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October 20, 2022

California Energy Commission
Docket No. 20-LITHIUM-01
715 P Street
Sacramento, CA 95814-5512

Re: Comments on the September 2022 draft report of the Lithium Valley Commission

Let me begin by repeating what I said at our September 29 meeting: I think the California Energy Commission did a fine overall job of explaining both lithium development and geothermal resources and captured much of the substance of the Lithium Valley Commission's 20-plus meetings, in terms of presentations from outside expert, Commission deliberations, and public comments. My comments below are designed to fine-tune, correct, and, I hope, improve the draft report

Key recommendations (pp. 8-14): In my opinion, 44 separate recommendations to the Legislature is an unwieldy number for policymakers to consider, much less implement. I suggest consolidating them into a much smaller number. A few ideas in that regard:

Twelve recommendations involve state funding (underlines are mine):

1. Page 8: "Fund the CEC or another state agency to continue tribal and community coordination, education and engagement activities in the Salton Sea region center around lithium recovery...."
2. Page 8: "Provide financial ... resources to enable Tribal, local community-based organizations and community residents to engage with developers and ... government agencies, including the opportunity to engage in community-based participatory budgeting for future investments."
3. Page 8: "Provide funding for additional oversight by the state and establish best practices and communication protocols in coordination with Tribes to ensure meaningful consultation with Tribes occurs and provide additional time for this consultation."
4. Page 9: "Leverage existing programs ... to provide state funding ... that will support the start-up and expansion of manufacturing businesses that rely on lithium...."
5. Page 9: "Continue to provide research and development funding to advance lithium recovery technologies"
6. Page 9: "Provide funding ... for an appropriate state agency to lead development of new, environmentally preferable product criteria for lithium-based products [and] labeling requirements...."

7. Page 10: “Funding to support regional infrastructure improvements”
8. Page 10: “Continue funding state research and development investments ... to advance innovation in minerals recovery and lithium dependent product manufacturing.”
9. Page 11: “Funding for translation of materials” for a program requiring lithium developers to “report the actual impacts of their facilities across a set of metrics....”
10. Page 11: “Provide funding increases ... to ensure ongoing monitoring of any environmental or health related impacts associated with lithium recovery and processing facilities.”
11. Page 13: “Funding ... for a business service center in Imperial County to facilitate access to incentive programs available for disadvantaged communities, small businesses, and entrepreneurs.”
12. Page 13: “Funding a state agency to establish a centralized permit and regulatory reporting tracking system for California projects to extract lithium from geothermal brine”

I would consolidate these into “funding recommendations” and shorten them. For example:

- ## 1, 2, and 3 are similar; I would combine them.
- ## 4, 5, 6, 8 and 12 all involve funding for the emerging lithium industry. There is some overlap (#5 and #8 both call for research and development funding). I would combine and shorten them.
- I would adjust the text in the pages of the draft report that follow to conform to these suggested changes.

Five recommendations relate to health effects of lithium production:

1. Page 10: “Identify priority projects needed to protect public health and safety”
2. Page 11: “Lead agencies [under CEQA] should provide additional outreach, consultation, and analyses that recognizes the specific historical, public health, and ecological context of the Salton Sea region.”
3. Page 11: “Consider amending CEQA or other laws to require health impact assessments.”
4. Page 11: “Provide funding increases ... to ensure ongoing monitoring of any environmental or health related impacts associated with lithium recovery and processing facilities.”
5. Page 12: “Mandate that Imperial County require developers of lithium recovery complete health impact assessments at the time they seek permits and conduct monitoring throughout DLE project operations.”

I don’t know what #1 means (“priority projects needed to protect public health and safety”), but presumably it can be subsumed under #2 and #3 so that the lead agencies can figure it out. I would consolidate ## 1, 2, and 3 into one recommendation. As above, I would adjust the text in pages of the draft report that follow to conform to these suggested changes.

Last recommendation on p. 8:

“Require that lithium production projects integrate mitigation measures, beyond those

required by CEQA, that address the importance of working to restore the balance of nature and preserving ecosystems and cultural landscapes and take into account cumulative impacts. For example, if lithium recovery from geothermal brine moves forward, some of the funding resulting from the projects should be allocated to restoration of the Salton Sea. Ensure all legally required and other appropriate tribal consultation is completed. Consider legally required consultation a floor, not a ceiling. Provide funding for additional oversight by the state and establish best practices and communication protocols in coordination with Tribes to ensure meaningful consultation with Tribes occurs and provide additional time for this consultation.”

For any number of reasons, I would eliminate this vague recommendation and the text in pages below that ties to it. It gives two examples of “measures beyond those required by CEQA.” The first is to allocate “some of the funding resulting from the projects ... to restoration of the Salton Sea.” But the California Legislature just did that earlier this year, as 20% of the taxes levied on lithium production go to Salton Sea restoration. Moreover, such a requirement has absolutely nothing to do with CEQA. The second example of going beyond CEQA (“Ensure all legally required and other appropriate tribal consultation is completed”) directly contradicts the very recommendation; it says to abide by existing law (“all legal required ... consultation”), not go beyond it. So how developers are supposed to take measures “beyond those required by CEQA” and what those measures are is not explained. CEQA has the highest bar of any environmental review law in the United States. If the recommendation is really to “require that lithium production projects integrate mitigation measures, beyond those required by CEQA,” this recommendation really means amending CEQA with whatever these “mitigation measures” are. I would like to see those measures. Requiring an applicant to take mitigation measures beyond CEQA without spelling them out is simply too vague.

The two recommendations regarding transmission planning are identical, except one says entities “should continue the pursuit of investing in transmission upgrades, while the other says they “should pursue making investments....” See page 9: “State transmission planning entities and local utilities should continue the pursuit of investing in transmission upgrades to address transmission needs for geothermal energy delivery from the Imperial Valley area over the next 10 years.” And then on page 10 is the identical concept: “State transmission planning entities and local utilities should pursue making investments for transmission upgrades to address transmission needs for geothermal energy delivery from the Imperial Valley area over the next 10 years.” I would obviously make this one recommendation.

The draft report references the Inflation Reduction Act but doesn’t explain how it incentivizes lithium development. The report should spell out that by 2024 at least 50 percent of the components in an electric car battery must come from the United States, Canada or Mexico. The rises to 100 percent in 2028. And the share of the minerals in batteries that have to come from the United States or a trade ally will climb to 80 percent in 2026.

Page 2, bottom: “Community engagement is a priority for the Commission and AB 1657 authorized the Blue Ribbon Commission to obtain and consider public input to develop findings and recommendations on the eight topics.” Place a comma between “Commission” and “AB 1657.” Otherwise, this is a run-on sentence, with two independent clauses.

Page 2-3: “The Commission’s work also intersects with other important policy initiatives in the region. These include the state’s efforts to implement the Salton Sea Management Plan, and its broader policy goals to strengthen climate change resilience, advance zero-carbon and renewable energy technologies, and reduce greenhouse gas emissions economywide.” Delete the comma after “Plan.” Do not use commas to set off essential elements of a sentence. Moreover, the comma calls into question whether the verb “includes” applies to the rest of the sentence.

Page 4: “According to the United States (U.S.) Census Bureau’s latest five-year estimate, for 2016 to 2020, the median household income in Imperial County was \$46,222 (in 2020 dollars) compared to the statewide average of \$78,672 and 18.1 percent of the population of Imperial County is living in poverty, significantly higher than the state average of 11.5 percent.” Insert a comma between “\$78,672” and “and.”

Page 6: “Interest in, and support for, the development of domestic lithium sources -- specifically lithium recovery from geothermal brine in Imperial County, are occurring at the local, state, and national level.” Delete the comma after “County” and replace it with a double dash, like the one after “sources.”

New pages

Page 6: Eliminate “Clean” in the first puzzle piece so that it just reads “Geothermal Power.” “Clean” implies that there is also “Dirty” geothermal.

Page 8: This is an awkward sentence: “As more fully discussed later in the report, while there is potential for an economic transformation of the Salton Sea region, residents and Tribes in these communities have lived experiences that make them skeptical about Lithium Valley development efforts and whether and how such development will benefit them instead of worsening existing conditions or creating new harms.” I would rewrite it as follows: “As more fully discussed later in the report, while there is potential for an economic transformation of the Salton Sea region, the experiences of the residents and Tribes in these communities make some of them skeptical about Lithium Valley development efforts and whether and how such development will benefit them instead of worsening existing conditions or creating new harms.”

Page 8: Insert “adverse” so that this sentence reads: “Residents in communities including Imperial, Brawley, Calipatria, Niland, North Shore, Mecca, Desert Shores, Bombay Beach, and others currently experience adverse health impacts related to dust and air quality impacts from the receding Salton Sea. Local regional residents are particularly concerned with the potential for lithium extraction to worsen existing public health conditions or create new harms.

Page 10, seven lines from the bottom: You sometimes capitalize “tribal” and sometimes don’t, as here. Pick one.

Page 11: You have already abbreviated “United States” as “U.S.” at the first page 4, so delete “United States” here and just have this read “Due to the high demand for and reliance on lithium-ion batteries in the U.S. and the world”

Page 18: The geothermal brine isn't pumped to the surface; it flows. One other small change, so that this sentence reads: "As shown in Figure 7, flash steam geothermal power plants, like the geothermal power plants in the Salton Sea KGRA, use a multistep process that begins with drilling production wells deep into an underground geothermal reservoir to [delete "pump" and insert "flow] either a mixture of steam and hot brine [delete "or hot brine alone"] to the surface under high pressure."

Pages 19-20: Change "The geothermal reservoir is at least a half a mile below the sea and the depth where geothermal wells draw fluid is typically between 1.5 and 2 miles below ground level" to "The geothermal reservoir starts at 1,500 feet below the sea and the depth where geothermal wells draw fluid is typically between .5 and 2 miles below ground level."

Page 20: There are currently 11 geothermal power plants in the Salton Sea KRG, not 10.

Page 23: Change "339 MW" to "377 MW net"

Page 25: The map is wrong. The right-hand part of the top green map marked Controlled Thermal Resources is actually California state land, and the square green box below that, just above EnergySource, is BHE Renewables-controlled land, not CTR.

Page 33: To clarify, I would change the word "funding" to "tax revenue."

Page 35: Typo: Change "required" to "requires" so that this sentence reads: "This problem, which has now become an opportunity, requires chemical engineering and advanced facility designs at the existing power plants."

Page 37, first full paragraph: Change "Global EV sales are projected to include more than 4 million passenger vehicles sold globally in 2021" to "Global EV sales totaled 6.6 million vehicles in 2021, double the amount in 2020, and 2 million were sold in the first quarter of 2022." And then add this footnote: Annual Global Electric Vehicle Outlook. May 23, 2022 <https://www.iea.org/news/global-electric-car-sales-have-continued-their-strong-growth-in-2022-after-breaking-records-last-year>

Page 38: Typo six lines from the bottom: "Lithium Valley in in the Salton Sea region..."

Page 39, first line: You have already abbreviated electric vehicle as "EV" on the first page 5, so I would say "EV" here and not "electric vehicle."

Page 39, first full paragraph: Insert "such as Nevada" so that this reads: "At the June 2022 public meeting, project developers discussed competition coming from other potential lithium sources, including mining activities in other states (such as Nevada), that could have an advantage...." There are mining activities in other states as well.

Page 42, last two lines: This is a run-on sentence. It should read: “DLE is not a new technology. Rather, it has been studied for decades and is used now in certain applications that recover minerals.”

Page 43: I don’t know what is meant by “technology carriers.” I would rewrite this sentence to read: “While there does not appear to be technology-limiting development at this time, this is a new enterprise that will require adjustment as facilities reach commercial scale and present opportunities for innovation and improvement over time.”

Page 51, first line: Change “339 MW” to “377 MW net.”

Page 63, Economic Impacts item 3: “Identify a planning area and investment zone that encompasses Lithium Valley” I would explain what “a planning area and investment zone” entail, as it’s not clear to me and may not be clear to the Legislature.

Pages 63-64, Economic Impacts item 5: “Mandate that lithium recovery project developers enter into legally binding community benefits agreements” and “fund the formation of a community advisory council to provide input and guidance on community benefits agreements and provide funding to support community capacity building.” This does not state where the funding should come from or any kind of accountability on the side of the communities. Presumably, the taxes collected for lithium production should be utilized for this purpose. If the intention here is that community benefit agreements would entail additional undefined benefits that developers will be mandated to contribute, I recommend deleting this item.

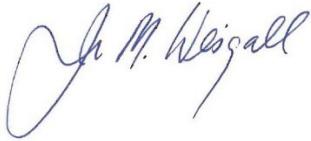
Page 64, Workforce Development Item 1: Require that “any project related to lithium recovery ... must implement High Road job and career approaches” in order to receive state and/or federal funding. I have two problems with this point. First, the term “High Road jobs” is a vague and potentially loaded term. The earliest reference I have seen to the term, from a 1990 University of Wisconsin professor, contrasts “high road” employment as “a family of strategies for human development ... that treat shared prosperity, environmental sustainability, and efficient democracy as necessary complements...: The “low road,” by contrast, he described as a strategy of “convenience, greed and contempt for others.” I think our report should avoid this term and instead spell out exactly what we want to see in these jobs: prevailing (or even above-market) wages? Good benefits – health, pension, family leave, etc.? Pathways for training, certifications, and career development? Second, I don’t see how a state statute can put restrictions on federal funding, as this point recommends. I would delete that altogether.

Page 64, Workforce Development Item 2: “Require that lithium recovery and production project developers enter into project labor agreements with unions and trades, as well as appropriate state or local agencies to support the development of educational pathways to develop a skilled and trained workforce, including internships, apprenticeships, certificate, and degree programs for local residents.” I would delete this altogether. First, I do not recall the Commission ever endorsing such an idea. Second, while a public agency might be able to mandate PLAs for construction work, maintenance and operations for a project that it funds, forcing private sector developers and their employees to enter into PLAs for all aspects of lithium production is highly questionable and could well run afoul of the law. Third, there are many other ways besides

mandatory PLAs to achieve the “development of educational pathways to develop a skilled and trained workforce....”

Thank you for considering my comments.

Sincerely,

A handwritten signature in blue ink that reads "Jonathan Weisgall". The signature is written in a cursive style with a large, looping initial "J".

Commissioner Jonathan Weisgall