latest update of the LCA, undertaken in 2024, found that Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project has an overall net climate change impact contribution of $-2.0 \text{ kg CO}_2 \text{ eq. per kg LiOH}\cdot\text{H}_2\text{O}$. This included the estimated emissions from lithium production and transport including import of energy from the grid, and estimated emissions avoided due to export of geothermal electricity and heat into the grid and district heating respectively. For full information on the LCA calculation, please see page 32.

The team is committed to updating the LCA continuously alongside any associated messaging as the Project moves into construction and execution.

⁹ <https://www.consilium.europa.eu/en/press/press-releases/2023/11/13/council-and-parliament-strike-provisional-deal-to-reinforce-the-supply-of-critical-raw-materials/>

SUPPORTING THE ENERGY AND HEAT TRANSITION IN GERMANY

In recent years throughout Europe, there has been increasing recognition and value placed on supporting geothermal heat and electricity production as it is a renewable energy source which also delivers a reliable baseload supply, unlike solar and wind energy. The EU Parliament has called for a European strategy on geothermal energy, with the overwhelming majority of 531 in favour, two against, to adopt a resolution to accelerate deployment and investment in geothermal energy¹⁰. In Germany in particular, higher heat and electricity prices following the Russian invasion of Ukraine have spurred additional political and community interest in geothermal alternatives. There are currently 36 geothermal plants operating in Germany, 42 active projects¹¹, and the Federal Government has a target to reach 100 plants by 2030¹². Vulcan has seen these trends reflected in national and local support for the Project, evidenced most recently by the Landau city council voting in December overwhelmingly in favour of progressing an agreement to allow Vulcan to begin construction of its G-LEP.

As a strategic acquisition in early 2022, Vulcan incorporated the Natürlich Insheim (“Insheim”) powerplant into the Company’s portfolio. During the period from 1 January to 31 December 2023, Insheim avoided approximately 6.5 kt of CO₂ eq. emissions. The Insheim plant is currently being fitted to produce renewable district heating, in addition to renewable electricity, enabling Vulcan to play a role in Germany’s “Wärmewende” or “heat transition”. Vulcan aims to begin producing renewable heating in 2025 and to this end, in 2022, signed a binding 20-year renewable heat offtake agreement with MVV Energie AG (MVV), the utility for the city of Mannheim, to provide renewable heat to 25,000 – 35,000 households in the city from a planned future phase of development in this area. According to Vulcan’s estimates, by 2030, the Company targets production of geothermal heat for 1 million people¹³.

VULSORB®

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

Vulcan has successfully piloted the sustainable lithium production process and shown that A-DLE can be successfully applied in the URV, and powered by geothermal renewable energy. This means Europe can produce its own locally sourced lithium for EVs and do so with a world-leading carbon neutral footprint.

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

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

¹⁰ <https://www.euractiv.com/section/energy/news/eu-parliament-calls-for-european-strategy-on-geothermal-energy/>

¹¹ Bundesverband Geothermie

¹² Geothermie_Eckpunktepapier_ressortabgestimmt(bmwk.de)

¹³ Based on average per capita heat consumption in Germany of 6,200 kWh (<https://www.destatis.de/>), and the estimated capacity for heat production from Vulcan’s long term development areas, in a pure heat (no power) scenario.



9 INNOVATION HARNESSING INNOVATION TO MEET EUROPE'S RENEWABLE ENERGY AND CRITICAL MATERIALS NEEDS

At Vulcan, innovation means using existing technologies from different disciplines, synergised to solve complex problems, whilst creating shareholder value. Global warming is the greatest challenge currently faced by the planet, making the rapid decarbonisation of industries an imperative for businesses, governments, and the broader society. At the same time, decarbonisation must not come at disproportionate environmental or social cost, where society finds itself solving one problem but aggravating others, for example degrading habitats, driving biodiversity loss, or failing to mitigate the risk of human rights abuse.

By adapting proven technologies, such as A-DLE to efficiently extract lithium from geothermal brines, a resource which has been underutilised, the team is harnessing innovation to meet Europe's renewable power, heat and critical raw materials needs. Production of renewable energy and lithium will contribute to decarbonising Europe's energy and auto industries, moving the continent closer to a carbon neutral future. Just as importantly, Vulcan is committed to minimising environmental and social impacts, with the ambition of producing the lowest-impact lithium possible through the Company's innovative extraction and processing methods.

INNOVATION PROJECTS

Having already demonstrated that battery grade lithium can be produced from geothermal brines in a lower-impact way through VULSORB®, our A-DLE adapted technology, Vulcan's ongoing innovation focuses on further optimising this process, to ensure operations are as efficient, cost-effective, and sustainable as possible. Vulcan's innovation teams are passionate and multidisciplinary, benefiting from in-house geology, engineering, data science, management and processing, among others. Currently the team is working on seven active projects, with two more in the pipeline, many of which are in collaboration with universities, peer companies, and industry organisations. It is important for us to be an active part of a European, and even global, innovation ecosystem, because only through greater knowledge exchange, can Vulcan most effectively work towards advancing a carbon neutral future.

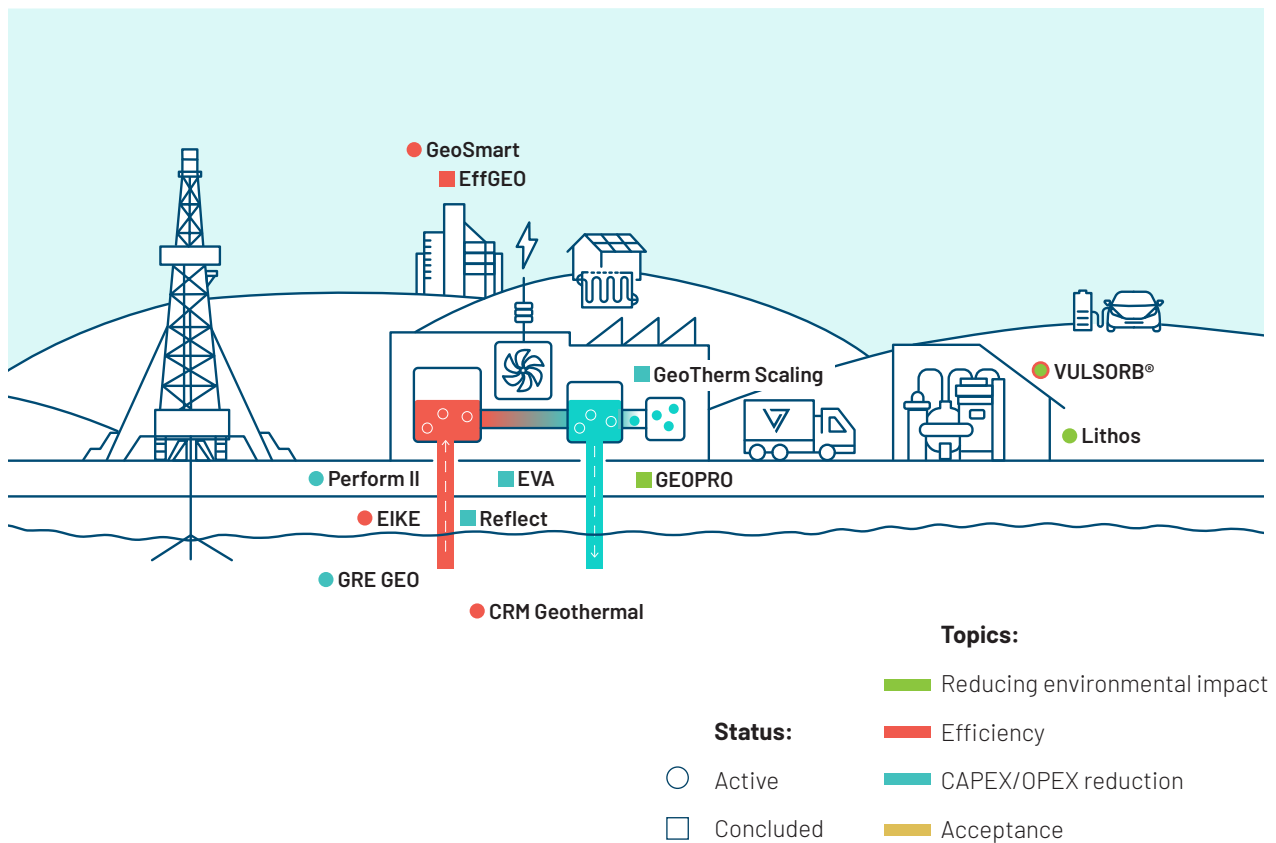
Powered by 12 PhDs with experts in the fields of:

- Geology
- Reservoir management
- Mechanical and process engineering
- Data science, management and processing



KEY INNOVATION PROJECTS

Acronym	Purpose/content	Funding	Status
● GeoSmart	Developing smart technologies for geothermal energy to increase plant efficiency in responding to varying energy demands and seasonal temperatures. (see Case Study on next page)	EU	Active
● CRM Geothermal	Critical raw material from Geothermal fluids: occurrence, enrichment, extraction	EU	Active
● EIKE	Developing an inhibitor to mitigate the corrosion and scaling of equipment caused by geothermal brine	German	Active
● GRE GEO	Developing corrosion-proof glass fibre casing for geothermal application to mitigate the corrosion and scaling of equipment caused by geothermal brine	EU	Active
● Lithos	Creating a central database for chemical analytics and plant sensor data to enable data-driven innovation	Internal	Active
● VULSORB®	Optimising an in-house lithium-selective sorbent material	Internal	Active
● Perform II	Developing a new filter technology to mitigate scaling and corrosion and therefore, improve geothermal system performance	EU	Active
■ Reflect	Redefining geothermal fluid properties at extreme conditions to optimise geothermal energy extraction	EU	Concluded
■ GEOPRO	Advancing the understanding and modelling of geofluid characteristics	EU	Concluded
■ EVA	Removal of scaling in pipes using electric impulse technology	EU	Concluded
■ GeoTherm Scaling	Developing and evaluating advanced iron-boride based coating for deep geothermal applications	German	Concluded
■ EffGEO	Increasing the efficiency of geothermal power plants through general and specific improvements	German	Concluded

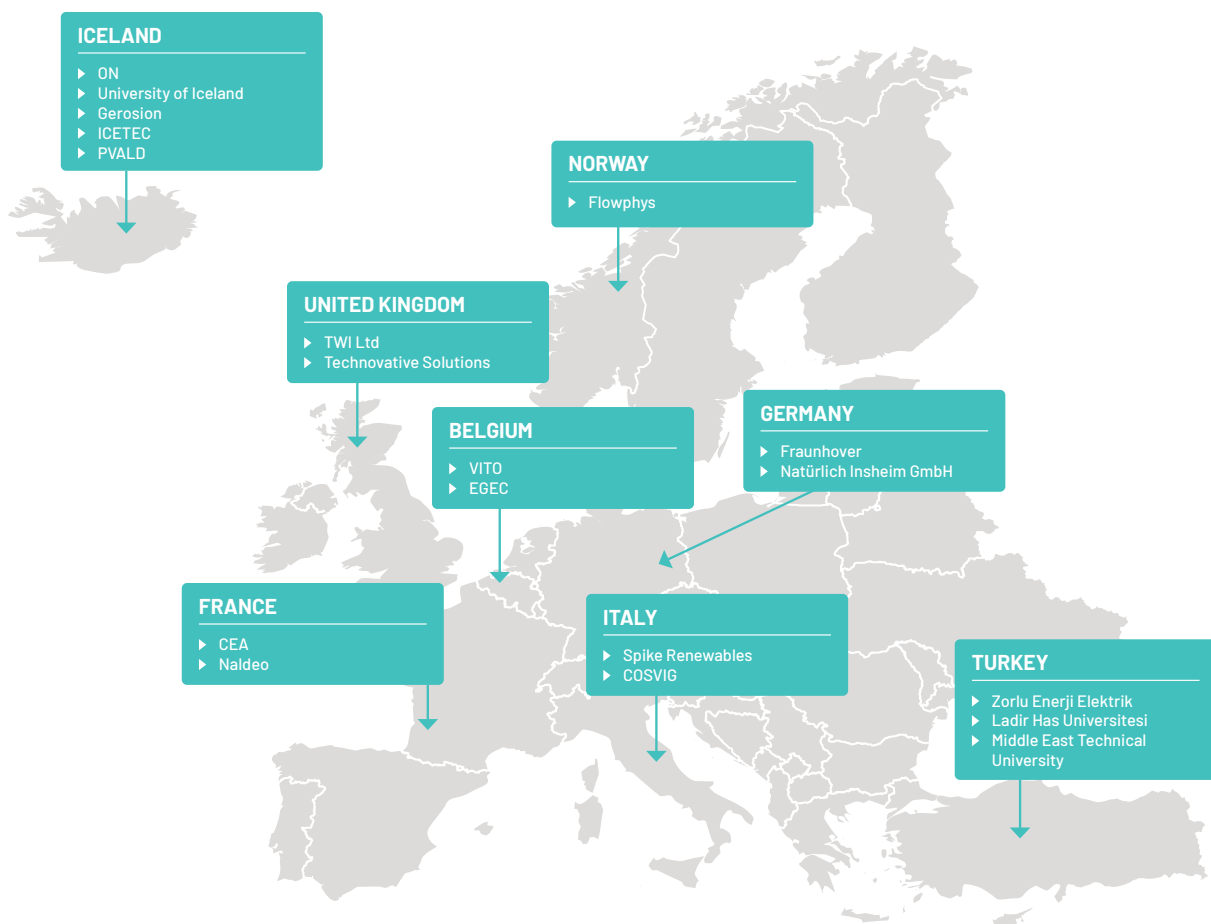


CASE STUDY: GEOSMART PROJECT

The EU-funded GeoSmart project was launched in 2019 and seeks to increase the efficiency of geothermal plants' responsiveness to both varying energy demands and seasonal temperature changes. This is relevant because demand for heat energy falls during warmer months, while plant efficiency drops due to higher temperatures which causes a sub-optimal operating temperature differentiation. To address this, GeoSmart is developing methods to store geothermal heat energy when grid demand is low, so that this stored energy can be released as demand rises again. Simultaneously, to prevent the efficiency degradation which occurs when temperatures rise, GeoSmart is testing cooling methods for the Organic Rankine Cycle (ORC) systems used for large-scale waste heat recovery, to ensure that maximum heat energy can be recovered and stored during the hotter months.

Vulcan is an active member of the GeoSmart consortium, which includes renowned universities and research organisations as well as renewable geothermal energy producers. Vulcan is one of the project's two current demonstration-site providers, through Insheim. In December 2023, the first round of GeoSmart project innovations were installed for testing in Insheim, with more to come in 2024. The GeoSmart project is set to conclude in Q3 2024, and the team is excited to be able to put the project's findings into practice.

GEOSMART CONSORTIUM MEMBERS:



VULCAN'S APPROACH TO SUSTAINABILITY

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

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

Delivering on Vulcan's sustainable purpose and performance requires continuous focus and determination, and the team has taken numerous important steps to this end over the past year. In terms of understanding Company impacts, Vulcan completed an Equator Principles (EP4) and International Finance Corporation (IFC) Performance Standards-aligned Environmental and Social Impact Assessment (ESIA) and updated the LCA for LHM production

to reflect continuous process optimisation. To ensure that the Company's sustainability approach remains up to date for the growing organisation, the team redefined the Vulcan Values and began implementing "OneVulcan", Vulcan's policy to ensure that there is a cohesive sustainability culture across the entire business.

VULCAN'S SUSTAINABILITY AND ESG FRAMEWORK

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

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

PURPOSE

To empower a carbon neutral future.

MISSION

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

ZERO
CARBON
LITHIUM™

RENEWABLE
ENERGY

TECHNOLOGY

TEAM

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

INNOVATION

Adapting existing technologies to efficiently produce lithium from geothermal brine.

SUPPLY CHAIN

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

VULCAN VALUES



CLIMATE CHAMPION



DETERMINED



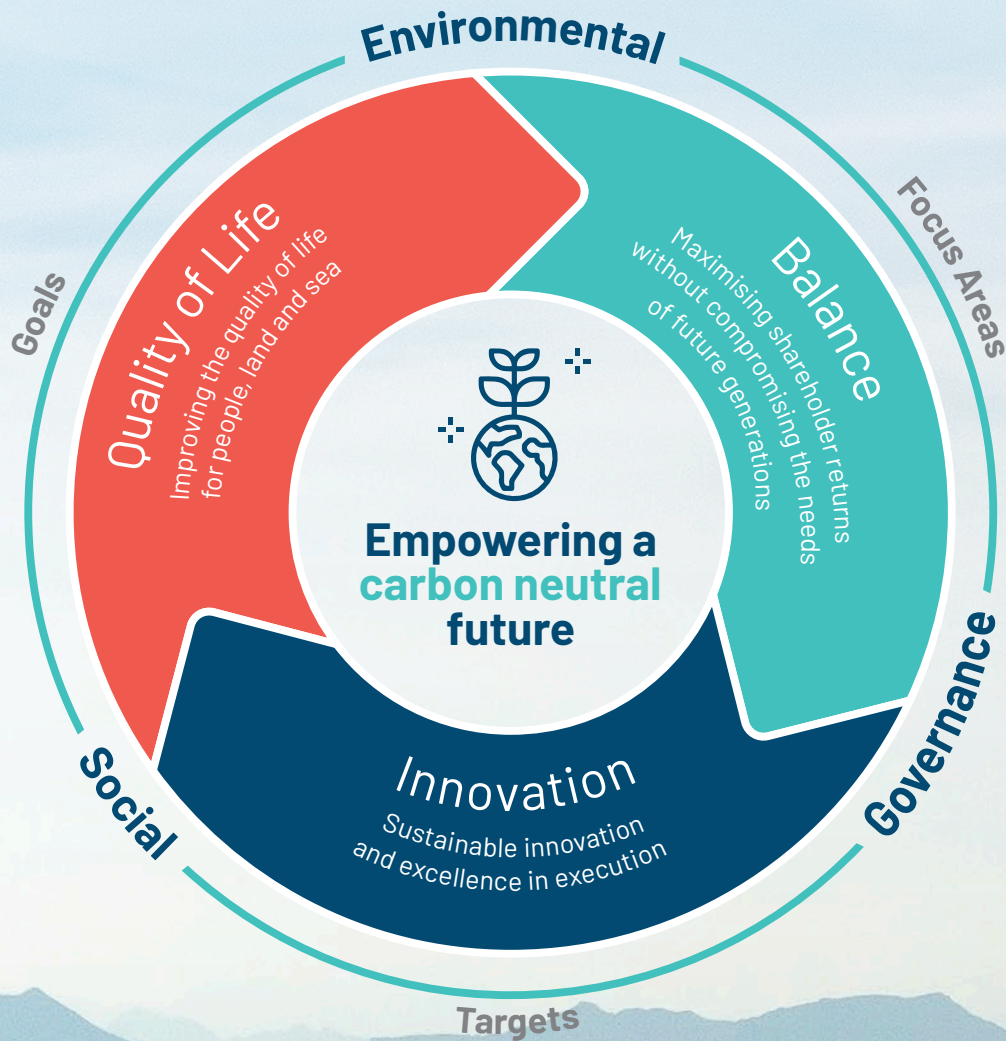
INSPIRING

VULCAN'S SUSTAINABILITY AND ESG FRAMEWORK

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

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

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



VULCAN VALUES

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

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



CLIMATE CHAMPION

We will pioneer a better and carbon neutral future for all



DETERMINED

We are hungry for success and determined to shape tomorrow



INSPIRATIONAL

United in passion for a better world, we rise and inspire each other



ESG RATINGS & PARTNERS

ESG ratings



- Sustainalytics: Low ESG Risk Rating provided by Sustainalytics (January 2023). Ranked first amongst peers and in the 2nd quartile Chemicals Industry, i.e. the top 2%.

Partnerships



- United Nations Global Compact (UNGC): As part of Vulcan's membership of the UNGC, the Company completed the first Communication on Progress (CoP), accessible via the UNGC website.



- Voluntary Carbon Markets Integrity Initiative (VCMI) Stakeholder Forum: as a member of the VCMI, Vulcan fed into discussions regarding pre-revenue companies, to produce the final VCMI Claims Integrity framework.



- Karlsruhe Species Protection Foundation (AZK): Vulcan partnered with AZK on a local nature conservation project to re-introduce 34 lapwings into the local area and are currently discussing the next phase of this partnership.



- Minviro: Minviro has been engaged by Vulcan since 2020 to issue and update its LCA on LIOH.H₂O production.



- ERM: Vulcan has engaged ERM on several sustainability reporting projects, including conducting a Materiality Assessment, assisting with its Equator Principles aligned ESIA and EU Taxonomy assessment.



- Sustainable Business Consultants: Vulcan has worked with Vulcan since 2021 to complete its annual carbon neutral certifications and GHG emissions inventory.

Memberships

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/>



- Bundesverband Erdgas, Erdöl und Geoenergie (BVEG), Hannover <https://www.bveg.de/>



- Deutsche Gesellschaft für Geotechnik e.V. Essen <https://www.dggt.de/>



- Deutsche Gesellschaft für Metallurgen und Bergleute e.V., Clausthal-Zellerfeld <https://gdmb.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 <https://www.globalbattery.org/>



- International Lithium Association (ILiA) <https://lithium.org/>
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Energy



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



- Bundesverband Erneuerbaren Energien e.V. (BEE), Berlin <https://www.bee-ev.de/>



- Agentur für Erneuerbare Energien e.V. (AEE), Berlin <https://www.unendlich-viel-energie.de/>
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Business community, environment and science



- Wirtschaftsrat der CDU e.V., Berlin <https://www.wirtschaftsrat.de/>



- Wirtschaftsforum der SPD e.V., Berlin <https://www.spd-wirtschaftsforum.de/>



- Bundesverband Deutscher Geowissenschaftler e.V., Bonn <https://geoberuf.de/>



- Deutsche Wissenschaftliche Gesellschaft für nachhaltige Energieträger, Mobilität und Kohlenstoffkreisläufe e.V. (DGMK), <https://dgmk.de/>



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



- Landesnaturschutzverband Baden-Württemberg e.V. (LNV), Stuttgart <https://lnv-bw.de/>



- Gesellschaft für Naturschutz und Ornithologie Rheinland-Pfalz e.V. (GNOR), Mainz <https://gnor.de/>



- UN Global Compact Network Australia <https://unglobalcompact.org/>



- German - Australian Chamber of Industry and Commerce Member <https://australien.ahk.de/en/>



- TechnologieRegion Karlsruhe e.V., Karlsruhe <https://trk.de/>




- Metropolregion Rhein Neckar e.V., Mannheim <https://www.m-r-n.com/>
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Automotive



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



UNDERSTANDING VULCAN'S IMPACTS

STAKEHOLDER ENGAGEMENT

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

As a company which is building part of the solution to Europe's decarbonisation targets, as well as the continent's energy sovereignty and local critical minerals supply needs, Vulcan has spent considerable time and resources ensuring a highly skilled communications team and strategy is in place. This team consists of regional managers, political and stakeholder engagement specialists and investor relations who already actively engage with policy debates on how best governments and industry can reach decarbonisation objectives. At a local, national, and regional level, Vulcan

recognises that there are also concerns about how Europe can produce sufficient lithium locally to satisfy its EV battery demand, without aggravating other environmental issues, such as biodiversity loss, and water scarcity. Vulcan views these debates as valid and sees stakeholder engagement as a crucial means of explaining how the Company will minimise the environmental impacts of the lithium supply chain, by producing the most sustainable lithium products on the market whilst delivering affordable baseload energy to local communities.

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

Stakeholder group	How we engaged	Related material topics	Sustainable Development Goals	Page
Employees	Annual employee satisfaction survey Annual "SommerFest" and "WinterFest" events Quarterly team town halls Whistleblower mechanism Health and safety mobile app Health and safety training	Climate change and energy Environment impact Community engagement Diversity, equity and inclusion Health, safety and wellbeing Business ethics Governance Transparency	        	45
Community Local communities in the regions in which Vulcan operates	"Open door" days of our facilities Info trucks Info centres Information events Phone / email Sponsorships	Biodiversity Climate change and energy Environmental impact Community engagement Health, safety, and wellbeing Business ethics Governance Transparency	       	47
Customers Lithium offtakers Heat offtakers Geothermal energy offtakers	Direct engagement Email Site visits Market briefings	Climate change and energy Circular economy Environmental impact	     	15
Suppliers Ranges of businesses, including both local and multinational businesses	Website Emails Direct engagement	Climate change and energy Circular economy Environmental impact Human rights	      	56
Government and regulators Local, regional and national governments including Australia, Germany, Italy and the European Union	Meetings Briefings Presentations Events Working groups Forums Letters Emails Formal submissions Website Participation in industry Associations and advocacy	Biodiversity Climate change and energy Environmental impact Community engagement Diversity, equity and inclusion Health, safety and wellbeing Business ethics Digitisation and cyber security Governance Transparency	        	49

MATERIALITY ASSESSMENT

Vulcan's Materiality Assessment was carried out in accordance with the GRI Standards in June 2022, with the assistance of ERM, and identified 17 material topics. Climate change and energy, environmental impact, community engagement and governance scored highest for both importance to stakeholders and importance to Vulcan. These were then mapped against the relevant United Nations Sustainable Development Goals (SDGs). The material topics definitions are available in the Appendix of this Report.

In anticipation of new non-financial regulatory reporting requirements in the European Union, Vulcan will update this materiality assessment to align with the EU Corporate Sustainability Reporting Directive (CSRD) by identifying the impacts, risks and opportunities associated with material topics along the value chain, taking a double materiality approach.



ENVIRONMENT

- Biodiversity
- Climate change and energy
- Circular economy
- Environmental impact
- Waste
- Water



SOCIAL

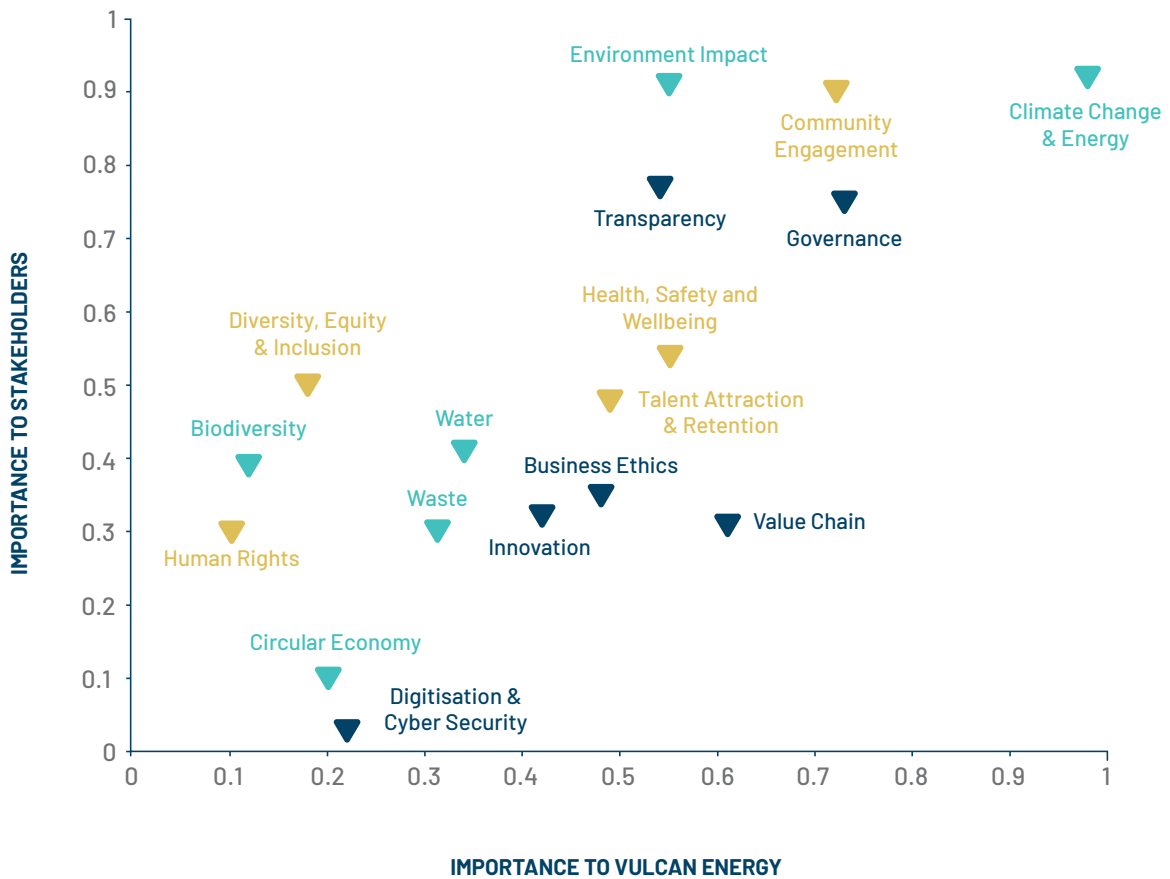
- Community engagement
- Diversity, equity and inclusion
- Health, safety and wellbeing
- Human rights
- Talent attraction and retention



GOVERNANCE

- Business ethics
- Digitisation and cyber security
- Governance
- Innovation
- Value chain
- Transparency





MINIMISING ENVIRONMENTAL IMPACT



VULCAN'S MISSION, WHICH IS TO ACTIVELY DECARBONISE THE ENERGY AND LITHIUM SUPPLY CHAIN, IS EVIDENTLY ALIGNED WITH ENVIRONMENTAL OBJECTIVES. HOWEVER, THE TEAM RECOGNISES THAT THIS IN ITSELF DOES NOT NECESSARILY MEAN THAT VULCAN IS AN ENVIRONMENTALLY SUSTAINABLE COMPANY. THE DEBATE ABOUT WHETHER THE RAPID DRIVE FOR DECARBONISATION WILL, UNINTENTIONALLY, AGGRAVATE OTHER ENVIRONMENTAL ISSUES, SUCH AS BIODIVERSITY LOSS, AND WATER SCARCITY, IS VALID AND IS ONE VULCAN ACTIVELY ENGAGES IN. VULCAN'S POSITION IS THAT DECARBONISATION SHOULD NOT COME AT ANY MATERIAL COST TO THE ENVIRONMENT.

Vulcan's position is that decarbonisation should not come at any cost to the environment, and that renewable energy and critical materials providers should be taking all viable steps to understand and minimise their impacts. The team is motivated by a desire to be proud of not just what we do, but also how we do it.

For this reason, Vulcan is building sustainability into the renewable energy and lithium value chain from the onset. In practice, this means understanding the Company's current and forecasted impacts and using this knowledge to interrogate whether parts of the processes or inputs to produce renewable energy and lithium can be modified to reduce environmental impact. A good example of this in 2023 was the team's decision to push for grid connection at the well sites from the outset as opposed to relying on diesel. Having forecast for the different scenarios, the team calculated that even without renewable Power Purchase Agreements (PPAs), Vulcan will have almost halved GWP forecast from a potential 31,975 t CO₂ eq. to 15,027 t CO₂ eq. for Scope 1 & 2 emissions. By ensuring access to PPAs, as is currently the plan, Vulcan hopes to cut scope 2 emissions to zero, with remaining Scope 1 emissions only relating to the diesel backup generator to ensure power supply in the unlikely case of grid issues.

ESIA FINDINGS ON ENVIRONMENTAL IMPACTS

In December, Vulcan, with the assistance of ERM, finalised an Environmental and Social Impact Assessment (ESIA) for Phase One of the integrated renewable energy and ZERO CARBON LITHIUM™ Project, which was aligned with EP4 and IFC Performance Standards. The ESIA is a prerequisite for the raising of sustainable or “green” debt finance and is an important third-party validation of the Project’s forecasted environmental and social impacts. Significantly, the Project has no potential impact determined as greater than “minor” post mitigation measures and notes several positive impacts to both people and the planet. This supports Vulcan’s belief that its Project has a lower environmental impact in terms of the carbon, water and land footprint, compared to alternative lithium extraction and processing operations.

As a next step, Vulcan looks forward to implementing the best practice Environmental and Social Management Plan (ESMP) developed from the suggested mitigation actions in the ESIA, and to engaging with lenders on this matter during the Phase One financing process, which has been initiated.

Via a comprehensive analysis process by ERM, the ESIA outlined specific environmental impacts for Phase One of the integrated renewable energy and ZERO CARBON LITHIUM™ Project and scored according to their likelihood and magnitude, across the whole project life including construction, operation, and decommissioning. Magnitude was then re-assessed with the suggested mitigation measures implemented. The high-level assessment is outlined in the table below and will be further explained within this chapter.

SUMMARY OF ESIA FINDINGS

Identified Impact	Construction Phase		Operation Phase		Decommissioning Phase	
	Pre-mitigation significance	Post-mitigation significance	Pre-mitigation significance	Post-mitigation significance	Pre-mitigation significance	Post-mitigation significance
PHYSICAL ENVIRONMENT						
Geology, Soils and Geohazards	Moderate	Minor	Minor	Insignificant	Insignificant	Insignificant
Noise	Major	Minor	Moderate	Minor	Moderate	Insignificant
Air Quality	Minor to Moderate	Minor to insignificant	Insignificant	Insignificant	Minor to Moderate	Minor to insignificant
Surface Water	Minor	Insignificant	Minor	Insignificant	Minor	Insignificant
Groundwater	Moderate	Minor	Minor	Insignificant	Minor	Insignificant
Waster and Wastewater	Moderate	Minor	Minor	Insignificant	Moderate	Insignificant
BIOLOGICAL ENVIRONMENT						
Loss of Fauna	Minor to Moderate	Insignificant	Insignificant	Insignificant	Minor	Insignificant
Disturbance to Fauna (light, noise, vibrations, dust)	Moderate	Minor	Minor	Insignificant	Moderate	Insignificant
Barriers to Fauna Species Movement	Minor	Insignificant	Minor	Insignificant	N/A	N/A
Pollution of Aquatic Ecosystems	Minor	Insignificant	Minor	Insignificant	Minor	Insignificant
Introduction / Spread of invasive alien plants	Minor to Moderate	Insignificant	N/A	N/A	Minor	Insignificant

KEY: ■ Insignificant | ■ Minor | ■ Moderate | ■ Major

GOVERNANCE OF ENVIRONMENTAL IMPACTS

Vulcan's Environmental Management Policy (see ESG policy bank p.54) sets out the Company's high-level commitment to understanding and mitigating environmental impacts associated with operations. At a minimum, the Company seeks to comply with all relevant environmental laws and regulations.

As the holding company for the German operating entities, Vulcan Energie Ressourcen GmbH received ISO 14001:2015 Environmental Management System (EMS) during the year and ISO 9001 Quality Management System (QMS) certification in 2022. ISO 14001:2015 specifies the requirements for an environmental management system in line with an environmental management policy to manage company sustainability, achievement of environmental objectives and fulfilment of compliance obligations. ISO 9001 works in tandem with ISO 14001:2015 to increase productivity, efficiency, and accountability within organisational processes. Certification to these standards is international good practice and will help ensure the systems in place are robust.

CLIMATE CHANGE AND ENERGY



Empowering a carbon neutral future in energy and transportation is Vulcan's purpose, which the team are determined to deliver on, through actively decarbonising the energy industry and lithium supply chains. In addition to producing renewable energy and lithium, which are crucial components within Europe's decarbonisation strategy, Vulcan is committed to both understanding and minimising its carbon footprint across its value chain.

RENEWABLE ENERGY AND ZERO CARBON LITHIUM™ PRODUCTION EMISSIONS

Vulcan's lithium extraction and production process is designed to be less carbon-intensive than alternative lithium production methods. Lithium extraction from brine requires the brine to be heated, which has traditionally been done through burning fossil fuels. Using Vulcan's A-DLE process lithium can be extracted from geothermal brine by using natural waste heat from the brine. Through using renewable energy to heat the brine, the team believes that Vulcan's lithium production method has a lower carbon footprint, giving Vulcan a unique competitive edge. Furthermore, by extracting and processing lithium within Europe, Vulcan avoids the need for longer supply chains from Australia, South America and China, and therefore, the emissions associated with this transportation.

In order to calculate the climate impact of the LHM product, Vulcan commissions Minviro Ltd, to undertake ISO aligned LCAs of the integrated geothermal energy, lithium production and processing impacts from cradle to gate.



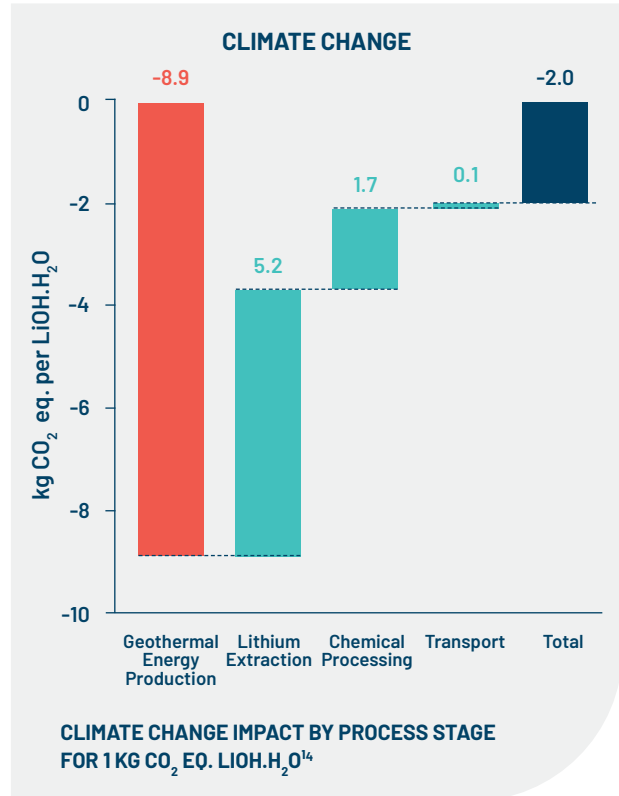
MINVIRO LIFE CYCLE ASSESSMENT 2023

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

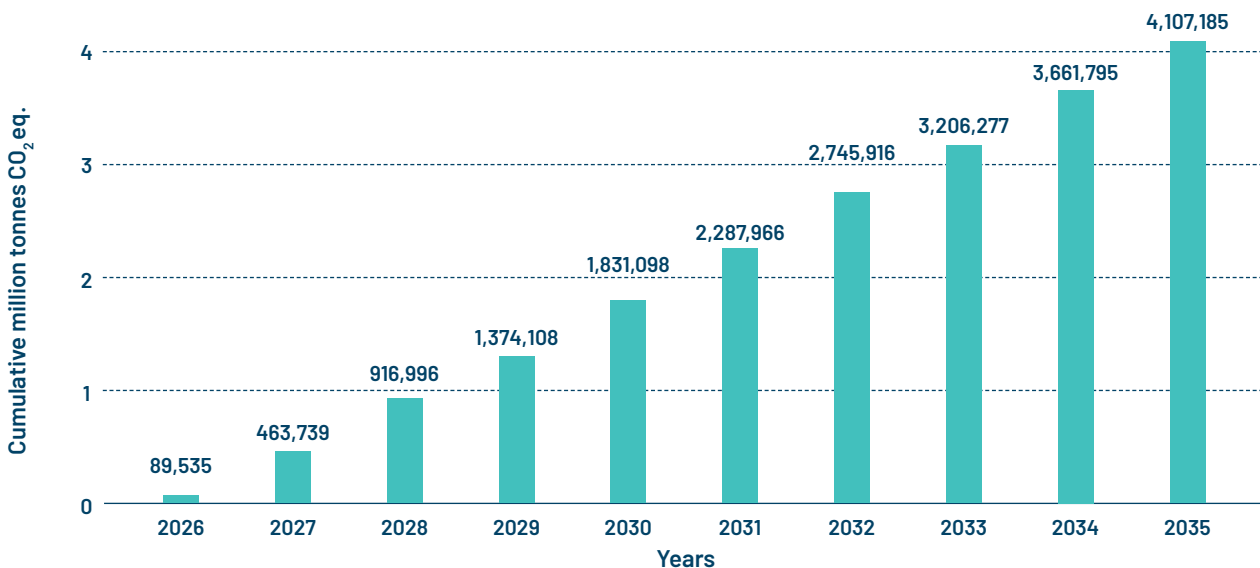
The current net climate change impact assessed is -2.0 kg CO₂ eq. per kg LiOH.H₂O, which significantly means that Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project has an overall net negative carbon emissions contribution. The largest positive contributor to climate change impact is the geothermal plant, due to the emissions avoided through renewable energy production. Hence, geothermal brine extraction and energy production's impact stands at -8.9 kg CO₂ eq. per kg LiOH.H₂O. Lithium extraction, on the other hand contributes 5.2 kg CO₂ eq. per kg LiOH.H₂O, an amount minimised by the use of geothermal waste heat to drive the process. Finally, the climate change impact contribution of the CLP is 1.7 kg CO₂ eq. per kg LiOH.H₂O, and the impact of transporting intermediate products between the sites is 0.1 kg CO₂eq. per kg LiOH.H₂O. For this reason, when compared with alternative lithium producers, the team believes that Vulcan's lithium production method has the lowest carbon footprint, giving Vulcan a key competitive differentiator.

As part of the LCA update, a 10-year GHG avoidance profile was forecasted for Phase One of the integrated renewable energy and ZERO CARBON LITHIUM™ Project

using the EU Innovation Fund estimation methodology, which excludes the impact of electricity used. The absolute avoided impact using this methodology over 10 years from 2026 to 2035 is estimated to be more than 4.1 million tonnes CO₂ eq.



ESTIMATED CUMULATIVE ABSOLUTE AVOIDED GHG EMISSIONS OVER 10 YEARS¹⁵



¹⁴ Minviro LCA Report Final dated 22 March 2024

¹⁵ Minviro GHG Avoidance dated 22 March 2024

FORECASTING CONSTRUCTION EMISSIONS

The scope of Minviro's LCA is limited to the extraction and processing of the LHM product. However, given the hard-to-abate nature of the construction industry, Vulcan is working diligently to understand the embodied emissions of different construction materials, as well as forecasting the emissions that will be generated during the build phase. Once complete these forecasts will help inform procurement decision making.

After careful selection against ESG pre-qualification criteria, Vulcan will then work with its contractors to ensure that these emissions are further minimised, as far as is practical, as well ensuring ongoing monitoring is in place.

The Company will transparently share this data and mitigation measures in future reporting.



CURRENT EMISSIONS

Vulcan possesses carbon neutral certificates for the Australian business for the years 2021 and 2022 and for the German businesses for 2022. Vulcan's 2023 GHG emissions are currently in the process of verification and will be published in future reports.

Vulcan achieves annual carbon neutral certifications by engaging Climate Active for the Australian business and Climate Impact Partners for the German businesses. The emissions footprint has been calculated in accordance with the GHG Protocol, and covers Scope 1 emissions (mobile combustion), Scope 2 emissions (market-based

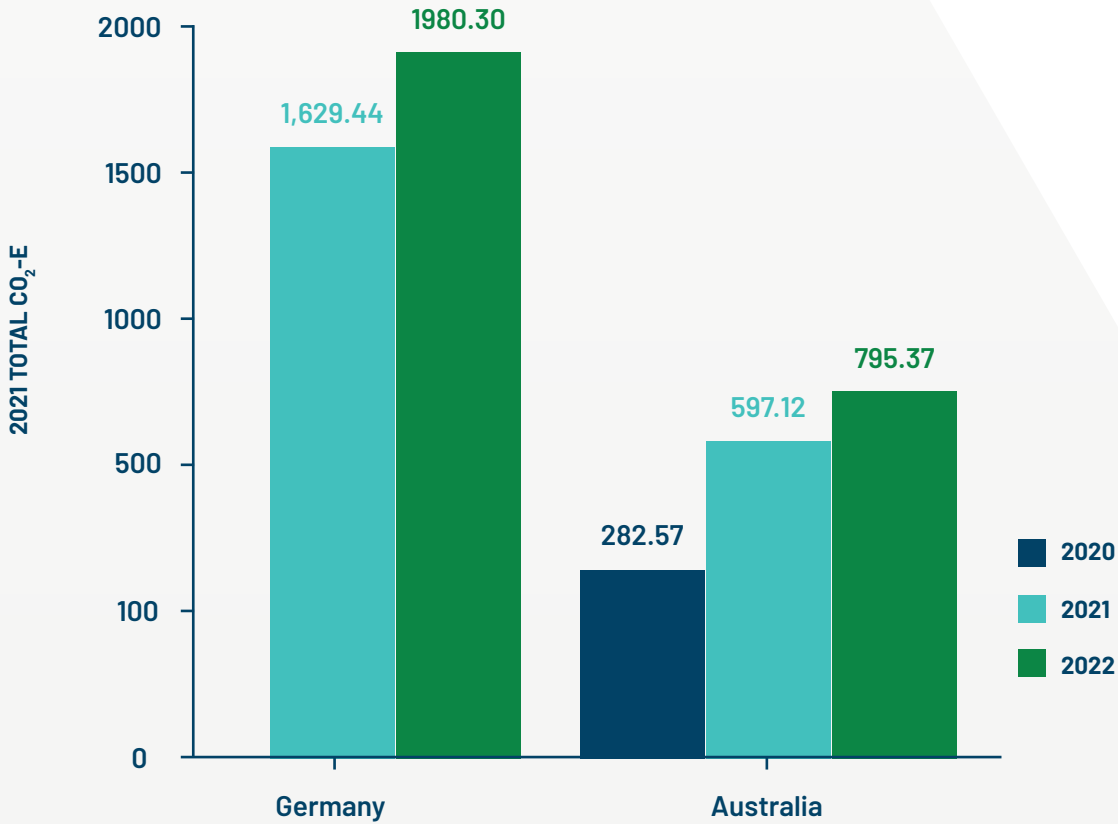
electricity and heating), and Scope 3 emissions (Category 1 [purchased goods and services including property, plant and equipment], Category 2 [capital goods], Category 3 [fuel and energy related activities], Category 5 [waste generated in operations], Category 6 [business travel], and Category 7 [employee commuting]). As part of the carbon neutral certifications, Vulcan acquitted offsets that supported two projects registered under the Verified Carbon Standard (VERRA) including the Rimba Raya Biodiversity Reserve (550tCO₂e) and a Global Renewable Energy Portfolio (2,227tCO₂e).

2022 SCOPE 1, 2 & 3 FOR GERMANY AND AUSTRALIA¹⁶

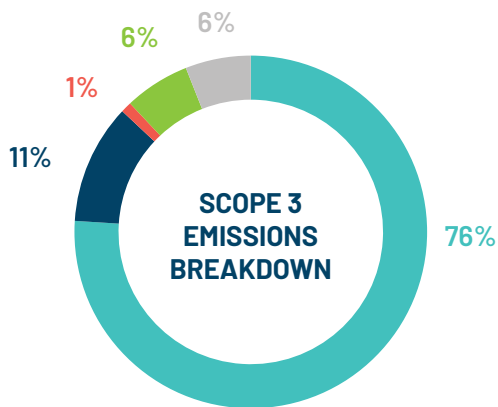
Scope	Category	Australia	Germany	Combined
Scope 1	Mobile Combustion	0.0	24.5	24.5
Scope 2	Market-Based Electricity & Heating	1.76	126.3	128.06
Scope 3	Purchased Goods & Services	693.04	1306.1	199.14
	Capital Goods	10.66	289.3	299.96
	Fuel	0	12.4	12.4
	Waste	1.5	0.2	1.7
	Travel	82.87	67.9	150.77
	Employee commuting & work from home	5.54	153.6	159.14
Total		795.37	1980.3	2775.67

¹⁶ Sustainable Business Consultants Carbon Neutral Company Attestation 2022

GHG OVERALL EMISSIONS COMPARISON FOR GERMANY AND AUSTRALIA¹⁷



SCOPE 3 EMISSIONS BY SOURCE¹⁷



- Purchased Goods & Services
- Capital Goods
- Fuel
- Waste
- Travel
- Employee commuting & WFH

Scope 3 emissions by source ¹⁷	Emissions (tCO ₂ e)	%
Purchased Goods & Services	1999.14	76
Capital Goods	299.96	11
Fuel	12.4	1
Waste	1.7	0
Travel	150.77	6
Employee commuting & WFH	159.14	6
Total	2775.67	

¹⁷ Sustainable Business Consultants Carbon Neutral Company Attestation 2022

BIODIVERSITY



Vulcan is committed to minimising the impacts of construction and operations activities on biodiversity, including habitat protection, soil health, and land stewardship practices. The

Company's integrated renewable energy and ZERO CARBON LITHIUM™ Project is situated in the 'Western European Broadleaf Forests' ecoregion, which was once dominated by ancient mountain beech forests. Today, due to human activities such as intensive agriculture and construction, remaining semi-intact natural habitats are restricted to the network of Protected Areas (Natura 2000). Vulcan's project components, such as wellsites, geothermal brine pipeline, and operations plants, by design do not intersect or overlap with any Protected Areas. Two Natura 2000 sites near Landau however, are in its vicinity; 'Standortübungsplatz Landau' is roughly 50 m from the planned pipeline alignment, while 'Erlenbach und Klingbach' is located within 500m of the drill site at 40 Morgen. This proximity warrants consideration and avoidance of potential indirect interactions with these areas and their biodiversity values.

Minimising impacts on biodiversity

Land use

Land use for human activities is considered to be the most significant driver of terrestrial biodiversity loss because of how it shrinks, fragments and degrades ecosystems. In contrast with lithium production methods which use evaporation ponds or open-pit mining, Vulcan's A-DLE lithium extraction and processing method requires a smaller land footprint. This is because the Project extracts brine from the subsurface and processes it to produce lithium on a relatively small site, before re-injecting the brine into the ground. Vulcan's land use, therefore, is limited to wellsites, pipelines and power plant and processing facilities, rather than requiring sites for evaporation or mines and their associated tailing storage areas. For this reason, the team believes that Vulcan's lithium production method has a lower environmental impact in terms of land use.

ESIA findings

According to the findings of the ESIA, any potential biodiversity impacts are most closely linked with direct and indirect impacts to species of conservation importance rather than natural habitats, as these are largely areas which have already been modified by local agricultural activities. Post-mitigation, the Project's construction-phase impacts (e.g. temporary areas, noise, vibrations, and emissions) were determined to be minor to insignificant, and will be temporary in nature and therefore, considerably less significant in the long term. Vulcan's permanent operational impacts, originating from the operation of the geothermal power plant, associated pipelines, and lithium production plant, were deemed to be insignificant post-mitigation measures.

In accordance with the ESIA recommendations to mitigate construction and operations impacts on biodiversity, Vulcan is committed to:

- Restricting all activities to modified agricultural land.
- Only clearing vegetation when necessary for construction, and where possible cut vegetation to ground level instead of stripping areas entirely.
- Installing appropriate wildlife fencing along the Project perimeter where site infrastructure (i.e., the planned pipeline) will be located near to identified Natura 2000 sites to prevent small mammals and reptiles from entering into the active construction zone.
- Investigating opportunities to conserve, better manage, or create suitable alternative habitats or enhancement of existing ones to support displaced species where applicable. This will be informed by operational phase monitoring of species.
- Undertaking progressive rehabilitation in accordance with a land/habitat rehabilitation and restoration plan.

REWILDING AND SPECIES RE-INTRODUCTION: KARLSRUHE SPECIES PROTECTION FOUNDATION (AZK)

Vulcan believes in leaving the environment better than it finds it, including through species re-introduction and “rewilding”. To this end, Vulcan supported the Karlsruhe Species Protection Foundation (AZK) on a local nature conservation project to re-introduce 34 lapwings, a bird species which is threatened with extinction, in Rheinau, central Baden. AZK, a foundation associated with the Zoological Gardens, Karlsruhe, supports projects worldwide that serve to preserve biological diversity. Vulcan is continuing to finalise the next steps of the partnership which will include further contributions and volunteering.

WATER

Vulcan is committed to conserving water by treating, reusing and replenishing the water used within the integrated renewable energy and ZERO CARBON LITHIUM™ Project, as well as reducing water consumption. Vulcan’s operations are not located in water stressed areas, however, the team is committed to advancing its understanding of the risk of increased water scarcity due to climate related changes in precipitation in Western Europe. Within Vulcan’s Project area of influence, there are no aquatic ecosystems associated with surface water features such as rivers, streams, wetlands or freshwater lakes or man-made reservoirs. The nearest large river system is the Rhine River, which is located roughly 14 km east of the closest Project site.



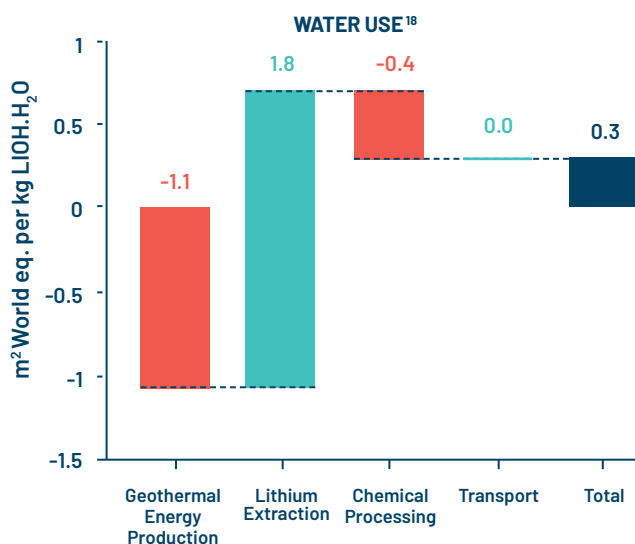
reusing and replenishing the water used within the integrated renewable energy and ZERO CARBON LITHIUM™ Project, as well as reducing water consumption.

The role of water in the Project

Geothermal renewable energy production and lithium extraction are both dependent on deep brine aquifers, accessed by drilling. The high temperature brine is separated from shallow freshwater aquifers by kilometres of impermeable rock formations, with no impact anticipated on local potable groundwater. Vulcan will access the brine, initially generating energy using conventional geothermal technology currently operating in the Upper Rhine Valley by Vulcan and others, then extract the lithium using A-DLE. Vulcan’s process will then return the brine to its original aquifer, after heat and lithium extraction. Finally, freshwater is used to separate the lithium product from Vulcan’s lithium extraction technology, VULSORB®, during the lithium extraction process.

Vulcan believes that its Project will have a lower freshwater footprint compared to alternative lithium projects. This is possible because Vulcan’s A-DLE process does not rely on evaporation ponds and because the freshwater used will be recycled through reverse osmosis and evaporation, powered by geothermal energy. The findings of the most recent LCA show that the net total water use impact of the process is 0.3m³ world eq. per kg LiOH.H₂O. The net water use impact is broken down by stage in the graph.

Water use impact is greatest during lithium extraction, calculated as 1.8m³ world eq. per kg LiOH.H₂O, which is primarily due to the water use when separating lithium product from VULSORB® and the embodied emissions within the sodium hydroxide reagent used in the lithium concentration and CLP. Whereas the water use impact from geothermal energy production is -1.1m³ world eq. per kg LiOH.H₂O, due to the credit received for exporting electricity to the German grid and thermal energy for district heating. The water impact is also beneficial for the chemical processing facility, due to the system expansion credit associated with hydrochloric acid production.



¹⁸ Minviro LCA Report Final dated 22 March 2024

CIRCULAR ECONOMY & WASTE

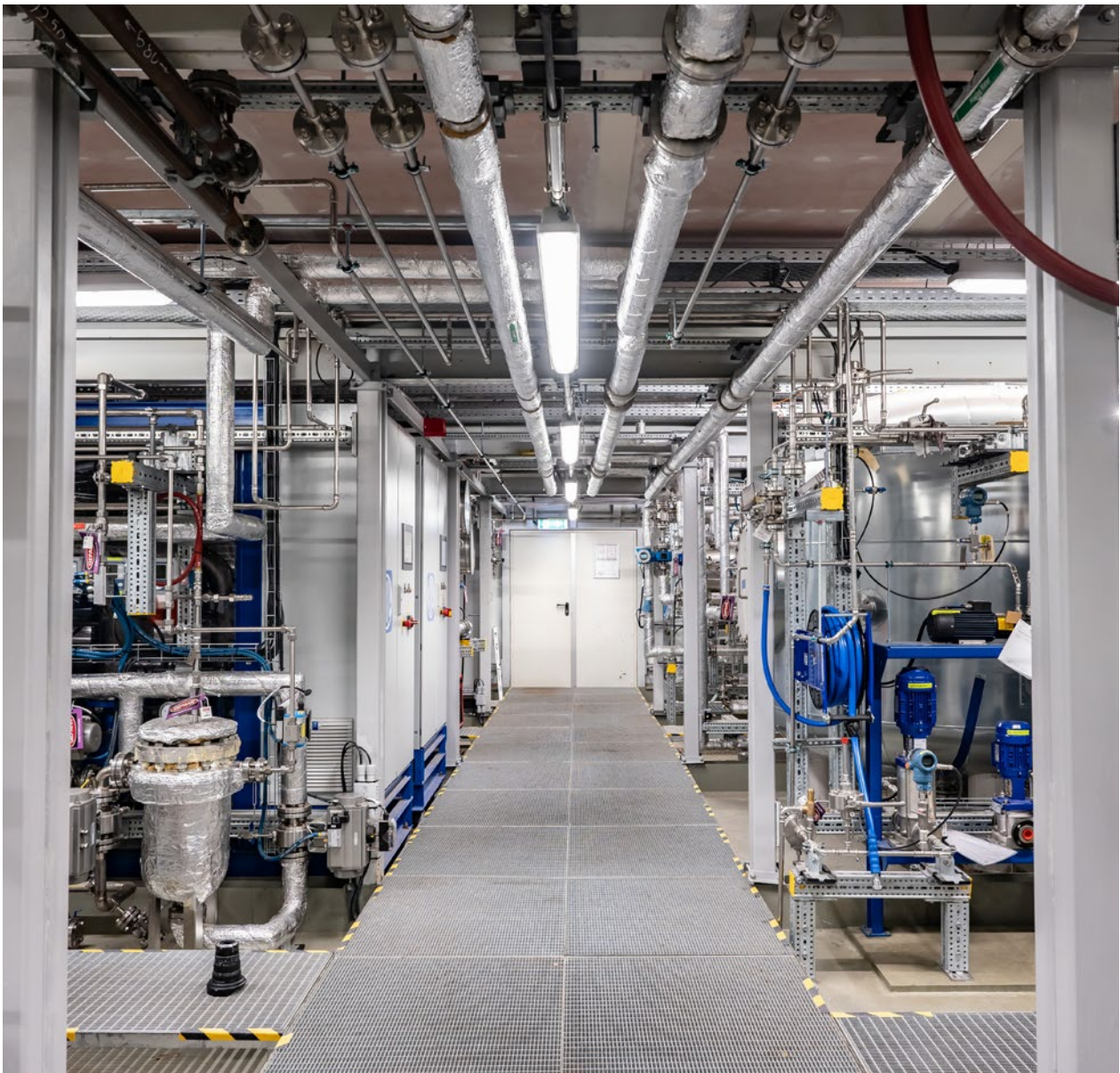


Vulcan is committed to the effective management of waste, including overall operational waste efficiency and recycling from lithium processing. While the Company is producing renewable energy but

not yet in commercial production for the lithium product, the team understands the importance of developing solutions that promote a circular economy through waste management, prevention, and reuse efforts.

The team is actively designing processes to minimise waste once production is reached. It is important to note that geothermal lithium production does not require any sort of tailings, unlike hard rock lithium mining, and the main waste products will be very minimal amounts of drilling waste (cuttings) and scaling in pipes. While the Project forecasts that these cuttings will be collected and treated by a licensed waste collector, the team is also actively participating in a research project focused on recycling drilling cuttings into building materials. This initiative aligns with Vulcan's long-term goal of eliminating the need for traditional deposition methods, contributing to a more sustainable raw materials management industry.

IN 2023, VULCAN DID NOT EMIT SOX OR NOX EMISSIONS





DID YOU KNOW:

VULCAN IS COMMITTED TO EMBEDDING CIRCULARITY INTO ITS PROCUREMENT PROCESSES WHERE POSSIBLE, WHICH IS DEMONSTRATED BY THE PURCHASE OF TWO SECOND HAND DRILL RIGS IN 2021, PREVIOUSLY USED FOR OIL AND GAS OPERATIONS. THE TEAM IS CURRENTLY FINISHING THE REFURBISHMENT OF THESE RIGS FOR USE, READY FOR GEOTHERMAL DRILLING OPERATIONS BY VERCANA.

CREATING SOCIAL VALUE



HEALTH, SAFETY AND WELL-BEING



The health and safety of Vulcan's employees and contractors is paramount. Each and every one of Vulcan's team has a responsibility to maintain a safe workplace and look out for colleagues. Vulcan aspires towards zero harm and have taken

steps to embed accountability for health and safety into the business, starting with Key Performance Indicators (KPIs) for the Leadership team, including achieving zero Lost Time Injuries (LTIs) across all operations annually.

As Vulcan moves into the next critical phase of construction and execution, health and safety risks will multiply, requiring everyone to remain vigilant. To meet this challenge, the Health, Safety and Environment (HSE) team have been working tirelessly to strengthen and extend occupational risk assessment strategy, training, and accountability, as well as a health and safety culture during the reporting period.

In 2023 the German operational entity, Vulcan Energie Ressourcen GmbH achieved ISO45001:2015, Occupational Health and Safety Management System certification, to complement the already achieved ISO 14001 (environmental management) and ISO 9001 certifications (quality management).

During 2023 the team focused on core initiatives to drive Vulcan's safety culture further:

- Score card reporting for 2024 KPIs (leading and lagging indicators).
- Safety leadership rounds were introduced and HSEQ tours conducted by HSEQ professionals.
- Care Moments communication program and a site-wide "Last-Minute Risk Analysis" process for all operational onsite attendees to complete before the start of any activity on location.
- International Association of Oil and Gas producers (IOGP) Life-saving rules implemented companywide.

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

- CRIS MORENO
MD-CEO

OCCUPATIONAL RISK ASSESSMENT

Vulcan's system for identifying and managing health and safety risks and hazards has been increased in line with ISO45001 standards. It begins with the occupational risk register which identifies risks and hazards for specific work tasks, equipment, or substances, and establishes mitigation measures. The team revise and update this register frequently to reflect onsite learning and it will be further elaborated as Vulcan continues to transition into the project execution phase.

In addition to high level occupational risk assessment, Vulcan executes a site-wide "Last-Minute Risk Analysis" process for all operational onsite attendees to complete before the start of any activity on location.

According to the findings of the ESIA, health and safety risks are most acute in the construction phase of the Project, in which well drilling and pipeline construction activities take place. These risks were determined to be moderate prior to mitigation and minor after the correct implementation of mitigation measures. In the operation phase, risks relating to employees working with heavy machinery, hazardous chemicals, and hot brine, were deemed minor prior to mitigation and insignificant after the correct implementation of mitigation measures. To mitigate these risks, the team is currently preparing an Occupational Health and Safety (OHS) Plan aligned with German health and safety regulations and industry best practices, including the International Association Oil and Gas Producers (IOGP) standards.

TRAINING

Training is a critical part of promoting a health and safety culture within Vulcan, which is why all employees receive a minimum of basic health and safety training. The team seeks to ensure that these trainings are interactive and engaging and utilise online modules when appropriate, e.g. for basic trainings.

Types of health and safety training include:

- Onboarding for new recruits
- Mandatory online training for site entry (e.g. for contractors and visitors)
- Specific Health and Safety training for:
 - First aiders
 - Fire fighters
 - Waste management
 - Hazardous chemicals management
- Safety officer training

During the year, more than 10,000 online training sessions were conducted, of which more than 400 were completed by external contractors. In 2023 employees received an average of 3.3 hours of health and safety training each. In future reporting, Vulcan will disaggregate this statistic to distinguish between people who largely work in office environments and those whose activities give them a higher risk exposure.

REPORTING SYSTEMS

To ensure that the organisation is responsive to evolving health and safety risks or cases of non-compliance, Vulcan has a health and safety mobile app for employees to submit information about any HSE related incidents, near misses or suggestions to improve processes in real time.

CARE MOMENTS

In 2023, Vulcan introduced its care moments. They are nine Life-Saving Rules (LSRs) that form a framework that is proven to help prevent fatal injuries during high-risk activities. Each rule was circulated company-wide, linked with explanatory video's about how to integrate them into daily work practice. The nine LSRs are;

- Bypassing Safety Controls
- Confined Space
- Driving
- Energy Isolation
- Hot Work
- Line of Fire
- Safe Mechanical Lifting
- Work Authorisation
- Working at Height



HSE LEADERSHIP ROUNDS

HSE leadership rounds are monthly leadership site visits with briefings by the HSE team and are important for maintaining engagement with executives on health and safety issues. A foundational concept for the OneVulcan culture is that everyone is a leader and HSE is everyone's responsibility. Therefore, the leadership rounds require the team to actively participate in site health and safety audits, providing feedback for anything they may observe that could help improve HSE processes. In the reporting period, an average of 4.5 HSE leadership rounds were completed per month, however, the target for 2024 is to increase these to 20 per month.

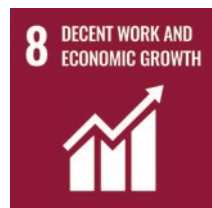
HEALTH AND SAFETY PERFORMANCE

Safety statistic	2022	2023
Lost Time Incidents (LTIs)	0	4
Lost Time Incidents Frequency Rate (LTIR) per 1,000,000 hours worked	0	5.7
Total Recordable Injury Frequency Rate (TRIFR) per 1,000,000 hours worked	Vulcan did not collect this data in 2022.	8.6
Fatalities	0	0

All safety statistics include both employees and contractors

The increase in Lost Time Incidents (LTIs) registered during the reporting period compared to 2022 coincides with an increase in construction activity as well as rig refurbishment works, therefore, increased risk within operations. Vulcan seeks to learn from these incidents, all of which have been thoroughly investigated with stronger procedures and oversight implemented where appropriate.

TALENT ATTRACTION AND RETENTION



VULCAN IS MADE UP OF ALMOST 400 CLIMATE CHAMPIONS, WHO ARE CONSTANTLY WORKING TOWARDS EMPOWERING A CARBON NEUTRAL FUTURE.

Attracting and retaining a diverse and passionate workforce is essential for delivering on the Company's ambition to be a leader in sustainable geothermal energy and lithium production. As Vulcan continues to transition to a project execution company, the team is growing rapidly, having added 164 new employees in 2023, to reach a total of 371 full time equivalent employees. This expansion was primarily related to the acquisition of a drilling contract labour company to grow inhouse drilling subsidiary, Vercana.

ONEVULCAN

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

DIVERSITY, EQUITY, AND INCLUSION



As part of an industry that relies heavily on Science, Technology, Engineering and Mathematics (STEM) skills, Vulcan sees that there is a significant gender split in the pool of potential hires (in line with German STEM education statistics) which show that women are still a minority of students in these courses¹⁹. Vulcan endeavours to continuously improve diversity statistics across the business and are proud to have met the gender diversity target of 40% female representation at the Board level.

Looking forward, Vulcan has identified that the leadership team is a key target area for improvement in coming years.

Due to its reliance on heavy-manual labour, Vulcan’s inhouse drilling company Vercana is unsurprisingly less gender diverse than other parts of the business. For this reason, it is important to disaggregate diversity statistics, so as not to obscure the performance of other Vulcan divisions.



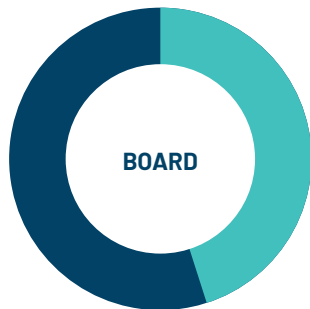
64% Male | 36% Female



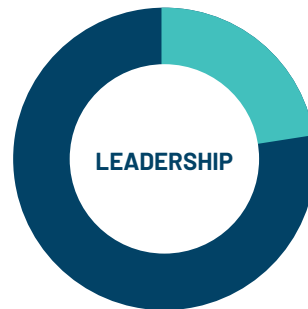
72% Male | 28% Female



99% Male | 1% Female



56% Male | 44% Female



86% Male | 14% Female

Statistics calculated using Vulcan’s headcount at the end of the reporting period (December 2023)

Parental leave

All employees are entitled to take parental leave, in line with national regulation in Germany and Australia.



EMPLOYEES THAT TOOK PARENTAL LEAVE IN 2023

7 Male | 2 Female



RETURNED FROM PARENTAL LEAVE IN 2023

3 Male | 0 Female

¹⁹ 6.5% fewer students starting a STEM course in the academic year of 2021 - German Federal Statistical Office (destatis.de)

CASE STUDY: RE-DIRECTING EXPERTISE FROM THE OIL & GAS INDUSTRY



In 2021, Vulcan established the in-house drilling company, Vercana, after having acquired two electric drill rigs. Vercana now numbers over 70 employees, the majority of which have an oil and gas industry background. As the technical aspect of drilling for geothermal energy is very similar to drilling for oil and gas, Vulcan has been able to benefit from re-directing this expertise and learning from the employees' valuable past experiences. This includes bringing a specific outlook and knowledge on relevant processes, performance initiatives, and risk scenarios for drilling.

Vercana is just one example of how Vulcan, and the geothermal energy industry more broadly, can contribute to ensuring a Just Transition. By repurposing the skills of individuals previously employed by fossil fuel industries, everyone can help ensure that communities and individuals are not left behind as society moves to decarbonise industries.



THERE ARE LOTS OF OPPORTUNITIES FOR THE GEOTHERMAL INDUSTRY TO BRING IN OIL AND GAS EXPERTISE, THESE EMPLOYEES ARE WANTED AND NEEDED.

- PAUL NIEMANN
OPERATIONS MANAGER FOR
DRILLING & WELLS
(FORMERLY EMPLOYED IN THE OIL
AND GAS INDUSTRY)

The vision for Vercana does not stop with Vulcan's own drilling operations taking place in 2024 but extends to deploying Vercana's learning and expertise across the geothermal industry. By promoting collaboration and knowledge sharing, the team aims to help make geothermal drilling projects more robust and lower risk.



CASE STUDY: TRAINING THE FUTURE WORKFORCE

Vulcan is passionate about attracting the next generation of **Climate Champions** and enabling their growth within the Company. German universities often require their students to complete internships and the team warmly invites them to contribute to Vulcan's diverse and multi-disciplinary teams on an ongoing basis. This was the case for Lisa, who, while studying a Master's in Environmental Toxicology, began as an intern at Natürlich Insheim in 2022, and has since transitioned to Vulcan's environmental accounting team. Lisa has been doing fantastic work on forecasting construction emissions and setting up the environmental data collection systems and the analysis needed to monitor impacts. In April 2024, once Lisa finishes her Masters, she will officially join Vulcan as an employee.



WHAT I ENJOY MOST AT VULCAN IS WORKING WITH PEOPLE FROM DIVERSE INTERNATIONAL BACKGROUNDS, BEING ABLE TO WATCH VULCAN'S PROJECT COME TO LIFE, AND BEING A PART OF MAKING THAT HAPPEN.

- LISA



EMPLOYEE SATISFACTION SURVEY

Vulcan's annual employee satisfaction survey is an important engagement tool which offers employees the opportunity to give anonymous feedback. The Company takes this feedback seriously, which is why improving the employee satisfaction index, relative to the previous year's results, is an executive KPI.

The Company continuously endeavours to improve its employees' experience working for Vulcan, through employee competitive career development opportunities, benefits and a healthy and dynamic company culture.



COMMUNITY ENGAGEMENT

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

Community engagement helps the Company better understand how to maximise positive impacts, through pursuing mutual interests, while minimising any potentially negative impacts of operations for local communities. As Vulcan continues to transition to an integrated project development, execution, and operations company, the main focus of the team's community engagement is resolving queries from the public about how operations will work, and their impacts on communities and local environment.

Vulcan's approach has been to reassure the public through providing information about compliance with German regulations and best practices as well as the ESIA's findings that any impacts were determined to be minor or insignificant after mitigation measures during all phases of Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project. The Company has also signed an insurance policy for local communities in the case of an impact from the Project, to give them reassurance that Vulcan is a company who is responsible and accountable.

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



KEY COMMUNITY ENGAGEMENT INITIATIVES IN 2023

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



LOCAL GOVERNMENT & BUSINESS COMMUNITY ENGAGEMENT

In 2023, support continued to grow for Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project at a local government level. Most notably, in December, the Landau City Council voted in favour of progressing an agreement to allow Vulcan to begin construction of G-LEP, a crucial part of the project execution infrastructure.

Some other memorable events during the year were:

In March, delegates from the "Mittelstandsunion Rheinland-Pfalz" (MIT RLP), the important Small Medium Enterprise (SME) business organisation in the Rhineland-Palatinate state, visited Insheim for an in-depth first-hand opportunity to view the advantages of geothermal energy and carbon neutral lithium.



In May, Malu Dreyer, Prime Minister ("Minister-President") of the Rhineland-Palatinate state visited Insheim. She emphasised that the lithium deposits in the Oberrheingraben are a treasure for the region that should be explored and highlighted the importance of deep geothermal energy for the heat transition.



In May, 30 delegates from the Christian Democratic Union (CDU) district association of Ortenau visited Vulcan's offices where they had an in-depth discussion with the team about regional heat demand and how geothermal energy can contribute to resolving heating supply issues. The key takeaway from this visit was that the municipal heat transition can only happen when everyone works together, and dialogue is open, transparent, and ongoing.





RESPONSIBLE GOVERNANCE

VULCAN IS COMMITTED TO THE HIGHEST STANDARDS OF CORPORATE GOVERNANCE PRACTICE AND REGULATORY COMPLIANCE AND PROMOTES ETHICAL AND RESPONSIBLE DECISION MAKING. THE COMPANY BELIEVES THAT SUSTAINED POSITIVE ENVIRONMENTAL IMPACT AND SOCIAL RESPONSIBILITY CAN ONLY BE ACHIEVED THROUGH A COMMITMENT TO EXCELLENCE IN CORPORATE GOVERNANCE.

As a dual-listed company on the Australian Securities Exchange (ASX), and the Prime Standard segment of the regulated market of the Frankfurt Stock Exchange (FSE), Vulcan is committed to complying with the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations ("Principles and Recommendations") as well as compliance with German Regulations as part of the dual listing under the German Federal Financial Supervisory Authority (BaFin). Vulcan's Board believes that Company policies and practices comply with the recommendations set out in the ASX Principles and Recommendations, for which Vulcan produces an annual Corporate Governance Statement. Consistent with the regulatory and reporting obligations of the FSE, Vulcan's Annual Reporting Suite also includes the Group Management Report (Konzernlagebericht).

ESG GOVERNANCE

Vulcan has clearly defined sustainability and ESG-related roles and responsibilities across the leadership team to ensure accountability and clear reporting lines. Vulcan's ESG governance structure is as follows:



BOARD GOVERNANCE

Vulcan's management of risk begins with the appointed Board who have been carefully selected to ensure relevant and multi-disciplinary expertise.

The composition of the Board is to be reviewed regularly against the Company's Board skills matrix, which is prepared and maintained by the Nomination Committee, or, in its

absence, the Board, to ensure the appropriate mix of skills and expertise is present to facilitate successful strategic direction and to manage and leverage new and emerging business and governance issues. The following table sets out the composition of skills and experience of Vulcan's Board of Directors.

Experience	Knowledge and skills
Corporate leadership Successful experience in CEO and/or other senior corporate leadership roles.	Strategic expertise Experience setting and reviewing strategy and/or business development.
International experience Senior experience in multiple international locations.	Marketing & communications Media, stakeholder communication, investor relations, public relations.
Resources or technology industry experience Relevant industry (resources, energy, power, mining, exploration, processing) experience.	Risk and compliance Risk management and mitigation experience.
Other Board level experience Membership of other listed entities (last 3 years).	Capital markets Capital raising, mergers and acquisitions.
Capital projects Major resources capital project development and management.	Environmental Proven experience with climate change policy, sustainability, and carbon reduction.
	Social Positive human resource management.
	Governance Relevant exposure to controlling and operating organisational procedures and processes.

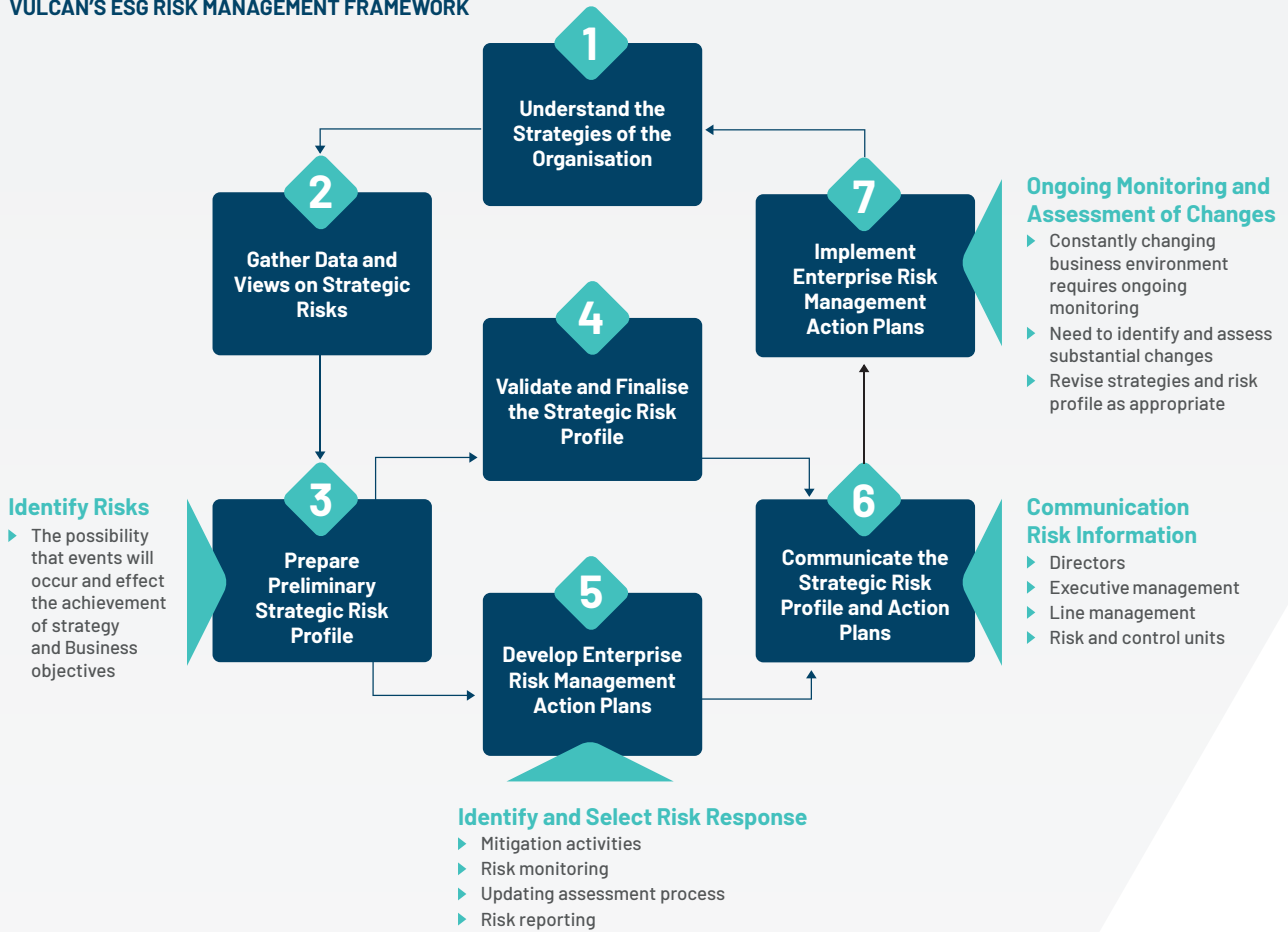


ESG RISK MANAGEMENT

Identification and management of sustainability-related risks is embedded in the enterprise risk management process, which is aligned with the 2004 COSO Enterprise Risk Management - Integrated Framework. The primary entities for overseeing ESG risks are Vulcan’s Audit, Risk and ESG Committee and the Project Oversight Committee. These Committees work together to update Vulcan’s enterprise risk management register, establish risk mitigation strategies and assign specific risk owners.

The enterprise risk management is reviewed comprehensively and shared with the Board and leadership every 6 months, however, individual risks are also updated, when necessary, to make the register responsive to the emergence of new risks or the changing priority of existing risks. Risks are prioritised according to their likelihood, scaled from “Rare” to “Certain” across five levels, and severity of consequences, which ranges through seven scales from “Insignificant” to “Catastrophic”.

VULCAN'S ESG RISK MANAGEMENT FRAMEWORK









SAMPLE ESG RISKS:

Key risk	Description	Example of mitigations
Natural catastrophic events	Natural catastrophic events aggravated by climate change that affect Vulcan's operational assets could result in additional costs, loss of performance, loss of revenue, unforeseen disruptions and negative impacts on employees.	<ul style="list-style-type: none"> • Ensuring relevant permitting for all buildings and wells. • Occupational risk assessment and health and safety measures on site. • Business continuity plan. • Emergency response plan.
Failure to comply with sustainability regulations	A missed or late implementation of changes in sustainability legislation may cause reputational damage and regulatory consequences.	<ul style="list-style-type: none"> • Monitoring of regulatory developments. • Collaborative relationships with regulators.
Major health and safety or environmental incident	A major health and safety or environmental incident occurs during Vulcan's operations, eroding trust in our competency and potentially leading to regulatory consequences.	<ul style="list-style-type: none"> • Environmental management system in line with ISO 14001. • Occupational health and safety management system aligned with ISO 45001. • Health and safety KPIs. • Health and safety and environmental management training.
Supply chain exposure	Inadequate procurement policy and process leading to potential exposure to human rights violations, negative environmental impacts, litigation, delays and negative reputation for Vulcan.	<ul style="list-style-type: none"> • Sustainable procurement policy. • ESG pre-qualification survey implementation. • Developing further in house expertise and supporting 3rd party advisors.

ESG POLICY BANK

Vulcan is focused on developing a robust sustainability governance framework that integrates into its broader corporate governance framework. The Company's approach is supported by the development of corporate governance policies available for review in the Corporate Governance section of the Company website.

In 2024, Vulcan is focused on building out the corporate documentation pyramid, with policies describing high-level commitments and standards, followed by directives which outline Company specific approach and finally, processes which specify the steps taken for the execution of specific tasks.

-  [Anti-Bribery and anti-corruption policy](#)
-  [Community relations policy](#)
-  [Conflict minerals policy](#)
-  [Diversity policy](#)
-  [Environmental management policy](#)
-  [Sustainable supplier policy](#)

ETHICS AND COMPLIANCE

Vulcan's Code of Conduct and Ethics ("Code") underpins the Company's commitment to integrity and fair dealing in business affairs, a commitment to do what is right and honourable, built on a duty of care to all employees, clients and stakeholders. The Code details the Company's commitment to foster an open and supportive environment in all activities and relationships and ensure senior leaders demonstrate and reinforce the Vulcan Values in all aspects of business and in all interactions with the team. Employees and business partners are also required to act with the highest levels of ethics and integrity, in accordance with Vulcan's beliefs and Values and in the best interests of the Company. Material breaches of the Code must be reported to the Board or a Committee of the Board. The Code can be found on the Company website at <https://v-er.eu>.

ANTI BRIBERY AND CORRUPTION

As a European and Australian company, risks of bribery and corruption are low in the locations where Vulcan, and its tier one suppliers, operate. Nonetheless, Vulcan enforces an Anti-Bribery and Anti-Corruption Policy to prevent these abuses and encourages reporting of misconduct through the Company's Whistleblower Policy. During the reporting period, Vulcan's Board was not notified of any alleged instances of corruption or bribery, nor were any legal actions taken against the Company. A copy of the policy can be found on the Company's website (<https://v-er.eu>)

HUMAN RIGHTS



Vulcan is committed to upholding and respecting the human rights of all people including employees, the communities in which the Company operates, those who may be impacted by Vulcan's activities, and those within the value chain. Within this, Vulcan respects freedom of association, the right to a fair wage and aim for all employees to be treated fairly and without discrimination due to age, race, gender, political or religious belief, culture, family commitments, physical or mental ability, marital status, or sexual orientation. Vulcan's commitment to Human Rights is included in the Company Code of Conduct and Ethics and Supplier Code of Conduct.

In terms of human rights risks related to Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project; the Equator Principles and IFC aligned-ESIA, carried out with the assistance of ERM, determined that Vulcan does not have any major or critical risks inherent in the Project .

MODERN SLAVERY

Vulcan rejects and prohibits the use of all forms of slavery, child or forced labour within its operations and the operations of the Company's suppliers. Suppliers are expected to comply with the requirements of the Australian Modern Slavery Act 2018 (Cth) and EU Directives as they apply, including having the necessary processes and procedures in place to investigate, assess and address the risk of modern slavery within their operations, and those of their supply chain including implementing appropriate due diligence and remediation programs.



DIGITISATION AND CYBER SECURITY

Vulcan's information technology (IT) team has grown to a team of 11 people since the Company was created, reflecting the importance the Company places on both digitisation and cyber security. The IT team have made significant advances in incorporating multiple factors to best protect Vulcan's data systems and that of its stakeholders, including suppliers, customers, employees and others. Vulcan guards against threats to data, such as protecting data from loss, corruption, or unauthorised access, and governing how data, specifically personal data, is legitimately used and disclosed. With operations in Germany, Vulcan is bound by EU Data Protection Regulations, further information is available via Vulcan's Website Terms of Use page and Privacy Policy. .

SUSTAINABLE SUPPLY CHAIN

Responsibility for Vulcan's sustainable supply chain management comes under the Supply Chain Council (SCC) and is governed by the Company's Sustainable Supplier Policy. The SCC includes the Head of ESG, CFO, and members of the Project Executive SteerCo and meets on a regular basis. Among the SCC's responsibilities are ensuring fair and transparent procurement processes which consider sustainability commitments and tenders over €150,000.

While Vulcan will be an upstream supplier within the European Electric Vehicles (EV) and renewable energy value chains, its operations also require inputs from contractors and suppliers. As the team begins the construction phase, the largest share of the Company's procurement budget will be directed toward construction materials and design and construction contractors (EPC and EPCM). Therefore, Vulcan has been embedding ESG requirements into the tender process and aligned expectations with findings from the ESIA to ensure effective management across tier-one partnerships.

It is important to ensure that Vulcan's suppliers share its values and that the Company can identify and mitigate ESG risks among the upstream value chain. This year, the team has taken important steps in this regard, by launching a pilot pre-qualification survey to suppliers with whom Vulcan has annual business volumes of over €150,000, which included questions about ISO certification, GHG emissions collection and targets and ESG policies, among others. The first round of responses, has been received and are being used to advance assessment criteria and benchmarking analysis. The SCC's approach going forward looks to balance ESG risk mitigation with other sustainability priorities, such as local procurement, recognising that many of the smaller suppliers may not as yet have formalised their ESG practices in documentation.





APPENDIX



TCFD DISCLOSURES TABLE

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

GROUP STRUCTURE

VULCAN HAS ASSEMBLED A BEST-IN-CLASS TEAM OF PROFESSIONALS IN THE FIELDS OF GEOTHERMAL RENEWABLE ENERGY PROJECT DEVELOPMENT AND LITHIUM EXTRACTION. THE TEAM IS WORKING TOGETHER TO DELIVER A FULLY INTEGRATED RENEWABLE ENERGY AND SUSTAINABLE LITHIUM CHEMICALS BUSINESS IN EUROPE.

The legal name of the company is Vulcan Energy Resources Limited, which is a publicly listed company that is limited by shares and incorporated and domiciled in Australia. Since February 2022, the company has been dual listed on the ASX and prime standard on the FSE under the code 'VUL' and currently has over 29,993 shareholders.



ASX listed parent entity responsible for strategy, governance and reporting.

Employer of corporate related staff and Board members.



German wholly owned subsidiary of Vulcan Energy Resources Ltd.

Vulcan Energie Ressourcen GmbH employs technical staff relating to development of Vulcan's ZERO CARBON LITHIUM™ Project. Is the holding company for German operating entities.



In-house sub-surface planning and engineering company responsible for deep geothermal energy projects encompassing everything from exploration geology to reservoir engineering and drilling. Previously known as Geothermal Engineering GmbH (GeoT).



In-house engineering team focused on deep geothermal projects at surface including power plants, heat stations, drill pads and permitting. Previously known as Global Engineering and Consulting Company GmbH (Gec-Co).

NatürLich Insheim GmbH

Vulcan acquired the Insheim geothermal power plant in December 2021, renaming it Natürlich Insheim. The operational, revenue generating plant currently has the technical capacity to produce a maximum of 4.8MW renewable power, with an additional ability to produce heating.

VERCANA

In-house drilling company, established 2021.

Owns and operates specialised electric rigs which can drill to the target depth required for deep geothermal energy wells in the Upper Rhine Valley, Germany.

MATERIAL TOPIC DEFINITIONS

The Materiality Assessment process was conducted in accordance with GRI Standards and involved reviewing global industry trends, benchmarking key peers and leaders, as well as interviews with our key external and internal stakeholders, including Vulcan's Board of Directors, members of our leadership team and employees.

Results from the assessment were then categorised into a matrix to give a grade of importance to each of our identified material topics as they relate to stakeholders and Vulcan.

Material Issue Definitions	
Biodiversity	Impacts on natural habitats and ecosystems across Vulcan Energy's value chain; including operational impacts on biodiversity, pollinator protection, soil health and land stewardship practices.
Climate change and energy	Mitigation of and adaptation to climate change across Vulcan Energy's value chain; including renewable energy generation, energy use and efficiency, risks to the business from climate change effects (including supply chain resilience and impacts to infrastructure).
Circular economy	Enabling a circular battery value chain.
Environmental impact	Minimising all environmental impacts, including seismic activity linked to geothermal drilling by utilising best practices and remaining compliant with all regulations.
Waste	Management of waste, including overall operational waste efficiency and recycling from lithium processing.
Water	Minimising the amount of water consumed through effective recycling and replenishment of withdrawn water and effectively mitigating impacts to groundwater.
Community engagement	Effective engagement with the communities in which Vulcan Energy operates. Contributing to local communities as a business partner (e.g., job creation and tax payments) and community partner (e.g., understanding and meeting community needs); effectively considering environmental and social concerns in business policies, decisions and operations.
Diversity, equity and inclusion	An inclusive culture, employee diversity, board and leadership diversity.
Health, safety and wellbeing	Culture around work-life balance, employee well-being and mental health, as well as compliance with worker health and safety requirements.
Human Rights	Human rights within the Vulcan Energy's value chain, including supply chain and lithium offtakers.
Talent attraction and retention	Attracting and retaining world-class talent and providing opportunities for ongoing skills training and professional development.
Business ethics	Adhering to the Vulcan Values and policies set out for our company to behave ethically, including compliance with laws, anti-corruption and bribery; anti-competitive behaviour; paying fair share of local, regional and national taxes; and conducting political engagement/lobbying transparently.
Digitisation and cyber security	Company digitisation and digital efficiency. Protection of the company and its stakeholders' (suppliers, customers, employees and others) data. Guarding against threats to data, such as protecting data from loss, corruption, or unauthorised access, and governing how data, specifically personal data, is legitimately used and disclosed.
Governance	Executive governance of Vulcan Energy, including the execution and oversight of ESG strategy, Board composition, executive remuneration, shareholder rights and enterprise risk management.
Innovation	Executing current innovation while continually updating the company's technology and systems to maximise efficiency and ESG performance.
Value chain	Taking responsibility for human rights and environmental performance across the company's value chain and ensuring that workers are treated fairly and supported in meeting the ethical standards set out by our company.
Transparency	Transparently reporting Vulcan Energy's positive and negative impacts on society and the environment, including the company's progress on its goals and strategic objectives.

GRI CONTENT INDEX

Statement of use	GRI 1 used
Vulcan Energy Resources has reported the information cited in this GRI content index for the period 1 January- 31 December 2023 with reference to the GRI Standards.	GRI 1: Foundation 2021

GRI STANDARD	DISCLOSURE	LOCATION
Organisational Profile		
GRI 2: General Disclosures 2021	2-1 Organisational details	About this Report, pg.3
	2-2 Entities included in the organisation's sustainability reporting	About this Report, pg.3
	2-3 Reporting period, frequency and contact point	About this report, pg.3
	2-4 Restatements of information	There are no reinstatements of information in this Report
	2-5 External assurance	Vulcan's Life Cycle Assessment (LCA) data which forms the basis of the lithium hydroxide monohydrate (LiOH.H ₂ O) product forecasts has been undertaken by Minviro, while current emissions data has been externally verified by Climate Active for the Australian business and Climate Impact Partners for the German businesses. All other data contained in this report has been prepared by internal subject matter experts and has not been subject to external assurance.
	2-6 Activities, value chain and other business relationships	About this report, pg.3 Vulcan's integrated renewable energy and ZERO CARBON LITHIUM™ Project, pg.10-14
	2-7 Employees	Talent attraction and retention, pg.43 Diversity, Equity and Inclusion, pg. 44
	2-8 Workers who are not employees	Vulcan uses subcontractors, but does not have systems to track the total number. Vulcan is considering this for future reporting.
	2-9 Governance structure and composition	Responsible Governance, pg. 50-52
	2-10 Nomination and selection of the highest governance body	Please see website: Board of Directors - VULCAN ENERGY RESOURCES (v-er.eu)
	2-11 Chair of the highest governance body	Please see website: Board of Directors - VULCAN ENERGY RESOURCES (v-er.eu)
	2-12 Role of the highest governance body in overseeing the management of impacts	Responsible Governance, pg. 50-52
	2-13 Delegation of responsibility for managing impacts	Responsible Governance, pg. 50-52
	2-14 Role of the highest governance body in sustainability reporting	Board Governance pg.52
	2-15 Conflicts of interest	Please see website: Code of Conduct Corporate Directory & Governance - VULCAN ENERGY RESOURCES (v-er.eu)
	2-16 Communication of critical concerns	Please see website: Whistleblower Policy Corporate Directory & Governance - VULCAN ENERGY RESOURCES (v-er.eu)
	2-17 Collective knowledge of the highest governance body	Board Governance, pg. 52
	2-18 Evaluation of the performance of the highest governance body	2023 Corporate Governance Statement
	2-19 Remuneration policies	Annual Report pg. 70-89

GRI STANDARD	DISCLOSURE	LOCATION
	2-20 Process to determine remuneration	Annual Report pg. 70-89
	2-21 Annual total compensation ratio	Annual Report pg. 70-89
	2-22 Statement on sustainable development strategy	Vulcan's approach to sustainability, pg. 18-21
	2-23 Policy commitments	ESG policy bank, pg.54
	2-24 Embedding policy commitments	ESG governance, pg. 51
	2-25 Processes to remediate negative impacts	Understanding Vulcan's impacts, pg.24 ESIA findings on environmental impacts, pg.30 Community engagement, pg.47
	2-26 Mechanisms for seeking advice and raising concerns	Please see website: Whistleblower Policy Corporate Directory & Governance - VULCAN ENERGY RESOURCES (v-er.eu)
	2-27 Compliance with laws and regulations	Responsible Governance, pg. 50
	2-28 Membership associations	Memberships, pg. 22-23
	2-29 Approach to stakeholder engagement	Stakeholder engagement, pg 24-25 Community engagement, pg. 47-49
	2-30 Collective bargaining agreements	0% of employees utilise collective bargaining agreements.
Materiality Assessment		
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Materiality assessment, pg.26-27
	3-2 List of material topics	Materiality assessment, pg.26-27
	3-3 Management of material topics	Sustainability report, pg.15-17, 28-56
Economic Topics		
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Annual Report pg. 76
	201-2 Financial implications and other risks and opportunities due to climate change	2022 TCFD report
	201-3 Defined benefit plan obligations and other retirement plans	Vulcan does not currently report this confidential data but is considering reporting this in future years
	201-4 Financial assistance received from government	Vulcan does not currently report this confidential data.
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Vulcan does not currently report this data.
	202-2 Proportion of senior management hired from the local community	Vulcan does not currently report this data.
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Community engagement, pg.48
	203-2 Significant indirect economic impacts	Empowering a carbon neutral future, pg.8

GRI STANDARD	DISCLOSURE	LOCATION
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Vulcan does not currently report this data but is considering reporting this in future years
	205-1 Operations assessed for risks related to corruption	Vulcan does not currently report this data.
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	Vulcan does not currently report on communication and training about anti-corruption policies and procedures but is considering reporting this in future years.
	205-3 Confirmed incidents of corruption and actions taken	During the reporting period, Vulcan's Board was not notified of any alleged instances of corruption or bribery, nor were any legal actions taken against the Company.
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Vulcan does not currently report this data.
GRI 207: Tax 2019	207-1 Approach to tax	Annual Report pg. 61-62
	207-2 Tax governance, control, and risk management	Annual Report pg. 62-63
	207-3 Stakeholder engagement and management of concerns related to tax	Stakeholder engagement pg. 24
	207-4 Country-by-country reporting	Market Disclosures, Corporate Governance 2023
Environmental Topics		
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Vulcan does not currently report this data but is considering reporting this in future years
	302-2 Energy consumption outside of the organization	Vulcan does not currently report this data but is considering reporting this in future years
	302-3 Energy intensity	Vulcan does not currently report this data but is considering reporting this in future years
	302-4 Reduction of energy consumption	Vulcan does not currently report this data but is considering reporting this in future years
	302-5 Reductions in energy requirements of products and services	Vulcan does not currently report this data but is considering reporting this in future years
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water, pg.37
	303-2 Management of water discharge-related impacts	Vulcan's water data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
	303-3 Water withdrawal	Vulcan's water data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
	303-4 Water discharge	Vulcan's water data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
	303-5 Water consumption	Vulcan's water data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity, pg.36
	304-2 Significant impacts of activities, products and services on biodiversity	Biodiversity, pg.36
	304-3 Habitats protected or restored	Biodiversity, pg.36
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Vulcan does not currently report this data but is considering reporting this in future years.

GRI STANDARD	DISCLOSURE	LOCATION
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Current emissions, pg.34-35
	305-2 Energy indirect (Scope 2) GHG emissions	Current emissions, pg.34-35
	305-3 Other indirect (Scope 3) GHG emissions	Current emissions, pg.34-35
	305-4 GHG emissions intensity	Current emissions, pg.34-35
	305-5 Reduction of GHG emissions	Minimising environmental impacts, pg. 29-29 Forecasting construction emissions, pg.33
	305-6 Emissions of ozone-depleting substances (ODS)	Vulcan does not currently report this data.
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Circular economy & waste, pg.38
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Circular economy & waste, pg.38
	306-2 Management of significant waste-related impacts	Circular economy & waste, pg.38
	306-3 Waste generated	Vulcan's waste data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
	306-4 Waste diverted from disposal	Vulcan's waste data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
	306-5 Waste directed to disposal	Vulcan's waste data for 2023 has not yet been audited. 2022 data is available in the FY22 Annual Report, pg.44
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Sustainable supply chain, pg.56
	308-2 Negative environmental impacts in the supply chain and actions taken	Forecasting construction emissions, pg.33 Sustainable supply chain, pg.56
Social Topics		
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Talent attraction and retention, pg. 4
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Vulcan does not currently report this data but is considering reporting this in future years.
	401-3 Parental leave	Diversity, equity and inclusion, pg. 44
GRI 402: Labor/ Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Health, safety and well-being, pg.41
	403-2 Hazard identification, risk assessment, and incident investigation	Occupational risk management, pg.41
	403-3 Occupational health services	Health, safety and well-being, pg.41
	403-4 Worker participation, consultation, and communication on occupational health and safety	Training, Reporting systems, pg.42
	403-5 Worker training on occupational health and safety	Training, pg.42
	403-6 Promotion of worker health	Health, safety and well-being, pg.41

GRI STANDARD	DISCLOSURE	LOCATION
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Vulcan does not currently report this data but is considering reporting this in future years.
	403-8 Workers covered by an occupational health and safety management system	Health, safety and well-being, pg.41
	403-9 Work-related injuries	Health and safety performance, pg.43
	403-10 Work-related ill health	Health and safety performance, pg.43
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Training, pg.42
	404-2 Programs for upgrading employee skills and transition assistance programs	Vulcan does not currently report this data but is considering reporting this in future years.
	404-3 Percentage of employees receiving regular performance and career development reviews	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Diversity, equity and inclusion, pg. 44
	405-2 Ratio of basic salary and remuneration of women to men	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	Vulcan does not report this data as there are no indigenous people affected within Vulcan's project area of influence.
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Community engagement, pg. 47-49
	413-2 Operations with significant actual and potential negative impacts on local communities	Community engagement, pg. 47-49 According to Vulcan's Environmental and Social Impact Assessment (ESIA), carried out with the assistance of ERM, the Project has no potential impact determined as greater than "minor" post mitigation measures.
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Sustainable supply chain, pg.56
	414-2 Negative social impacts in the supply chain and actions taken	Vulcan does not currently report this data but is considering reporting this in future years.
GRI 415: Public Policy 2016	415-1 Political contributions	Vulcan does not make political contributions in cash or in kind and does not participate directly in the activities of political parties.

UNITED NATIONS GUIDING PRINCIPLES

This table represents our initial assessment of the UN Global Compact Ten Principles.

Human Rights	
Businesses should support and respect the protection of internationally proclaimed human rights	Vulcan has developed a Diversity Policy. Our Corporate Code of Conduct and Ethics and Sustainable Supplier Policy addresses risks associated with human rights.
Businesses should ensure that they are not complicit in human rights abuses	No significant human rights-related issues were identified in this reporting period.
Labour	
Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	The diverse nature of our business means we have a mix of collective and individually regulated employment arrangements.
Businesses should uphold the elimination of forced or compulsory labour	Whatever the nature of those arrangements, we recognise the right of our employees to freely associate and join trade unions.
Businesses should uphold the effective abolition of child labour	Vulcan consults with its employee's unions as required and recognises and supports the rights of trade unions to enter the workplace to hold discussions and investigate alleged breaches as per Fair Work Act 2009.
Businesses should uphold the elimination of discrimination in respect of employment and occupation	We are not aware of any Vulcan business activities which are at risk from forced/ compulsory labour and child labour issues.
	Assessments of our supply chain labour risks are undertaken through our Sustainable Supplier Policy.
	Vulcan meets its obligations under anti-discrimination legislation, which is supported by our policies regarding the making of complaints via our Whistleblower Protection Policy, Corporate Code of Conduct and Ethics, People and Performance Committee Charter, and Diversity Policy. Vulcans' remuneration strategy and practices do not differentiate based on gender.
Environment	
Businesses should support a precautionary approach to environmental challenges	Vulcan has developed an Environmental Management Policy and Sustainability and ESG Framework which outlines our commitment to the environmental in which we operate.
Businesses should undertake initiatives to promote greater environmental responsibility	Embedding risk management processes into all our critical business systems allows us to adopt a precautionary approach to business management that is based on valid data and sound science.
Businesses should encourage the development and diffusion of environmentally friendly technologies	Vulcan's environmental innovation approaches include showcasing environmental best practices across the business continually updating the company's technology and systems to maximise efficiency and Sustainability and ESG performance, and working towards reduced water usage and consumption, through recycling as much water as possible during the lithium extraction process.
Anti-Corruption	
Businesses should work against all forms of corruption, including extortion and bribery	Vulcan has a Corporate Code of Conduct and Ethics, Anti-Bribery and Anti-Corruption Policy and associated training and engagement, Whistleblower Protection Policy, and Continuous Disclosure Policy with a focus on continuous disclosure compliance.
	Vulcan will not make political contributions in cash or in kind and will not participate directly in the activities of political parties.



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