Hydropower Resources Bay-Delta Plan (Phase 2)

Presentation to State Water Resources Control Board

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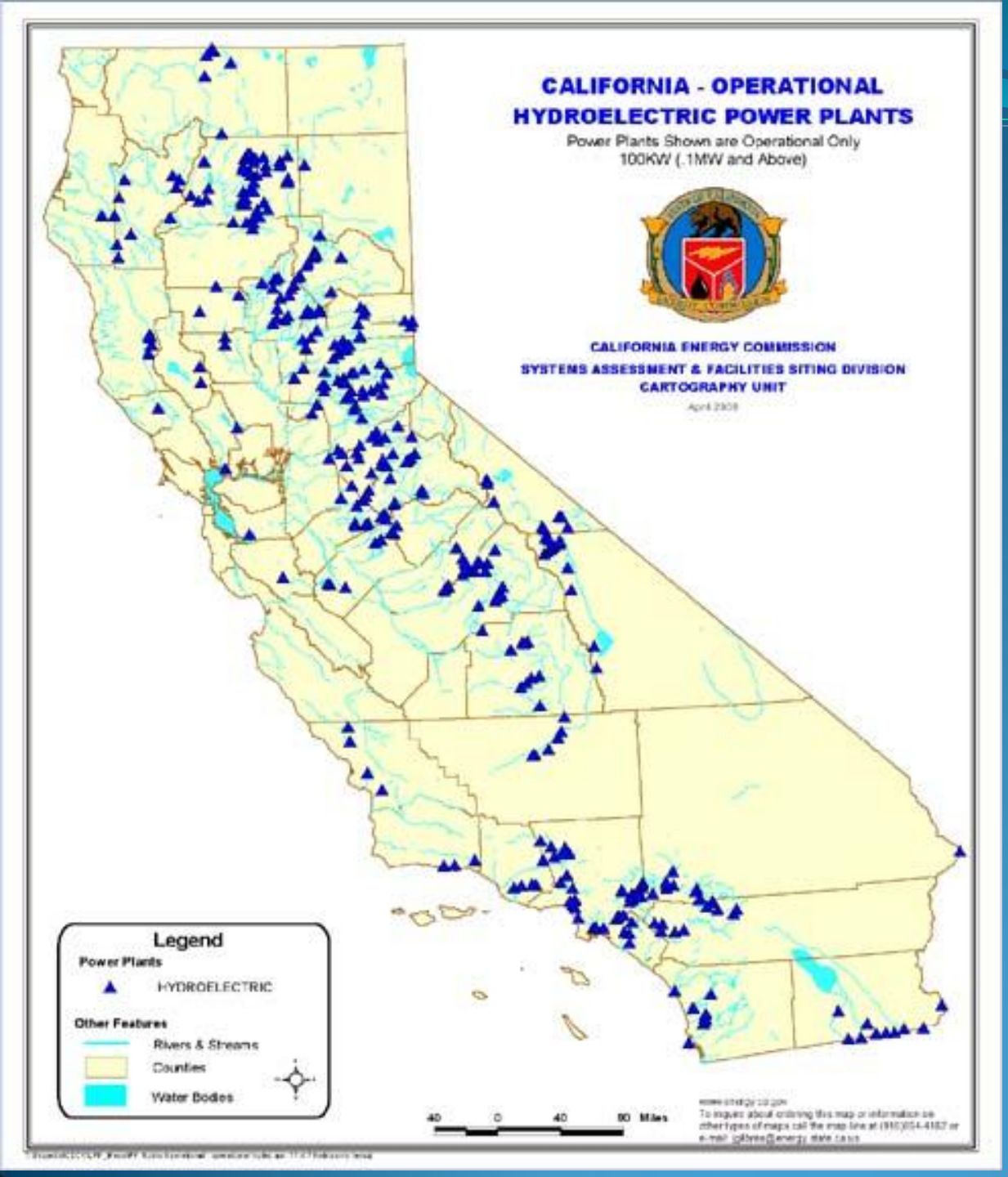


400 Hydro plants

13,057 (MW) of Installed Capacity

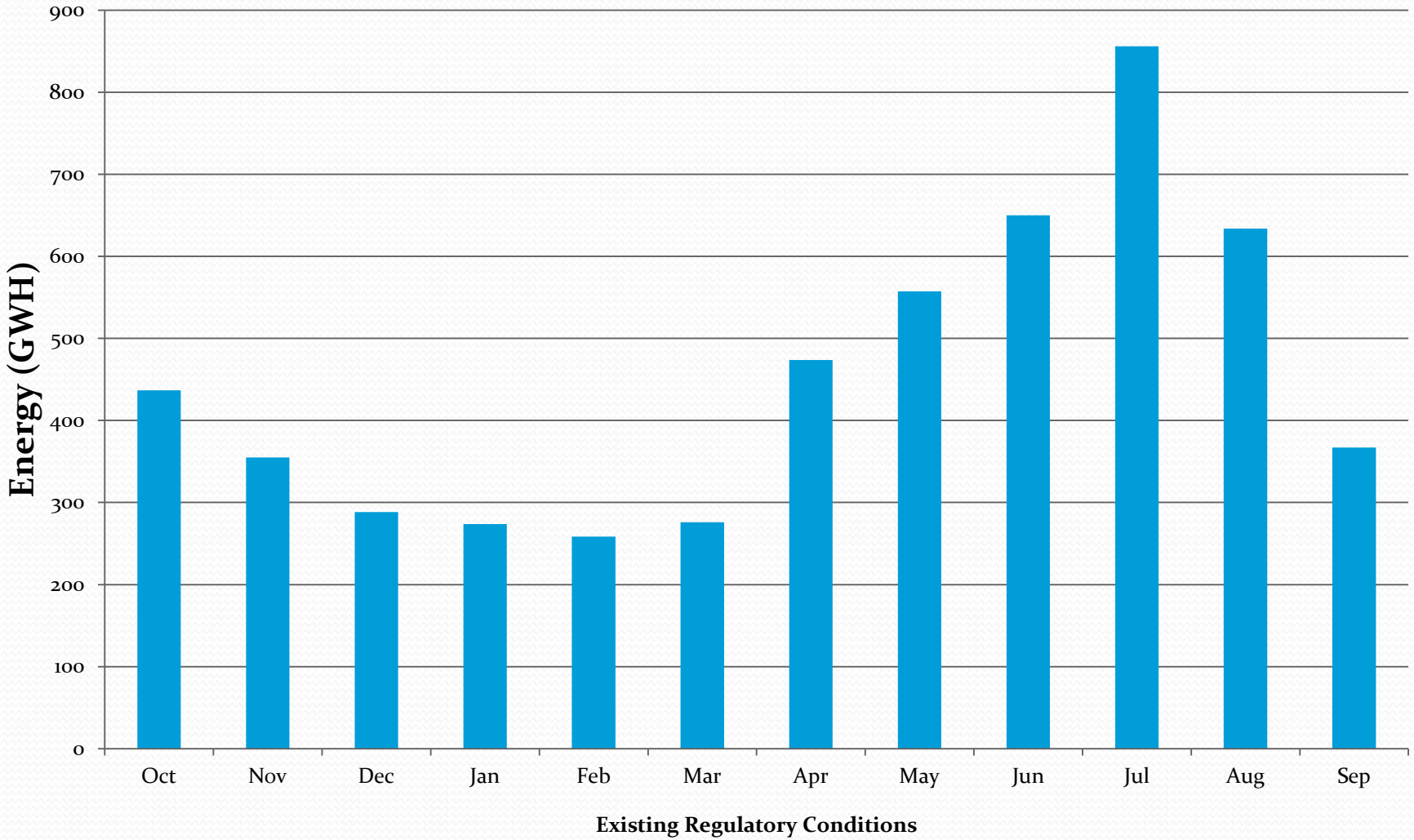
14.5% of State's Total Power System

SWP/CVP 30% of Hydropower Installed Capacity

Hydropower Provides Peak Summer Load

- Can meet up to 45 percent of Northern California's summer peak load.
- CA sees greatest energy demand in June, July, August, and September.
- Hot summer days energy demand can be 85% to 90% greater in the late afternoon than the morning.

Critical Year CVP/SWP Hydropower (GWH)



Additional Benefits of Hydropower

- Carbon free source of energy– using hydropower avoids over 29 million metric tons of carbon emissions each year
- Most economical source of power available
- Essential for grid operations support with dispatchable loads/generation
- Contributes to ancillary services, such as voltage regulation
- Hydropower's flexibility is crucial for the development and integration of future renewable energy sources

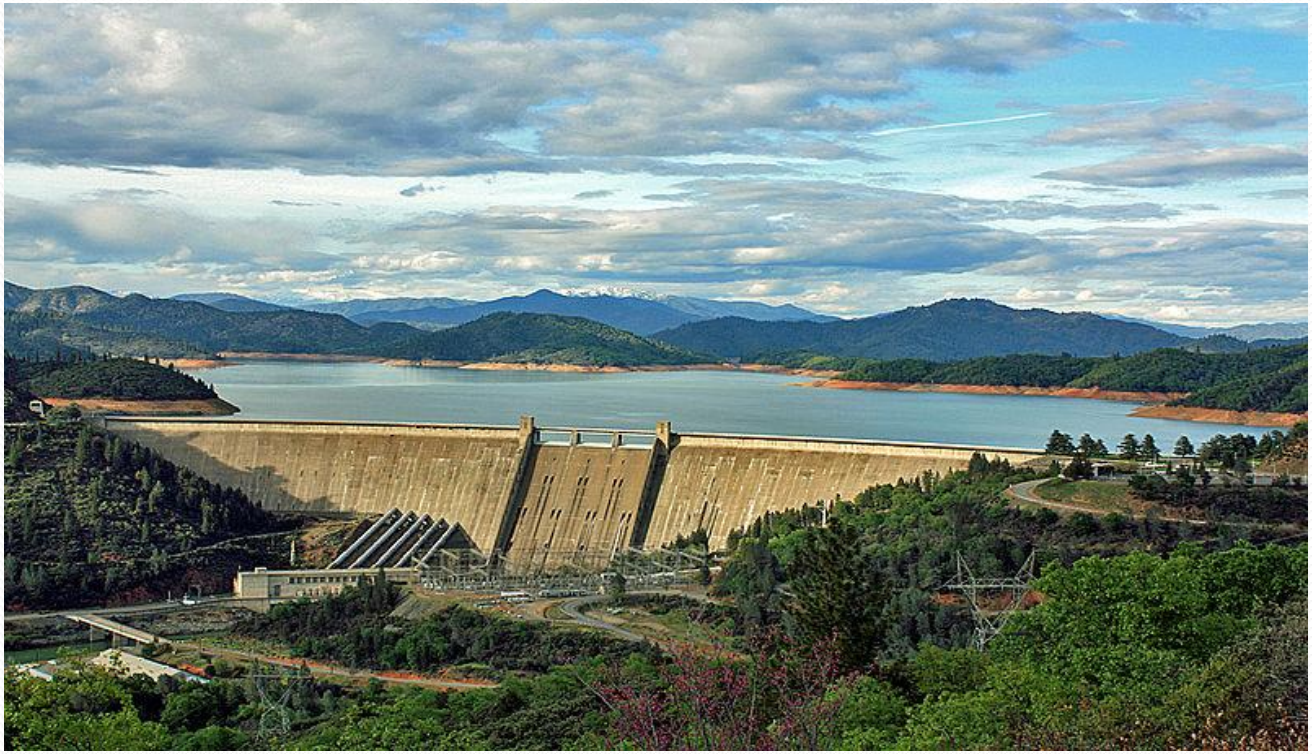
State Water Project

Maximum Operation Capability: 1,750 megawatts (MW)

Oroville Dam

Central Valley Project

Maximum Operation Capability: 2,100 megawatts (MW)



Shasta Dam

Full Energy Assessment Needed

- Impacts on California's hydropower generation
- Impacts on ability to meet peak loads
- Impacts on CA electricity system, including loss of dispatchability, effect on reliability, transmission, and ancillary services
- Impacts of options to replace lost hydropower, including system impacts, costs
- Impacts on environment, including restoration activities
- Impacts on carbon reduction goals
- Impacts on ability to integrate 33% or more renewables into the grid

Full Energy Assessment Needed

- Well-known, accepted, electricity system models for CA and Western Region
- Used by energy agencies, utilities and other stakeholders to do ongoing integrated resource planning
- Will assess electricity system impacts, costs, environmental and carbon impacts and evaluate options
- Will need assumptions and inputs from CA water system models
- Propose a joint water-energy modeling effort

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