AUSTRALIAN GEOTHERMAL IS BACK

earths energy

AUSTRALIA'S MOST ADVANCED GEOTHERMAL PROJECTS

ASX: EE1 | **August 2024**

Investment Highlights

RIGHT TIME

GEOTHERMAL ENERGY PROVIDES GREEN 24/7 BASELOAD POWER TO SUPPORT THE CLEAN ENERGY TRANSITION

RIGHT PROJECTS

EE1 HOLDS THE MOST ADVANCED GEOTHERMAL PROJECTS IN AUSTRALIA

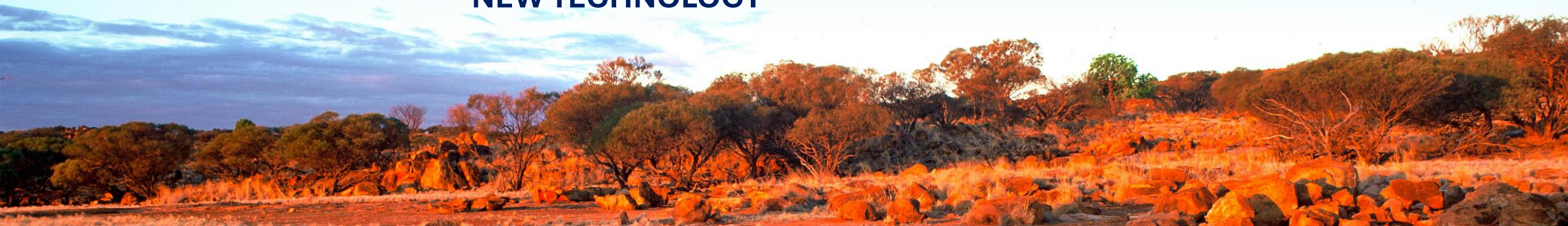
PROJECTS HIGHLY SCALEABLE WITH NEW TECHNOLOGY

RIGHT PLACE

DIRECT GRID ACCESS TO 83% OF AUSTRALIA'S POWER DEMAND FROM SITE

RIGHT PEOPLE

WORLD CLASS PARTNERS EXPERIENCED IN DELIVERING PRODUCING GEOTHERMAL PROJECTS



Why Australian Geothermal is Back

Urgent demand, refined engineering, and lower risk development

URGENT DEMAND DUE TO ENERGY TRANSITION

- Australia is falling behind its energy transition target of 82% renewable by 2030, with <40% achieved in 2023
- Traditional renewables do not offer base load capability, making replacement of coal and gas more difficult and expensive
- Power price inflation is a by-product of the energy transition, as sizeable investments in new generation and transmission are required

NEW AND REFINED ENGINEERING AND TECHNOLOGY

- A global geothermal renaissance is underway which is making more projects around the world viable, especially those in Australia
- Enhanced Geothermal Systems (EGS) – pioneered 15 years ago in Australia, now being implemented in the US at scale, are well suited to Australian conditions
- Supercritical CO_2 (sCO_2) as a medium to transport heat could improve project economics via shallower drilling and greater energy efficiencies

LOWER RISK EXPLORATION AND DEVELOPMENT

- Subsurface modelling has greatly improved, including 3D modelling accuracy, lower cost and higher resolution
- Horizontal drilling accuracy and reliability greatly improved, reducing risk
- Reduced horizontal drilling costs, approximately 70% lower than 15 years ago

*"Recent breakthroughs in **geothermal technology have the potential to significantly impact on the future development of geothermal energy in Australia.**"*

"Breakthroughs in Enhanced Geothermal System technology and the rapidly developing sector of Advanced Geothermal Systems … eliminates the need for permeable reservoirs."

Geoscience Australia (Australian Government),
Australia's Commodity Resources 2024 (published 15 July 2024)

What is Geothermal Energy?

Well-know renewable energy source in use for over 100 years

GEOTHERMAL – HARNESSING THE EARTH'S ENERGY

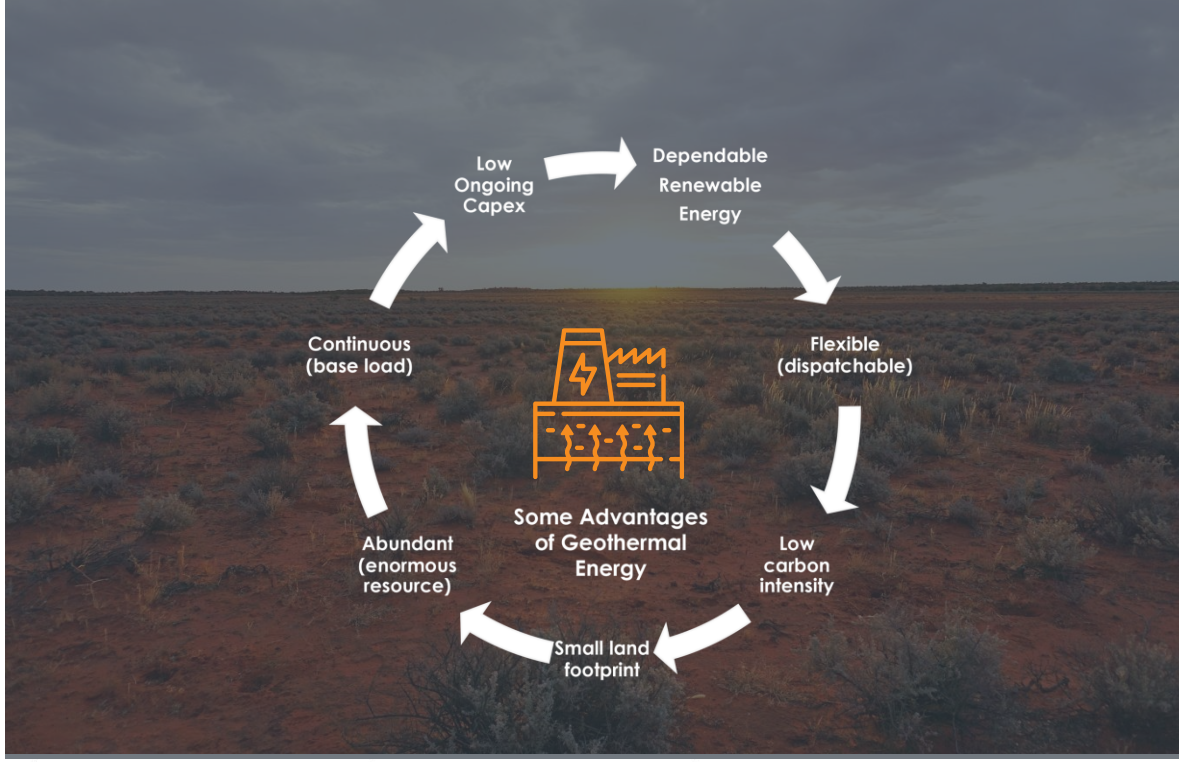
- Geothermal energy is the naturally emanating heat contained within the earth
- It can be extracted for uses including heating, drying and electricity generation
- Geothermal energy is widely used throughout the world and is one of only few renewable energy sources capable of operating continuously irrespective of the weather conditions

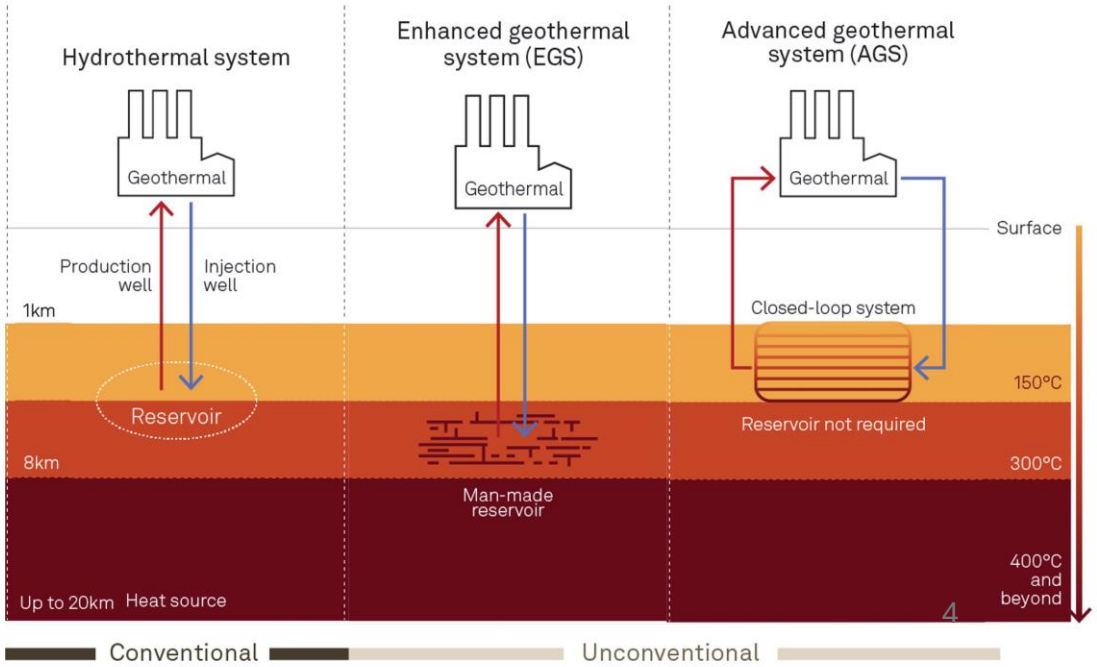
ADVANTAGES OVER ALTERNATIVE SOURCES OF RENEWABLE ENERGY

- Baseload 24/7 reliable green power - wind and solar cannot match this reliability
- Small land footprint – minimal footprint which avoids the visual pollution of wind and solar
- Inexhaustible power – **"1% of the hot rock energy less than 5km deep is enough to power Australia for 26,000 years if it were tapped"** (Reuters 2008)

RECENT ENGINEERING ADVANCES

- Binary cycle power plants have enabled use of geothermal fluids at lower temperatures (80°C - 180°C) seeing shallower depths (reducing drilling costs)
- Next-generation geothermal technologies – like Enhanced Geothermal Systems (EGS) and Advanced Geothermal Systems (AGS) – aim to create conditions for geothermal energy in areas where natural exploitation was otherwise impossible[2]
    - *In an Enhanced Geothermal Solution (EGS), the heat reservoir is accessed by geological stimulation.*
    - *In Advanced Geothermal Systems (AGS), a closed-loop system is installed, eliminating fluid flow through rocks and not being affected by the rock permeability*
    - *Low permeability projects are now becoming feasible*





1 - IRENA, Global Geothermal Market and Technology Assessment, 2023
2 – https://www.eia.gov/outlooks/aeo/, 2023
3 - https://climate.mit.edu/posts/what-it-will-take-unleash-potential-geothermal-power

EE1 Investment Thesis

A unique geothermal portfolio in Australia at the right time

RIGHT TIME - GREEN BASELOAD POWER PRODUCED RELIABLY 24/7

- Australia needs more renewable power to meet its 2030 target of 82% (currently < 40%)
- Geothermal is the most reliable renewable power source
- Baseload geothermal provides an alternative to coal and nuclear power

RIGHT PROJECTS - EE1 HAS THE MOST ADVANCED PROJECTS

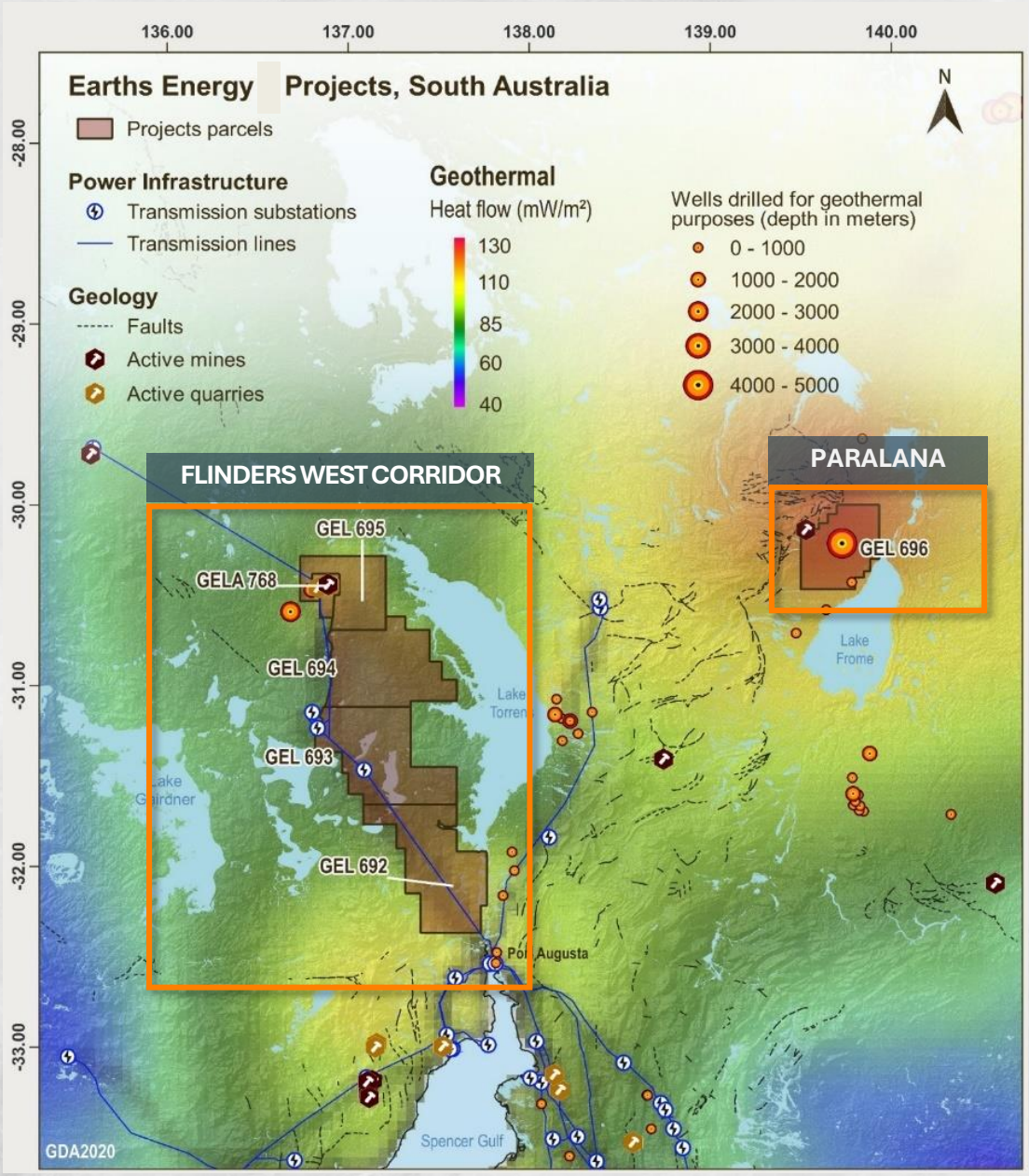
- EE1 holds Australia's most advanced geothermal projects, Paralana and Flinders West
- Over $40m historically spent on EE1's projects – depths and heats are drilled and tested
- EE1's projects are suited to next generation geothermal technologies, like those being built in the USA (like the 400MWe Cape Station project in Southwest Utah)

RIGHT PLACE – VAST STRIKE WITH GRID ACCESS

- Transmission line connecting to South Australian and East Coast electricity network runs along EE1's ~250km strike of heat anomalies
- Multiple electricity substations accessible on EE1's tenement footprint, and geothermal baseload power enables grid access where wind and solar cannot
- On grid to 83% of Australia's demand in SA, VIC, TAS, QLD and NSW

RIGHT PEOPLE - A HIGH CALIBRE TEAM AND WORLD CLASS PARTNERS

- CEO Josh Puckridge is experienced in the Australia geothermal, having previously assembled Australia's largest geothermal portfolio for Steam Resources since 2020
- EE1 has engaged GLJ Ltd, a leading developer of geothermal projects globally having played a vital role in Vulcan Energy's Zero Carbon Lithium™ project development
- EE1 has an MoU with Baker Hughes, a leading global technology provider, who bring experience with developing GreenFire's Advanced Geothermal Systems technology



Geothermal Market

Reliable existing market with huge potential for growth

DRIVERS OF GEOTHERMAL GROWTH AND INVESTMENT

- The **green energy transition** and **global green electrification of industry** as the world moves toward 2030 and 2050 emissions targets
- The **need for baseload power** substitutes to replace coal fired power stations (especially when nuclear is not an option, such as in Australia)
- **Innovation** from EGS, AGS and sCO_2 geothermal system designs sees geothermal power production more possible in more locations at less cost (and more viable)

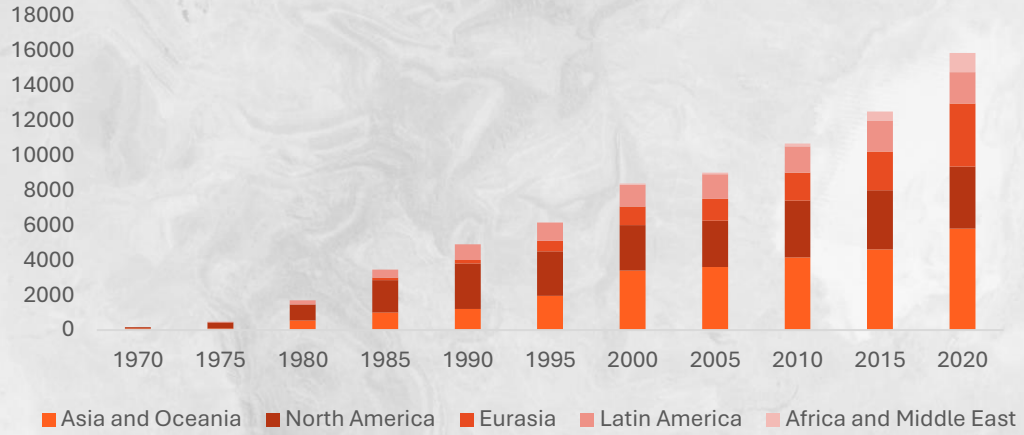
> *"... global **geothermal capacity has the potential to exceed 1,000 GW by 2050**, bigger than either global nuclear or hydro capacity today."*
> **Wood Mackenzie, 2024**

> *"...we estimate that cumulative investment through 2050 could be **US$1 trillion**... a **technological breakthrough** that could catapult today's tiny, exclusively hot-spot energy source **into a global industry may now be near at hand**."*
> **Wood Mackenzie, 2024**

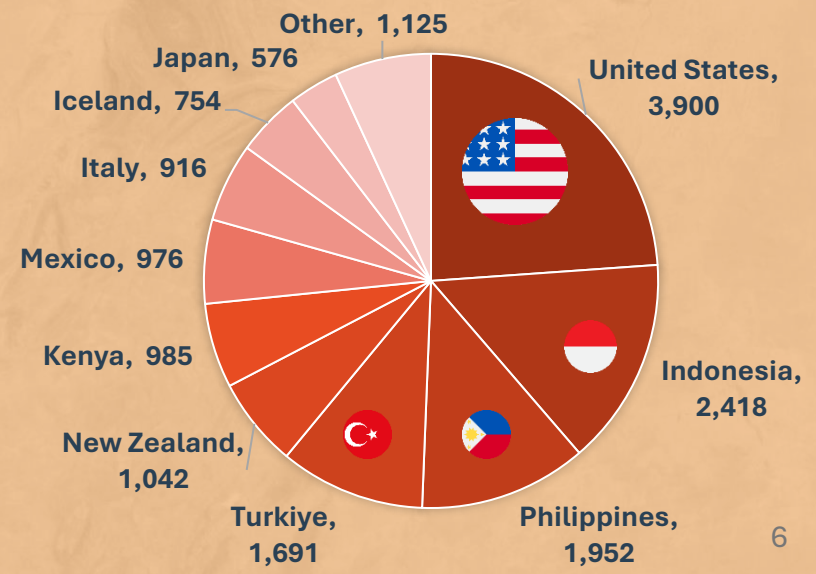
GEOTHERMAL POWER IS RELIABLY USED AROUND THE WORLD

- Geothermal energy has been produced for over 100 years in 30 countries
- As of January 2024, global geothermal power generation capacity stood at 16,335 MWe with 208 MWe capacity installed during 2023
- Over 400 plants operating in the world, with an average 40MWe of installed capacity
- USA alone produces enough geothermal power per annum (17.2 TWhs) to meet all Western Australia's annual power demand

Consistent Growth since the 1970s
Installed Capacity MWe[1]



Used Around the World: Top 10 Geothermal Countries
MWe Installed Capacity end-2023[2]



Board, Management and Capital Structure

High caliber team, tight capital structure, set for growth

BOARD AND MANAGEMENT

GRANT DAVEY

Executive Chairman

Entrepreneur with 30 years in mining and energy project leadership, Chairman of Frontier Energy (ASX: FHE), Director of Lotus Resources (ASX: LOT), and is a member of the Australian Institute of Company Directors.

JOSH PUCKRIDGE

Chief Executive Officer

Experienced Mining Executive with over 10 years' experience running ASX-listed companies. Mr Puckridge most recently ran Steam Resources as its Managing Director where he assembled one of the world's largest geothermal exploration and development projects. Josh maintains strong international networks of geothermal advisors and experts. He has focused on sourcing new technologies, such as supercritical CO_2 plant designs, which are particularly suited to commercially optimising Australian geothermal projects.

CHRIS BATH

Finance Director

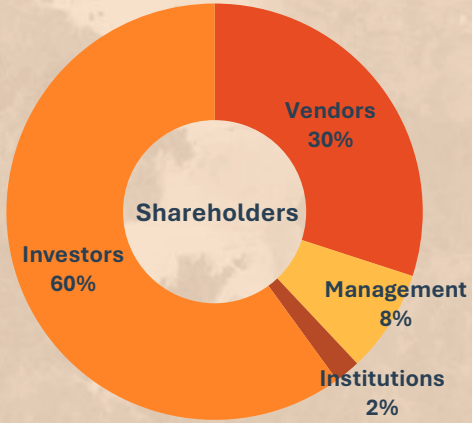
A Chartered Accountant with over 20 years of senior management experience in energy and resources, including financial reporting, commercial management, project acquisition, and ASX compliance. Mr Bath is Executive Director and CFO of Frontier Energy Limited (ASX: FHE) and Company Secretary of Copper Strike Limited (ASX: CSE).

DAVID WHEELER

Non-Executive Director

Over 30 years of experience in executive management and advisory, working with Pathways Corporate for family offices and ASX-listed companies. Mr Wheeler has international project experience in major regions and is a Fellow of the Australian Institute of Company Directors, holding multiple directorships.

CAPITAL STRUCTURE



750.3m
Shares on issue[2]

456.1m
Shares tradeable[2]

$4.9m
Cash (June 2024) and no debt

$12.0m
Market Cap at 0.016cps

92.8m[1]
Options

$7.1m
Enterprise Value

1 – Various vesting periods, exercise prices and vesting conditions – see ASX announcements 4 January 2024, 3 June 2024 and 5 July 2024
2 – 220.4m shares escrowed until 7 February 2026, 73.8m escrowed until 7 February 2025
3 – as at 24 July 2024

TOP 10 SHAREHOLDERS[3]

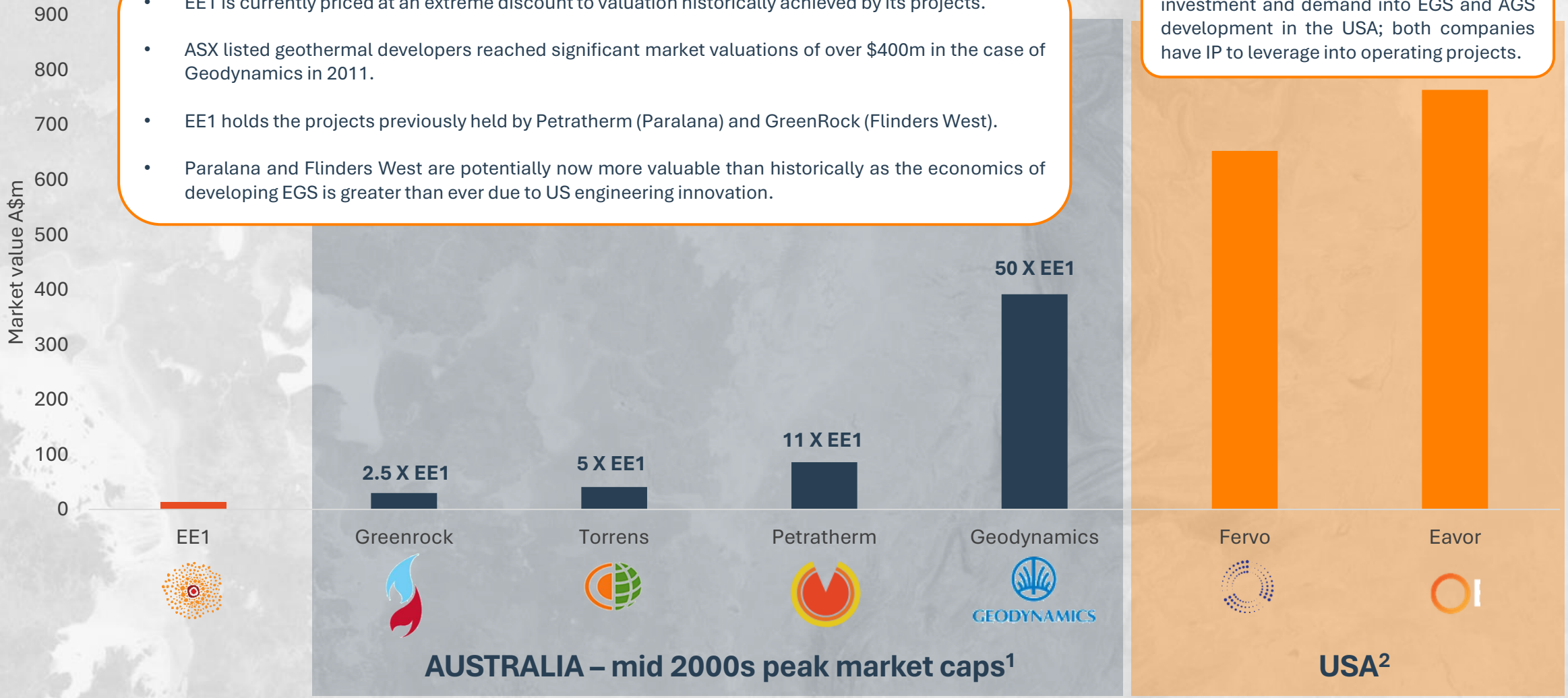
Shareholder	% held
Mimo Strategies	10.6%
Stephen Biggins	9.4%
Grant Davey	7.2%
Jadematt Investments	5.9%
Sunset Capital	5.9%
Aviemore Capital	4.3%
Ninety35	3.5%
Arredo	2.9%
HSBC Nominees	2.4%
BNP Paribas Nominees	2.3%

Geothermal Comparators

Significant valuation upside compared to previous Australian cycle and current US developers

- EE1 is currently priced at an extreme discount to valuation historically achieved by its projects.
- ASX listed geothermal developers reached significant market valuations of over $400m in the case of Geodynamics in 2011.
- EE1 holds the projects previously held by Petratherm (Paralana) and GreenRock (Flinders West).
- Paralana and Flinders West are potentially now more valuable than historically as the economics of developing EGS is greater than ever due to US engineering innovation.

Fervo and Eavor represent the current investment and demand into EGS and AGS development in the USA; both companies have IP to leverage into operating projects.



1 – asx.com.au; https://www.warwickhughes.com/blog/?p=2371
2 – https://www.energystartups.org/top/geothermal/?trk=feed-detail_main-feed-card_feed-article-content

Why EE1 is Australia's Most Advanced

Drilled and tested with significant heat and access to the grid

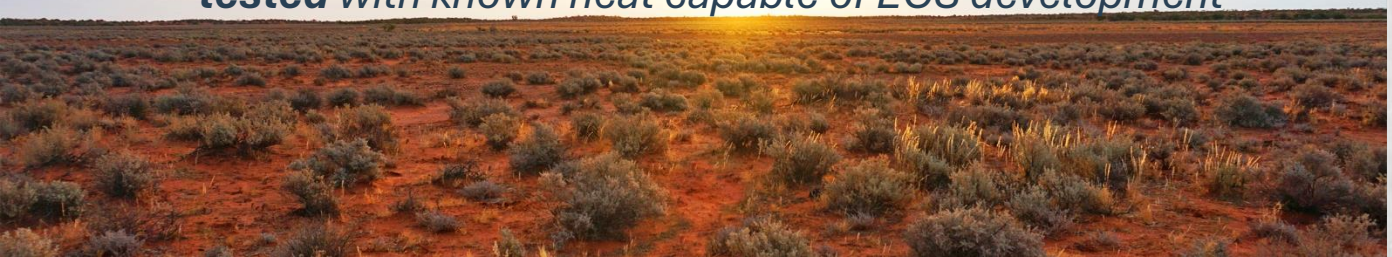
Paralana Project Highlights

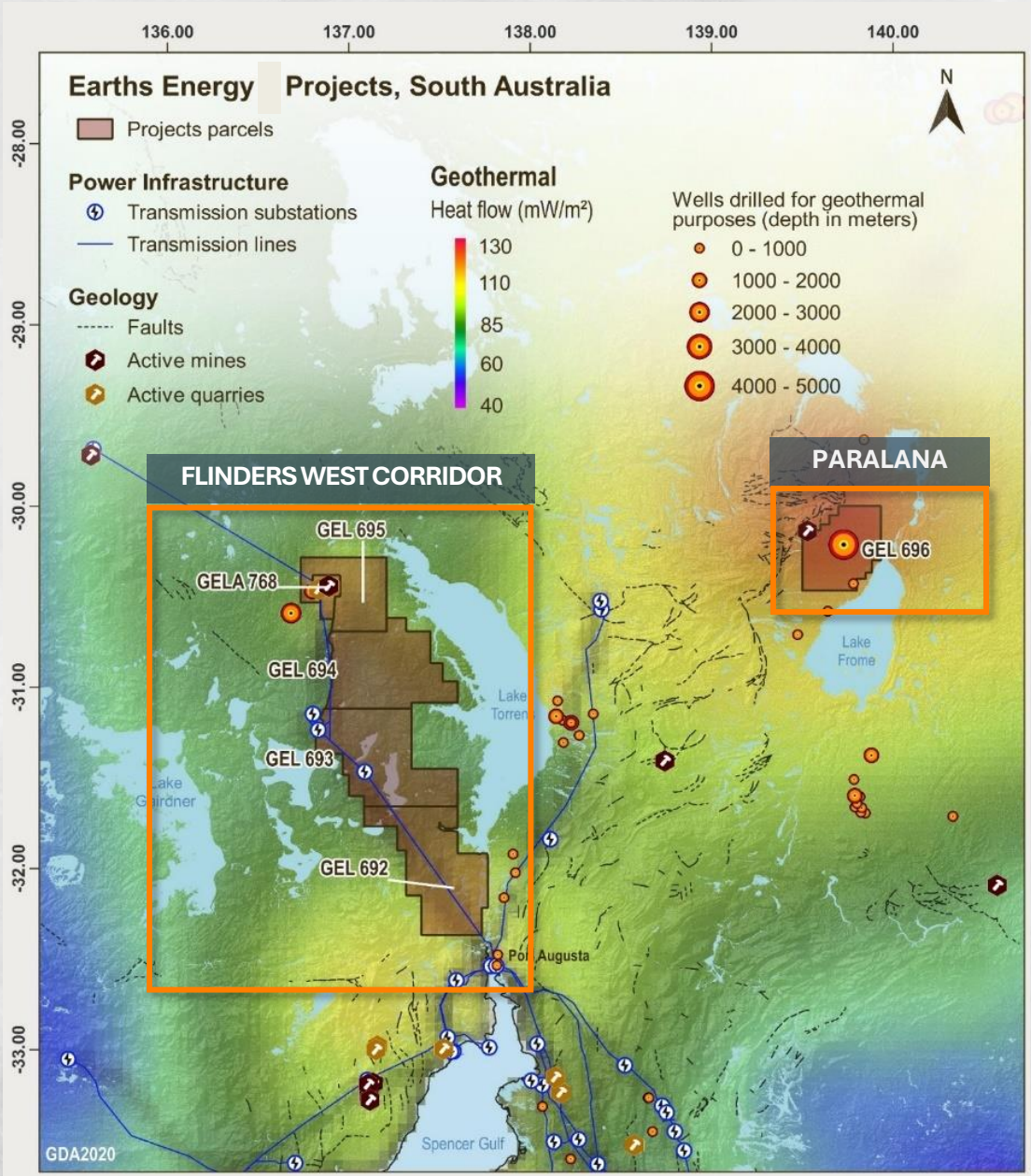
- Drilled to 4,012m depth with a reservoir temperature of 190°C
- Heat gradients as high as 80°C per km of depth in initial shallow areas
- Heat gradient of >46°C at bottom hole depth (drilled and tested) of 3,6858m (1.84x the Australian average)
- Perfect candidates for the developments in EGS methods from the US
- Potential for new drilling in 2025 to extend Paralana 2's well depth

Flinders West Project Highlights

- Existing well drilled to 1,934m depth with a reservoir temperature of 85.3°C
- Heat gradient of >43°C at bottom hole depth (drilled and tested) of 1,934m (1.72x the Australian average)
- Excellent Grid Access with Grid Services potential – SA rules enable grid access for geothermal but not for other forms of power generation
- Next Generation Geothermal Production Potential
- CCS Exploration and Development Potential

*Australia's most advanced projects **already drilled and tested** with known heat capable of EGS development*



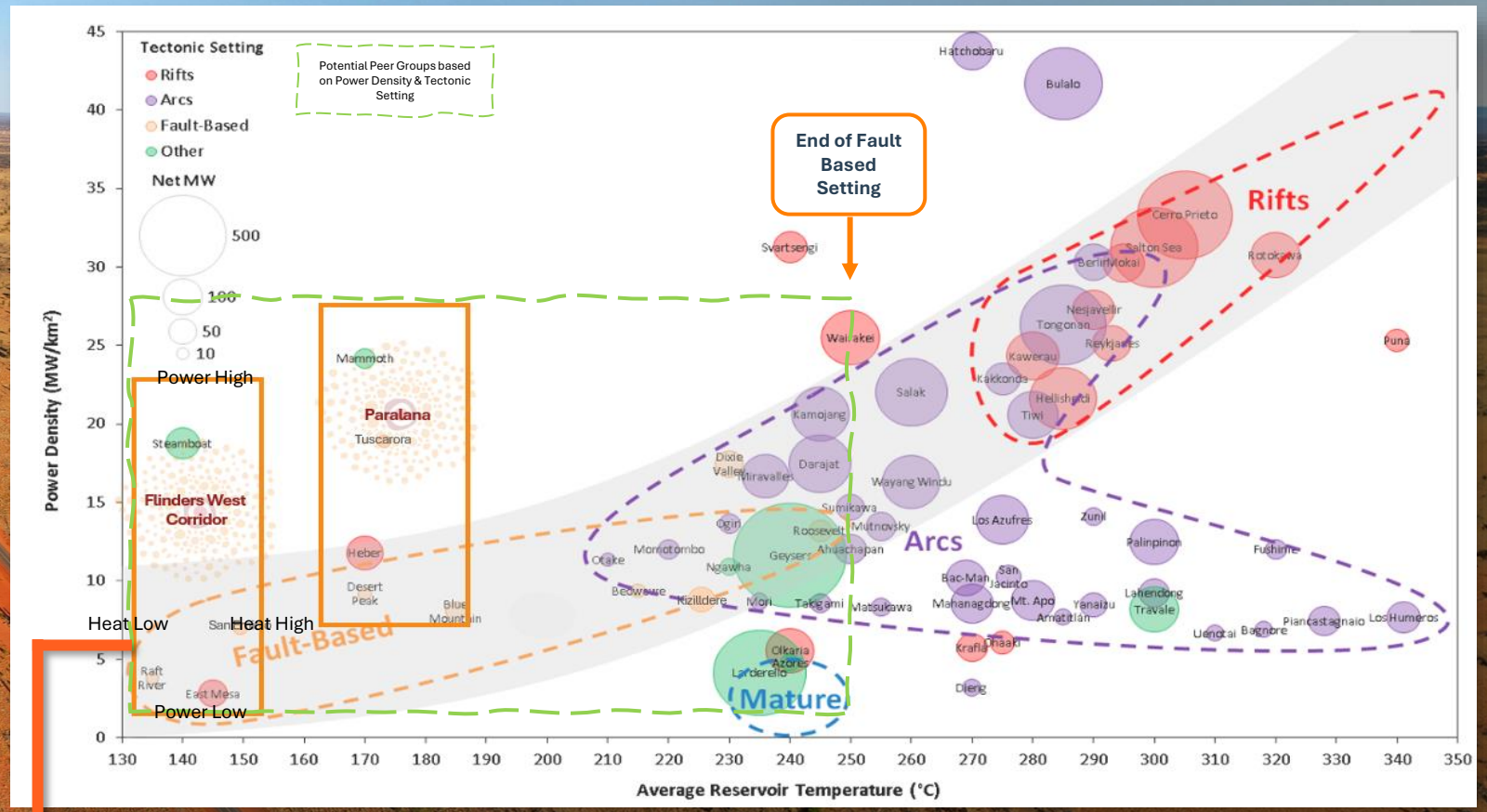


EE1's projects have world class power potential

Utility scale power density similar to US operating projects

KEY OBSERVATIONS

- EE1's project areas have substantial development potential
- The higher the top of the rectangle, the higher power potential which may indicate the potential for higher power yielding projects
- Paralana and Flinders West are within the same potential power density ranges as the Geysers project, the world's largest operating geothermal project which produces approximately 20% of California's renewable electricity
- Implementing modern techniques like newly styled horizontal drilling can greatly increase the power density of a project in certain areas
- EE1 routinely updates these power density assumptions based on internal work conducted and the application of new assumptions



- *The orange rectangles show the projects' heat ranges (the horizontal width) and the power density potential range per km² (the top being the Power High estimate and the bottom being the Power Low estimate) of each of the South Australian project areas. This is marked on the Flinders West rectangle.*
- *The size of the circles represent the size of the projects. The bigger the circle, the greater the installed capacity and power production potential of the project.*

EE1 is On Grid to 83% of Australia

83% of Australia's electricity demand from site

Connection to 83% of Australia's power demand

- EE1's Flinders West project has multiple 132kV power lines along its entire strike, as well as multiple network connection points
- The South Australian electricity network is ultimately connected to the Australian East Coast network and the National Electricity Market (NEM)
- South Australia standards allow for geothermal baseload power to reach grid connection (unlike wind and solar)

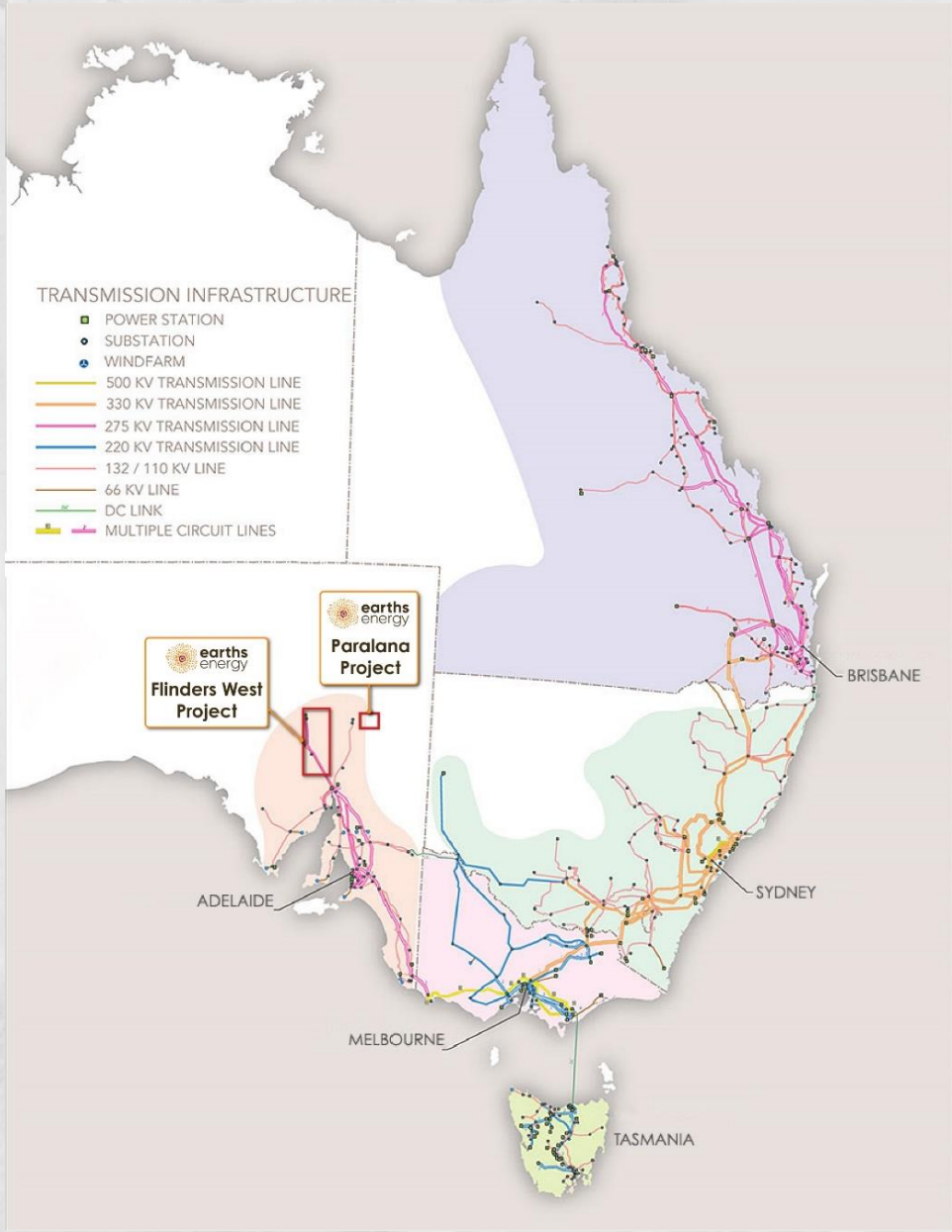
National Electricity Market still far short of 2030 renewable target

- The target for 2030 is to produce 82% of electricity from renewables
- In FY24, renewable power produced only represented 38%[2] of total on the NEM

Reliance on non-renewables and higher prices

- The average price on the NEM over FY24 was $99/MWh
- While SA had one of the higher power prices at $103/MWh, and >69% renewable generation, in other parts of the NEM such as NSW, power prices were even higher, and the contribution of renewables lower (NSW: 32%)

1 - https://www.aemc.gov.au/energy-system/electricity/electricity-system/NEM
2 - https://opennem.org.au/energy/nem/



EE1's South Australian Projects relative to the east coast grid

Paralana Project Snapshot

The most developed EGS project in Australia with proximity to demand

GEOTHERMAL POWER PRODUCTION

- Extensive geothermal exploration and appraisal work noting sedimentary basin locally up to 5km thick (Arrowie)
- Proposed area for Enhanced Geothermal System (EGS) analogious to similiar successful projects in the US and Europe. (eg Forge & Soultz sous forets)[1]
- Geothermal power potential estimates independtly verfied to 1.9 – 7.9MWe/km^2 [2]
- High range of surface heat flow (~120 mW/m^2) compared to other regions of Australia and to global average[3]
- Deep exploratory well Paralana-2 stimulated and flow tested with temperatures up to 171°C at 3679 - 3685 m

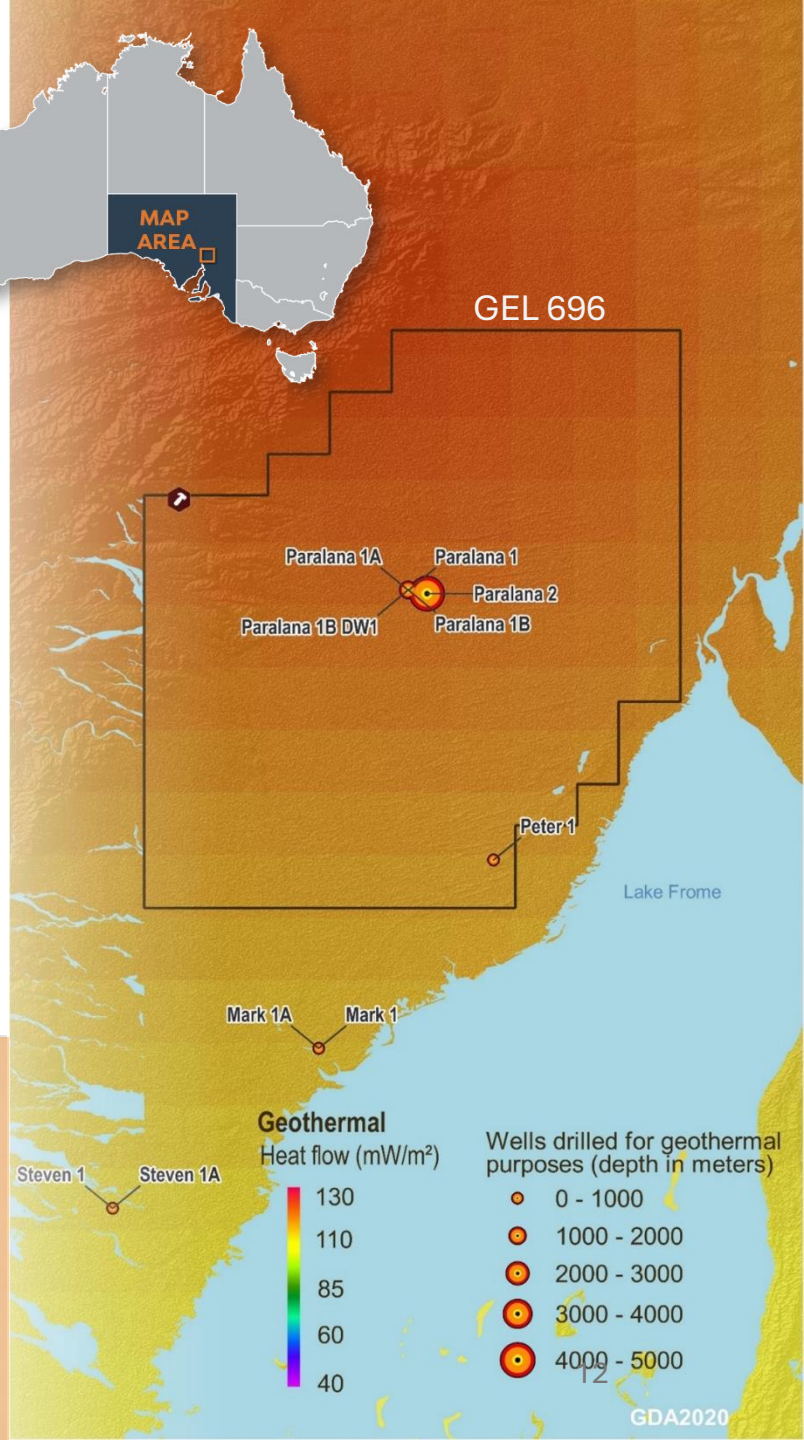
NEARBY MINES

- Close proximity to energy intensive Four Mile & Beverly uranium mines
- Opportunity to offset current diesel power consumption with geothermal power

1: https://fervoenergy.com/fervo-energy-breaks-ground-on-the-worlds-largest-next-gen-geothermal-project/
2: Independent Technical Expert's indicative aggregate estimates assuming a plant load-factor of 0.9 and a range (P90 to P10) 1.9 – 7.9MWe/km2 (Megawatt electrical per square kilometer) for GELA696
3: the mean heat flow within GEL 696 is 120 ±10 µWm-2, compared to an average of 51–54 µWm-2 in other countries

Next Steps - Paralana Project

- Modelling work to support a new generation EGS project at Paralana
- Refine Paralana's power density modelling and likely energy production compared to US analogues utilising more modern engineering
- Assess the feasibility of further drilling at Paralana 2 in the context of further developing the project's potential EGS development
- Assess potential joint venture opportunities



Flinders West Corridor Snapshot

Vast strike length, power grid access points on tenure

GEOTHERMAL POWER PRODUCTION

- Up to 2km sedimentary cover overlying fractured crystalline basement
- High confidence and coverage of exploration data using mining and petroleum datasets
- Exploratory well Blanche-1 reported 85°C at 1,934m
- Geothermal gradient currently estimated between 30°C and 43°C/km across the Flinders West Corridor
- Geothermal power potential estimates of 1.1 – 6.9MWe/km^2 independtly verfied
- Proximity to large Olympic Dam copper mine and existing power network

CARBON CAPTURE & STORAGE

- Low permeability caprock geology ideal for subsurface storage

Next Steps - Flinders West Project

- Progress assessment and discussions regarding grid access and grid services along the Flinders West Corridor
- Techno-economic assessment of new technologies and engineering such as Next Generation Geothermal Power Production – GLJ
- First results expected to be shared with the market during Q3CY24
- Assess potential joint venture opportunities

Cape Station Project – an analogue?

400MW from hot, dry rocks under construction

A substantial project in development

- Fervo has developed the Blue Mountain pilot project in Nevada, producing up to 3.5MWe of geothermal power using an Enhanced Geothermal System in hot dry rocks.
- In 2023, Fervo began developing Cape Station, a 400 MWe project in Beaver County, Utah, and has recently raised US$244m to accelerate development. Cape Station is planned to begin delivering clean electricity to the grid in 2026.
- The geothermal setting (hot dry rocks) and temperature gradients of Fervo's developments are similar to that found in the Flinders West project (specifically in GEL692 and GEL 693).

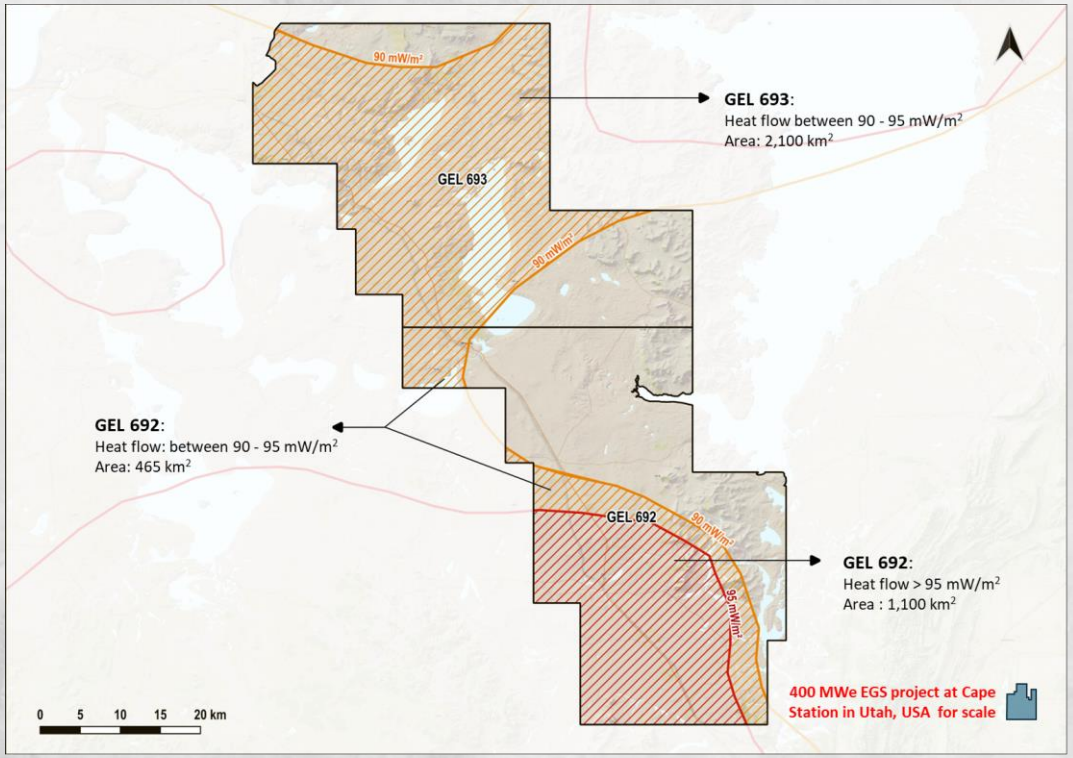
Flinders West has similar geothermal setting on a large strike

- GEL692 and GEL693, a subset of the Flinders West project, has similar temperature gradients and geothermal setting as the Fervo projects in the US.
- The Flinders West surface area is multiples of Cape Station.
- Next Step: model temperatures within EL692 and EL693 and assess impact on possible MWe per well.

1 - https://fervoenergy.com/

Comparison – Flinders West and Fervo projects

Item	Fervo	Flinders West
Heat gradient	50°C per km	43°C per km
Well depth to reach 170°C	3.4km	4km



World Class Technical Partners

EE1 is capable of world class development potential via its global partners

Baker Hughes

- **Global energy leader in technology and engineering** that provides solutions to energy and industrial customers worldwide
- Pioneering Advanced Geothermal System development with GreenFire Energy (potential for Australian roll out)
- **MoU Executed with EE1 based on the potential of the Company's projects**

GLJ

- **Global leader in geothermal development** and project integration such as in Carbon Capture, Usage and Storage (CCUS) in geothermal projects
- Focused on the Company's geothermal project development
- Played a key role in the development of Vulcan Energy's Zero Carbon Lithium™ project's development

JRG

- **Global team of expert geoscientists and geophysicists**
- Experienced in the project assessment and development of geothermal prospects and operations around the world including: USA, Mexico, Europe, Australia and the Middle East
- Unmatched agility to work various stages of project development from early evaluation to pre-feasibility

Next Steps

Commercialising the vast opportunities

Paralana Project

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- Assess potential joint venture opportunities

1 - ThinkGeoEnergy Statistics
2 - https://www.thinkgeoenergy.com/thinkgeoenergys-top-10-geothermal-countries-2023-power-generation-capacity/

KEY COMPANY DEVELOPMENTS TO LOOK FOR:

- ***SOUTH AUSTRALIAN MARKET APPRAISAL***
  - *Establishment of potential $ per MWh sale price from Flinders West and Paralana*
  - *Infers early-stage revenue potential of project areas – the bigger, the better*
- ***ADVANCEMENT OF GEOPHYSICAL WORK***
  - *Greater modelling of power densities (MW per km^2) see the further ability to infer projects output potential – the bigger, the better*
- ***PARALANA DRILL ASSESSMENT***
  - *Potential for new drilling at Paralana 2 well*
  - *Increasing heat to significantly re-rate project potential and potential feasibility*
- ***JOINT VENTURE DEVELOPMENTS***
  - *Further world class partners endorse the Paralana or Flinders West project potential*
  - *Potential for further technology and engineering innovation*

earths energy

Australian **Geothermal**

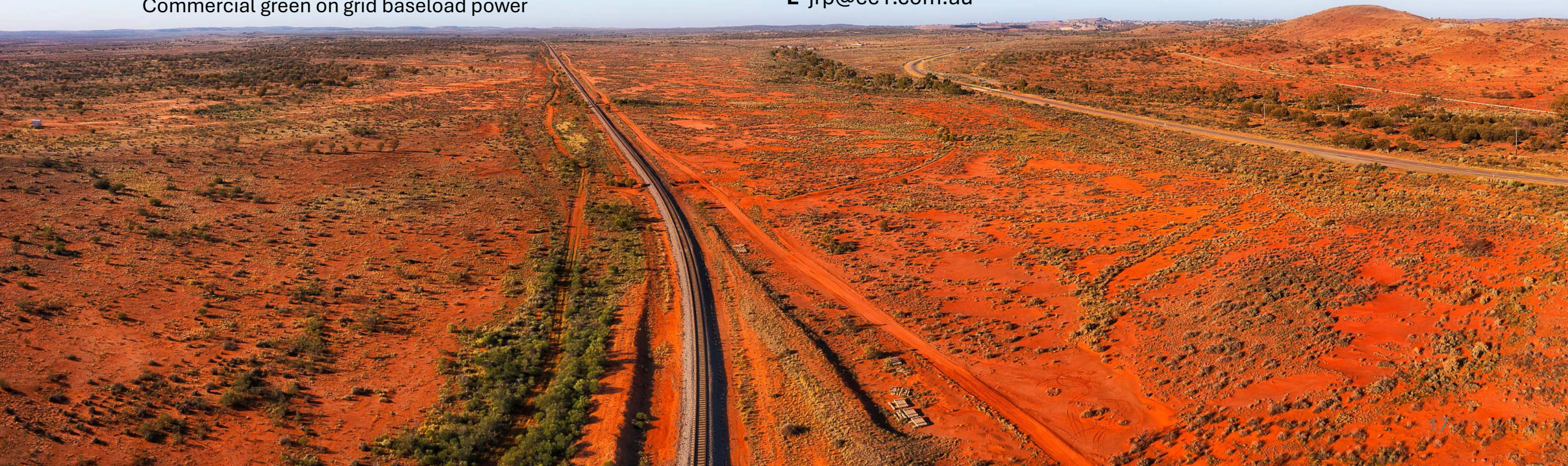
Commercial green on grid baseload power

For more information contact:

Josh Puckridge
Chief Executive Officer

www.ee1.com.au

P +61 (8) 9200 3425
E jrp@ee1.com.au



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Forward-looking information is based on the reasonable assumptions, estimates, analysis and opinions of management of the Company made in light of their experience and their perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. The Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable.

Assumptions have been made regarding, among other things: the energy market, the Company's peers, the Company's ability to carry on its future development works, construction and production activities, the timely receipt of required approvals, the price of electricity, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used.

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