



Staff Report - Item 02

To: Sonoma Clean Power Authority Community Advisory Committee
From: Ryan Tracey, Director of Planning & Analytics
Geof Syphers, Chief Executive Officer
Issue: Receive Geothermal Opportunity Zone Update
Date: July 21, 2022

Background

The Geothermal Opportunity Zone (GeoZone) was established by the SCP Board of Directors and the Boards of Supervisors in Sonoma and Mendocino Counties to explore expanding local geothermal power capacity. The purpose of the GeoZone is to develop the resources necessary to allow SCP to stop relying on natural gas power plants altogether. To that end, the GeoZone is seeking to sustain existing local geothermal production and add 500 MW of new geothermal capacity.

Given the activity in the GeoZone initiative, staff is now including regular updates in Board and Committee packets and will also continue to provide updated information and materials at <https://sonomacleanpower.org/geozone>.

Public-Private Solicitation

Staff are focused on the formation of a public-private partnership with geothermal companies to provide technology, experience, and capital. Following the close of a solicitation on April 29, a multi-discipline team including staff and experts in geology, air quality, water, geothermal development, business, and engineering have completed a detailed review of proposals. A subsequent round of interviews offered the evaluation team the opportunity to ask detailed questions to ascertain technical and financial viability.

Ultimately, the evaluation team recommended three finalists to proceed to a final stakeholder engagement round. The three finalists participating in the stakeholder engagement round include the following proposals:

- **Eavor Technologies** - A Canadian geothermal technology company proposes to use its Advanced Closed Loop (ACL) Eavor Loop technology in the

GeoZone. Eavor Loop involves drilling and connecting two deep multilateral wellbores to circulate fluid through deep granitic base rock. The fluid flows through a heat exchanger at surface connected to a binary power cycle that is also closed-loop with no operational emissions. Eavor's technology can target areas without permeability or water as long as heat and rock conductivity are present.

- **Chevron New Energies** - A subsidiary of Chevron proposes to develop 500-700 MW of new geothermal capacity through a staged development plan including exploration wells, pilots, conventional geothermal projects, and Enhanced Geothermal Systems (EGS) and Advanced Closed Loop (ACL) development. Chevron New Energies plans to deploy its subsurface modeling expertise, well factory approach to cost reductions, financing capability, and California operating experience to achieve GeoZone objectives.
- **Cyraq Energy** - An established geothermal operator and development company in the Western US proposes to deploy thermal storage technology at existing or new geothermal resources at the Geysers. Thermal storage is heated from electric power during hours when the grid has significant solar production, and then the storage is dispatched to superheat the steam of geothermal plants to run the turbines more efficiently and reshape power supply to better match hourly market demand—improving the financial viability and flexibility of geothermal power.

Stakeholder Engagement

The three finalists participated in a stakeholder engagement event SCP hosted on June 28. SCP invited a group representing labor, environment, environmental justice, and local government to meet the potential private partners and provide early pre-project input into our community values. SCP staff also hosted a virtual recap the following week for those unable to attend the in-person event.

Presentation material and a detailed summary of the stakeholder engagement event are posted on the GeoZone webpage at <https://sonomacleanpower.org/geozone>. Stakeholders provided input on a variety of topics including water usage, permitting considerations, and involvement of local labor.

The results of the stakeholder event will inform staff's recommendation for a GeoZone partnership, which will be brought for recommendation to the Community Advisory Committee and Board of Directors later this summer. SCP will then enter negotiations in forming a partnership agreement that will establish expectations for

SCP's power offtake and the shared contributions in pursuing GeoZone development.