

**DOCKETED**

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**20-EPIC-01 – EPIC 4 Investment Plan** □

*Additional submitted attachment is included below.*



June 21, 2021

Chair David Hochschild  
Vice Chair Janea Scott  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

RE: Lawrence Berkeley National Laboratory Recommendations for the Development of the EPIC 4 Investment Plan

Thank you for the opportunity to provide comments on the EPIC 4 Investment Plan and for the CEC's substantial work developing and executing the previous plans. Lawrence Berkeley National Laboratory (Berkeley Lab) applauds the State of California for its leadership in setting some of the most ambitious policy goals in the country and designing a research and deployment roadmap to accomplish those goals in a timeframe that addresses both pressing needs and also allows for progress toward a larger and longer term set of research, and market outcomes that build toward impact.

Berkeley Lab acknowledges that the pathways identified in the 2021 SB 100 Joint Agency Report for 100 percent clean electricity are vital to achieving the State's energy and climate goals. We also agree with the research and development opportunities identified to meet the significant technological challenges to achieve these goals through investments outlined in EPIC 4 Investment Plan such as solar, storage, demand/load flexibility, electrification and decarbonization, and resilience and reliability.

In addition to the technology topics identified above Berkeley Lab recommends that the Energy Commission consider the following technical areas towards additional energy resources that could contribute to the pathways for decarbonization and meeting 100% clean electricity goals.

- Negative Emission technologies
- Biomass/bio-based technologies
- Geothermal technologies
- Desalination technologies

Berkeley Lab will provide detailed comments for technical challenges, R&D needs and impacts for California ratepayers for each of the technical topics identified above in our forthcoming comments throughout the summer.

Moreover, as the Commission considers investments in the EPIC 4 Investment Plan, Berkeley Lab urges the Commission to continue to offer cost share funding to applicants that apply for and receive awards under eligible federal Funding Opportunity Announcements (FOA) that advance key state objectives.



Competitive federal research opportunities typically either require or prefer proposals incorporating significant non-federal match funding. GFO 18-902, Cost Share for Federal Funding Opportunities for Energy Research, Development, and Demonstration, and its predecessor initiatives, have played a critical role in enabling California to successfully compete for large federal clean energy research investments, often attracting multiple federal dollars for each state match dollar invested.

As one example of the success of this program, the Commission's \$3 million EPIC cost share commitment played an important role in enabling the Berkeley Lab-led research consortium, the National Alliance for Water Innovation, to win a \$100 million U.S. Department of Energy investment to develop new water desalination technologies that will significantly reduce the energy intensity required to supply and treat water, a critical goal identified in the 2018-2020 Triennial Investment Plan. The federal award will enable the State to advance its goal significantly beyond what could be achieved with state resources alone.

The Public Utilities Commission acknowledged the value of the Commission's federal cost share program in its decision to extend the EPIC program. Given the growth in federal clean energy research investments and the close alignment of state and federal clean energy objectives, continuation of the cost share program remains critical to supporting federal-state collaboration to accelerate clean energy technology development and demonstration.

On behalf of Berkeley Lab, we appreciate the opportunity to provide these comments on the EPIC 4 Investment Plan.

Sincerely,

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