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Tax rates on potential lithium extraction

I would like to suggest that the Lithium Valley Commission recommend to the legislature that NO special additional taxes be assessed to commercial lithium production, at least for the first several years. The rationale is as follows:

1. Imperial Valley lithium is in direct competition with ongoing attempts around the United States and the world to supply lithium to the battery and electric vehicle market. These attempts include Nevada and Louisiana as well as Western Australia, Germany, and South America. Once these other projects begin (or continue) commercial operation, the price of lithium will fall on the world market.

The cost of producing lithium from geothermal brines must remain at or below \$4,000 per ton. This figure comes from a report from National Renewable Energy Laboratory. An excerpt from executive summary of that report follows:
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â€œExecutive Summary

. . . This report is part of an effort to assess geothermal brines as a source of commercial lithium supply for the United States. In this study, the National Renewable Energy Laboratory (NREL) reviews and summarizes public techno- economic analyses of lithium extraction technologies. . .

. . . For this report, technical and economic data are reviewed from projects focused on lithium extraction from geothermal and other brine types to assess the technologies being deployed and estimated costs to produce end products lithium carbonate (Li_2CO_3) and lithium hydroxide monohydrate ($\text{LiOH}\cdot\text{H}_2\text{O}$).

A review of these projects indicates expected production costs (i.e., operating expenses or OPEX) near \$4,000/metric ton of lithium carbonate equivalent (LCE) and reported internal rates of return suggest this production cost target is economically feasible with estimated prices of \approx \$11,000/mt LCE. For comparison, market prices since mid-2018 have ranged from approximately \$20,000/mt to \$7,500/mt LCE. . . â€œ

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A tax of 10% to 20% of the baseline production cost is excessive as it would mean significantly higher end prices to remain financially viable. Worldwide battery makers will buy lithium at the best cost available, which could cause Imperial Valley lithium to go unpurchased.

2. A previous attempt was made to extract lithium from I.V. brines, and that attempt failed (Simbol). No entity has successfully produced lithium on a commercial scale, and the geological and scientific unknowns such as the ones that caused this business to fail are likewise unknown, thus the 10% scale pilot projects which are beginning. The risks to capital formation need to have a healthy financial margin, which would be wiped out by taxing lithium at this time.

3. It has been recently reported that the tax would be split 80/20 between Imperial County and State efforts to mitigate the shrinking sea level at the nearby Salton Sea. This is an insignificant amount of money toward those efforts. For example, if 20,000 tons were taxed at \$400 per ton, this would produce \$1,600,000 for Salton Sea mitigation. The State of California has had the legal obligation since 2003 to attend to the Salton Sea's demise, and the State budget this year alone is roughly \$217,000,000,000. So \$1.6M of that amount is 0.0007% of the State budget, not even a decent rounding error for a government budget. No one could think the state after 19 years of disregard will finally say "ah ha, NOW we have the money to restore or mitigate the Salton Sea."

Geothermal power plants have been in operation in the unfortunately named Salton Sea "Known Geothermal Resource Area" (KGRA) for decades. It is unfortunately named as the 2 mile by 8 mile KGRA exists here not due to any connection or proximity to the Sea, but with its proximity to the San Andreas fault's southern terminus which has fractured the earth's crust and made access to hot geothermal brines possible. These plants have nothing to do with the Salton Seas current formation in 1905 nor to the water swap agreement in 2003, the reduced inflows from which now causing it to shrink.

3. If these three projects are successful and employ hundreds of Calipatria, Niland, Westmorland, and Brawley workers, most of whom are still in high school, the County and State will receive:

- income taxes from all those new workers, who will be paid at about twice the local average income level
- Increased property taxes from those workers who will likely purchase or renovate housing near to both their employment and to their families where they grew up.
- Increased property values and therefore increased taxes from the geothermal/lithium plants themselves.
- increased sales taxes from a strengthening level of overall economic activity in the north end of the I.V.

As someone who graduated from Calipatria High School (class of 1970) and who owns both a home and commercial (undeveloped) property in Calipatria, I would like to see renewed economic activity in the City. This is achievable if local residents are prepared and motivated to work in this industry, and the industry can overcome the technical difficulties to become profitable and thereby employ hundreds of these people.

Lithium Valley Commission members could help to make this a reality by identifying potential workers who are now in middle or high school, helping them obtain the education needed and/or helping them to navigate residential property purchases or renovations and so forth, instead of merely compiling outspoken groups of people whose vocation is to remain perpetually discontented.

You could also recommend now or in your final report to the legislature that setting taxes on a product that does not yet exist is premature and could be burdensome enough to dissuade these companies from going forward with their projects.

Regards,

David Corn

Cc: IID