



earth's
energy

Investor Briefing Note

Advanced Geothermal System (AGS) & Permeability

ASX: EE1 | August 2024



Investor Briefing Note: Advanced Geothermal Systems & Permeability

What is an Advanced Geothermal System (AGS)?

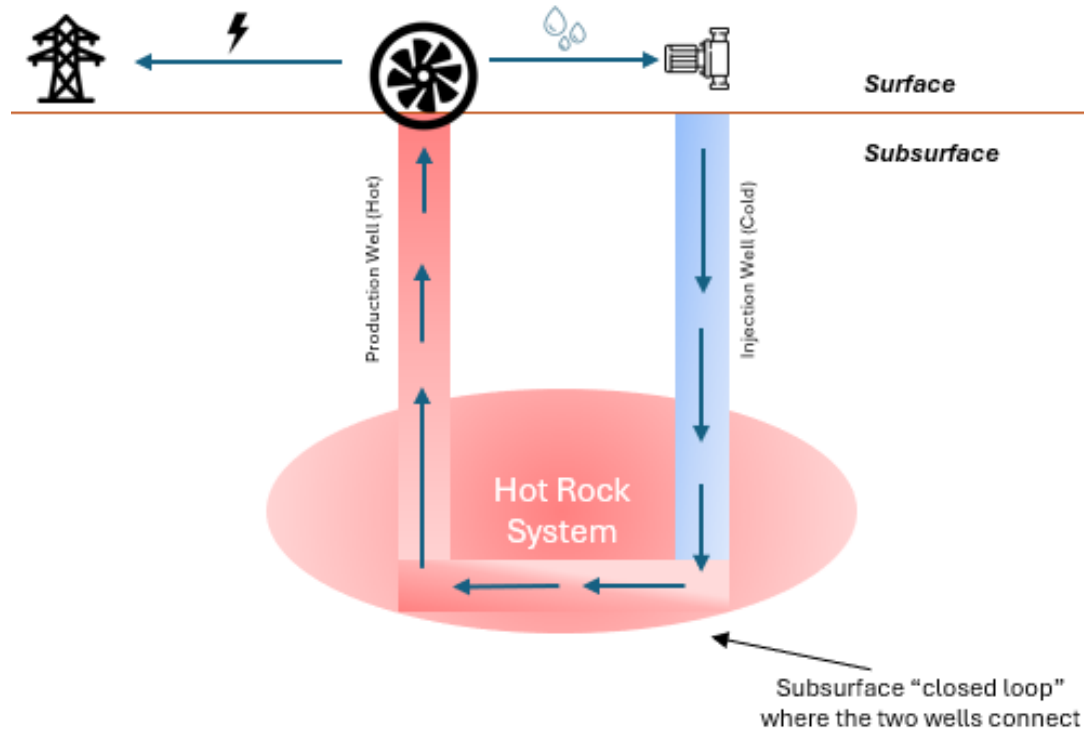


Diagram 1: Modern AGS Project

- Advanced geothermal systems connect the injection well and the production wells together in the subsurface creating a “closed loop”
- The fluid passes through the hot rock where it builds heat and pressure which is relieved via the production well to the surface to drive the turbine to make electricity
- By connecting the injection and production wells in the subsurface, the system is not affected by the rocks’ natural permeability



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How does permeability affect geothermal systems?

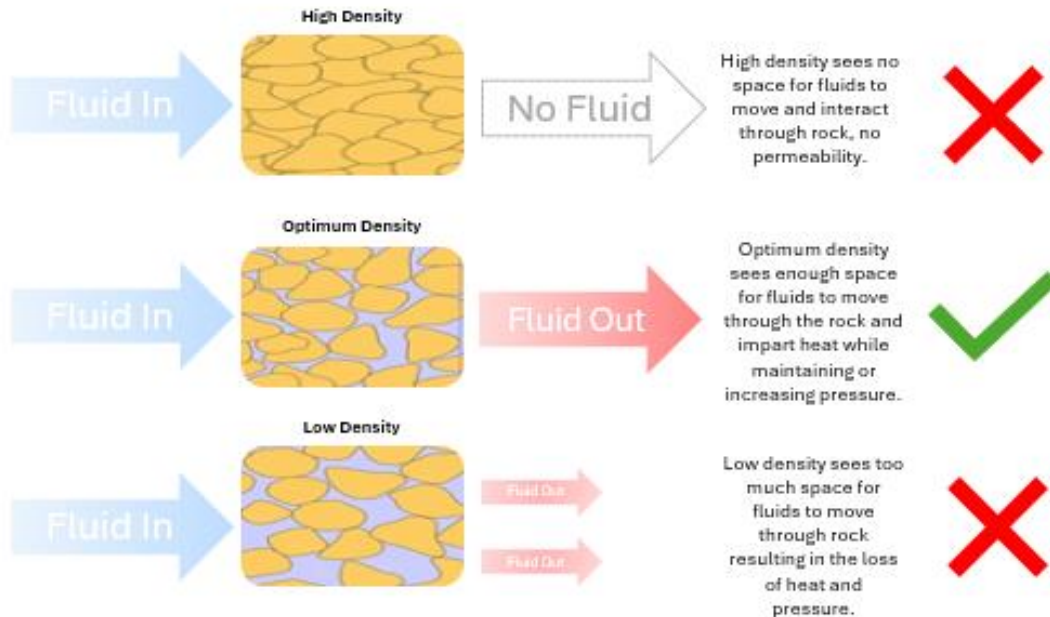


Diagram 2: Permeability of the rock will determine the heat build up and ultimate pressure and volume of the fluids released into the production well

- Permeability refers to how easily fluids can flow through the tiny spaces within the rock
- If the rock density is too high, there is not enough (or any) flow of fluids injected into the rock
- If the rock density is too low, too much pressure escapes and there is not enough build up of heat and pressure to drive the turbine
- Optimum permeability sees sufficient density to maintain or increase the fluid's pressure when it's being injected into the hot rock



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How does EE1 benefit from the potential of AGS?

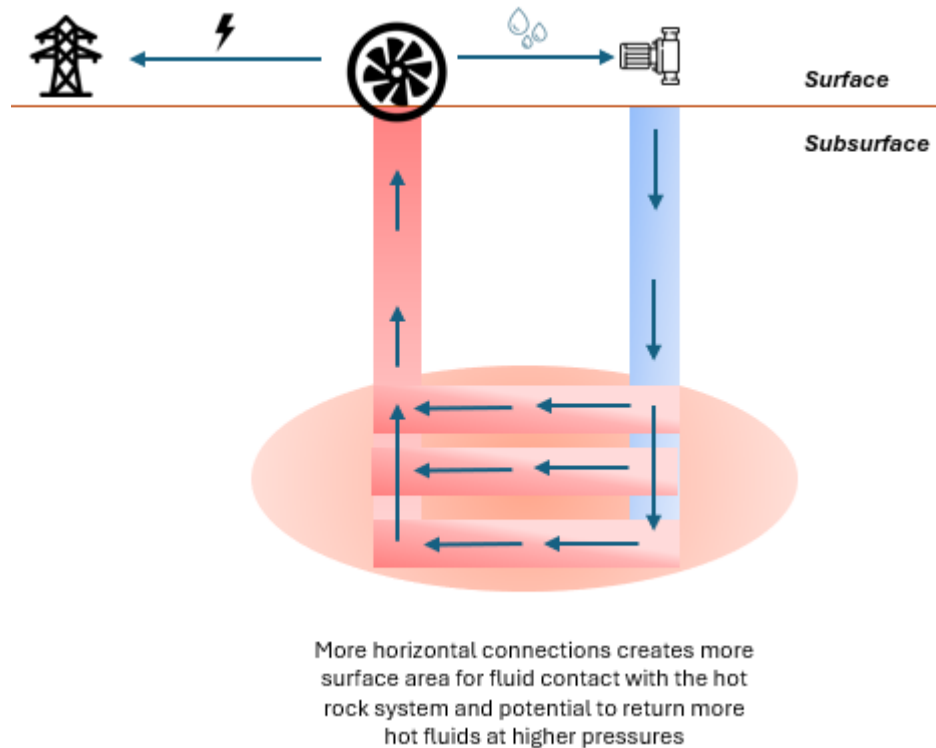


Diagram 3: Potential for AGS at EE1

- Advanced geothermal systems allow for the transfer and build up of heat and pressure regardless of the natural permeability of the hot rocks of the project
- This system allows for projects with low permeability to be developed if they still have access to sufficient heat
- The AGS design can also be configured with multiple horizontal connecting wells to maximize the output of the production well (see Diagram 3)
- EE1 can utilize this system in project areas with otherwise unfavorable permeability

Key summary points

What is AGS?

Advanced Geothermal Systems (AGS) drill a closed loop in the subsurface, connecting the injection well and the production well

AGS is not affected by the natural permeability of the rocks

What is permeability?

Permeability refers to the ability for a rock or sediment to allow fluids to pass through it

The permeability impact the ultimate flow rate of the project which impacts its feasibility

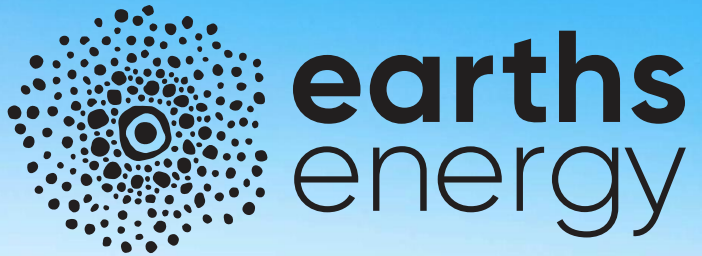
What does this mean?

It means that projects that would otherwise not be feasible due to unfavorable permeability, still have the potential for development by using AGS

What's next?

EE1 is assessing the adoption of AGS methods for its South Australian and Queensland project areas – this method lets project areas be revisited that were otherwise unattractive due to permeability





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