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**Form Energy Comments on Draft Clean Energy Reliability
Investment Plan Report**

Additional submitted attachment is included below.



February 16, 2023

California Energy Commission
Docket Unit, MS-4
Docket No. 21-ESR-01
715 P Street
Sacramento, CA 95814

Subject: Form Energy, Inc. Comments on the Draft Clean Energy Reliability Investment Plan (CERIP) Report, Docket #21-ESR-01

Form Energy, Inc. ("Form Energy") appreciates the opportunity to comment on the California Energy Commission's (CEC) Draft Clean Energy Reliability Investment Plan (CERIP) Report, issued February 9, 2023 ("CERIP Report").

About Form Energy

Form Energy, Inc. ("Form Energy") is a U.S. energy storage technology and manufacturing company that is developing a rechargeable, iron-air battery capable of continuously discharging electricity for 100 hours at a system cost less than 1/10th the cost of lithium-ion battery technology. Form's multi-day battery will enable a clean electric grid that is reliable and cost-effective year-round, even in the face of multi-day weather events. With over 400 employees, Form Energy has offices in the San Francisco Bay Area; Somerville, MA; and the Greater Pittsburgh area; and has recently announced plans to locate a first commercial battery manufacturing facility in Weirton, WV.

The CEC should include additional priority improvements to planning processes

Form Energy is pleased to see recognition in the CERIP Report of the need for planning improvements to ensure grid reliability. The CERIP Report indicates that efforts among the CEC, California Public Utilities Commission ("CPUC"), and California Independent System Operator ("CAISO") to better incorporate climate change into analyses are ongoing. Form Energy recommends that, in addition to the listed activities, the CERIP Report commit to ongoing investment in specific modeling improvements, including the development of the following:

- more diverse hourly demand forecasts that reflect at least 1-in-5, 1-in-10, and 1-in-20 weather years;
- renewable generation profiles to accurately capture typical and atypical weather impacts on generation; and

- modeling tools that capture inter-day dynamics and reliability risks posed by coincident impacts on demand and generation.

Form Energy supports the proposed use of CERIP funds to augment the CEC’s existing long-duration energy storage commercialization program

Form Energy is pleased to see the CERIP Report propose to provide additional investment in long-duration energy storage (LDES), a class that includes multi-day energy storage (MDS). Many LDES and MDS technologies face high barriers to initial project deployment and to commercial expansion. The faster they deploy and achieve full-commercial scale in California, the sooner we can realize the cost, reliability, and greenhouse gas benefits they enable.

While the State has led the adoption of solar and short-duration storage technologies, these resources will not be enough to achieve our current or accelerated clean energy goals. We need to develop an array of new resources, like MDS, that can guarantee firm renewable energy that is available in every hour of the year. The SB 100 Report clearly outlines the benefits of doing so, showing significantly lower costs, capacity needs, associated land use impacts, and emissions in scenarios with greater utilization of firm zero-carbon resources. Achieving cost-reductions in LDES and MDS technologies is among the most impactful investments the CEC can make to support achieving Senate Bill (SB) 100 goals faster and at lower cost.

Supporting the deployment of firm, zero-carbon resources should be included as a key element of “Scaling Supply-side Technologies”

The CERIP Report lists “Scaling Supply-side Technologies” among potential supply-side initiatives. Form is supportive of this broad category and appreciates the focus within the CERIP Report on speeding commercialization of emerging technologies. Form Energy recommends that, within this category, the CEC specifically indicate the intention to support the deployment of firm, zero-carbon resources, in accordance with the legislative intent established by Senate Bill (SB) 423 (Stern, 2021), which requires that the CEC conduct an assessment of firm, zero-carbon generating technologies, evaluate the magnitude of the need for such technologies, and identify barriers to such the deployment of such technologies, along with potential solutions to these barriers. The CEC should commit within the CERIP Report to integrating the findings of the SB 423 assessment into the CERIP.

Conclusion

Form Energy appreciates the opportunity to provide public comment and looks forward to continuing to engage with the CEC on these important issues.

Respectfully,

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