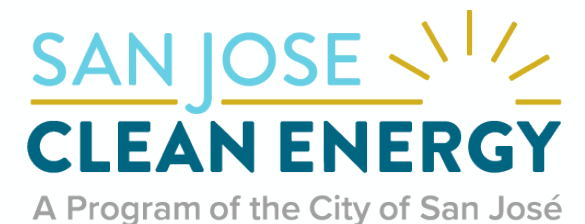


# GEOHERMAL PROCUREMENT

San José City Council

August 30, 2022

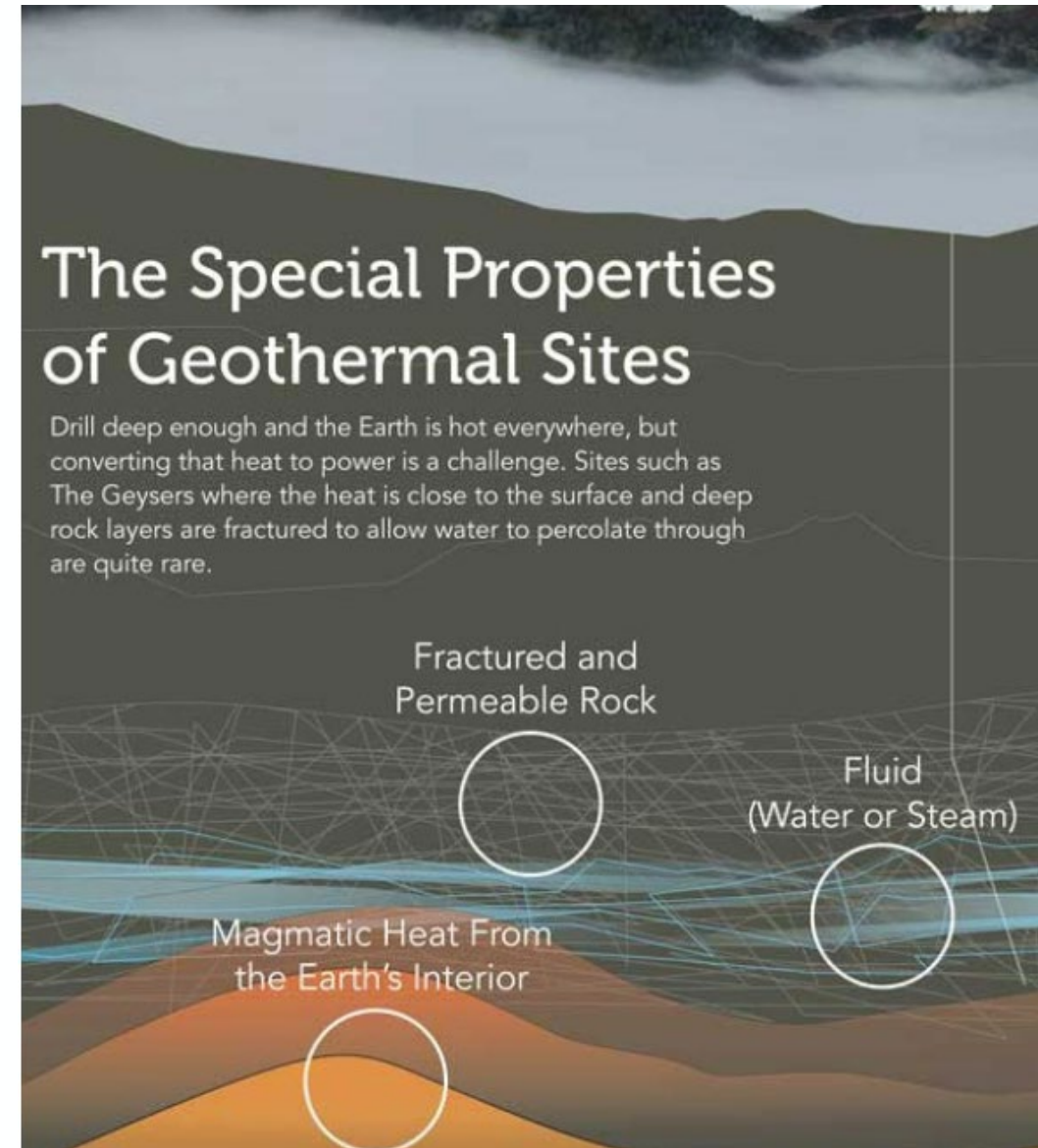
Lori Mitchell, Director of Community Energy  
Jeanne M. Solé, Deputy Director of Power Resources



# WHAT IS GEOTHERMAL?

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- Geothermal uses heat from the earth to create steam and generate electricity.
- Can generate all hours of the day (operates 24x7: firm power).
- Generation profile similar to baseload gas or hydro plant.
- Clean GHG-free power.
- Limited supply due to siting issues.



Source: [www.geysers.com/geothermal](http://www.geysers.com/geothermal)

# BACKGROUND

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- 2021 CPUC Decision 21-06-035 requires SJCE to buy 247 MW of clean capacity by 2026, including 21.5 MW of geothermal or biomass power.
- SJCE participated in a CC Power RFP for geothermal and biomass power with offers due December 2021.
- Bids from 6 bidders and 16 projects (5 in CA). CC Power shortlisted:
  - Small project (13 MW) from Open Mountain Energy, LLC (OME)
  - A portfolio of projects (up to 125 MW) from Ormat Nevada, Inc. (Ormat), including 3 projects in CA and 5 in NV
- Seven other CCAs\* participating in both agreements: 5 are investment grade credit rated; other 2 are each taking less than 5% of the project.

\*Central Coast Community Energy, CleanPower San Francisco, Peninsula Clean Energy, Sonoma Clean Power, Redwood Coast Energy Authority, Silicon Valley Clean Energy, and Valley Clean Energy.

# PROJECT 1: ORMAT PORTFOLIO OF GOETHERMAL PROJECTS

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Ormat is a leading geothermal company:

- Over 5 decades experience developing projects.
- Developed over 3,000 MW.
- Owns a portfolio of 1,100 MW in the California, Nevada, Oregon, Idaho, Hawaii, Guatemala, Guadeloupe, Kenya, and Indonesia.

Project size: Portfolio of projects. Min of 64 MW, max of 125 MW.

- Ormat to offer projects as they become available up to 125 MW; CC Power may accept or reject.
- At 64 MW, SJCE share will be 12.5 MW.
- At 125 MW, SJCE's share will be 24.5 MW.
- SJCE to possibly bring forward additional recommendation depending on development progress.

# PROJECT 1: ORMAT PORTFOLIO OF GOETHERMAL PROJECTS

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- Cost not to exceed: \$21.5 million annually, \$430 million in aggregate.
- Location: 3 projects are in CA, 5 are in NV.
- Online date: Varies per project. As early as June 2024.
- Term: 20 years from online date of first project.
- **Seeking approval for up to 31 MW** to be able to take additional capacity if other CCAs forgo their share. Can be used to meet resource adequacy and energy needs.



Ormat's Mammoth geothermal facility in CA

# PROJECT 2: OPEN MOUNTAIN ENERGY'S FISH LAKE GEOTHERMAL PROJECT

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OME has entered into PPAs with Southern California Public Power Authority (SCPPA) for two projects in Nevada:

- Whitegrass No. 1 was constructed in 2017 and has been delivering energy since February 2018.
- Star Peak Geothermal is very similar in size and technology as Fish Lake Geothermal and began delivering power in August 2022.

Project size: 13 MW; SJCE share: 2.26 MW

- SJCE step-up: 0.57 MW
- SJCE max: 2.83 MW
- Small volume, best price, reduces risk of relying exclusively on Ormat portfolio.

# PROJECT 2: OPEN MOUNTAIN ENERGY'S FISH LAKE GEOTHERMAL PROJECT

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- Cost not to exceed: \$1.9 million annually; \$38 million in aggregate
- Location: Esmeralda County, Nevada
- Online date: June 1, 2024
- Term: 20 years
- **Seeking approval for up to 3 MW** to be able to take additional capacity if other CCAs forgo their share. Can be used to meet resource adequacy and energy needs.



*Open Mountain Energy's geothermal facility in NV*

# AGREEMENT STRUCTURE

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## 1. Power Purchase Agreements

- CC Power buys the energy from the project developers.

## 2. Project Participation Share Agreements

- Each participating CCA receives from CC Power its share of the energy and agrees to pay CC Power for these services.
- CC Power Board makes key decisions relating to the projects pursuant to voting by only the project participants.

## 3. Buyer Liability Pass Through Agreements

- The developers have direct recourse to each participating CCA for its share of the contract payments, but only for that CCA's share of the payments.
- Required as CC Power has no assets or revenues, though it maintains insurance.

## 4. Coordinated Operations Agreements

- Defines how the resources will be operated between CC Power and the participating CCAs.

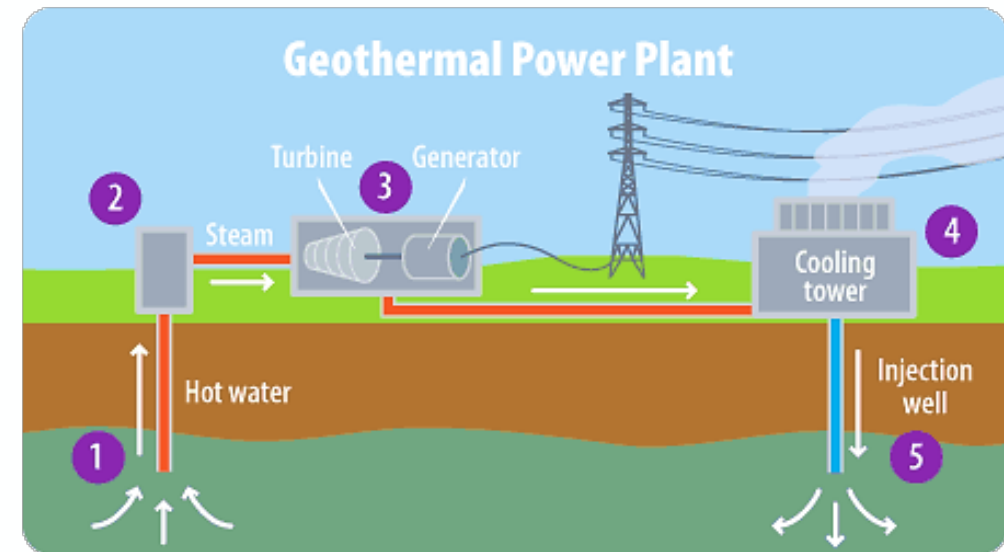
# QUESTIONS?

## Recommendations:

- Authorize the City Manager to procure up to 31 MW from Ormat's portfolio of geothermal projects not to exceed \$21.5 million annually and \$430 million in aggregate over 20 years.
- Authorize the City Manager to negotiate and execute a Coordinated Operations Agreement for the Ormat portfolio of geothermal projects.
- Authorize the City Manager to procure up to 3 MW from Fish Lake Geothermal not to exceed \$1.9 million annually and \$38 million in aggregate over 20 years.
- Authorize the City Manager to negotiate and execute a Coordinated Operations Agreement for the Fish Lake Geothermal project.

## Staff:

- Lori Mitchell, Director
- Jeanne Solé, Deputy Director



*Environmental Protection Agency*