

Meeting California's decarbonisation and energy storage goals

Stabilising the grid in sunny Southern California

The Story

California is a leader in the United States' energy transition. As the state continues to increase its mix of renewable energy to meet aggressive emission reduction goals, energy storage has become increasingly important to stabilise its electric grid.

To supply essential grid reliability, Wärtsilä provided a 125-megawatt (MW) / 250-megawatt hour (MWh) energy storage system to REV Renewables, one of the largest owners of energy storage assets in the U.S. The project is located in Calexico, California, one of the largest solar transmission corridors in the Western Electricity Coordinating Council market.

Reaching energy storage goals in California

In 2022, the California Public Utilities Commission approved plans to add 15 GW of new energy storage and demand response resources by 2032 to ensure long-term reliability and meet the state's Renewables Portfolio Standard. Additionally, the Californian government has set goals to reduce greenhouse gas emissions by 40% by 2030 and reach net-zero by 2045. With the integration of Wärtsilä's energy storage system in Calexico, REV Renewables will provide resource adequacy obligations for utilities in the region and support various ancillary efforts for the California Independent System Operator (CAISO). The facility will reduce congestion on transmission lines moving between California and Mexico, enabling regional energy providers to add more flexible energy generation.

"We're pleased to be partnering with REV Renewables on a project which will be instrumental for the state's decarbonisation goals. Adding flexible generation such as energy storage to Southern California is significant as the area is important for stabilising the supply of electricity on transmission lines between Mexico and California. This facility will support the continued integration of renewable energy assets on California's electric grid."

Andrew Tang, Vice President of Energy Storage & Optimisation, Wärtsilä



Wärtsilä's solution

 Meet California's aggressive decarbonisation and energy storage goals

The challenge

- Maintain system frequency and fulfill resource adequacy obligations
- Relieve congestion on transmission lines moving between California and Mexico
- Wärtsilä's GridSolv Quantum energy storage system is the most innovative, safe and cost-effective offering on the market today
- Wärtsilä's GEMS Digital Energy Platform allows REV Renewables to remotely monitor, operate, identify and diagnose equipment with unrivaled safety, reliability and flexibility
- Wärtsilä's Service+ solution ensures that the facility performs optimally and on guaranteed levels

- Benefits
- Ensure grid reliability to clear transmission lines for additional renewable energy integration
- Decarbonise California's energy system, helping the state reach 15 GW of new energy storage and demand response resources by 2032 and achieve Renewables Portfolio Standard goals

Software-backed safety and service

The facility will include Wärtsilä's **GridSolv Quantum**, a fully integrated modular and compact energy storage system, as well as the **GEMS Digital Energy Platform**, Wärtsilä's sophisticated energy management system. Wärtsilä's GEMS will be a critical safety feature providing continuous monitoring to pinpoint and isolate any system malfunctions automatically.

It will be maintained and optimised with Wärtsilä's **Service+** solution, a suite of comprehensive lifecycle solutions including scheduled maintenance services and extended warranties.

A Clean California Energy Future

With California's aggressive decarbonisation targets, energy storage is more than necessary. In order to meet its 2045 goal of net-zero emissions, the state will need to deploy 40 GW of energy storage, according to a study by San Diego Gas & Electric (SDG&E).

Wärtsilä is committed to helping California meet its climate targets.

Related Resources

Wärtsilä has delivered a 125 MW / 250 MWh energy storage system to REV Renewables to support grid stability and meet decarbonisation goals in California **Site size:** 125 MW / 250 MWh

Site location: Calexico, California, USA

Application: Storage+

Scope of services:

Engineering, Procurement and Construction (EPC), Service+

Delivery: 2022



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