

Pumped energy storage is one of the most promising climate solutions in California because it helps maximize the use of environmentally friendly power sources.

These facilities store excess renewable energy from solar and wind by pumping water in a closed-loop system to an upper reservoir when energy is abundant. When energy demand is high, the stored water is released downhill to turn turbines that produce energy.

PROJECT OVERVIEW

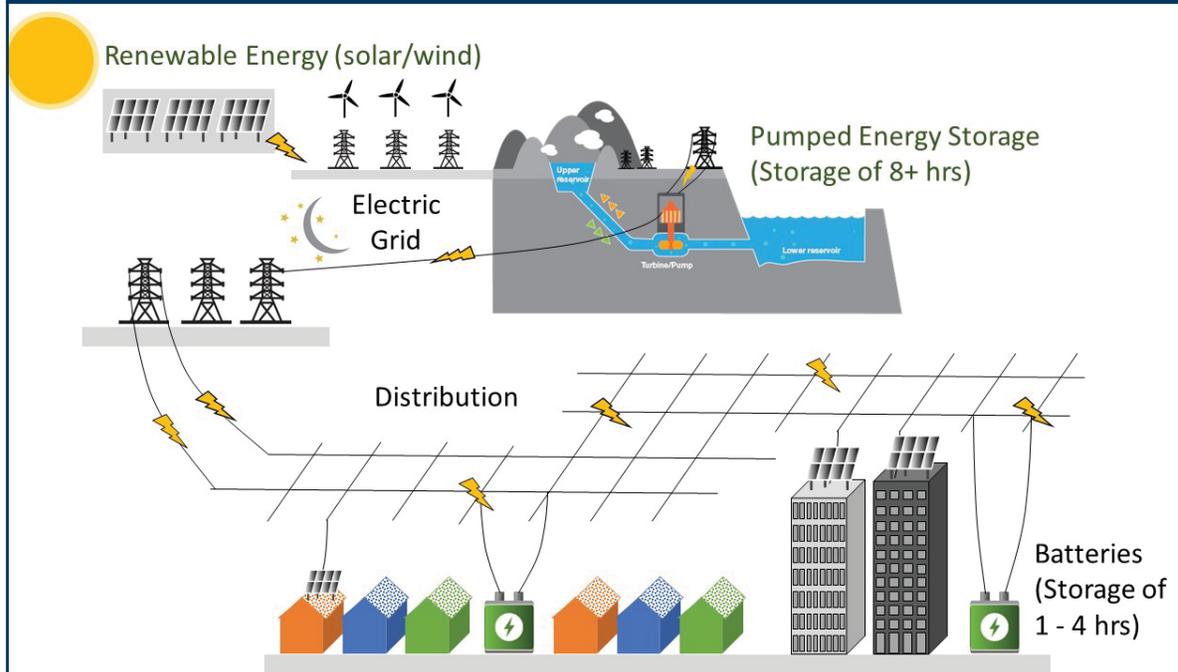
The San Diego County Water Authority (Water Authority) and City of San Diego (City) are evaluating the feasibility of developing a pumped storage energy project at the City of San Diego's San Vicente Reservoir near Lakeside. It would store 4,000 megawatt-hours per day of energy (up to 500 megawatts of capacity for eight to twelve hours), enough energy for about 135,000 households.

The Water Authority, which owns approximately two-thirds of the reservoir's water storage capacity, is partnering with the City on this potential project. In July 2021, the State of California invested \$18 million to support initial project design, environmental reviews, and the federal licensing process.

Those complex pre-construction components are expected to take at least seven years. If approved and built, the proposed project would be online in the early 2030s and support the State of California's renewable energy goals.

The proposed project would involve creating an upper reservoir above San Vicente Reservoir, along with a tunnel system and an underground powerhouse to connect the two waterbodies. The powerhouse would contain reversible pump turbines that both push water uphill and create electricity. The exchange between the two reservoirs would not consume water.

ENERGY STORAGE PROCESS



ESTIMATED TIMELINE

- 2022-2023**
Environmental Technical Studies and Data Collection
- 2024-2025**
Preliminary Project Design and Engineering
- 2025**
FERC License Application Preparation
- 2026**
Scoping/ Notice of Preparation/ Draft License Application
- 2026**
Final License Application Submittal
- 2026-2027**
Draft EIR/EIS
Stable Project Description
- 2027-2028**
NEPA/CEQA Public Review Period
- 2028**
Final EIR/EIS Project Approval
- 2028-2029**
FERC Issues License Order
- 2028-2029**
Permitting
- 2030-2035**
Construction



WATER AUTHORITY AND CITY OF SAN DIEGO PARTNERSHIP

San Vicente Dam and Reservoir are owned and operated by the City. The Water Authority completed raising the San Vicente Dam in 2014, and now owns 157,000 acre-feet of storage capacity in the expanded reservoir. That project created the largest single increase of water storage capacity in county history. It also was a cornerstone of the Water Authority’s Emergency & Carryover Storage Project, designed to provide water for the region in case of an earthquake, drought or other emergency that reduces imported water supply deliveries.

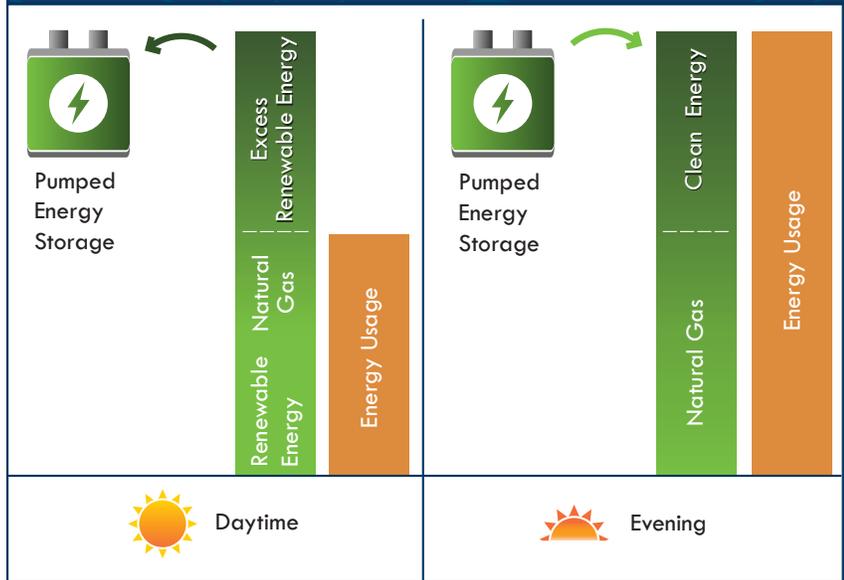
These public agencies are evaluating the feasibility of the proposed San Vicente Energy Storage Facility to help meet clean energy goals. San Vicente Reservoir is near major electricity transmission interconnection facilities, which would allow the proposed project to play a central role in integrating solar and wind energy from across the Southwest.

MAKING THE PROPOSED SAN VICENTE PROJECT A REALITY

The proposed San Vicente Energy Storage Facility project would be designed to draw on the strengths of the public and private sectors working together. The public agencies would ensure that San Vicente Reservoir serves its primary mission – supplying clean and reliable water – and if the project is approved the Water Authority and City would receive revenues from the proposed project to help offset the cost of water services for the region.

In 2023, the Water Authority continued feasibility studies, data collection, preliminary design, and environmental review necessary to obtain state and federal regulatory permits and licenses needed to move the project forward.

PUMPED ENERGY STORAGE FACILITIES SERVE AS GIANT BATTERIES



Pumped energy storage projects work like giant batteries by storing excess renewable energy during the day, when renewable power production peaks. Energy is released from the “battery” in the evening, when energy usage increases and renewable energy is not available.

ENERGY STORAGE BENEFITS

- **Helping balance the energy grid and enhance system reliability by storing energy during low-use periods**
- **Producing energy on demand, especially during high-use periods**
- **Storing surplus renewable wind and solar energy that would otherwise be lost during times of low-energy use**
- **Generating additional revenue to offset water agency costs and help stabilize water rates**

