



The California State Water Project: Forefront of Water-Energy Nexus

Water Supplier – Energy Consumer – Electricity Producer

The State Water Project (SWP) delivers an average of 2.6 million acre-feet of water annually which supplies 25 million families and businesses and 750,000 acres of agriculture with water. Moving vast amounts of water requires a significant amount of energy and the SWP is a large consumer of electricity in the state.

SWP Produces and Uses Clean, Renewable Energy

- On average, nearly 60% of the energy used by the SWP comes from carbon-free hydropower.
- Flexible hydroelectric generation is key to California successfully integrating renewable power into the resource fleet.

SWP Provides Increased Energy Reliability

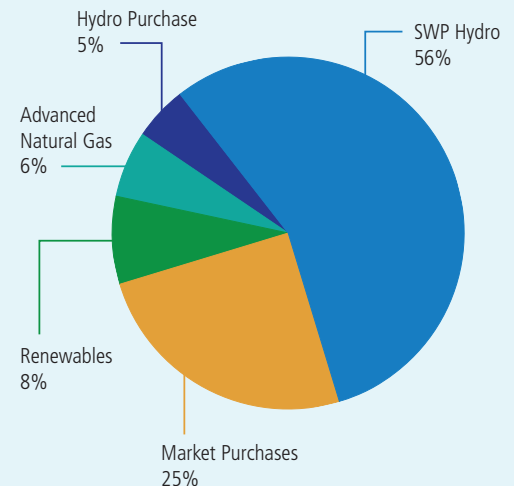
- On-peak electricity generation and off-peak consumption by the SWP reduces costs and increases overall reliability for the grid.
- The SWP is relied on to avoid cascading and costly blackouts throughout the Western United States. The September 8, 2011 blackout that affected 2 million Californians is estimated to have cost \$100 million.
- California imports 25% of its power. The SWP helps maintain transmission capacity to the Northwest where power is cheaper. Loss of transmission capacity is estimated to cost California consumers \$75 million in 2015 and increases to \$180 million in 2023.

SWP Provides Effective Demand Response

- The SWP is the single largest source of demand response, allowing CAISO to turn off the equivalent of 1/3 of Sacramento if there is an emergency. It would cost approximately \$50 million per year to obtain a replacement.

The State Water Contractors is a non-profit association of 27 public agencies from Northern, Central and Southern California that purchase water under contract from the California State Water Project. www.swc.org

Projected SWP Resources for 2020 to meet 7750 GWh Pumping Load



Water or environmental mandates such as delta flow criteria that limit hydropower production or place restrictions on the SWP have unintended consequences:

1. Decrease energy reliability
2. Reduce CA's options for integrating renewables
3. Increase the cost of meeting RPS requirements
4. Increase the electricity sector GHG emissions by 2%
5. Cost \$360 million per year to remain carbon neutral
6. Result in higher water costs impacting businesses, residents and farmers throughout the state