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*Comment Received From: Sophie Meyer
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**Form Energy, Inc Comments on EPIC 4 Investment Plan Scoping
Staff Workshops - Technology Advancements for Energy Storage**

Additional submitted attachment is included below.



June 29, 2021

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

Subject: Form Energy, Inc. Comments on EPIC 4 Investment Plan Scoping Staff Workshops - Technology Advancements for Energy Storage, Docket #20-EPIC-01

Form Energy, Inc. ("Form") appreciates the opportunity to comment on the California Energy Commission's (CEC) Electric Program Investment Charge 2021-2025 Investment Plan (EPIC 4 Investment Plan) Scoping Staff Workshops. Form comments here on the July 20, 2021 workshop on technology advancements for energy storage. Form supports the CEC's continued emphasis on supporting the commercial market entry of new long-duration energy storage technologies, particularly those with the ability to address grid reliability threats caused by multi-day weather events and wildfires.

Our comments recommend additional focuses and refinements to ensure that the EPIC 4 Investment Plan is targeted to the highest-value investments, is flexible enough to allow a range of companies to compete for funding, and fund projects at a scale sufficiently large to reduce technology risk so that new technologies and applications can achieve widespread commercial adoption after receiving Electric Program Investment Charge (EPIC) funding.

About Form Energy

Form Energy is developing a new class of multi-day energy storage systems. Our goal is to enable a fully renewable electric grid that's reliable and cost-effective year-round, even in the face of multi-day weather events. Our first commercial product is a rechargeable iron-air battery capable of delivering electricity for 100 hours at system costs competitive with conventional power plants and at less than 1/10th the cost of lithium-ion. With over 130 employees, Form has offices in the San Francisco Bay Area; Somerville, MA; and the Greater Pittsburgh area. We have secured over \$300M in funding from impact-oriented investors.

Recommendations:

- **The CEC should prioritize development and commercialization of long-duration and multi-day storage.**

In order to support technologies that can firm intermittent renewable generation during multi-day periods of reduced output and unlock a fully decarbonized electric grid, the CEC must support the development and commercialization of multi-day storage technologies and other emerging long-duration energy resources. Achieving cost-reductions in long-duration storage is the single-most impactful EPIC investment the CEC can make to support achieving Senate Bill (SB) 100 goals faster and at lower cost.

- **The CEC should ensure strong support for Front of Meter resources.**

The state has been very successful in supporting Behind the Meter (BTM) resources. It is time to extend that focus to Front of Meter (FOM) resources, which have historically received less support, particularly for large-scale demonstrations. The largest market opportunities for long-duration and multi-day storage technologies, which will be crucial in achieving California's decarbonization goals, are in FOM configurations that can only be de-risked via FOM demonstration projects.

- **The CEC should offer funding opportunities for megawatt-scale demonstration projects.**

In addition to supporting FOM resources generically, the CEC should offer funding opportunities for larger demonstration projects. Just as FOM configurations can only be de-risked via FOM demonstration projects, larger projects can only be de-risked via projects at relevant scales. Technologies that can support reliability in grids with high levels of renewables, such as long-duration and multi-day storage, are increasingly reaching technological maturity; however, they require support in order to commercialize on the timelines necessary to achieve SB 100 goals. In order to support commercialization and unlock the value of emerging technologies, the CEC should offer funding opportunities for 5-10 megawatt (MW), grid-connected energy storage projects to be deployed in the 2024 timeframe.

- **The CEC should authorize recurring funding to accommodate companies at a range of stages.**

The CEC should prioritize offering funding on regularly-scheduled cycles that companies can anticipate in advance, which will help them plan resources and activities accordingly. Lumpy funding raises challenges for start-ups, where both technology maturity and business needs change rapidly. When the CEC offers one-time grants with very little advance notice of their availability, grants favor companies that, by chance, happen to be at the technology readiness level (TRL) that the CEC specifies at the time the grant is available. The CEC's BRIDGE and RAMP grants are great examples of recurring grants

with, in the case of BRIDGE, multiple application opportunities, which allow companies to apply on a timeframe that is relevant to their technology and manufacturing development timelines. Flexible grants like these go a long way towards addressing real-world technology commercialization challenges and the CEC should put more emphasis on similar structures.

- **The CEC should expand EPIC to support the scaling of early commercial technologies.**

There remains a chasm between demonstration and commercialization of emerging technologies. EPIC has historically only supported pre-commercial technologies, but the CEC should consider and propose incentive programs for early-commercial FOM technologies, similar to the [Bulk Storage Incentive Program](#) offered by the New York State Energy Research and Development Authority (NYSERDA). This type of program is essential to help early-commercial technologies achieve widespread adoption and economies of scale. California has offered similar programs in the past, mostly focused on customer-sited technologies, via programs such as the California Solar Initiative and the Self Generation Incentive Program. New York has taken a more expansive approach by focusing on both customer-sited BTM projects and grid-scale FOM projects. The CEC should use EPIC 4 as an opportunity to expand the scope of its programs.

Conclusion

Form Energy looks forward to continuing to work with the CEC on these important issues. Thank you for this opportunity to provide public comments.

Respectfully,

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