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US Energy Dept. Toots Geothermal Horn, With Lithium Bonus

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The Energy Department is very excited about its California lithium project piggybacked onto a geothermal power plant, and with good reason. Lithium is the key ingredient in innumerable electronic devices, from portable gear on up to EVs and large scale lithium-ion energy storage systems.

The problem is — or has been, until now — that the US does not have much of a domestic lithium supply.

Wherever US energy policy may go under the incoming Trump Administration, if the President-elect is serious about bringing manufacturing back to the US he'll have to demonstrate a bit more of a forward-looking strategy than bribing US companies to keep a few hundred jobs here and there, let alone create new jobs. The geothermal-lithium angle could be just the ticket.



More Domestic Lithium For The USA

The Energy Department just came out with a recap of its geothermal-linked lithium recovery activities. You can follow the link for full details, but for those of you on the go, here's a quick summary.

The Energy Department revved up its Geothermal Technologies Office in 2014 with a new program aimed at recovering lithium and other rare earth elements from geothermal fluids.

The sale of those materials could add value to geothermal operations, so the twin goal is to increase geothermal activity in the US by providing those power plants with a more viable economic platform.

This year, the geothermal initiative includes looking to comparable industries for some direction on effective strategies.

The main private partner in this effort is the company SRI International. It is tasked with this two-year mission:

...SRI will continue geothermal mineral recovery research – initiated two years ago via the Energy Department's Geothermal Technologies Office – focusing on advances in lithium recovery from geothermal brines using ion-imprinted polymers.

To support this goal, SRI's immediate technical objective is to further advance the performance and efficiency of ion-imprinted polymers to achieve optimal lithium separation rates exceeding 95%.

Earlier tests have already demonstrated that the polymer-based approach can yield a retrievable rate of more than 90%, so the Energy Department is confident that SRI can further refine the process and push that rate over 95%.

More Geothermal Companies On Lithium Bandwagon

SRI is not the only player in the geothermal lithium game. Our friends over at the *Desert Sun* report that the company EnergySource is aiming to tap geothermal **brine for lithium** recovery.

It looks like EnergySource is stepping in to fill the empty lithium recovery slot left by the startup Simbol Materials. If that name rings a bell, **Tesla's Elon Musk** was interested in buying the company earlier this year (for obvious reasons), but the deal fell through.

EnergySource is the operator of a 50-megawatt geothermal plant called Featherstone. Construction of the plant (in partnership with Simbol, btw) included extra infrastructure for lithium extraction. That factored into a recognition by *Power Engineering*, which named Featherstone the Best Geothermal Project for 2013.

Simbol dropped out, but EnergySource has picked up the ball and has continued its lithium recovery development.

Here's the kicker from the *Desert Sun*, last October:

The results have been promising enough that a Texas investment group just bought a 38.5% ownership interest in EnergySource. The firm has invested additional money to fund more thorough testing of the extraction process, which Spomer expects to take about six months.

The *Desert Sun* notes some important benefits if it all works out, including more geothermal plants built around the Salton Sea which means new jobs (Featherstone's host county has an unemployment rate topping 20%) and a potential new funding stream for restoration projects at the "ailing" **Salton Sea**.

Lithium recovery adds an important domestic economic development angle to **renewable energy**, which goes beyond local jobs to impact manufacturing nationwide.

Who could hate it? We'll see after Inauguration Day.