

## DOCKETED

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## **Advanced Microgrid Solutions EPIC Triennial Planning Comments**

*Additional submitted attachment is included below.*

## Stakeholder Input for the 2018 – 2020 EPIC Triennial Investment Plan

### Advanced Microgrid Solutions: Comment 2

#### 1. Please provide a brief description of the proposed initiative.

Accelerate market adoption of storage through decreasing BOS costs and streamlining and standardizing permitting

#### 2. What technical and/or market barriers would the proposed initiative help overcome? For scientific analysis and tools, what knowledge gaps would the proposed initiative help fill?

A major barrier to adoption of energy storage is the cost of energy storage systems. Approximately 2/3, or more, of installed system costs lie in the cost of equipment. The expense of storage systems has slowed market adoption and as a result, has slowed the ability of California to achieve various energy policy goals. It is essential that CEC funding be allowed to cover storage equipment and installation costs, in order to help make systems that include storage more affordable for the very early adopters.

Permitting: There are over 500 Authorities Having Jurisdiction (AHJs) in California, and each has its own permitting process, greatly adding to the time and cost of permitting. A report by LBNL quantified the impact of all local regulations, including permitting, on solar systems. LBNL found that these regulations can amount to \$2,500, or up to 20%, for a 5kW solar. EPIC can play a convening role in bringing together a pilot group of AHJs to develop a streamlined, shared permitting process for storage systems. Once the pilot permitting process has been tested, refined, and its value has been demonstrated, it will be far easier for the state to enact regulations, similar to the Solar Permitting Efficiency Act, requiring AHJs to develop standardized and streamlined permitting for energy storage. This will greatly aid market adoption.

Local zoning code exemptions: Local zoning codes require sets backs, percentages of parcels devoted to open space, number of parking spots required, etc. As a result, sometimes there is no outdoor space available for energy storage or the cost of a system is greatly increased because the system must be located a significant distance from the facility's electrical controls. EPIC would offer great value by funding studies on the impact of zoning exemptions for solar. If the impact of these exemptions is found to be net positive, it sets a precedent for similar exemptions for storage systems.

Incentives for new buildings to be designed for energy storage: One effective way to reduce the cost of storage is by enabling it to be located close to the electrical control system. EPIC could fund the study and validation of this impact, setting the stage for incentives for new buildings that are designed to incorporate storage near the electrical control system.

Finally, there is a need for market education about the safety of lithium ion batteries. While energy storage equipment has to meet numerous safety standards, many potential customers are not familiar with the safety requirements. Because storage is a relatively new technology when used at C&I scale, customers are not familiar with it and the lack of familiarity often leads to distrust and vast overestimates of risk.

**3. If this initiative is successful, either fully or partially, what would be the expected impact? Who are the primary users and/or beneficiaries?**

Permitting: Standardized permitting will benefit ratepayers and municipalities. In addition to greatly reduced costs, especially for smaller systems, it offers expedited permission to operate and greater customer satisfaction. It will also lower the costs for AHJs to process permits, using taxpayer funds more efficiently. Evidence for these impacts can be found not only in California, but also in other states. After Vermont implemented standardized solar permitting, permit times went from 45 days to 10 days.

Local zoning code exemptions and incentives for new buildings designed to accommodate storage: Ratepayers benefit when they are able to place a storage system on their property and acquire those systems at lower cost due to the ability to place storage systems at more desirable (less expensive) site locations. Solar has set an example by receiving numerous exemptions from local zoning requirements.

**4. Describe what quantitative or qualitative metrics or indicators would be used to evaluate the impacts of the proposed initiative:**

- a) Number of jurisdictions adopting a standard permitting form
- b) Drop in number of days to complete permitting process
- c) Estimate of reduced costs for standard, streamlined permitting
- d) State regulations passed that encourage AHJs to allow exemptions in setbacks, number of parking spaces, percentage of open space, etc. for energy storage projects
- e) Incentives for new buildings designed to accommodate storage

**5. Please provide a list of peer-reviewed references that support the responses for questions 3 and 4. Proposed initiatives that include peer-reviewed references will be given stronger consideration.**

While the following report focuses on solar, not storage, it is relevant in examining the cost of local regulations. Lawrence Berkeley National Lab, "How Much Do Local Regulations Matter?"

**6. (For technologies only) What competitive advantages does the proposed technology solution have over current benchmark technologies? If the technology is beyond the prototype stage, what strategies do you suggest to bring to scale?**

Streamlined and standardized permitting is a best practice and serves all parties.

**7. Category:** Accelerate Widespread Customer Adoption of DERs