

Investment Memo: Vulcan Energy Resources (ASX:VUL)

What we want to see from our investment in VUL during 2022

21 December 2021

What does VUL do?

Vulcan Energy Resources (ASX:VUL, FWB:6KO) is aiming to become the world's first Zero Carbon Lithium™ producer. VUL plans to produce battery-grade lithium hydroxide from geothermal brines pumped from wells with a renewable geothermal energy by-product.

VUL will sell its lithium product to car manufacturers looking to make Electric Vehicles (EVs) in Europe and electricity and heat energy into local markets.

What is the macro theme behind VUL?

The rechargeable batteries that power EVs require lithium. And with increasing focus on decarbonisation of EV supply chains, companies that can supply the raw materials for these vehicles with low or zero carbon emissions should thrive. This has appeal for governments, ESG Funds, manufacturers and end users alike.

Why do we continue to hold VUL?

- **Excellent execution:** VUL has performed extremely well and the management has been excellent in execution. They have delivered every promise since we invested two years ago.
- **Lots of cash in the bank:** VUL raised over \$320M in 2021 so we are holding to see how they will deploy this new capital.
- **Valuable technical skill set:** Sustainable lithium from brines and geothermal is growing in popularity globally. VUL has assembled one of the best technical teams with this rare skill set, putting VUL in a strong position to grow through acquisition of geothermal/brine projects.
- **De-risked capital:** large pools of capital earmarked for Environmental, Social & Governance (ESG) investments need to find a home, meaning that VUL should face fewer hurdles in securing financing.

What do we expect the company to deliver during 2022?

Objective #1 - Complete Phase 1 Definitive Feasibility Study (DFS)

The major milestone of the upcoming year is completing the Phase 1 Definitive Feasibility Study (DFS), also called a Bankable Feasibility Study (BFS), which will provide further clarity on the

project's economics and development feasibility. DFS completion is expected in the second half of 2022.

Objective #2 - Secure Project Financing

Having raised \$320M via two Placements in 2021, VUL is financed through to completion of its DFS, but further financing will need to be secured to fund project construction.

Objective #3 - Expansion of scope

VUL has already signed offtakes for all of its planned Zero Carbon Lithium™ production. We want to see the company expand its scope for future lithium production by acquiring more land holdings and more projects to help meet anticipated rising demand.

Objective #4 - Heat offtake agreements

VUL is looking to sign offtake agreements in order to sell renewable heat generated from its geothermal brines into the local market.

Objective #5 - More strategic partnerships (to demonstrate execution)

While VUL has already locked away much of its first five years of lithium production, it continues to develop strategic partnerships across all three of its businesses.

What could go wrong?

Development risk: the project economics are hurt by a declining lithium price or cost blow outs in the project construction. Alternatively, the flow rates from the lithium project (how much lithium comes out of their project's wells) are slower than adequate, in turn hurting the project economics..

Market risk: it's possible the oil price takes a sharp dip on a major global economic slowdown, slowing the uptake of EV vehicles in Europe.

Financing risk: we think the DFS is going to be VUL's calling card for financing the project, but things may change. For example, the full project currently calls for expenditure of €1.78B (\$2.81B) as of the Pre-Feasibility Study (PFS). Should development risks and market risks play out this could negatively impact the level of financing. Put simply, VUL is operating in an early-stage market that could change rapidly.

Stakeholder risk: VUL needs a social licence to operate. Local landowners, business owners and community members may oppose the project's development, either slowing down the development or preventing it altogether.

What is our investment plan?

VUL has already been a very successful investment for us since we invested at 20c in August 2019 - we have free carried, taken profit and still hold 563,000 shares.

Our plan is to continue to hold a position during 2022 and beyond. We will likely sell another 20% of our holding during the year, hopefully if the share price re-rates on the back of any significant news.

Disclosure: *The authors of this article and owners of Wise-Owl, S3 Consortium Pty Ltd, and associated entities, own 563,000 VUL shares at the time of writing this investment memo. S3 Consortium Pty Ltd has been engaged by VUL to share our commentary on the progress of our investment in VUL over time.*

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