News Release

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California roadmap paves the way for energy storage technology

FOLSOM, Calif. – The California Independent System Operator (ISO), the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) unveiled a comprehensive roadmap to assess the current market environment and regulatory policies for connecting new energy storage technology to the state's power grid.

Storage technology is being hailed globally as the game-changer toward reliably managing low-carbon, greener electricity grids. California, a national leader in advancing energy storage, envisions this technology as a critical component in reducing global warming, improving air quality and promoting energy independence. The state currently has several pilot projects, and is working toward commercialization of energy storage.

"Advancing and Maximizing the Value of Energy Storage Technology – A California Roadmap," which can be found here on the ISO website, is the product of collaboration by the three organizations and input from more than 400 interested parties, including utilities, technology companies, generators and environmental groups.

"The roadmap is a foundation to integrate energy storage technologies that benefits grid reliability and consumers throughout the West," said ISO CEO Steve Berberich. "This document details specific actions needed to optimize this maturing technology."

California already established itself as an early advocate of energy storage technology when in 2013, the state mandated that investor-owned utilities reach a combined target of 1,325 megawatts of energy storage to be online by 2024.

"California has a number of policies and programs related to energy storage, and collaboration among the ISO, the Energy Commission and CPUC is essential as we move forward with large-scale energy storage procurement," said CPUC Commissioner Carla Peterman. "The roadmap represents an important interagency effort informing our next steps in meeting the 1.3 GW target and our broader energy goals."

"As we aim to further reduce greenhouse gas emissions and—by 2030—get 50 percent of our electricity from renewable sources, flexible resources like storage will be important to balance the electric system," said Energy Commission Chair Robert B. Weisenmiller. "The collaborative effort of this roadmap will help by identifying barriers to energy storage technologies so we can keep our electricity supplies safe, affordable and reliable."

The state has seen explosive growth in sustainable and renewable energy sources, particularly with solar rooftop installations more than doubling in recent years. But power from renewable sources, such as solar and wind power plants, is intermittent and its generation often doesn't conform to the instantaneous nature of electricity demand. Overgeneration – or too much generation at times when demand is low – creates instability in the marketplace and forces renewable energy to be underused.

One of the challenges of electricity for a large-scale grid is that the energy has to be used virtually at the instant it's generated. Since the discovery of electricity, inventors have looked for ways to store energy for use on demand. Technology to store energy is vital to optimizing the grid, increasing renewable energy sources and reducing greenhouse gas emissions.

Some of the technology being tested and marketed are batteries, flywheels, compressed air, thermal and pumped hydropower. Several utilities have made substantial investments in storage projects, and have signed contracts and announced they are looking for future commercial potential.

The top concerns of industry stakeholders are implementing a process for promoting existing products and driving new ones to market; understanding and addressing connection of storage devices to the grid; and reducing costs and setting up fee structures for the new technology.

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