

Western Governors' Association (WGA) Chair, Colorado Governor Jared Polis, has focused on western geothermal resources under his "Heat Beneath Our Feet" energy initiative. As part of that effort, on October 24, WGA toured the Boise Warm Springs Water District in Idaho, which became the first community in the world to use geothermal reservoir for heating buildings in 1892. Initially, heating only a handful of buildings, today it encompasses four water districts that collectively heat 12 million square feet of building space and over 300 homes – reducing carbon emissions by approximately 20,000 tons of carbon dioxide a year – the equivalent of removing more than 4,000 cars from the road.

Idaho Governor Brad Little led the tour, accompanied by officials from the Lawrence Berkeley National Laboratory, Idaho National Laboratory, U.S. Geological Survey, Bureau of Land Management (BLM), United States Air Force, and Project InnerSpace, among others. "You just can't beat the value of geothermal," Little said. "We've had industrial, scalable geothermal in Idaho for a while now and we love it because it's there every day, all the time." The main concern raised was the lack of information regarding the size, depth, permeability, and temperature of geothermal reservoirs in the West.

According to Lorenzo Trimble, BLM Geothermal Program Lead, almost every geothermal permit that comes across his desk is approved, but a general lack data and information characterizing geothermal resources leads to uncertainty and significant financial risk when it comes to drilling. That risk, along with a general lack of knowledge regarding geothermal energy use, has led many communities and even entire industries to overlook geothermal as a part of their energy portfolio.

"Geothermal development cost-wise is about on par with developing an oil and gas well," said Travis McLing, a research scientist at the Idaho National Laboratory's Center for Advanced Energy Studies. "But we don't have the capital in our business to do the kinds of assessments that they do." Scott Nichols, with Ormat Technologies Inc. said that 80% of the wells produce some 20% of the power, and 20% of the wells produce 80% of the power. "Our goal is to not drill 80% of the wells." There are opportunities to more effectively determine where it's best to drill, greatly reducing risk.

James Faulds, the Nevada State Geologist and a professor at the University of Nevada Reno's Bureau of Mines and Geology, spoke about innovative work to analyze available data and discover new, commercially viable hidden geothermal systems in the Great Basin region. "We know more about the bottom of the ocean or the surface of Mars than we do about what's underneath half of Nevada," Faulds said. "However, through various kinds of statistical analysis, we came up with an algorithm that allows us to go out there and say that spot in the middle of this valley looks very promising for geothermal. Those are hidden resources that our estimates suggest are 75% or more than our current resources." Using this analysis two geothermal wells have been drilled in locations where the presence of a geothermal well was not previously known. Both have found robust geothermal resources, including one site that reaches temperatures of 257 degrees Fahrenheit, just 500 meters down.

WGA is hosting a series of webinars on geothermal resources, the latest held on November 8, featuring Trimble (BLM); Claudio Berti, the Director and State Geologist at the Idaho Geological Survey; and Jon Gunnerson, the Geothermal Coordinator for the City of Boise. For more information, or to view recordings of the webinars go to <https://westgov.org/initiatives/>.