

## News Release

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## California ISO outlines vision for energy storage in evolving grid Paper by California-Europe team highlights steps to commercial deployment

FOLSOM, Calif. – The California Independent System Operator (ISO) contributed to a major international report on the challenges and opportunities of energy storage in the shift to the clean power grid of the future.

The ISO collaborated with European counterparts to publish a comprehensive paper, released in November, on the barriers of deploying energy storage worldwide, and paths to create "adequate reward mechanisms" for commercial storage investments.

The discussion paper, titled "Energy Storage: Perspectives from California and Europe," was co-authored by the ISO and the Renewables Grid Initiative (RGI), a Germany-based coalition of environmental groups and transmission system operators from throughout Europe. RGI promotes transparent, environmentally sensitive grid development to enable the steady transition to renewable energy use.

The ISO has long viewed energy storage as one of the critical solutions to challenges presented by rising amounts of renewable resources in its energy mix. In the discussion paper, Steve Berberich, president and CEO of the ISO, highlighted the value of energy storage in the cleaner, more efficient power grid on the horizon.

"Economical grid-scale and distributed storage has the potential of completely transforming the electric industry," Berberich wrote in the report's foreword. "Planning processes, operations, markets and the role of utilities will all be impacted by large-scale deployment of storage."

The paper outlines the evolving trends of storage development in Europe, California and other parts of the US; summarizes the "game-changer" role of energy storage as grids transition to more sustainable, reliable and modernized systems; explains the different types of emerging technology and the status of commercialization; and describes strategies for storage asset operators to complement revenues from ancillary service markets for electricity grids.

In the report, the ISO pointed to several of its ongoing market and infrastructure policy initiatives to remove obstacles and boost operational value of storage resources in the wholesale energy markets, including regulation energy management to allow storage assets to participate fully in ISO markets; the <a href="Energy Storage">Energy Storage</a> and <a href="Distributed Energy">Distributed Energy</a>



<u>Resources</u> (ESDER) initiative designed to enhance accounting, visibility and control of energy storage; and <u>Storage as a Transmission Asset</u> (SATA), which will open the door for storage resources to provide transmission support.

The report also lays out recommendations for incentivizing storage development, including integrating essential ancillary grid services, such as voltage and frequency control and ramping capability, into storage deployment; matching technologies with local market dynamics; and combining solar photovoltaics with storage.

Visit the ISO's "Going Green" webpage to view the full report.

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The California ISO provides open and non-discriminatory access to one of the largest power grids in the world. The vast network of high-voltage transmission power lines is supported by a competitive energy market and comprehensive grid planning. Partnering with about a hundred clients, the nonprofit public benefit corporation is dedicated to the continual development and reliable operation of a modern grid that operates for the benefit of consumers. Recognizing the importance of the global climate challenge, the ISO is at the forefront of integrating renewable power and advanced technologies that will help meet a sustainable energy future efficiently and cleanly.