

EARTHS ENERGY COMMENCES TRADING FOLLOWING RAISING \$6M FOR GEOTHERMAL ENERGY PROJECTS

Earths Energy (ASX:EE1) (Earths Energy or the Company) is pleased to announce it will commence trading on the Australian Securities Exchange (**ASX**) today. This follows a successful \$6 million capital raising to advance its development of geothermal energy projects in South Australia and Queensland. The Company is a front runner in the Australian geothermal energy industry, which has strong potential to provide vital support to Australia's clean energy transition.

HIGHLIGHTS

- **Earths Energy (Formerly Cradle Resources, ASX:CXX) commences trading on the ASX today, following strong demand for a \$6 million capital raise to advance geothermal projects in South Australia and Queensland**
- **Earths Energy is an early mover in the Australian geothermal sector, aiming to establish a reliable, continuous renewable energy solution to contribute to Australia's clean energy targets**
 - *Geothermal energy stands out from other renewables due to its ability to provide constant, 24/7 baseload power generation, and is already proven as a reliable energy source in more than 30 countries globally.*
 - *Technological advancements, such as closed loop systems for producing power from moderate subsurface temperatures in non-permeable rocks, are evolving rapidly, and open geothermal opportunities in Australia.*
- **Earths Energy's portfolio of geothermal exploration licences is strategically located near existing infrastructure for market access**
 - *In South Australia, the Company has over 12,000 km² near significant mining operations and power networks, with resource potential estimates ranging from 9,700 to 54,100 Mwe¹.*
 - *In Queensland, the Company has a permit near Brisbane and power grids, and is applying for additional blocks near major industrial areas.*
- **Former Beach Energy Managing Director Matt Kay appointed Managing Director**
 - *Oil and gas technology and skills are highly complementary with developing geothermal assets.*
 - *Earths Energy will continue subsurface geological and geophysical analysis to identify thermal resource potential and conduct preliminary studies and surveys to determine optimised drilling targets.*

¹ See ASX Announcement 24 January 2024



Managing Director Matt Kay said: “Geothermal energy is proven in around 30 countries across the globe. It is reliable and one of few 100% renewable energy solutions available on a continuous 24-hour basis. Most importantly it produces 99% less emissions than fossil fuel energy sources².

Technology advancements such as binary cycle power plants and closed loop technology have made the potential for developing this renewable energy source more attractive for regions like Australia, where higher temperature volcanic sources are not present.

More than USD \$630 million has been raised in the past 3 years by next generation geothermal startups including the support of major industry participants³. Earths Energy is joining this wave of advanced geothermal activity, seeking to deliver “geothermal anywhere” to address Australia’s energy transition.

Earths Energy will work closely with regulators, governments, and industry to help Australia realise its Net Zero targets.”

Earths Energy’s Board includes Grant Davy as Executive Chairman, Chris Bath as Chief Financial Officer, and David Wheeler as a Non-Executive Director.

Geothermal Energy

Geothermal energy is a renewable energy from the natural source of heat contained within the earth. It can be extracted for uses including heating, drying and electricity generation. Geothermal has become established as a reliable and environmentally benign source of power.

The geothermal energy industry has been active globally for over 100 years and geothermal power plants have been installed in 30 countries⁴. While well-developed in other countries, the Australian geothermal industry is in infancy, given Australia’s historic abundance and acceptance of fossil fuels.

Geothermal energy has seen a strong increase in demand over the past decade as the world moves towards zero carbon emission targets. Compared to other renewable energy solutions, geothermal energy is unique in that it provides a base-load alternative that produces energy 24/7, a major challenge for intermittent renewable energy solutions like solar and wind. Geothermal energy therefore plays an important role in the future energy transition towards zero carbon emissions, given its ability to provide network security and reliability.

² <https://www.eia.gov/energyexplained/geothermal/geothermal-energy-and-the-environment.php>

³ <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/011124-infographic-next-generation-technologies-set-the-scene-for-accelerated-geothermal-growth-energy-transition>

⁴ <https://www.thinkgeoenergy.com/geothermal/geothermal-energy-production-utilisation/>

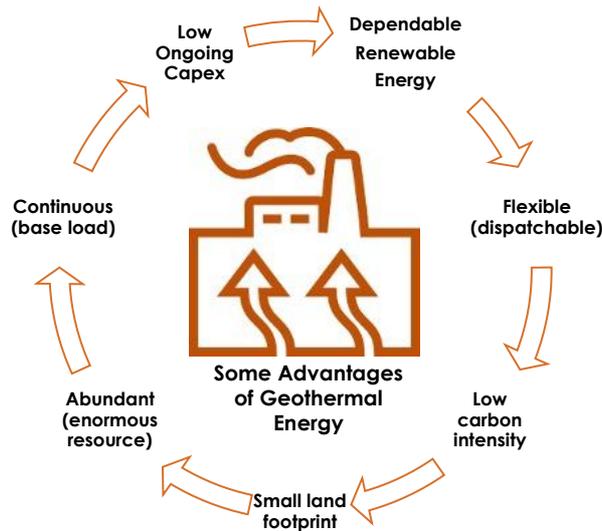


Figure 1 – Key advantages of Geothermal Energy

As of January 2024, global geothermal power generation capacity stood at 16,335 MWe with 208 MWe capacity installed during 2023⁵. Geothermal energy is modular and scalable, allowing decentralised power generation that has many potential applications in Australia.

Earths Energy is an early mover in geothermal exploration in Australia and has strategically secured and applied for prospective licences with resource potential near prospective customers.

Technological advancements provide the potential to unlock material geothermal resources in Australia

Legacy geothermal projects in Australia targeted rocks at depths of >4,500 m and temperatures of >270°C. Since then, closed loop demonstration projects such as the Coso Project in California have demonstrated the ability to generate power from source temperatures closer to 200°C.⁶

Closed loop geothermal also overcomes any permeability issues by circulating a working fluid that absorbs and transports heat through a sealed wellbore, without extracting fluids.

Therefore, closed loop geothermal expands the potential production and delivery of geothermal energy in fundamental ways:

- Closed loop systems can operate in a much broader range of temperatures and source conditions than conventional hydrothermal projects, ranging from relatively low temperature sedimentary reservoirs to hot, dry rock formations.

⁵ <https://www.thinkgeoenergy.com/thinkgeoenergys-top-10-geothermal-countries-2023-power-generation-capacity/>

⁶ www.energy.ca.gov "Closed Loop Geothermal Demonstration Project" June 2020



- The baseload and flexible power generation capabilities of closed loop geothermal can help stabilize the grid with reliable, continuous, sustainable energy at high capacity, and also provide ancillary services.
- Closed loop geothermal systems can enhance industrial applications, including high-value lithium extraction and hydrogen production, while lowering greenhouse gas emissions.

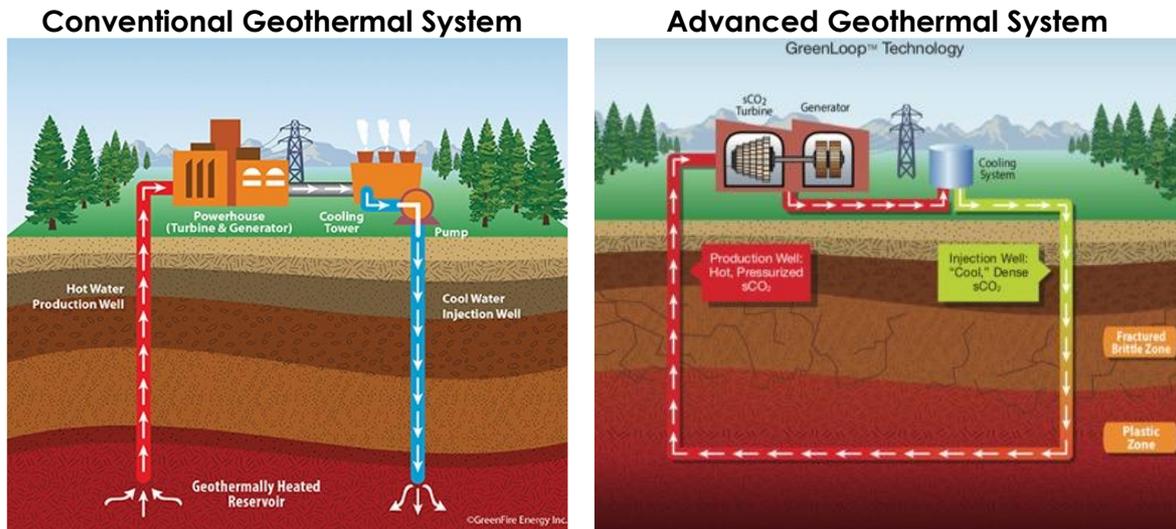


Figure 2 – Next Generation Geothermal Systems overcome location restrictions⁷

Other key advantages of closed loop systems include:

- Access to heat in impermeable or “low flow” rocks, potentially unlocking the vast bulk of the earth’s geothermal resources (only ~2% are estimated to reside in permeable rocks).
- Low or no process water usage, no withdrawal of subsurface fluids (aquifers), and the smallest surface footprint per megawatt of electricity of any renewable solution.

The International Energy Agency estimates that geothermal derived power generation will increase eight fold between now and 2050⁸.

South Australian geothermal exploration licences (Earths Energy: 84% attributable)

Earth Energy’s geothermal assets in South Australia are at the nexus of the state’s push towards renewable energy, with substantial exploration blocks spanning 12,035 km² in prime locations (See Figure 3). These blocks are strategically situated along major transmission lines and adjacent to large-scale mining operations such as Olympic Dam and Carrapateena and Four Mile / Beverly, all major consumers of energy in South Australia.

⁷ Source: Greenfire

⁸ <https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach>



The Independent Technical Expert's indicative aggregate estimates⁹ of Electric Resource Potential¹⁰ for the granted South Australian acreage range from 9,700Mwe to 54,100Mwe¹¹.

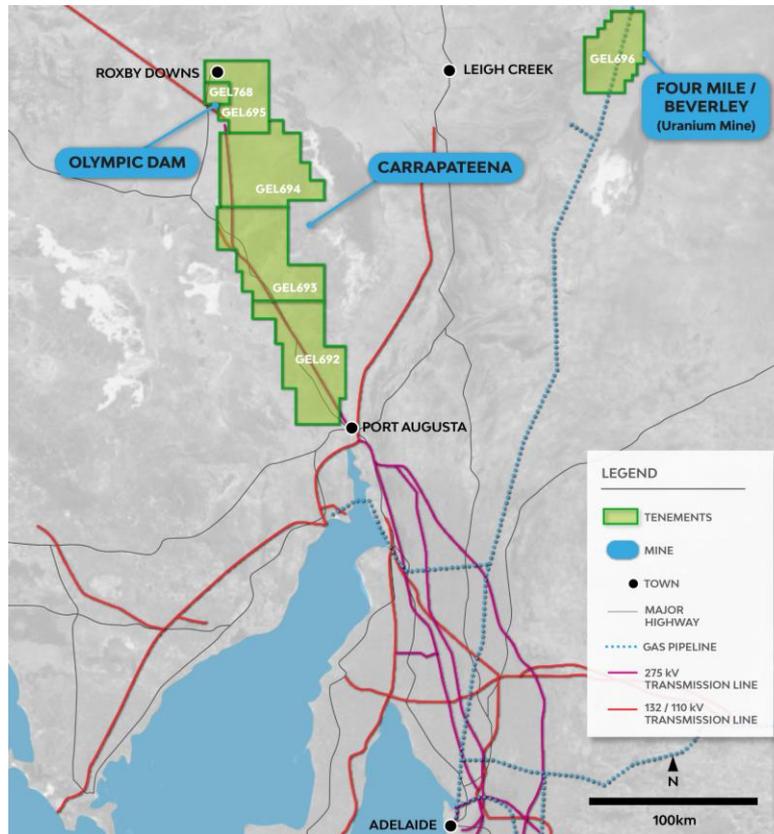


Figure 3 – South Australian geothermal exploration licences

Queensland geothermal exploration licences (Earths Energy: 84% attributable)

In Queensland, Earths Energy has one granted geothermal exploration permit, EPG 2026, which is located near Brisbane and substations and regional power networks. Additionally, the Company has three blocks under application that are located near the Gold Coast and major industrial activity in the Bowen and Surat Basin mining and coal seam gas areas (see Figure 4).

⁹ Competent Person – these analyses have been performed by Dr. Arnout JW Everts who holds a PhD in Geology from VU University Amsterdam and has 33 years of industry experience

¹⁰ The estimates of Electric Power-Resource Potential are strictly indicative and should not be considered to be compliant with UNFC

¹¹ Assuming a plant load-factor of 0.9 and a range (P90 to P10) of 1.9 – 7.9 MWe/km² (Megawatt electrical per square kilometer) for GEL 696 and a plant load-factor of 0.9 and a range (P90 to P10) of 1.1 – 6.9 MWe/km² for GELs 692/693/694/695/768.

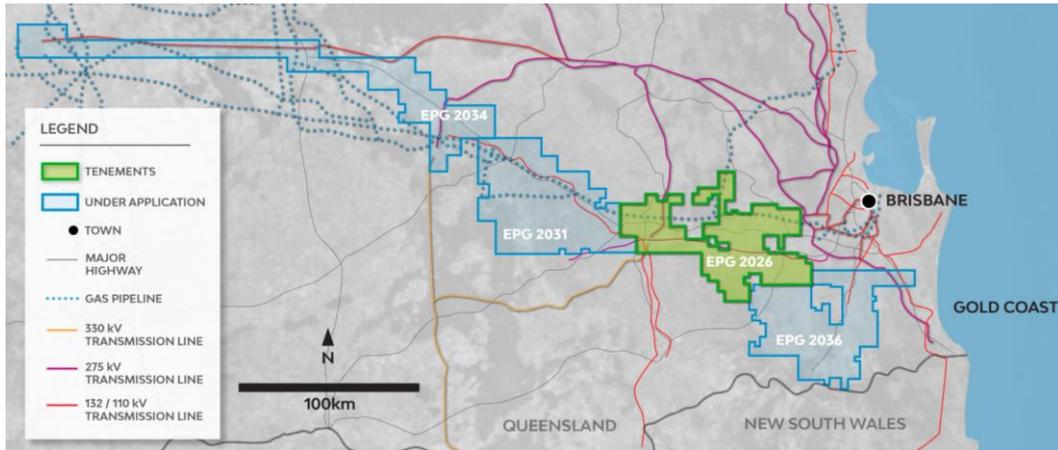


Figure 4 – Queensland geothermal exploration licences and applications

These tenements, particularly EPG2026 and EPG2031, exhibit considerable geothermal potential, with identified 'sweet spots' with a promising estimated electrical power capacity. The Independent Technical Expert's indicative aggregate estimates⁹ of Electric Resource Potential¹⁰ for the granted Queensland permit range from 200 Mwe to 1,100 Mwe¹².

Use of Funds

The Company will use the funds from the capital raising to focus on systematically exploring early-stage geothermal targets and developing geothermal resources. This will involve a fit-for-purpose exploration program analysing subsurface geology to identify thermal resource potential at different well depths, undertaking preliminary survey and resource assessments based on offset well data, exploration location definition and exploration drilling. The results from these initial investigations and assessments will determine priority targets for further exploration drilling for geothermal resources.

Earths Energy re-complied with ASX Listing Rules Chapters 1 and 2 reflecting the change in its principal activities from a mining exploration company to a geothermal energy development company.

Canaccord Genuity (Australia) Limited acted as Lead Manager and CPS Capital acted as co-manager to Earths Energy's successful \$6 million capital raise.

¹² Assuming a plant load-factor of 0.9 and a range (P90 to P10) of 1.1 – 3.7 MWe/km² (Megawatt electrical per square kilometer).



Authorised for release by Earths Energy's Board of Directors.

ENDS

To learn more about the Company, please visit www.ee1.com.au, or contact:

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About Earths Energy

Earths Energy has entered into binding Sale Agreements to acquire 84% interest in Volt Geothermal Pty Ltd ("Volt") and Within Energy Pty Ltd ("Within"), who hold geothermal projects in South Australia and Queensland, respectively (collectively the "Projects"). The Projects comprise of prospective geothermal exploration licences, surrounded by key existing infrastructure for electricity generation, including powerlines and sub power stations. The Company plans to focus on systematically exploring early-stage geothermal targets and developing geothermal resources at the Projects. This will involve a fit-for-purpose exploration programme analysing subsurface geology to identify thermal resource potential at different well depths, undertaking preliminary survey and resource assessments based on offset well data, exploration location definition and exploration drilling. This will determine priority targets for exploration drilling for geothermal resources.

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Board & Management

Grant Davey
Executive Director

Matt Kay
Managing Director

Chris Bath
Director and Chief
Financial Officer

David Wheeler
Non-Executive
Director

Dr Lawrence Meckel
Head of Subsurface