

**DOCKETED**

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*Comment Received From: Daniel Jacobson  
Submitted On: 6/12/2020  
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## **Long Duration Storage**

*Additional submitted attachment is included below.*



## **Support for long duration energy storage research in the Distributed Energy Resources Research Roadmap**

Environment California is a statewide environmental group focused on clean air, clean water and protecting beautiful places. For the past 20 years we have worked to increase renewable energy in California. We worked with many on this Commission and others around the state to pass the first Renewable Portfolio Standard (RPS) in 2001 and we worked on the bills that increased the RPS from 20% to 33% to 50% and finally SB 100 to bring us to 100% clean/ carbon free energy by 2045.

A key part of the law is the need for the state agencies (CEC, CPUC, and CARB) to review the latest data on different types of clean energy and clean energy storage. Initial planning by the agencies, as presented in SB 100 workshops, suggests a continued reliance on existing natural gas plants, without carbon capture and sequestration, even out to 2045 and beyond.

The continued use of fossil fuels in our grid is a bad idea for three key reasons: First, air pollution. Many of the fossil fuel power plants will be spewing out toxic chemicals. As we have learned over the past 50 years air pollution impacts communities of color and low income communities at a disproportionately higher rate. We should not count on offsets to allow these power plants to continue. Second, global warming. If we are going to stave off the worst impacts of climate change, we need to take steps to reduce as much of our energy from fossil fuels as we can. The latest technology indicates that we can take those steps. Third, and finally is price. New data shows that the price of storage is coming down (quickly). We have seen this trend before (Million Solar Roofs). For these three reasons we should be moving away from fossil fuel power plants. There is no reason to wait until the deadline set in the law, 2045, to meet our 100% clean energy mandate.

Continued reliance on old fossil fueled plants indefinitely into the future is unnecessary, and is unlikely the lowest cost option to balance our increasingly renewable electricity grid. Indeed, a number of promising alternate and long duration energy storage technologies are emerging as viable candidates to store renewable power for days, weeks, or even months at a time, and to provide firm and dispatchable renewable power, in lieu of legacy natural gas plants.

Prevailing models used by the state do not include the range of long duration storage options that will be needed to achieve the goals of SB 100 in a manner that minimizes costs and emissions. The CEC should support necessary research and development to accurately characterize the cost and performance of a range of emerging long duration energy storage technologies, update the state's models accordingly, and to demonstrate a range of these technologies in both distributed and larger scale applications.

Many long duration energy storage technologies can also support distributed power solutions, to provide resiliency and local clean energy options in-line with the state's climate, energy and air quality goals. This is urgently needed, as increasing wildfire threats and public safety power shutoffs threaten to cut communities off from the power grid for days at a time.

The key to storage is making sure we are not storing energy while hurting the environment. While there is no "footprint" free source of energy, storing energy needs to benefit the environment for years to come.

This is why research from the CEC is so important and why we need to do it now. The information that you come out with can help utilities around the state move away from fossil fuel plants and toward cleaner forms of energy and storage.

Long duration energy storage is one of a few key missing pieces of the state's clean power portfolio, along with offshore wind and a broader diversity of renewable power supplies, and it should be one of the highest, near-term priorities for funding under the EPIC program. We hope the CEC will also prioritize support for demonstrations and pilot projects for utilizing long duration energy storage to help communities better integrate local renewable energy supplies and keep the lights on during multiday outages from wildfires or public safety power shutoffs.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Jacobson", followed by a vertical line.

Dan Jacobson  
Director  
Environment California