

# CCWA Presentation September 28, 2023

- **Jonathan Young, Energy Manager**
- **[jyoung@swc.org](mailto:jyoung@swc.org) | (279) 999-6020**



# Overview

SWP energy profile / energy generation in California

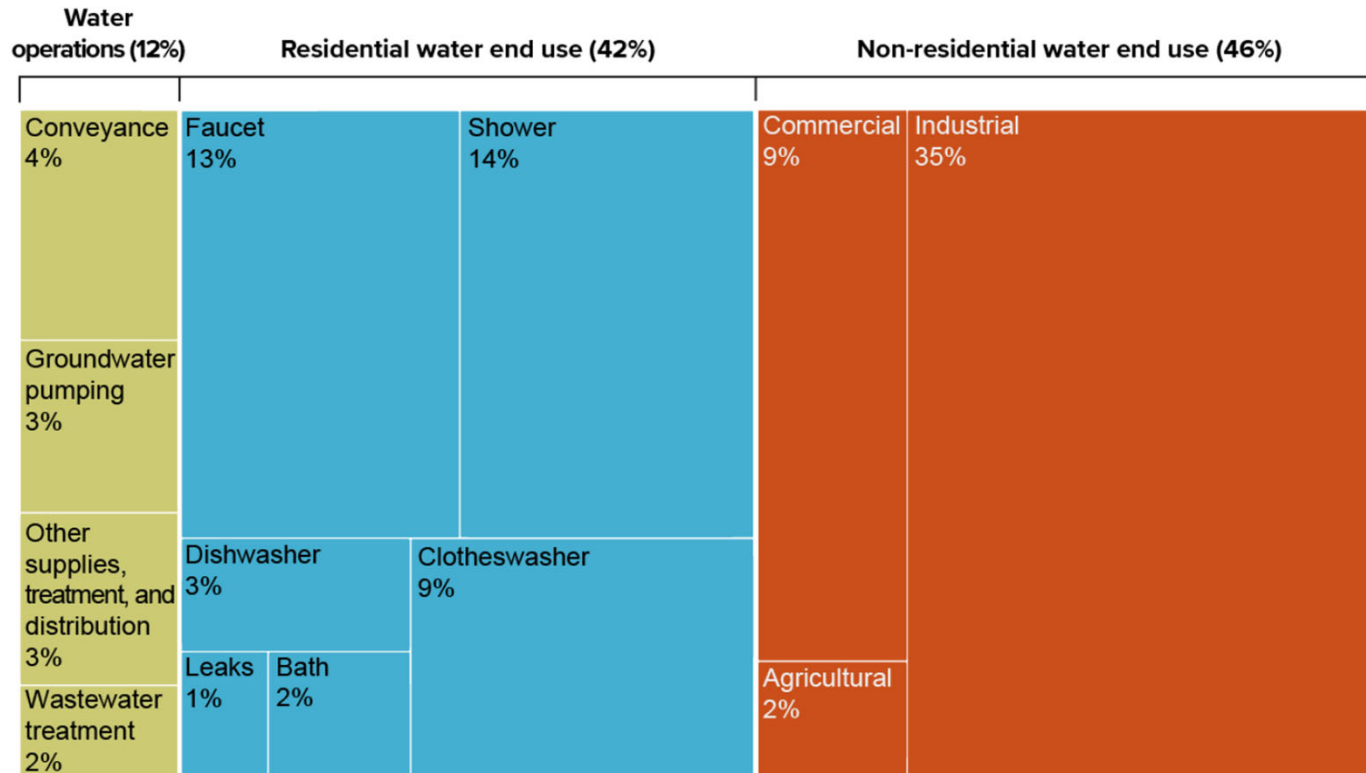
Energy prices and policies

SWP Energy Roadmap



# Water sector energy use by category

Most energy use by California's water sector occurs in homes and businesses





# SWP Energy Profile

Single largest user of energy in California - equivalent to SMUD which serves approximately 1.5 million people

Produces 14% of the state's hydroelectricity

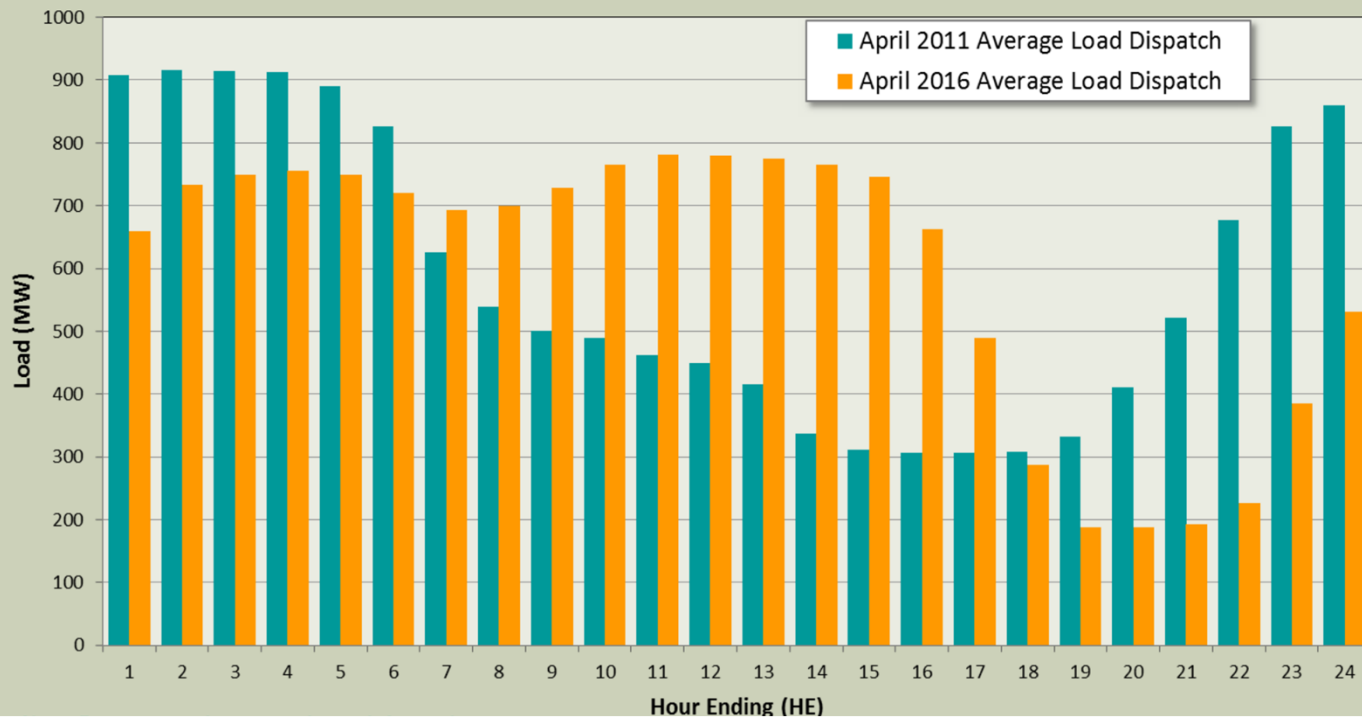
~70% of SWP load is met with renewable resources

Annual energy costs range between ~\$250 million and \$600 million

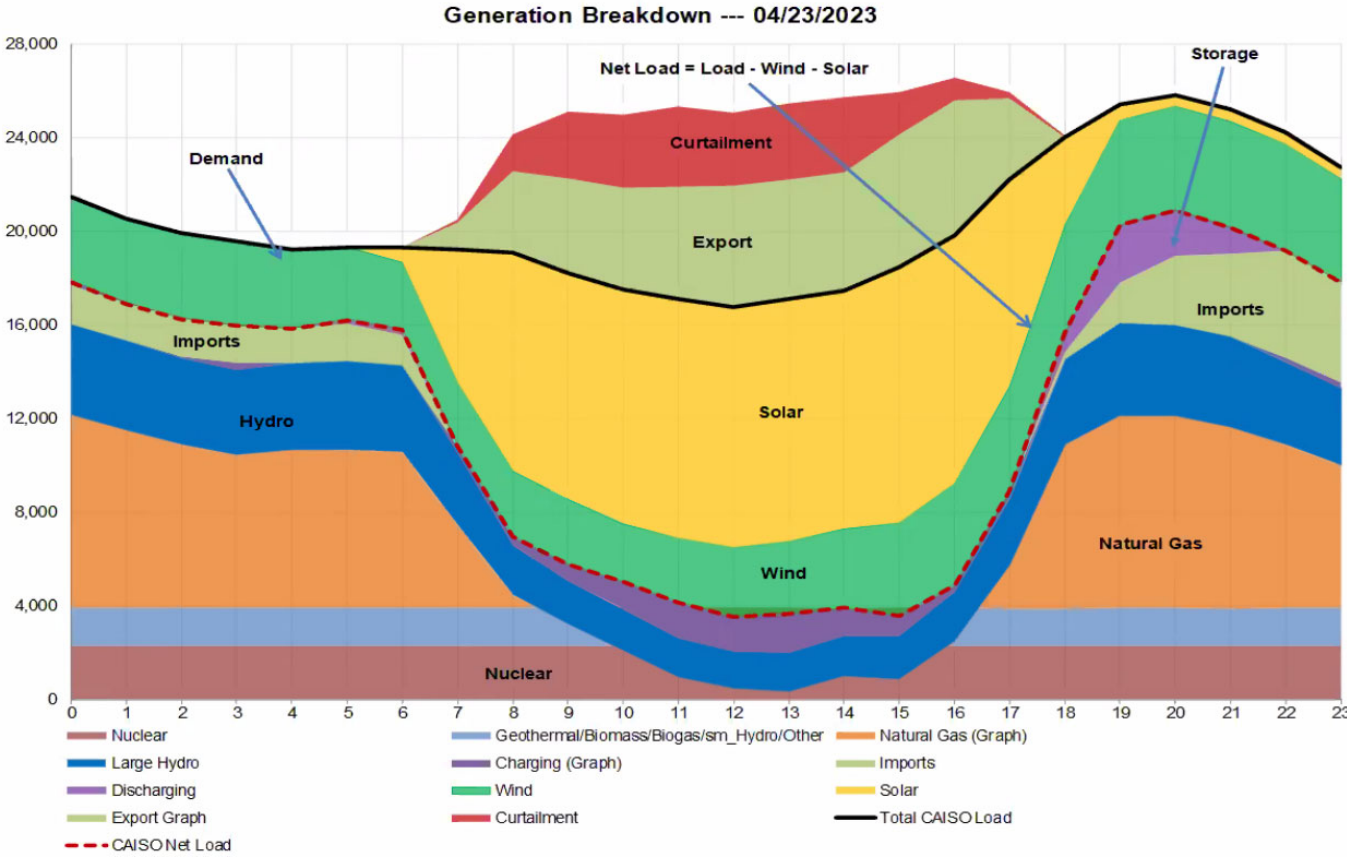


# SWP LOAD SHIFTING TO SOLAR HOURS (ANNUAL)

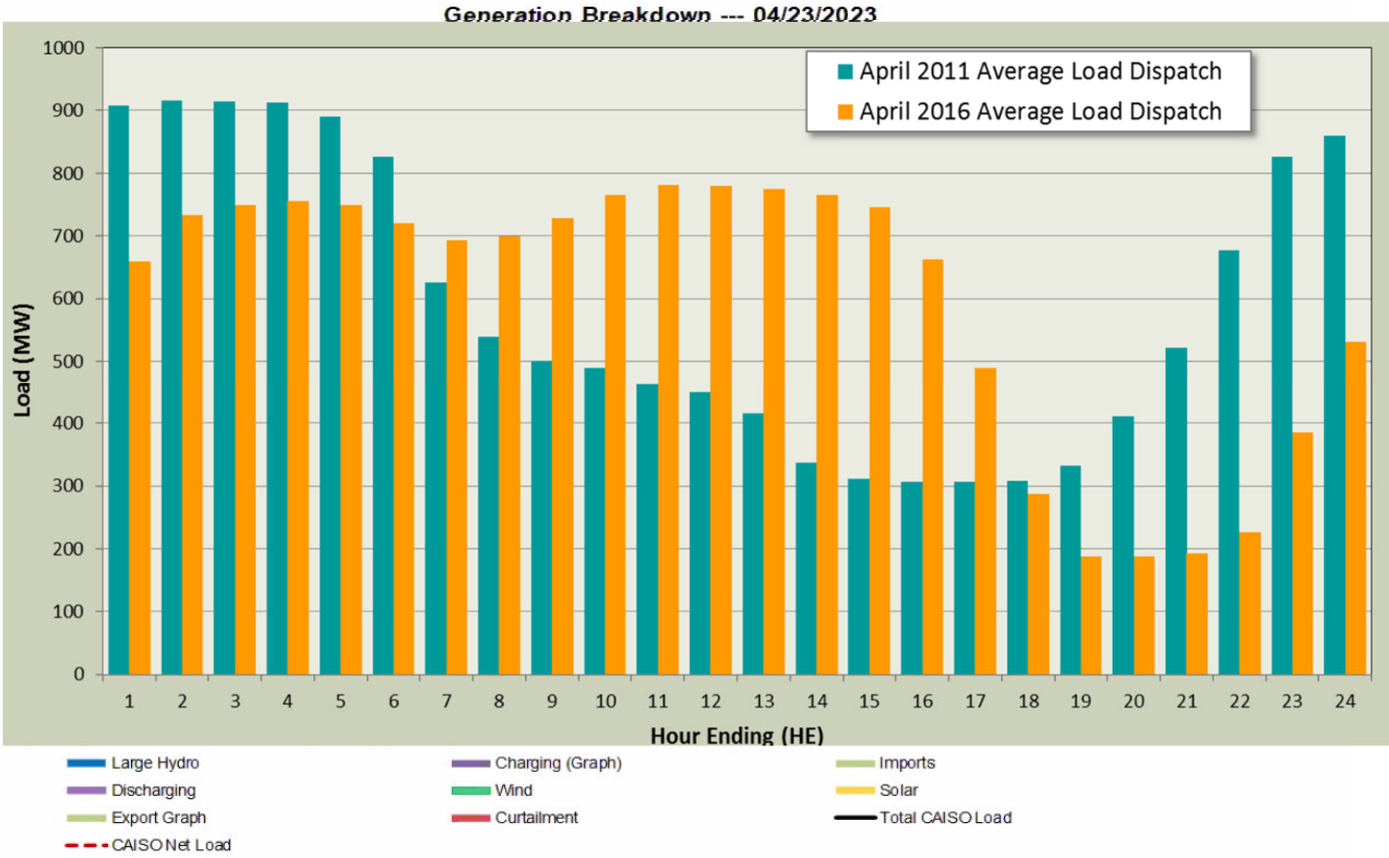
Edmonston and Valley String Actual Load Dispatch



# CAISO Market Generation Spring 2023



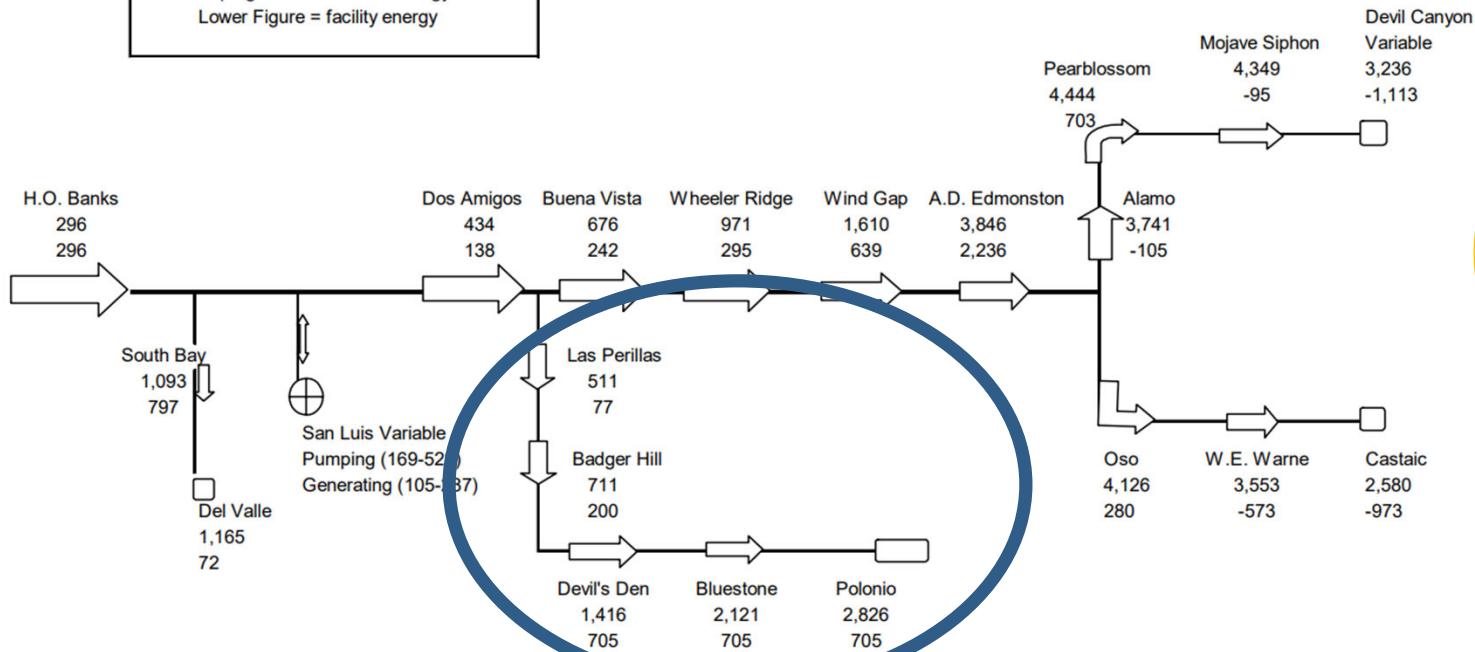
# CAISO Market Generation Spring 2023





# SWP energy use per unit of water

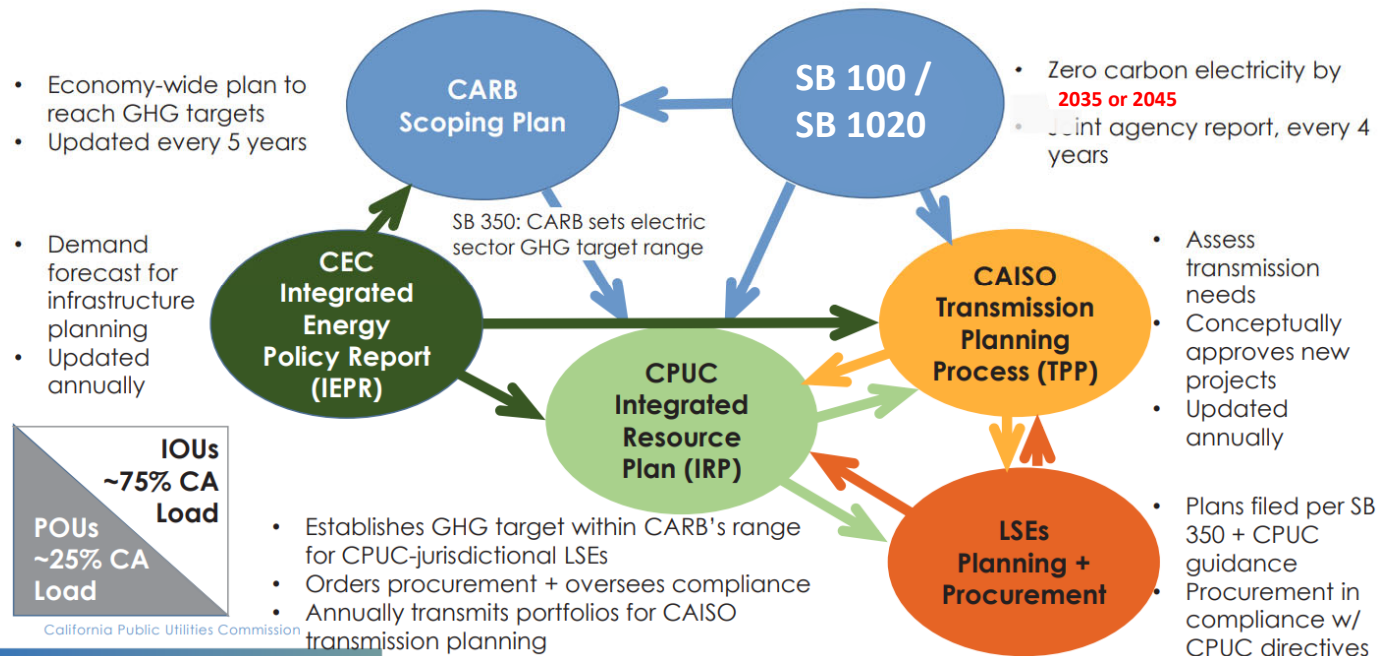
All figures: kWh/AF  
 Top figure = cumulative energy  
 Lower Figure = facility energy



Source: Dr. Robert Wilkinson, PhD, University of California, Santa Barbara, based on DWR data.

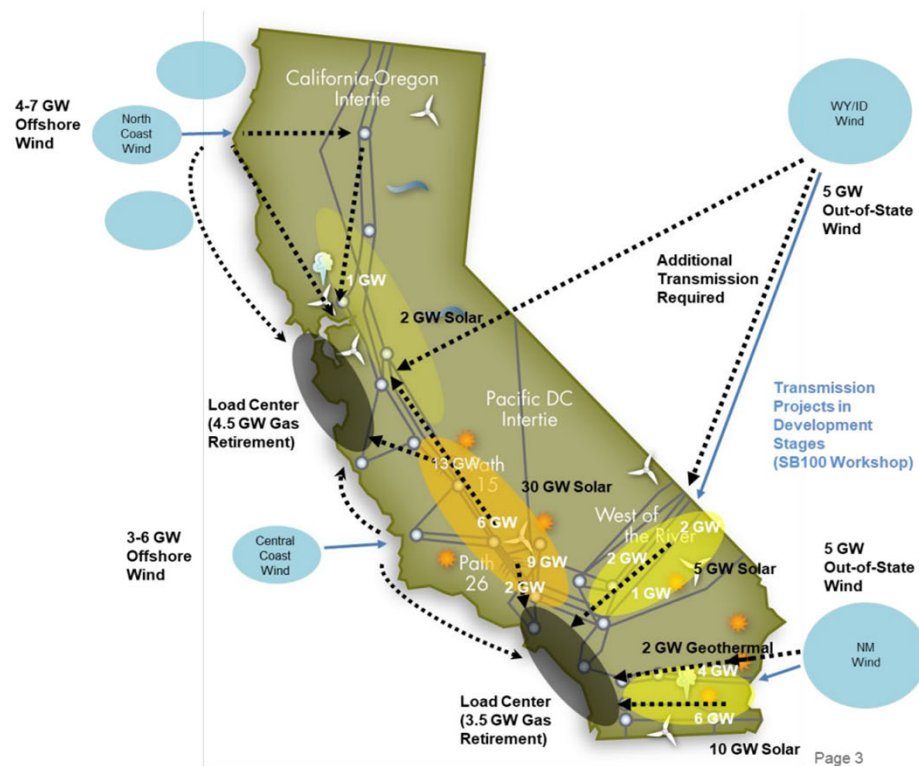
# California's Clean Energy Policies

## California's Electricity Planning Ecosystem

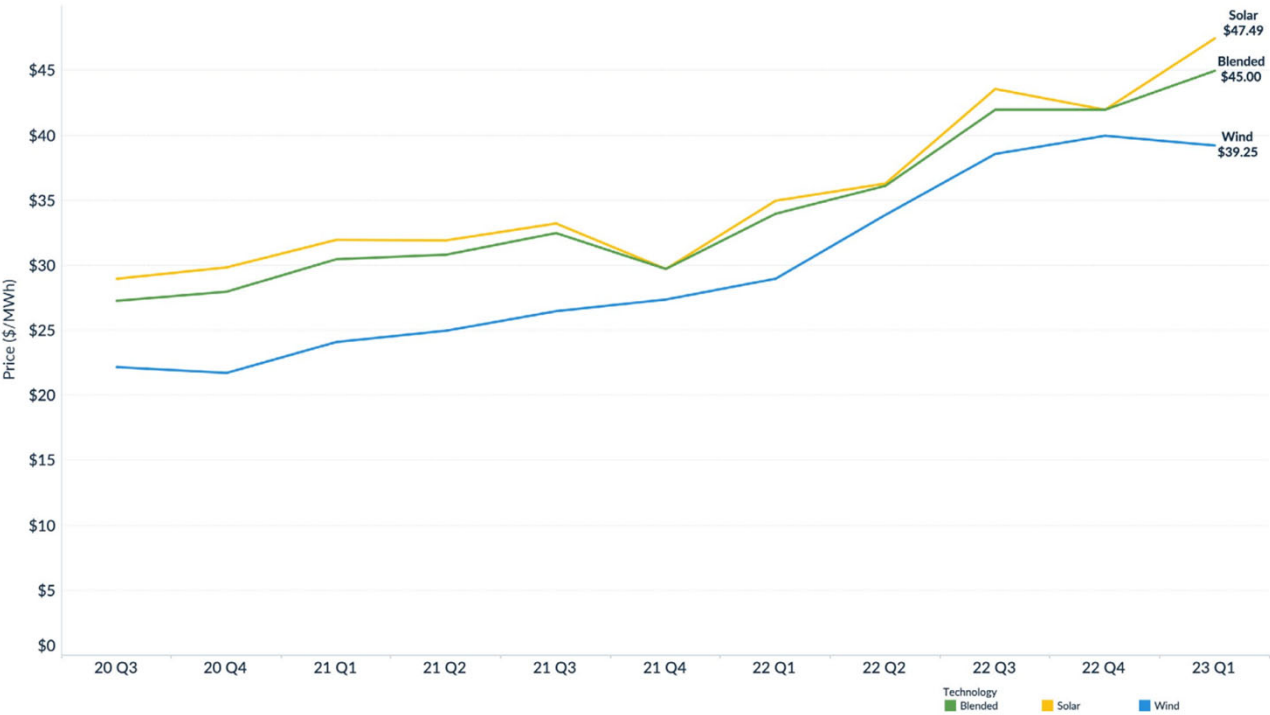


# CAISO's Proposed \$30 Billion Transmission Buildout

ES-1: Illustrative Diagram of Transmission Development

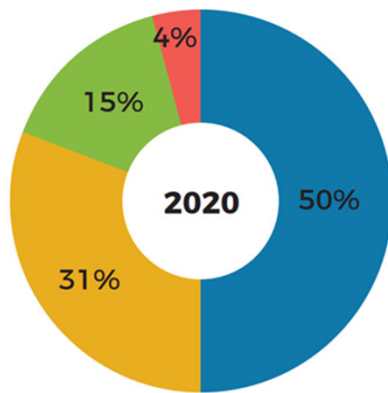


# Solar / Wind Price Trends

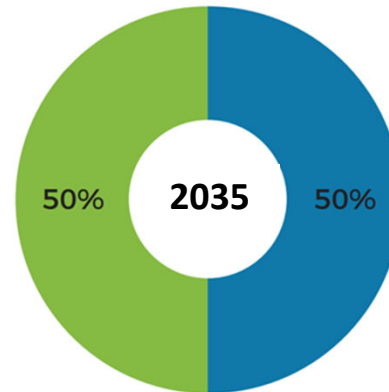


# California's Clean Energy Policies

## STATE WATER PROJECT POWER PORTFOLIO



65% emissions free resources

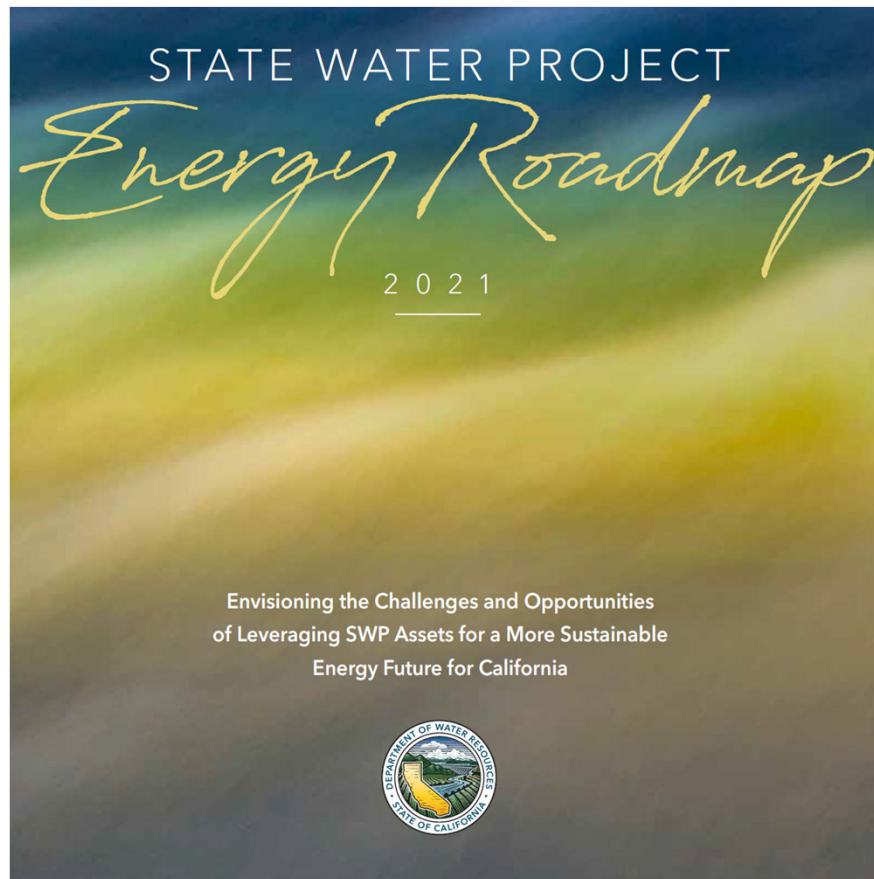


100% emissions free resources

■ Large Hydro   ■ Market Purchases   ■ Contracted Renewables   ■ Fossil Fuels



# DWR / SWC Energy Roadmap



# Why do we need the Energy Roadmap?

Variability of SWP Pump Load

California clean energy policies

Changing resource mix

Rising energy costs

Ensure DWR / SWC are on the same page



# Core Values

Ensure a reliable State Water Project - No impacts to water deliveries

Build on successful past collaborative efforts

Clear responsibilities and authorities

Leverage expertise

Transparency

Cost effective power portfolio





# What have we done so far?

Continue work on SB 49 / Flexible Resources Study

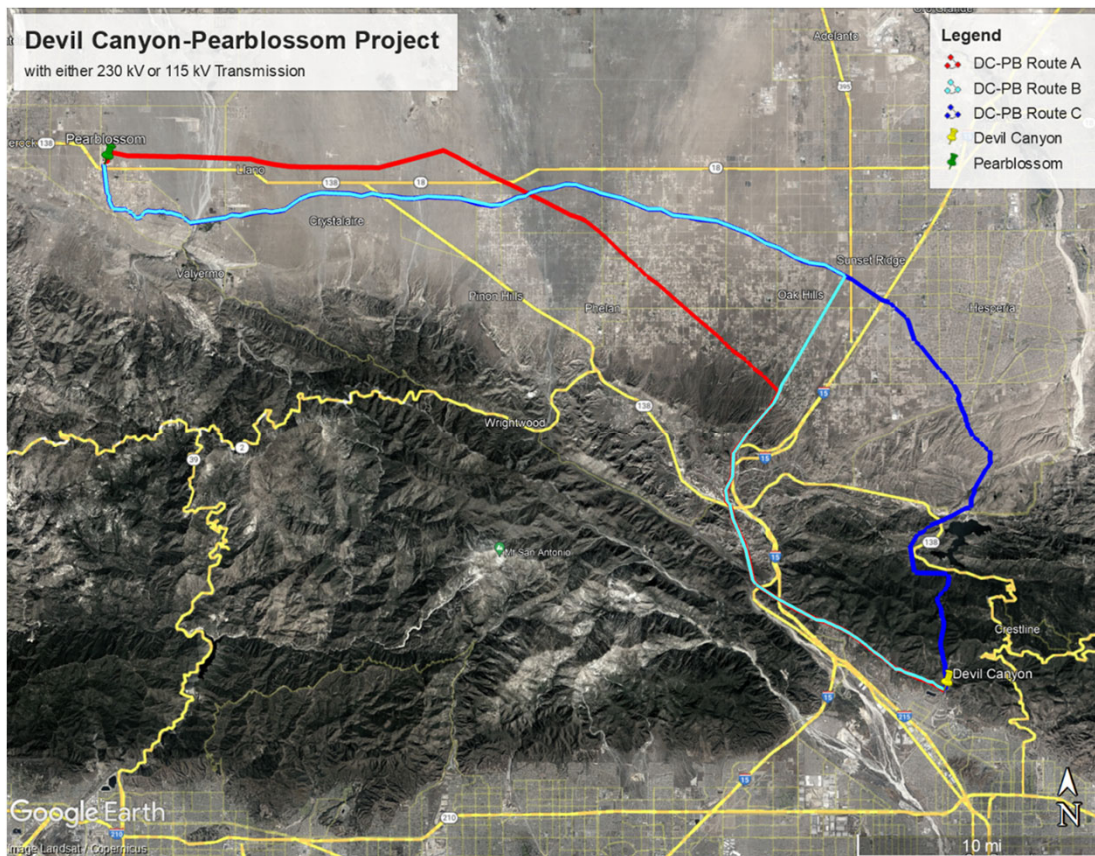
Identify threats to current and future operations of the SWP

Seek State / Federal Funding

Partner with DWR to discuss water demand flexibility



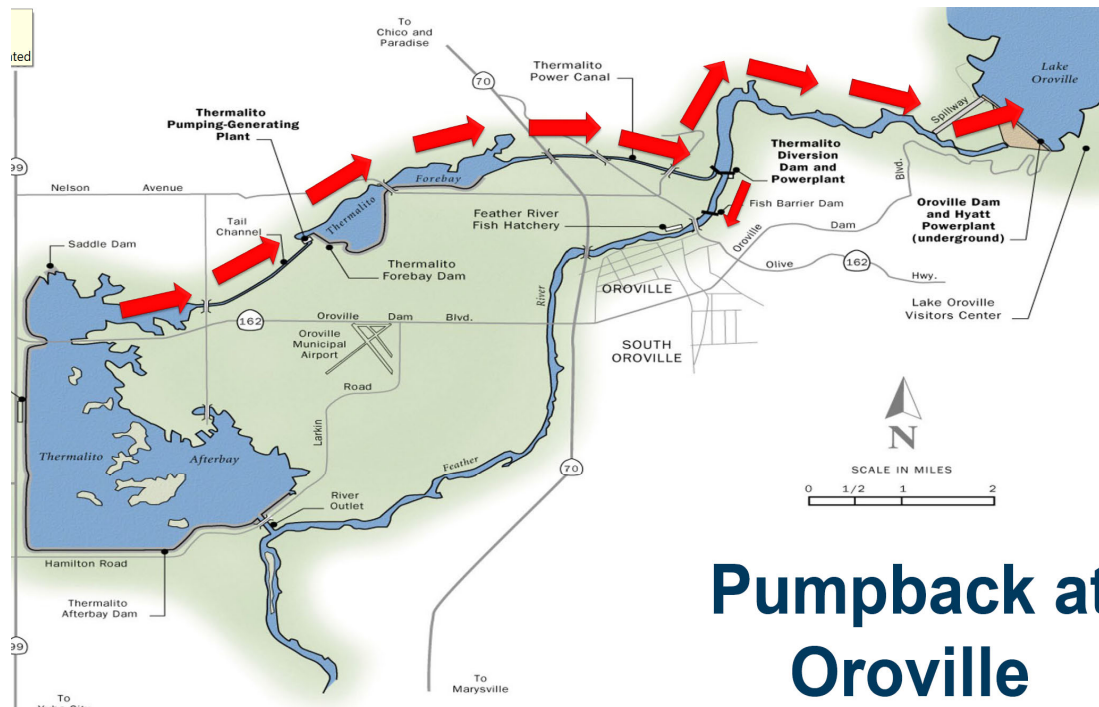
# Alterations to existing SWP facilities



# Funding for pumpback operations at Oroville



# Funding for pumpback operations at Oroville



## Pumpback at Oroville



# SB 1020 - Clean Energy, Jobs, and Affordability Act of 2022 Introduced

## State Water Project:

Meet 100% of load with clean energy by 2030

New clean energy resources

In California

In front of the meter and dispatchable by CAISO

Maximize long-term employment, new economic activity, generate local and state tax revenues, and assist with the development of new industries.

**\$2.6  
Billion**



## DWR:

100% clean energy for state agencies by 2030

Procuring agent for all state agencies

Allow utilities to subscribe to projects

# SB 1020 - Clean Energy, Jobs, and Affordability Act of 2022 **Chaptered**

## State Water Project:

Meet 100% of load with clean energy by ~~2030~~ 2035

New clean energy resources

~~In California~~

~~In front of the meter and dispatchable by CAISO~~

Maximize long-term employment, new economic activity, generate local and state tax revenues, and assist with the development of new industries.

**Force Majeure Provision**

**Early Termination of Existing Resources to 2040**

**DWR:**

~~100% clean energy for state agencies by 2030~~

~~Procuring agent for all state agencies~~

~~Allow utilities to subscribe to projects~~

**\$1.2  
Billion**



Questions?

