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February 7, 2023

### **MEMORANDUM**

**TO: Power Committee Members**

**FROM: Tina Jayaweera, Power Planning Resources Manager**

**SUBJECT: Boise Geothermal Heating**

### **BACKGROUND:**

**Presenter:** Jon Gunnerson P.E., City of Boise Geothermal Coordinator

**Summary:** The City of Boise, Idaho, has been tapping into a river of geothermally heated water that flows under the city's foothills for over 100 years. The city taps into this warm water to heat buildings around the city to create a heating district that, as of 2022, warms more than 6 million square feet of building space. It is the largest, municipally operated geothermal heating system in the country. This system requires minimal electricity use (only to operate the pumps), is a closed loop with collected water reinjected back into the aquifer, and has low environmental impact.

**Relevance:** As the electricity system is evolving and more jurisdictions are adopting climate action plans, alternative energy sources, such as geothermal district heating, can aid in the transition. Geothermal district systems, though more common in Europe, are limited in the U.S. However, awareness is growing as a low-carbon alternative to traditional energy supplies. While a geothermal heat pump system is not cost-effective on an individual home level as analyzed in the Council's plan, tapping into a district-wide system could be. Tracking projects like this is part of understanding emerging opportunities to meet future energy needs.

Background: The City of Boise has a climate action plan to be carbon neutral city-wide by 2050, with 100% clean electricity for city facilities by 2030 and carbon neutral municipal operations by 2035. The geothermal heating system aids in this transition by reducing the electricity and natural gas needs for a large portion of their buildings' energy requirements.

More Info: <https://www.cityofboise.org/departments/public-works/geothermal/>