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ENERGY SUMMIT

A Hot Time Under The Old Town

Facts and myths about heating Mammoth with geothermal

By Geisel

“We save money, we save energy and we take stuff out of the air,” quipped High Sierra Energy Foundation Director Rick Phelps during the final “bonus” session of the Energy Summit on Aug. 15. Phelps, who was racing the clock to make it to his son’s wedding rehearsal activities that afternoon, still managed to get in more than an hour with attendees, discussing some of their notable moments from the week and giving them a “sneak peek” at some behind-the-scenes goings on regarding of Mammoth’s proposed Geothermal Heating District.

About HSEF’s role in setting up the district, Phelps said the Town doesn’t have an “energy manager” as such, and for the time being the Foundation essentially serves in this capacity, a role Phelps is happy to take on. That rather high-profile situation has allowed him, in conjunction with the Town’s Rob Clark, to start putting together the framework that will eventually form the new district. With so much geothermal activity available within a handful of miles from Mammoth, the district’s primary objective is to “deliver geothermal heat to residents and businesses at economic prices,” Phelps said.

Phelps said this will be accomplished in part with funding from California’s Geothermal Resources Development Account, set up in the 1980s to “to promote the development of new or existing geothermal resources and technologies,” according to its website. The other main component is the participation — financial and scientific — of Iceland America, which is set to provide the equity for the project’s initial startup. The Icelanders are described by Phelps as being “very committed” to realizing the project here.

Currently, Phelps said, the Town spends between roughly \$13 million on energy annually, almost 100% from fossil sources. We also output about 30,000 tons of CO₂ each year, the bulk of that coming from propane usage. Geothermal would, in the future Phelps outlined, go along way to solving those problems, providing an alternative cost-effective, earth-friendly heating source for the Town. In addition to the obvious economic benefit, Phelps pointed out that having a geothermal heating district in our backyard could also help promote Mammoth Lakes as a “green” resort. “Many [comparable resorts] just buy wind credits and so on,” Phelps said. “This would show we’re able to do more than just that.”

The plan in the short term is to work with the Town to form an entity that would sell heat, not electricity. According to Phelps, this can be done under existing state law. While a comprehensive partnership has yet to be established with the Water District, Phelps said that as that process goes forward, they would hope to work together on establishing customer service functions.

Geothermal heat generation can be accomplished using water at approximately 180°F, as opposed to that required for power, which uses somewhat hotter water. Phelps

said the district would first be seeking to identify site locales on private land with underlying geothermal rights, trying to avoid interaction with the Forest Service and the Bureau of Land Management until necessary. The process would, however, include a CEQA (environmental analysis) phase — “the whole nine yards,” as Phelps stated. Meanwhile, buying excess heat from the nearby Mammoth Pacific plant would allow for faster ramp up.

Using pre-insulated pipe laid 4-5 feet below the surface, the first run would take advantage of rights of way that exist along Hwy 203 and make its way up the grade 2.5 miles from the Mammoth Pacific plant to serve the first three major inter-town load centers that are in and around Old Mammoth Road and Meridian Blvd. How much thermal loss are we talking about across that distance? Not much, Phelps said, in fact the amount would be virtually nonexistent.

“Iceland (which derives 87% of its heat from geothermal sources) has a 27-mile run that only loses 1°C (or 1.8°F) across its whole length,” Phelps said. “They know it can be done, contrary to conventional belief here.” Once the district’s plant is in place, plans are for part of that facility to include a Geothermal Interpretive Center (part of the Geothermal Educational Outreach program). An interactive and experimental teaching environment, work at the Interpretive Center would be about more than just geothermal power and heat. “[GEO head] Dave Harvey briefed us on a process by which high-altitude seeding could help speed up reforestation that was very exciting,” Phelps said.

Technical hurdles aside, Phelps said he’s also constantly working to keep the public informed and supportive of the project. “Geothermal is appealing, but perceived as being ‘complicated,’” he said. “The interest in it drops to 20% if the cost isn’t at least equal, if not less than what the public’s paying now.” Phelps said that one commonly held belief seems to be, “The Town’s going to force us to buy heat that’s more expensive,” to which he replies, “That’s not going to happen. If we can’t do it cost-effectively, it’s not going to go forward.”

Clearly Phelps isn’t too worried about the project’s ability to pencil out in the long run, and he’s also not concerned that geothermal isn’t the green world’s hottest buzzword. “It’s not sexy like wind or solar, and doesn’t spend a lot of dollars on government lobbying,” he said. “It’s old, underground technology.” What he is sure of is its place in Mammoth’s future, even this early on in its development. “We’ve got miles to go before we sleep,” he said, “but we’re on the road.”