

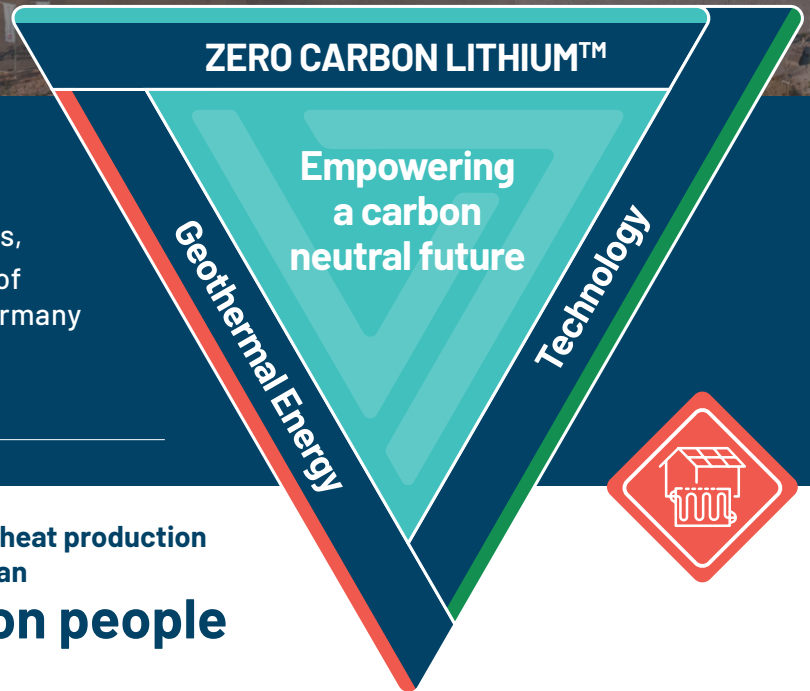


VULCAN ENERGY  
ZERO CARBON LITHIUM™

# DECARBONISING INDUSTRY AND PROVIDING AFFORDABLE, BASELOAD RENEWABLE ENERGY FOR LOCAL COMMUNITIES

## GEOTHERMAL ENERGY

The Upper Rhine Valley region is in a particularly advantageous geological location: at a depth of around 3,600 meters, there is huge energy potential in the form of geothermal brine. Only a few regions in Germany offer such favorable conditions for the production of geothermal energy.



**275 GWh power  
& 560 GWh heat**

Phase One capacity p. a.

Renewable heat production  
for more than

**1 million people**

by 2030

## VULCAN'S RESOURCE: THE UPPER RHINE VALLEY BRINE FIELD (URVBF)

- Vulcan holds 16 licences covering a total area of 1,771 km<sup>2</sup> across the 300 km long URVBF.
- The area is a mature, producing field, with >1,000 oil & gas and 24 deep geothermal wells already drilled in the URV.
- There are currently 36 geothermal plants operating in Germany and 42 active projects.<sup>2</sup>
- The market potential for geothermal heating in Germany is approximately 25% of total heat demand, according to the Fraunhofer Institute. This means unprecedented amounts of geothermal production needs to be built. The federal government has supported this with a target for geothermal energy capacity to be increased tenfold by 2030.<sup>3</sup>
- From Phase One, Vulcan aims to grow production in a progressive manner to meet the growing European renewable energy demand.

1

### Carbon Neutral

In contrast to fossil fuels, electricity and heat from geothermal energy are carbon neutral.

2

### Reliable

Geothermal energy is available at all times, regardless of the weather and time of day.

3

### Regional

Geothermal energy is available locally and is independent of imports.

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

[www.v-er.eu](http://www.v-er.eu)

# Natürlich Insheim GmbH

During 2023, the geothermal power plant Natürlich Insheim generated approximately 16 GWh of renewable energy, avoiding an estimated 6,500 of CO<sub>2</sub> equivalent emissions on the grid. Natürlich Insheim will also deliver district heating in the future. This will allow the supply of carbon neutral heat to district heating for nearby municipalities and industry.



## VULCAN'S EXISTING INSHEIM PLANT

- Existing geothermal renewable energy plant with over 10 years of successful production.
- Insheim plant supplies ~6,500 households with renewable power.
- Extensive operational experience in-house.

## PLANNED LIONHEART PLANT IN LANDAU (G-LEP)

- Initially planned to produce mostly power, Vulcan's new geothermal plant will increase geothermal heat production to deliver to local communities through the district heating system over time.

	Insheim (operating)	Lionheart (development)	Total
Power production (MW)	4.2	27.5	32
Heat production (MW)	0.5	79.5	80
Power production (GWh p.a)	37	238	275
Heat production (GWh p.a)	3.5	556	560

