ASX Announcement

15 August 2024

Electricity market assessment confirms South Australian geothermal development opportunities

Earths Energy Limited (ASX: **EE1**) (**Earths Energy** or **Company**) is pleased to announce that an initial market assessment report regarding the Company's South Australian projects has been prepared by Resources WA (**Report**), an independent boutique energy consultancy (www.resources-wa.com.au).

HIGHLIGHTS

- Large proportion of South Australian renewable installed (~70%) see wholesale power prices peak between **$250 and $300 per MWh** during the early morning and late afternoon, they **remain elevated > $100 per MWh** throughout the night
    - *Given the baseload reliable nature of geothermal power production, electricity can be produced reliably during these peak periods to optimise revenues*

- Demand for ancillary services (i.e. electricity on call at short notice) is also identified as a lucrative addition, with rates of between **$647 and $999 per MWe**
    - *These higher rates have prompted the Company to further incorporate the potential of storage options into its current project assessment and development plans*

- Report confirms the Company can expect prices of at least **$150 per MWh** sold from its Flinders West and Paralana projects
    - *This is achievable through a combination of PPAs, wholesale power sales and ancillary services revenues*

- Current connections availability of up to 70MW at the Flinders West project
    - *SA connection process confirmed as being low cost and supportive of speedy development timeframes (12 to 18 months)*

CEO Josh Puckridge commented: *"This initial market assessment independently confirms the excellent commercial conditions for the Company's South Australian projects to sell future green baseload power.*

"Confirming the power that we bring online from our South Australian projects can be readily sold under a PPA or into wholesale markets at prices that robustly support current commercial development, is yet another endorsement of the Company's projects and strategy.

"This work underscores the strong potential for our geothermal projects to generate commercial and consistent revenue streams while contributing to the transition towards renewable energy in Australia. We are confident that our South Australian projects are positioned to play a key role in meeting the growing demand for sustainable energy solutions for Australia."

MARKET DYNAMICS FAVOUR GEOTHERMAL ENERGY DEVELOPMENT

Large proportion of renewable installed generation in SA (~70%) results in wholesale power prices peak at $250-300/MWh during the early morning and late afternoon, that remain elevated > $100/MWh throughout the night. See Figure 1, which is a volume weighted representation of South Australian prices between 2021 and 2023.

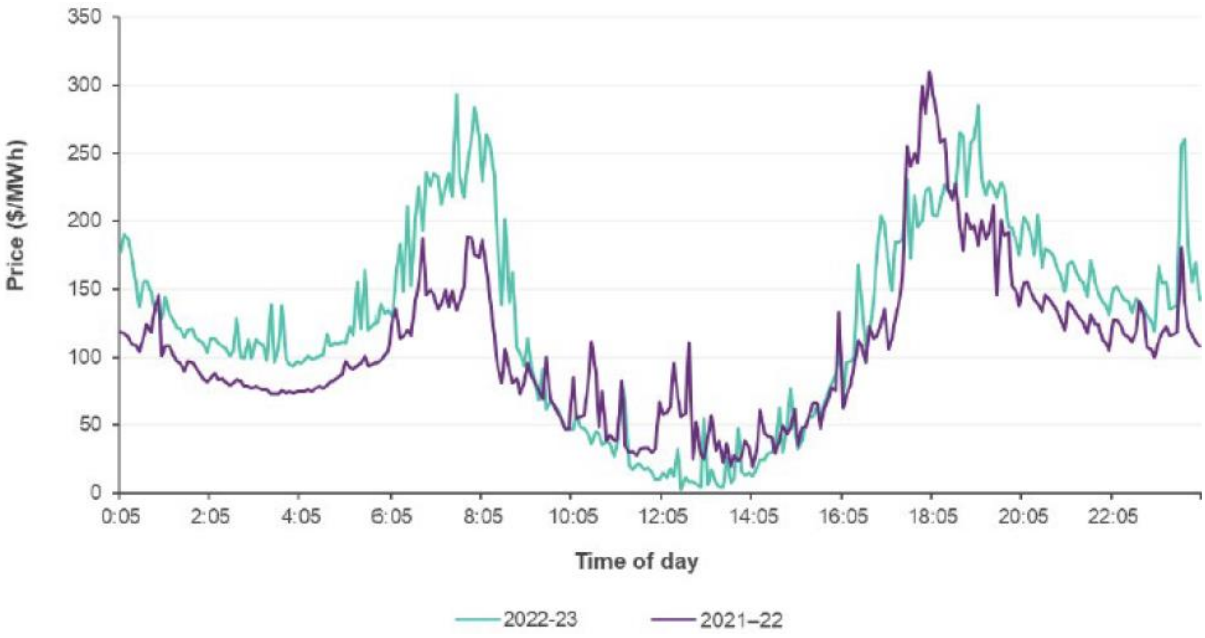

Figure 1: South Australian power price – annual average; source: ResourcesWA

Geothermal energy is particularly well-suited to take advantage of peak electricity prices, which occur during periods when other renewable sources, such as solar and wind, are less effective. For example, in the early morning and evening hours, when solar energy generation is low due to limited sunlight, geothermal energy can reliably

supply power. The Report suggests that by configuring geothermal plants to operate in conjunction with BESS, these projects can achieve highly competitive pricing within the market, ensuring a stable supply of electricity during periods of high demand.

POWER PURCHASE AGREEMENT

The Company engaged specialist electricity market consultant Resources WA to prepare an initial assessment of offtake alternatives for electricity for the Company's South Australian projects.

Resources WA's report indicates that a primary market mechanism in SA is large scale power purchase agreement (PPA), combined with ancillary services sold into the wholesale market. Under a PPA, there is a range of favourable prices that could be achieved:

Table 1- PPA components

PPA component	Unit	Range
Energy Pricing	$/MWh	65 – 100
Market and Large Generation Certificates	$/MWh	12
Grid Charge – net neutral to Company sales	$/MWh	30

Energy Pricing: $65 to $100 per MWh

The Report outlines that energy dispatch pricing in South Australia typically ranges between $65 and $100 per megawatt-hour (MWh), depending on factors such as time of day, demand, and market conditions. For instance, during peak hours in the evening when residential and commercial energy consumption increases, the demand for electricity drives prices toward the higher end of this range. Geothermal energy, with its ability to provide continuous baseload power, is well-positioned to take advantage of these peak periods. This capability allows geothermal plants to secure electricity prices that reflect the upper end of the market range, thereby enhancing their economic viability.

Market and LGCs: Approximately $12 per MWh

In addition to grid charges, the Report highlights the importance of market charges and Large-scale Generation Certificates (LGCs), which contribute approximately $12 per MWh (Source: Resources WA, 2024). LGCs are similar to carbon credits but specifically apply to renewable energy generation. They represent the environmental benefits of generating electricity from renewable sources and can be sold to other entities seeking to meet renewable energy targets. For EE1, the ability to generate LGCs means an additional revenue stream on top of the energy sold. For example, if EE1 produces 100,000 MWh of electricity annually, the associated LGCs could potentially add up to $1.2 million in additional revenue.

Significant Revenue Potential from Ancillary Services

Beyond energy pricing, the Report emphasises the significant revenue opportunities available through the FCAS market, particularly with the introduction of "very fast" FCAS services. These services, which require response times within seconds, provide financial incentives for generators that can quickly adjust their output to maintain the stability of the electricity grid. For instance, during a sudden drop in wind generation, geothermal plants equipped with BESS can rapidly increase their output to balance the grid, earning up to $16,600 per MWh in ancillary service revenues (Source: Australian Energy Review, 2024). This is akin to being paid a premium for being on standby and ready to provide emergency services when needed. EE1's geothermal projects, with their ability to integrate BESS, are well-positioned to capitalise on these high-value ancillary services, further boosting their revenue potential.

Grid Charges: $30 per MWh

The Report also addresses grid charges, which represent the costs associated with transmitting electricity through the high-voltage transmission network. In South Australia, these charges are approximately $30 per MWh. To put this into context, grid charges are akin to the tolls paid for using a motorway; just as vehicles pay a fee to travel on a toll road, electricity generators pay a fee to use the transmission network to deliver power to consumers. These costs can significantly impact the profitability of a power project. However, EE1's geothermal projects, which are strategically located near key substations and high-capacity transmission lines, are expected to incur lower grid connection expenses. For example, by being closer to the Mount Gunson substation, which has higher capacity, EE1 can minimise the distance electricity needs to travel, thereby reducing transmission costs and improving the overall financial performance of Paralana and Flinders West. While these charges are anticipated to be passed onto the buyers, their current level is still manageable, with no anticipated net impact of future cash flows.

STRATEGIC GRID ACCESS ENHANCES PROJECT VIABILITY

Finally, the Report confirms that Paralana and Flinders West are strategically located near key substations and high-voltage transmission networks. This proximity is comparable to setting up a manufacturing plant near major motorways and ports, where the ease of access to transportation infrastructure reduces logistics costs and enhances operational efficiency.

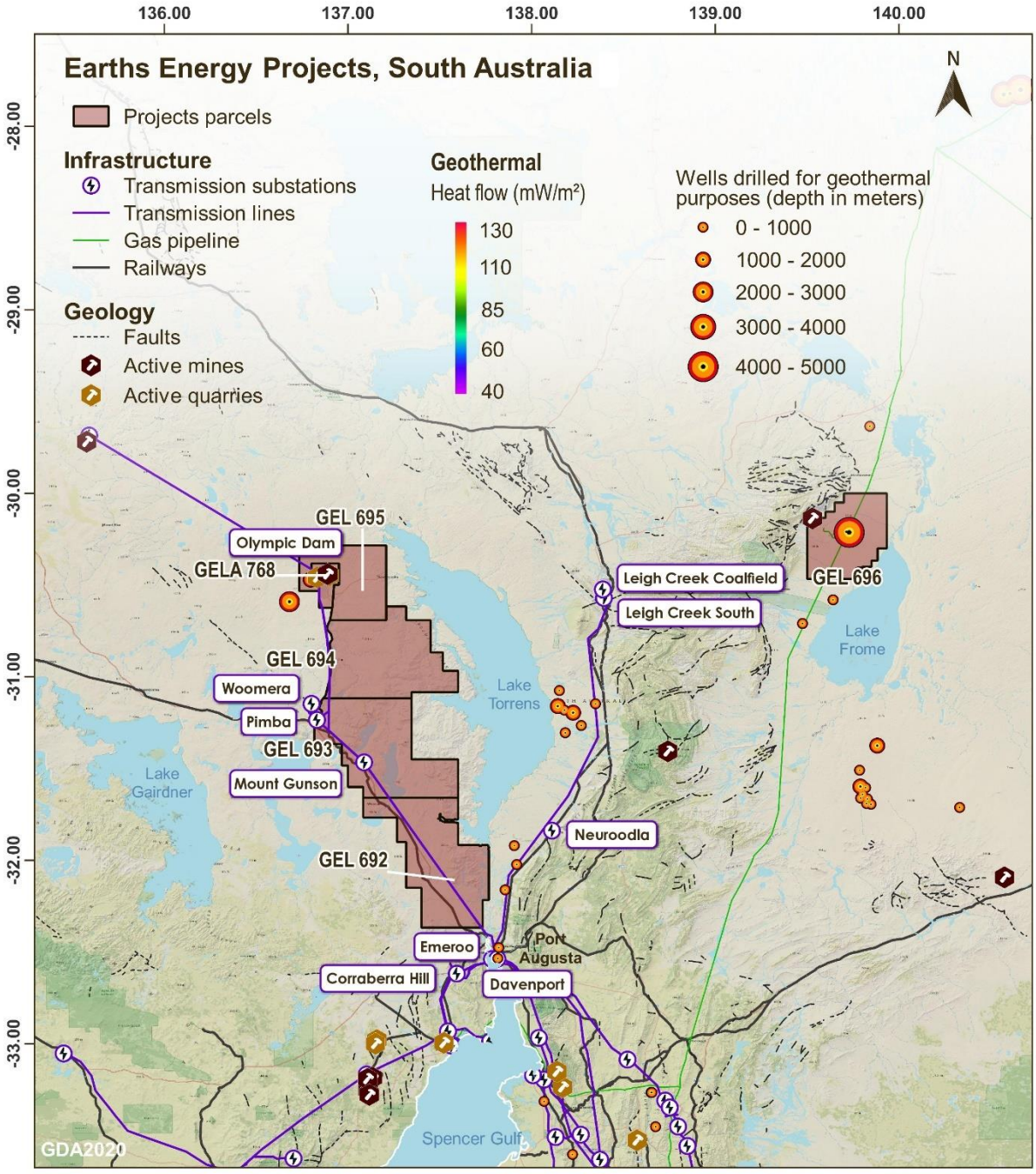

Figure 2: Substations in proximity to EE1's South Australian projects

For EE1, proximity to substations such as Mount Gunson and Davenport reduces the distance electricity must travel to reach the grid, thereby lowering connection costs and improving the economic feasibility of the projects. This strategic positioning not only minimises logistical and financial barriers but also ensures that EE1's geothermal projects are well-placed to become leading providers of green baseload power in South Australia's energy market.

EE1 has potential to secure connections for up to 70MW at Mount Gunson and Pimba sub stations.

NEXT STEPS

Following the findings of the Report, the Company is addressing the following:

Power Storage Solutions
Given the high potential revenues associated with Ancillary Services detailed in the Report, the Company is furthering its investigation into the economics and efficiencies of various storage options that may work well with a geothermal power plant.

These options include thermal battery systems, mechanical battery systems and lithium-ion systems.

Techno-Economic Assessment
The Company is continuing its techno-economic assessment of its South Australian projects as announced 16 July 2024 ("Appointment of Global Energy Leader") with global energy leader, GLJ Limited.

The Report's findings will be considered as this assessment is continued to ensure the Company is considering its projects in the context of the local market conditions of South Australia. The Company continues to anticipate updating the market on some of these findings before the end of Q32024.

For, and on behalf of, the board of the Company,

Josh Puckridge
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Earths Energy Limited

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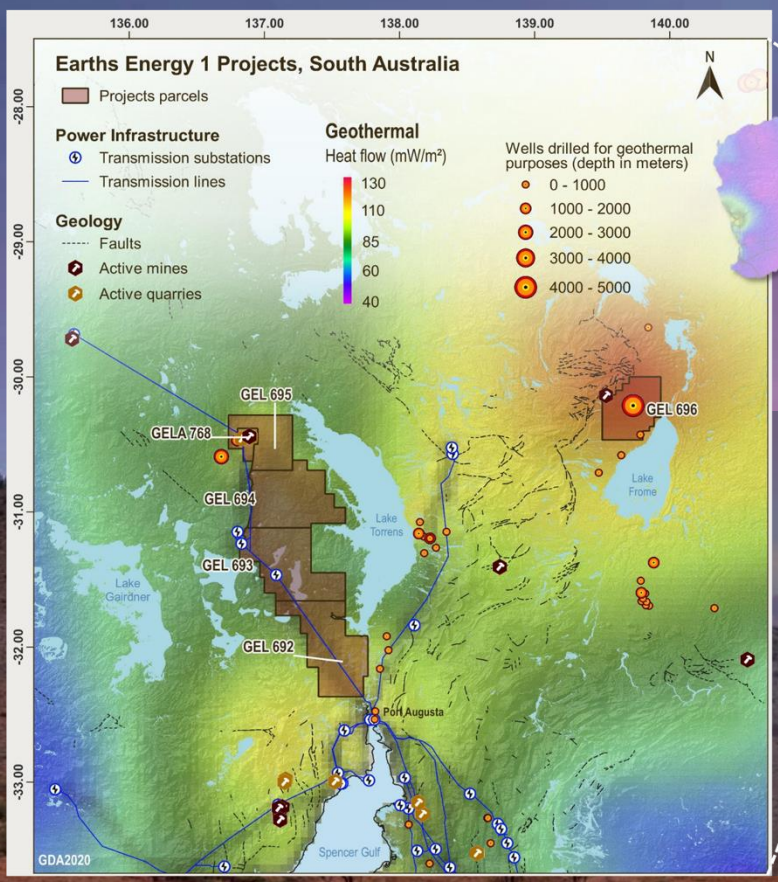

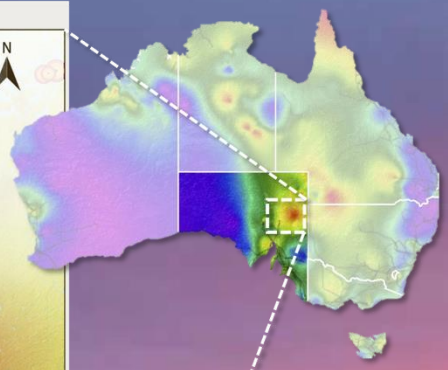

About Geothermal

Geothermal Projects provide green baseload power to electricity grids around the world. The USA produces 17.2 TWh of geothermal power per annum, equivalent to Western Australia's entire annual electricity demand.

The USA, Indonesia and Philippines combined produce enough geothermal power to meet over 17% of Australia's annual electricity demand.

About Earths Energy (ASX: EE1)

Australia's Most Advanced Geothermal Explorer and Developer

Committed to the production of green baseload power in Australia

EE1 holds 84% of the Paralana and Flinders West geothermal projects located in South Australia, which stand as Australia's most advanced geothermal projects and have outstanding development potential.

EE1 also holds an 84% interest in geothermal projects located in Queensland.

EE1's landholdings comprise prospective geothermal exploration licences, surrounded by key existing infrastructure including powerlines and power substations.

The Company is focused on assessing the feasibility of commercial scale geothermal power generation capacity at multiple sites, including the suitability of its projects for carbon capture.

Shares on Issue

Total Shares on Issue	750.3m
Escrowed until 7 Feb 2026	*220.4m*
Escrowed until 7 Feb 2025	*73.8m*
Tradeable Shares	456.1m

Top 5 shareholders

Mimo Strategies 10.7% (fully escrowed until Feb 2026)
Stephen Biggins 10.2% (fully escrowed until Feb 2026)
Grant Davey 6.7% (partially escrowed until Feb 2025)
Jadematt Investments 5.9% (fully escrowed until Feb 2026)
Sunset Capital 5.7%

For more information see

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