



PUBLIC DISCLOSURE STATEMENT


VULCAN ENERGY RESOURCES LIMITED

ORGANISATION CERTIFICATION

CY2021

Australian Government
Climate Active
Public Disclosure Statement



| | |
|---------------------------------|---|
| NAME OF CERTIFIED ENTITY | Vulcan Energy Resources Limited |
| REPORTING PERIOD | 1 January 2021 – 31 December 2021 Arrears report |
| DECLARATION | <p><i>To the best of my knowledge, the information provided in this public disclosure statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.</i></p>  <p>Francis Wedin Managing Director 24/05/2022</p> |



Australian Government
**Department of Industry, Science,
Energy and Resources**

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Version March 2022. To be used for FY20/21/CY2021 reporting onwards.



1. CERTIFICATION SUMMARY

| | |
|------------------------|-------------------------|
| TOTAL EMISSIONS OFFSET | 598 tCO ₂ -e |
| OFFSETS BOUGHT | 100% VCUs |
| RENEWABLE ELECTRICITY | N/A |

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2. CARBON NEUTRAL INFORMATION

Description of certification

This certification is for the Australian business operations of Vulcan Energy Resources Limited, ABN 38 624 223 132.

Organisation description

Vulcan Energy Resources Limited (Vulcan Energy) is the parent company of a group of companies involved in geothermal exploration and the creation of the Zero Carbon Lithium™ Project. The Australian operations (located in Perth) consist only of office-based activities and travel for senior management and administration team.

Subsidiary companies, Vulcan Energy Resources Europe Pty Ltd and Vulcan Energy Ressourcen GmbH (both based in Germany) own licenses for the project and have office personnel and a pilot plant based in Germany. The German operations are outside of the boundary of this certification.

Vulcan is aiming to become the world's first integrated lithium chemicals and renewable energy producer with net zero greenhouse gas emissions. Its unique Zero Carbon Lithium™ project aims to produce both renewable geothermal energy and lithium hydroxide for electric vehicle batteries from the same deep brine source in the Upper Rhine Valley, Germany. In doing so, Vulcan will address lithium's EU market requirements by reducing the high carbon and water footprint of production, and total reliance on imports, as well as helping to decarbonize the electricity grid. Vulcan aims to supply the lithium-ion battery and electric vehicle market in Europe, which is the fastest growing in the world. The Vulcan Zero Carbon Lithium™ project has a resource which can satisfy Europe's needs for the electric vehicle transition, from a source with net zero greenhouse gas emissions, for many years to come.

The operational boundary of the carbon inventory includes Scope 1, 2 and 3 emissions of the Australian operations, as well as international travel, and has been prepared in accordance with Climate Active's standard small organisation boundary and scope.

The inventory considers and quantifies carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions, measured in tonnes CO₂-e. We are not aware of any relevant sources of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), or nitrogen trifluoride (NF₃) within the operational boundary.

“Being Climate Active certified is important to Vulcan Energy because the Zero Emissions Mandate aligns with our company’s core mission to decarbonise E-mobility & produce geothermal renewable energy & heat.”

3.EMISSIONS BOUNDARY

This is a small organisation certification, which uses the standard Climate Active small organisation emissions boundary. Emission sources can be excluded if they do not occur.

Inside the emissions boundary

All emission sources listed in the emissions boundary are part of the carbon neutral claim.

Quantified emissions have been assessed as relevant and are quantified in the carbon inventory. This may include emissions that are not identified as arising due to the operations of the certified entity, however are **optionally included**.

Non-quantified emissions have been assessed as relevant and are captured within the emissions boundary but are not measured (quantified) in the carbon inventory. All material emissions are accounted for through an uplift factor. Further detail is available at Appendix C.

Outside the emissions boundary

Excluded emissions are those that have been assessed as not relevant to an organisation's operations and are outside of its emissions boundary or are outside of the scope of the certification. These emissions are not part of the carbon neutral claim. Further detail is available at Appendix D.

| Inside emissions boundary | | Outside emission boundary |
|---|---|---|
| <p><u>Quantified</u></p> <ul style="list-style-type: none"> Electricity Business travel Air travel by directors, board members and consultants Staff commute to work Waste International accommodation Food - catering ICT services and equipment Professional services Working from home Paper Telecommunications Printing and stationery Postage and courier services Office equipment and supplies | <p><u>Non-quantified</u></p> <ul style="list-style-type: none"> Cleaning and chemicals Water Refrigerants | <p><u>Excluded</u></p> <ul style="list-style-type: none"> Fuel used in motor vehicles Natural gas International land travel |

Data management plan for non-quantified sources

There are no non-quantified sources in the emission boundary that require a data management plan.

4. EMISSIONS REDUCTIONS

Emissions reduction strategy

Vulcan Energy Resources commits to reducing the total emissions of its business operations by 5 per cent by CY2026, from a CY2021 baseline.

This plan sets out how we intend to action carbon emissions reduction over the next three years. We will review, report and build on this plan each year.

The initiatives set out below are based on the emissions causing activities in our carbon inventory. In setting these initiatives we have considered our ability to control or influence emissions reduction, to switch to alternative sources and to purchase lower carbon supplies and services.

| Initiative | CY22 | CY23 | CY24 | CY25 | CY26 | Target |
|--|------|------|------|------|------|--|
| Energy efficiency and savings | | | | | | |
| Turn off lights when not needed through automation of task allocation | x | x | x | x | x | Continuous |
| Shut down computers and monitors at end of day | x | x | x | x | x | Energy policy set-up on all computers |
| Waste | | | | | | |
| Reduce waste to landfill by implementing greater separation between different wastes, have bins specific to hard plastics, paper, organics and general waste | x | x | | | | Implement food waste/ composting bin |
| Find companies to take waste for re-use | x | x | | | | Donut Waste subscription |
| Reduce takeaway cups / single use plastics for lunches | x | x | x | x | x | Reduction of waste going to landfill |
| Paper | | | | | | |
| Use electronic signatures where possible and use technology to proof documents | x | x | x | x | x | Complete transition to digital office workflows |
| Buy carbon neutral paper certified in Australia for A3 (already buying A4) | x | x | x | x | x | Complete transition to carbon neutral copy paper |
| Policy | | | | | | |
| Include ESG policy for new professional service providers | x | x | x | x | x | Supply chain audit and assessment policy |
| Staff | | | | | | |

| Initiative | CY22 | CY23 | CY24 | CY25 | CY26 | Target |
|---|------|------|------|------|------|--|
| Utilise public transport where possible rather than private vehicle | | x | x | x | x | Sign up personal fuel cars to Climate Positive Introduce company initiatives to incentivise staff |
| All homes have solar power so would be more energy efficient to work from home one day a week | | x | x | | | Implemented – Thursday was chosen as the main WFH day |

Emissions reduction actions

Vulcan Energy Resources implemented a sustainable procurement policy for office equipment, stationery and similar items. Additionally, an audit was undertaken to review day-to-day operations of the company and address ways to reduce the carbon footprint of the office operations. The effects of these policies are likely to occur in the next year.

5.EMISSIONS SUMMARY

Emissions over time

| Emissions since base year | | Total tCO ₂ -e |
|---------------------------|---------|---------------------------|
| Base year: | CY 2020 | 282.58 |
| Year 1: | CY 2021 | 597.12 |

Significant changes in emissions

| Emission source name | Current year (tCO ₂ -e) | Previous year (tCO ₂ -e) | Detailed reason for change |
|-----------------------|------------------------------------|-------------------------------------|----------------------------|
| Professional services | 463.03 | 205.96 | Organic growth |

Use of Climate Active carbon neutral products and services

We purchased 'Reflex' A4, an Australian Paper product.

Organisation emissions summary

The electricity summary is available in Appendix B. Electricity emissions were calculated using a location-based approach.

| Emission category | Sum of total emissions (tCO ₂ -e) |
|------------------------------|--|
| Accommodation and facilities | 0.65 |
| Cleaning | 0.00 |
| Electricity | 2.23 |
| Food | 2.57 |
| ICT services and equipment | 9.14 |
| Office equipment & supplies | 18.08 |
| Postage, courier and freight | 53.32 |
| Professional services | 463.03 |
| Refrigerant | 0.00 |
| Transport (Air) | 16.41 |
| Transport (Land and Sea) | 2.47 |
| Waste | 0.69 |
| Water | 0.00 |
| Working from home | 0.09 |
| Total | 568.68 |

Uplift factors

An uplift factor is an upwards adjustment to the total carbon inventory to account for relevant emissions, which can't be reasonably quantified or estimated. This conservative accounting approach helps ensure the integrity of the carbon neutral claim.

| Reason for uplift factor | tCO ₂ -e |
|---|---------------------|
| Compulsory additional 5% of the total to be added for small organisations | 28.43 |
| Total of all uplift factors | 28.43 |
| Total footprint to offset <i>(total net emissions from summary table + total uplifts)</i> | 597.12 |

6. CARBON OFFSETS

Offsets retirement approach

| In arrears | |
|--|-----|
| 1. Total number of eligible offsets banked from last year's report | 0 |
| 2. Total emissions footprint to offset for this report | 598 |
| 3. Total eligible offsets required for this report | 598 |
| 4. Total eligible offsets purchased and retired for this report | 598 |
| 5. Total eligible offsets banked to use toward next year's report | 0 |

Co-benefits

Rimba Raya Biodiversity Reserve Project

This project is in Central Kalimantan in Indonesian Borneo and protects 65,000 hectares of tropical peat swamp forest, which is home to a rich array of species including the endangered orangutan. Indonesia is one of the world's largest producers of palm oil. The project's vision is to successfully compete with commercial agriculture interests and provide social and environmental benefits that would otherwise be difficult to attain.

In addition to conserving biodiversity and a precious forest ecosystem, the project is designed with community and social co-benefits at its core. The local community has been integral to the planning and development since inception. The project helps to increase access to clean drinking water, create more equal job opportunities, healthcare clinics, education programs and materials, create community centres and provide renewable energy.

The project also protects the integrity of the adjacent world-renowned Tanjung Puting National Park, by creating a physical buffer zone across 90 kilometres eastern order of the park.

This project has verified contributions to all 17 United Nations Sustainable Development Goals.

Eligible offsets retirement summary

| Offsets cancelled for Climate Active Carbon Neutral Certification | | | | | | | | | | | |
|--|----------------------|----------|--------------|--|---------|------------------|---|---|---|--|-------------------------|
| Project description | Type of offset units | Registry | Date retired | Serial number (and hyperlink to registry transaction record) | Vintage | Stapled quantity | Eligible quantity (tCO ₂ -e) | Eligible quantity used for previous reporting periods | Eligible quantity banked for future reporting periods | Eligible quantity used for this reporting period | Percentage of total (%) |
| Rimba Raya Biodiversity Reserve Project | VCU | VERRA | 31/5/22 | 7828-431372004-431372601-VCU-016-MER-ID-14-674-01072014-31122014-1 | 2014 | - | 598 | 0 | 0 | 598 | 100% |
| Total offsets retired this report and used in this report | | | | | | | | | | 598 | |
| Total offsets retired this report and banked for future reports | | | | | | | | | 0 | | |

| Type of offset units | Quantity (used for this reporting period claim) | Percentage of total |
|------------------------------|---|---------------------|
| Verified Carbon Units (VCUs) | 598 | 100% |

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) summary

N/A

APPENDIX A: ADDITIONAL INFORMATION

N/A

APPENDIX B: ELECTRICITY SUMMARY

Electricity emissions are calculated using a location-based approach

Location-based method

The location-based method provides a picture of a business's electricity emissions in the context of its location, and the emissions intensity of the electricity grid it relies on. It reflects the average emissions intensity of the electricity grid in the location (State) in which energy consumption occurs. The location-based method does not allow for any claims of renewable electricity from grid-imported electricity usage.

Market-based method

The market-based method provides a picture of a business's electricity emissions in the context of its renewable energy investments. It reflects the emissions intensity of different electricity products, markets and investments. It uses a residual mix factor (RMF) to allow for unique claims on the zero emissions attribute of renewables without double-counting.

| Market Based Approach Summary | | | |
|--|---------------------|---------------------------------|-------------------------------|
| Market Based Approach | Activity Data (kWh) | Emissions (kgCO ₂ e) | Renewable Percentage of total |
| Behind the meter consumption of electricity generated | 0 | 0 | 0% |
| Total non-grid electricity | 0 | 0 | 0% |
| LGC Purchased and retired (kWh) (including PPAs & Precinct LGCs) | 0 | 0 | 0% |
| GreenPower | 0 | 0 | 0% |
| Jurisdictional renewables (LGCs retired) | 0 | 0 | 0% |
| Jurisdictional renewables (LRET) (applied to ACT grid electricity) | 0 | 0 | 0% |
| Large Scale Renewable Energy Target (applied to grid electricity only) | 607 | 0 | 19% |
| Residual Electricity | 2,666 | 2,651 | 0% |
| Total grid electricity | 3,273 | 2,651 | 19% |
| Total Electricity Consumed (grid + non grid) | 3,273 | 2,651 | 19% |
| Electricity renewables | 607 | 0 | |
| Residual Electricity | 2,666 | 2,651 | |
| Exported on-site generated electricity | 0 | 0 | |
| Emissions (kgCO ₂ e) | | 2,651 | |
| Total renewables (grid and non-grid) | 18.54% | | |
| Mandatory | 18.54% | | |
| Voluntary | 0% | | |
| Behind the meter | 0% | | |
| Residual Electricity Emission Footprint (TCO₂e) | 3 | | |
| <i>Figures may not sum due to rounding. Renewable percentage can be above 100%</i> | | | |

Location Based Approach Summary

| Location Based Approach | Activity Data (kWh) | Scope 2 Emissions (kgCO2e) | Scope 3 Emissions (kgCO2e) |
|--|---------------------|----------------------------|----------------------------|
| WA | 3,273 | 2,193 | 33 |
| Grid electricity (scope 2 and 3) | 3,273 | 2,193 | 33 |
| WA | 0 | 0 | 0 |
| Non-grid electricity (Behind the meter) | 0 | 0 | 0 |
| Total Electricity Consumed | 3,273 | 2,193 | 33 |
| Emission Footprint (TCO2e) | 2 | | |
| <i>Scope 2 Emissions (TCO2e)</i> | 2 | | |
| <i>Scope 3 Emissions (TCO2e)</i> | 0 | | |

Climate Active Carbon Neutral Electricity summary

| Carbon Neutral electricity offset by Climate Active Product | Activity Data (kWh) | Emissions (kgCO2e) |
|---|---------------------|--------------------|
| N/A | 0 | 0 |

Climate Active carbon neutral electricity is not renewable electricity. The emissions have been offset by another Climate Active member through their Product certification.

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following sources emissions have been assessed as relevant, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. These emissions are accounted for through an uplift factor. They have been non-quantified due to one of the following reasons:

1. **Immaterial** <1% for individual items and no more than 5% collectively
2. **Cost effective** Quantification is not cost effective relative to the size of the emission but uplift applied.
3. **Data unavailable** Data is unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.
4. **Maintenance** Initial emissions non-quantified but repairs and replacements quantified.

| Relevant-non-quantified emission sources | (1) Immaterial | (2) Cost effective (but uplift applied) | (3) Data unavailable (but uplift applied & data plan in place) | (4) Maintenance |
|--|----------------|---|--|-----------------|
| Cleaning and chemicals | Yes | No | No | No |
| Refrigerants | Yes | No | No | No |
| Water | Yes | No | No | No |

APPENDIX D: OUTSIDE EMISSIONS BOUNDARY

Excluded emission sources

The below emission sources have been assessed as not relevant to an organisation's operations and are outside of its emissions boundary. These emissions are not part of the carbon neutral claim. Emission sources considered for relevance must be included within the certification boundary if they meet two of the five relevance criteria. Those which only meet one condition of the relevance test can be excluded from the certification boundary.

Emissions tested for relevance are detailed below against each of the following criteria:

1. **Size** The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions
2. **Influence** The responsible entity has the potential to influence the reduction of emissions from a particular source.
3. **Risk** The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.
4. **Stakeholders** Key stakeholders deem the emissions from a particular source are relevant.
5. **Outsourcing** The emissions are from outsourced activities previously undertaken within the organisation's boundary, or from outsourced activities typically undertaken within the boundary for comparable organisations.

Although fuel consumption, international land travel and natural gas are deemed as relevant emissions under the small organisation certification, they are not used by Vulcan Energy Limited and as such they have not been included in the PDS or carbon inventory.

| Emission sources tested for relevance | (1) Size | (2) Influence | (3) Risk | (4) Stakeholders | (5) Outsourcing | Included in boundary? |
|---------------------------------------|----------|---------------|----------|------------------|-----------------|-----------------------|
| Fuel used in motor vehicles | No | No | No | No | No | No |
| Natural gas | No | No | No | No | No | No |
| International land travel | No | No | No | No | No | No |



An Australian Government Initiative

