STATE WATER PROJECT:
AT THE FOREFRONT OF CALIFORNIA'S EFFORTS TO FIGHT CLIMATE CHANGE

The State Water Project (SWP) is the largest state-run multipurpose water and power system in the nation.

The SWP not only delivers reliable water supplies to millions of customers throughout the state, but since its construction it has also been:

- A major **source of grid reliability** and
- **Provided economic benefit** to the California power grid.

This energy system support function has become increasingly important as California moves rapidly toward a clean energy future, and now the SWP is at the forefront of our state's efforts to address climate change.

KEY CONTRIBUTIONS TO A CARBON FREE FUTURE

SWP is both a major producer and consumer of GHG free power – it has the lowest emission footprint of all the major utilities in the state and will remain so into the foreseeable future. The SWP:

- Produces about 14% of the state's hydroelectricity.
- Self-generates, on average, 70% of its own energy needs with GHG emission-free power.

In less than 30 years, DWR has already reduced annual GHG emissions by more than **1 million metric tons**, the equivalent of taking **200,000** cars off the road.

The SWP's emission reduction activities have been celebrated:

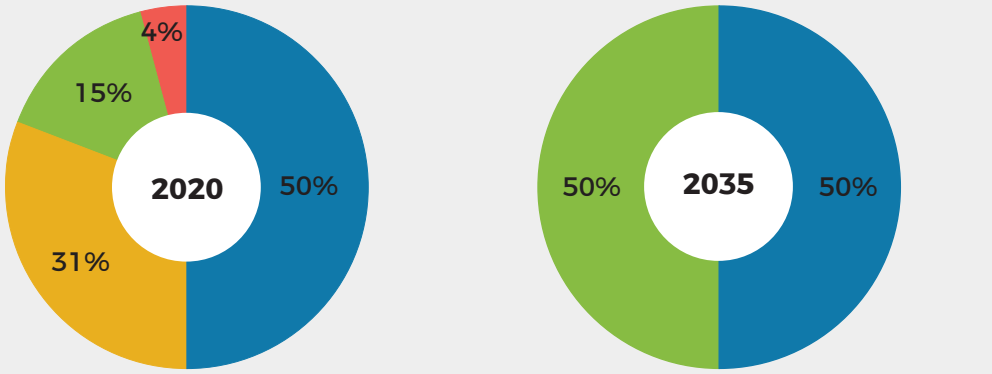
- For the third time in four years, DWR won a Climate Leadership Award recognizing its voluntary action to reduce GHGs and combat climate change.
- The latest award was presented in Spring 2018 by the Center for Climate and Energy Solutions (C2ES), The Climate Registry (TCR), and Bloomberg Philanthropies.

THE SWP IS GETTING GREENER

The DWR Climate Action Plan serves as the blueprint for how the SWP will make substantial additional reductions in its GHG footprint in the near-term (present to 2020), and how it will continue to reduce emissions beyond 2020 to achieve its long-term (2050) GHG emission reduction goals.

- DWR is analyzing what further operational changes, capital investments or system retrofits may be possible for the SWP to help address California's changing water and energy needs.
- Additionally, DWR has committed to designing the future Delta Conveyance infrastructure to be carbon free.
- The SWC supported SB 49 (Skinner, 2019), which resulted in a study by the Natural Resources Agency, in collaboration with the CEC and DWR, of the opportunities and constraints related to the SWP and its potential contributions to achieving the state's climate goals.
- These studies will help inform the work by CARB, CEC and CPUC to develop an SB 100 (DeLeon, 2018) roadmap – charting a comprehensive course to a carbon-free grid by 2045.

STATE WATER PROJECT POWER PORTFOLIO



PROVIDING GRID SUPPORT AND INTEGRATING RENEWABLES

California's dramatic increase in solar and wind generation and complex GHG reduction policies are creating new and growing challenges for the state's grid operator and electric utilities. Through several ways, the SWP provides increasingly critical flexibility to the grid:

- SWP has historically provided significant support to the CA electricity grid and is playing an increasingly essential role in helping to **integrate weather-dependent renewable resources**.
- SWP offers **demand response** through the Participating Load Agreement, which allows CAISO to interrupt and curtail the SWP's power load, or dispatch SWP power generation assets when those actions may be needed to relieve system emergencies or ensure reliability across the grid.
- SWP **load and generation** shaping helps consume solar generation when it is available midday, and generates zero-emissions hydropower during super peak hours which displaces fossil fuel generation—these activities minimize net energy costs and lower overall grid emissions.

ADAPTING TO CLIMATE CHANGE

State Water Contractor agencies are paying billions of dollars to prepare California's water system for the future:

- Investments in water conservation.
- Modernizing water infrastructure through updated storage and delivery systems.
- Hardening facilities against wildfires, mudslides, earthquakes, more intense storms, and other increasing climate-related threats.
- Investments in energy infrastructure including new solar projects and new transmission facilities to help connect renewables to the statewide energy grid.

Overcoming Challenges that Limit SWP Energy Capabilities:

Water and environmental mandates can limit hydropower production or place restrictions on the SWP. Understanding the unintended consequences for energy policy and making key modifications will better position the SWP to go even further in:

Increasing energy reliability

Integrating renewables

Decreasing clean energy costs

Reducing water supply costs

Reducing GHG emissions