



ASX Announcement

5 September 2024

Commencement of Technical and Economic Feasibility Study on South Australian Projects

Earths Energy Limited (ASX: **EE1**) (**Earths Energy** or **Company**) is pleased to announce that it has expanded the scope of its initial techno-economic assessment to include a comprehensive feasibility study for its Paralana and Flinders West projects in South Australia.

This decision follows a review of the Company's project data and status by GLJ Ltd (**GLJ**), a recognised global energy leader in geothermal project evaluation and assurance.

HIGHLIGHTS

- A preliminary review of EE1's Paralana and Flinders West projects has been carried out by GLJ, as announced previously¹
 - *Paralana and Flinders West Projects are among Australia's most advanced geothermal projects. To date, \$40m has been spent on study and fieldwork (including drilling) by previous project owners; and*
 - *Preliminary reviews by GLJ of this data have demonstrated potential to include a feasibility analysis of both geothermal energy production and carbon capture capabilities within the scope of the evaluation.*
- The Company has now commissioned GLJ to deliver a Techno-Economic Feasibility Study (**TEFS**), to be finalised by December 2024, which will comprise
 - *Detailed analysis of various geothermal extraction technologies, reservoir simulations, cost estimation for well design and surface facilities, and economic models; and*
 - *Evaluation of potential synergies between geothermal energy production and carbon capture utilisation and storage technologies.*

¹ See ASX announcement 16 July 2024

Josh Puckridge, Earths Energy CEO, commented:

"We are excited to scale the study of our geothermal projects in South Australia to include a more comprehensive feasibility study, including the evaluation of both geothermal opportunities and carbon sequestration. We anticipate this study will assist us to develop a clear path to maximising both energy production and the potential for the integration of CCUS technologies, to deliver on our vision of green baseload power production that contributes meaningfully to Australia's energy transition.

Earths Energy is committed to advancing these projects swiftly, leveraging the expertise of GLJ and our experienced team."

Greg Owens, GLJ Vice President, New Ventures and Technical Services, commented:

"With expertise in conventional and emerging geothermal technologies, the GLJ team provides valuable advice on geothermal projects to help understand and leverage the latest advancements in geothermal extraction technologies from Enhanced Geothermal Systems (EGS) to Advanced Geothermal Systems (AGS).

GLJ is recognised as a global leader in Carbon Capture Utilization and Storage (CCUS) evaluation.

Our preliminary review of Earths Energy's projects in South Australia gave us confidence to embark on a techno-economic feasibility study and we look forward to working with Josh and his team to deliver this in a timely fashion."

EXPANDED SCOPE OF FEASIBILITY STUDY WORK

As previously announced on 10 July 2024, Earths Energy's South Australian projects, Paralana and Flinders West, are Australia's most advanced geothermal projects, with more than \$40 m spent to date on fieldwork and studies by previous project owners.

The Paralana Project, drilled to 3,685 metres with a bottom hole temperature of 171°C, has shown a thermal gradient of 46°C per km, significantly above the Australian average. Meanwhile, the Flinders West Project has demonstrated a high geothermal gradient of over 43°C per km, confirming its potential for commercial geothermal power production.

In the ASX announcement dated 16 July 2024, EE1 informed the market of GLJ's appointment as a technical advisor and highlighted GLJ's extensive experience in geothermal and CCUS technologies.

Initial reviews by GLJ have demonstrated significant potential for both geothermal energy production and carbon capture capabilities at Paralana and Flinders West. Given these findings, the Company has engaged GLJ to undertake a more comprehensive Techno-Economic Feasibility Study.

The TEFS will not only delineate the geothermal resource potential but will also evaluate the viability of integrating next-generation technologies, including Advanced Geothermal Systems (AGS), Enhanced Geothermal Systems (EGS), and supercritical CO₂ geothermal plants. These technologies have the potential to significantly enhance both energy output and commercial viability by allowing for shallower drilling depths, thereby reducing capital expenditures and operating costs.

The TEFS will include the following key components:

Red Flag Assessment: Identifying and mitigating any critical issues that could impact project success, with recommendations for adjustments and alternative approaches as needed. To be completed by early October 2024.

Geothermal Resource Evaluation/Audit: Verification and detailed delineation of existing subsurface data, creation of geothermal favourability maps, and audit of in-place geothermal resources for each exploration licence, given the most appropriate geothermal extraction technologies for each project area.

Comprehensive Techno-Economic Feasibility Study: Detailed analysis of various geothermal extraction technologies, development of potential scenarios, reservoir simulations, cost estimation for well design and surface facilities, and comprehensive economic modelling, including sensitivity analysis. To be completed by December 2024.

STRATEGIC ADVANTAGES OF THE COMPANY'S PROJECTS

Supportive Regulatory Environment: South Australia remains the most advanced jurisdiction in Australia for CCUS projects, offering a favourable legislative framework for the commercial development and operation of integrated geothermal and CCUS projects.

Alignment with Australian Sustainability Goals: The expanded feasibility study aligns with Earths Energy's strategic vision of becoming a leader in green baseload power production in Australia, contributing to the Australia's decarbonisation effort by harnessing clean, sustainable geothermal energy in a location close to the National Electricity Market, which supplies >80% of Australia's electricity demand.

Integration of CCUS Capabilities: Recent assessments have identified potential synergies between geothermal energy production and carbon capture utilization and storage (CCUS) technologies. The Flinders West site, in particular, shows early signs of suitability for CCUS projects, leveraging its geological characteristics for captured carbon storage.

NEXT STEPS

The Company will provide regular updates to the market as the TEFS progresses, with key milestones anticipated to be reported in Q4 2024. EE1 is confident that the comprehensive analysis will provide a strong foundation for advancing the development of its South Australian projects and unlocking their full potential for sustainable energy production and carbon capture.

Josh Puckridge
Chief Executive Officer
Earths Energy Limited

Authorised for release by Earths Energy Ltd Board of Directors.

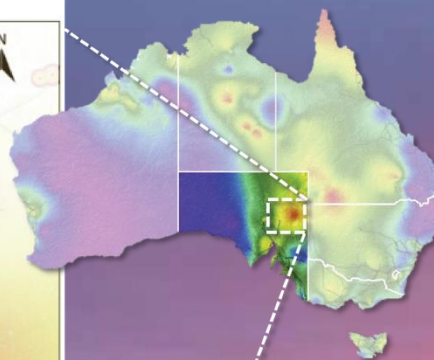
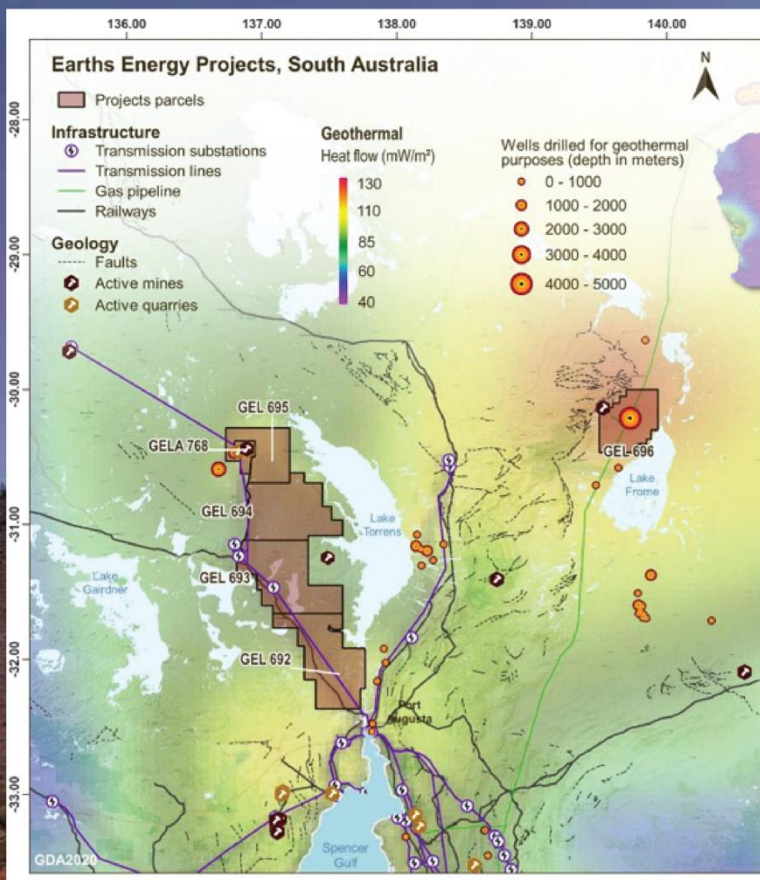
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About Geothermal

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	10.6% (fully escrowed until Feb 2026)
Stephen Biggins	9.4% (fully escrowed until Feb 2026)
Grant Davey	7.2% (partially escrowed until Feb 2025)
Jadematt Investments	5.9% (fully escrowed until Feb 2026)
Sunset Capital	5.8%

For more information see

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