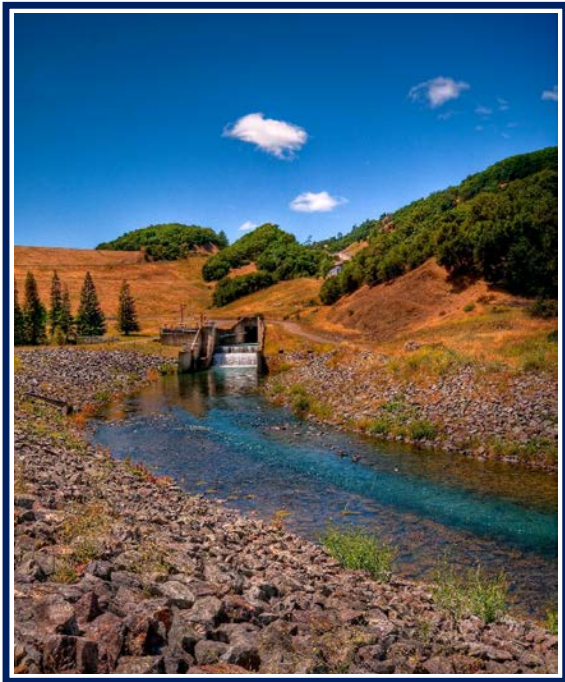


Sonoma County Water Agency

UC Davis Energy Affiliates Forum



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About the Sonoma County Water Agency

Core Business Functions:

- Wholesale water supplier to over 600,000 people - Sonoma & Marin Counties
- Flood Control
- Sanitation
- Power Generation/Renewable Energy Development



Energy Policy

- Progressive Climate Goals
- Diverse Energy Resources
- Energy Hog
- Carbon Footprint Power Heavy
- Energy Policy Watershed Based
 - Carbon Free Water 2015
 - Cost Effectively
 - Regional Collaboration on Energy Projects



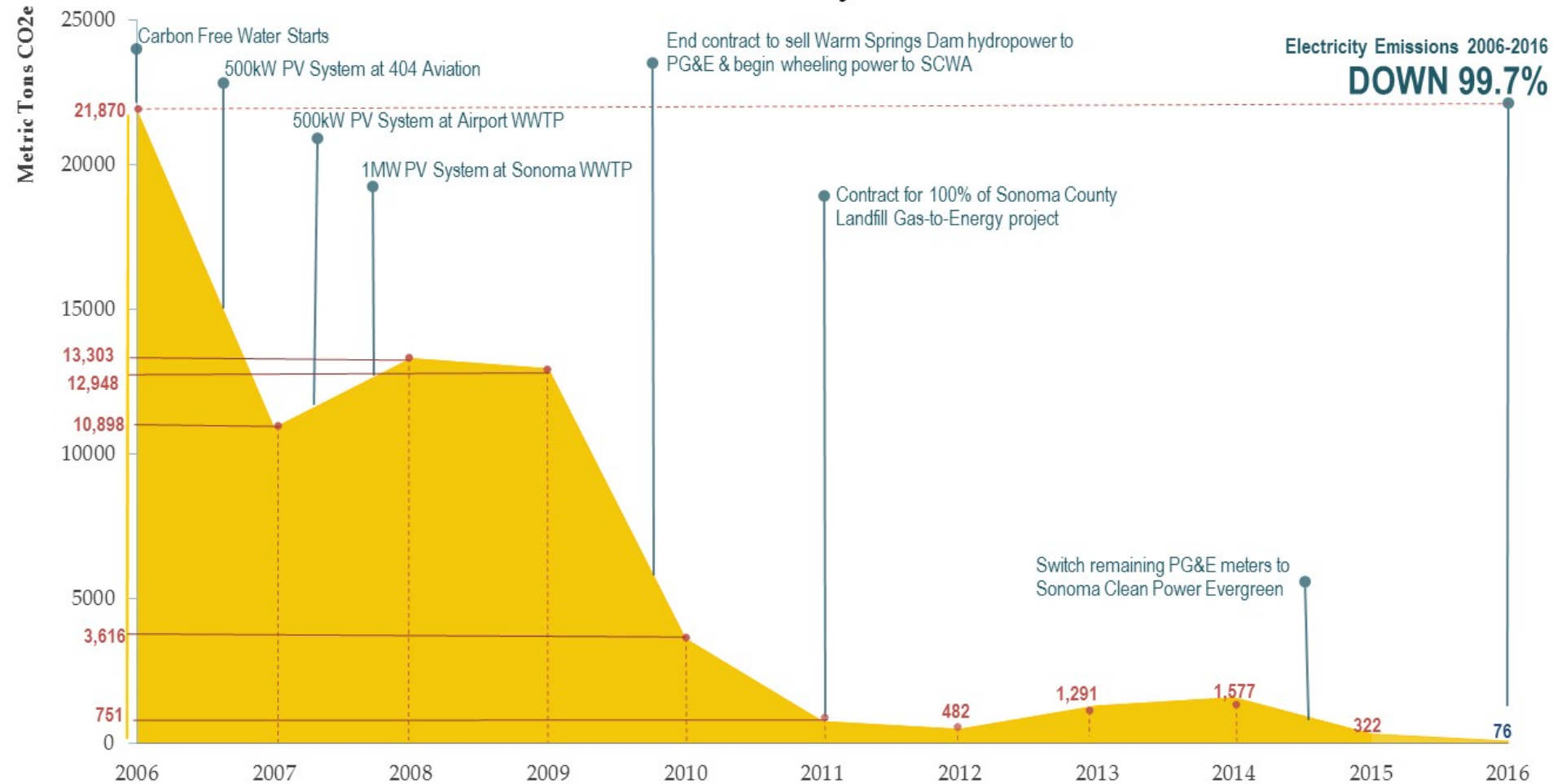
Energy Policy

- Carbon Free Water
 - Water use efficiency How much to pump
 - System efficiency How to pump
 - Use renewable energy How to power pumping
- Projects of Regional Benefit



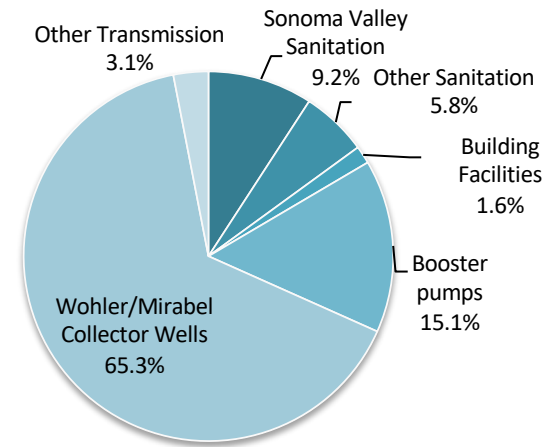
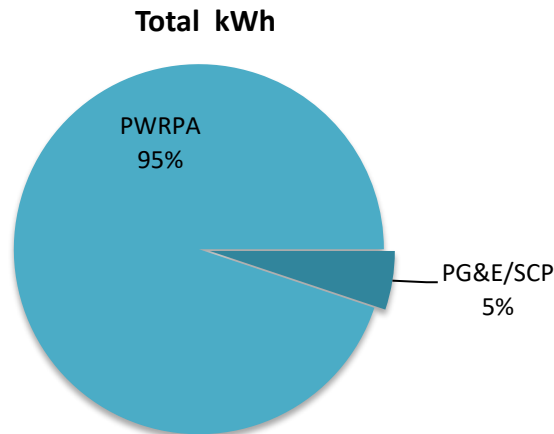
Historical Electricity Emissions

Historical Electricity Emissions



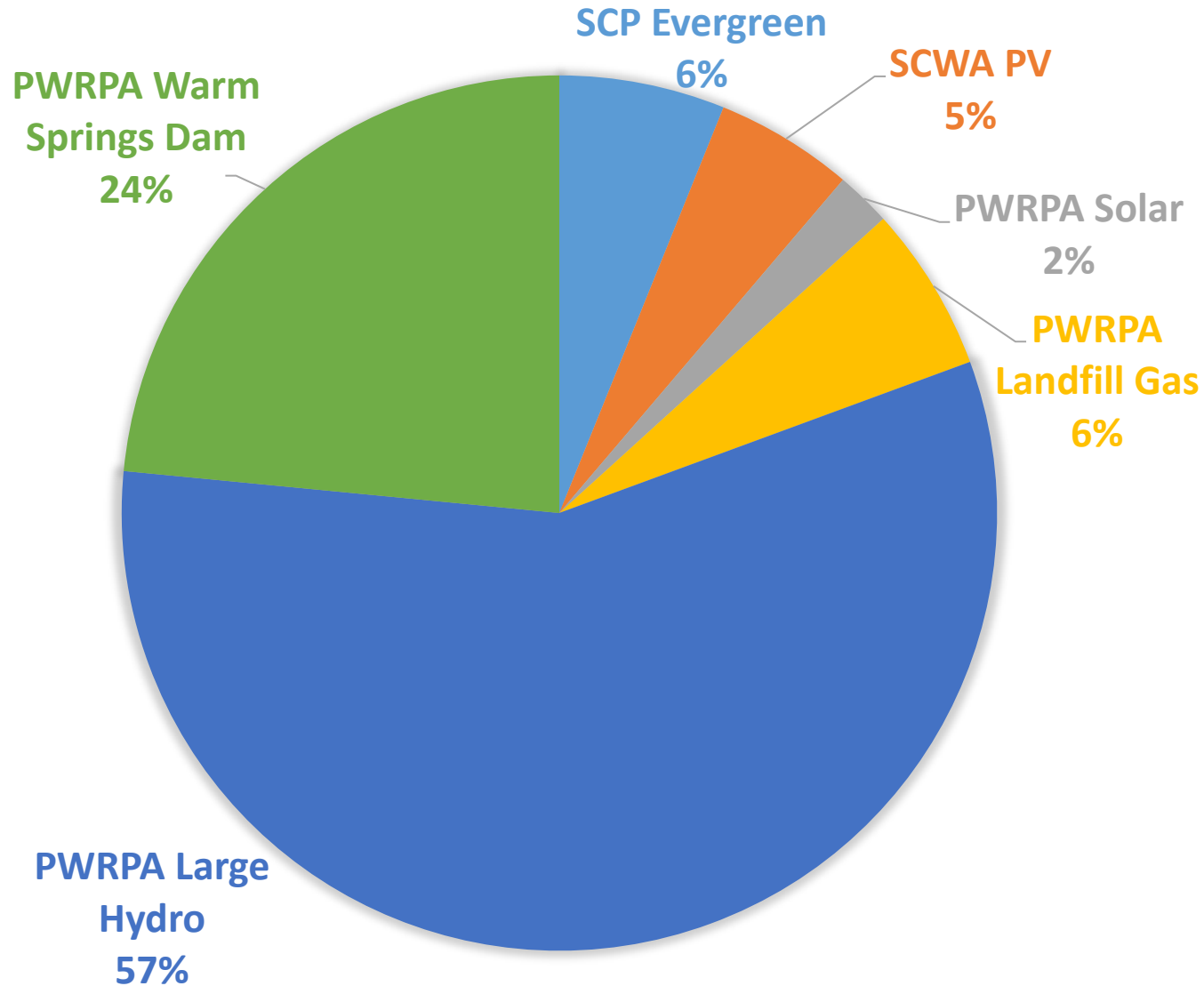
Purchased Electricity

- Power and Water Resources Pooling Authority: 95%
- PG&E/SCP: 5%



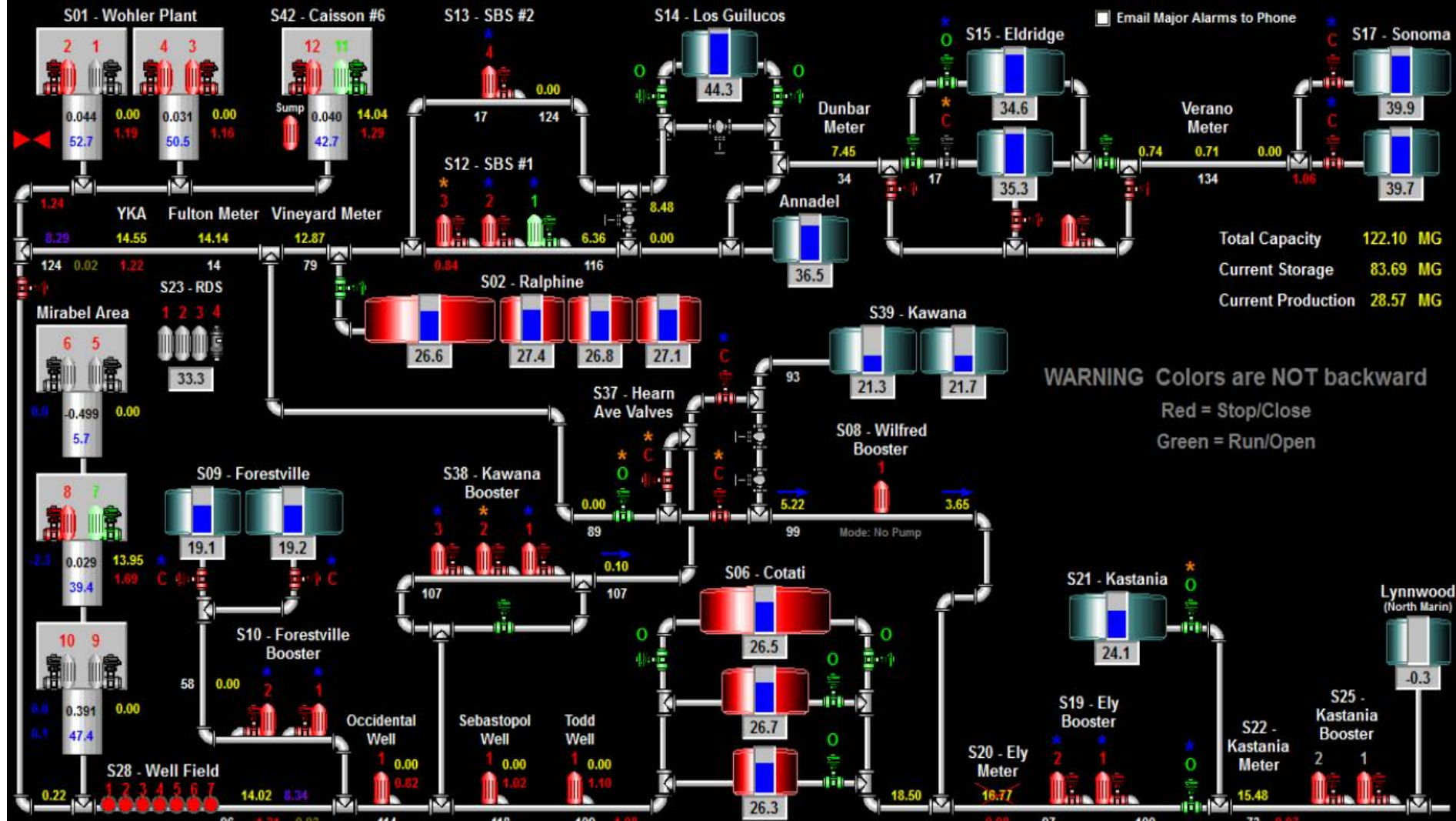
**PWRPA has allowed us to control our own power sources, AND
saves over 15% on power costs**

2016 Power Content

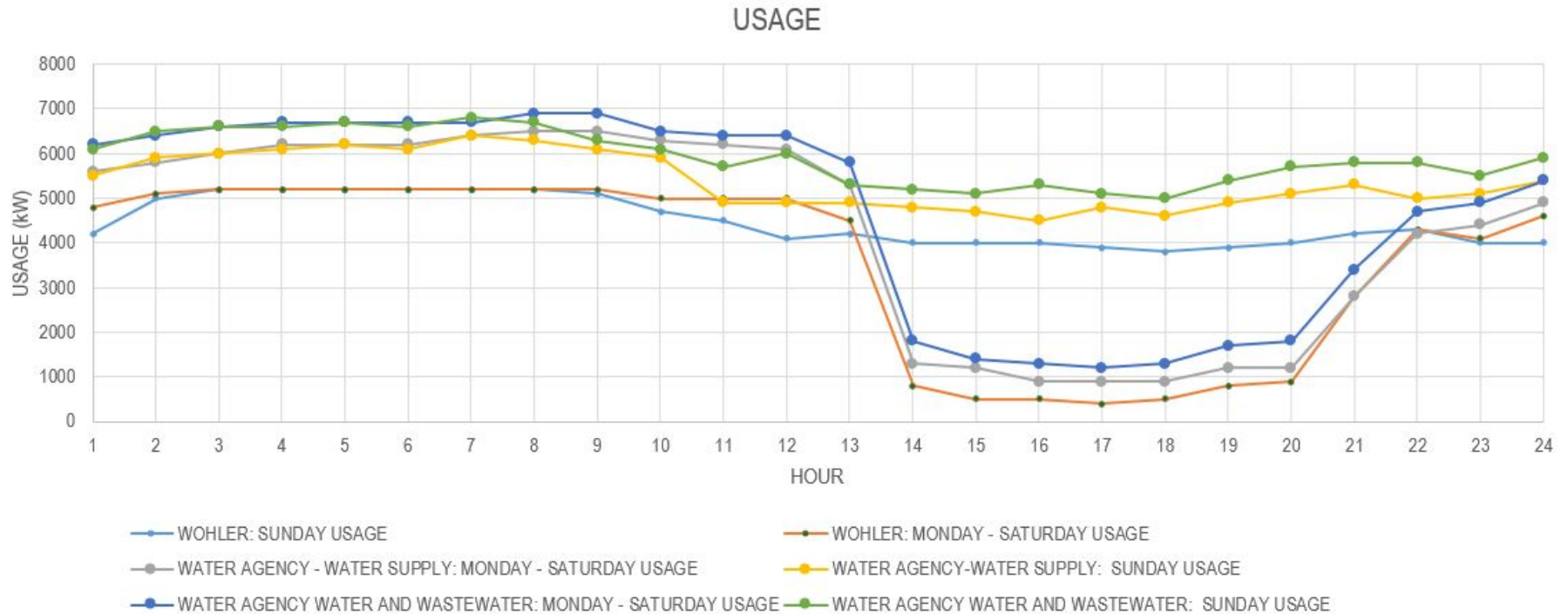


Load Shifting and Energy Storage

Water System Overview 2018-04-12 16:40



Load Shifting and Energy Storage

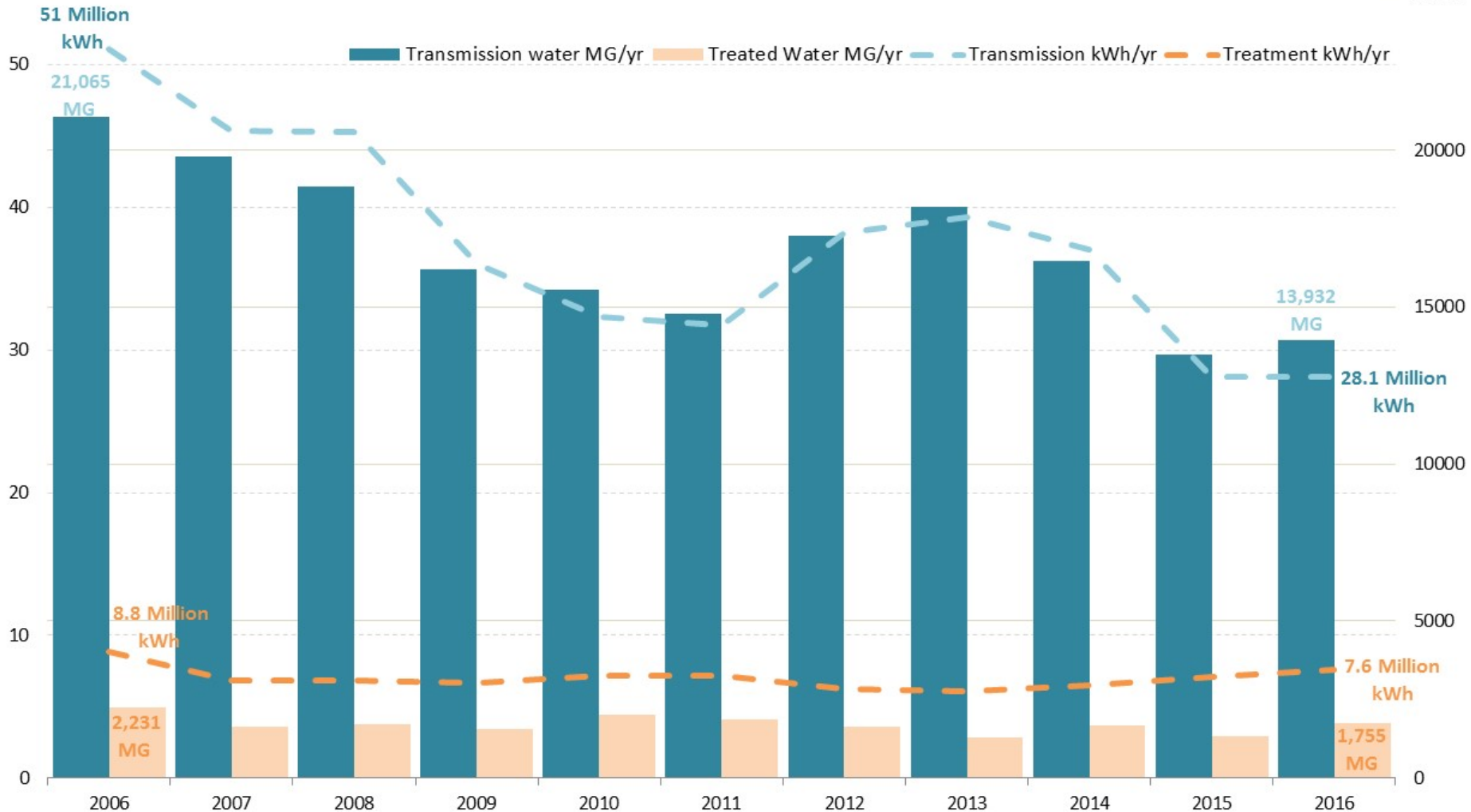


MG and kWh

Sonoma County Water Agency Historical Data

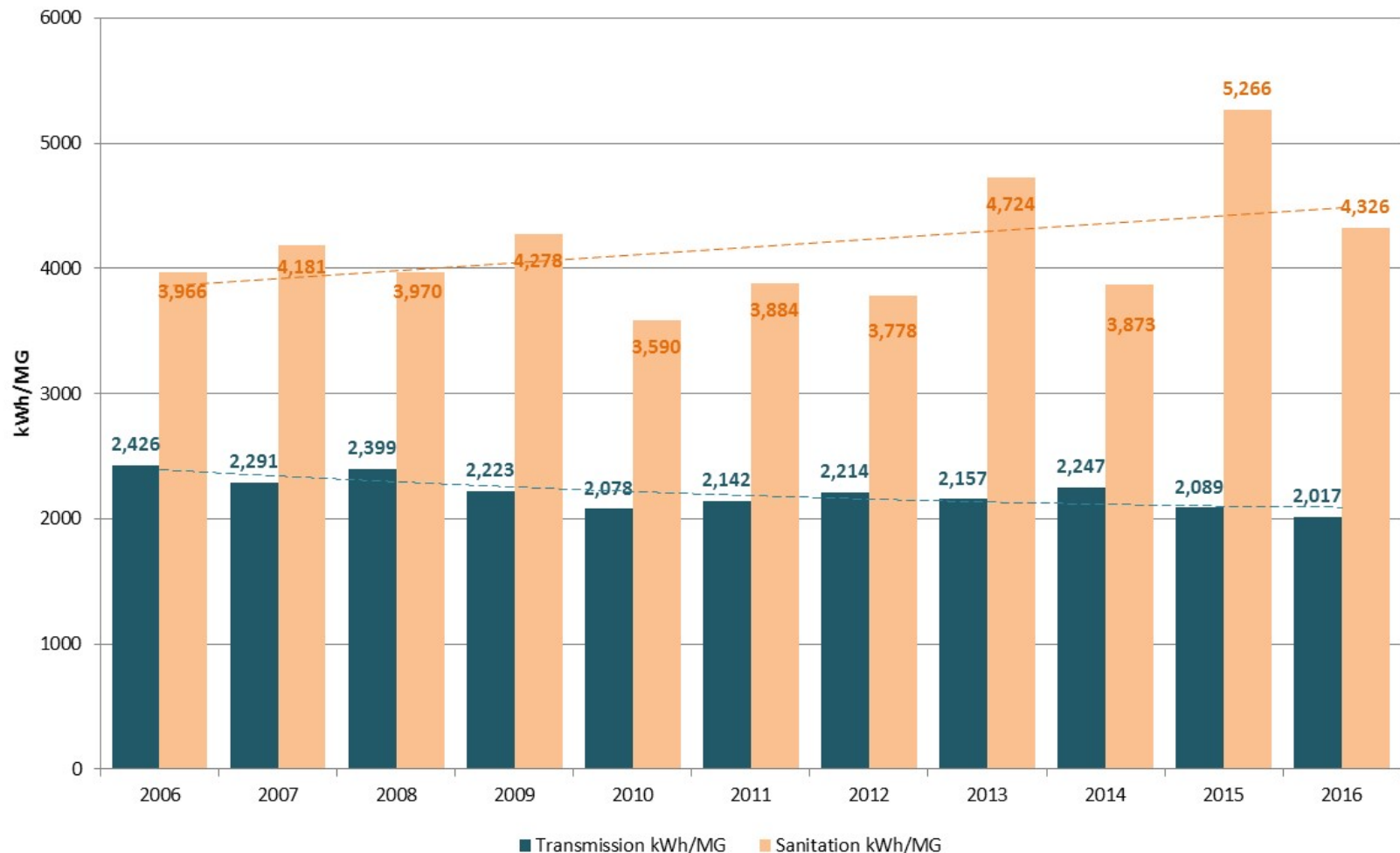
Million kWh/yr

Million Gallons (MG)/yr



Water-Energy Nexus

**Energy Intensity:
Wastewater Sanitation & Water Transmission**



Warm Springs Dam Hydroelectric Power Plant

- 2.79 MW capacity
- 1.4 MW average
- 1989 startup
- PG&E, 20 yr PPA
- 2009 sell to PWRPA;
Buy back ourselves
- Tied to WAPA price
- Meets 25% load
- PG&E E-ReMAT
program, \$89/MWh,
suspended!
- Small Hydro,
valuable asset



Optimizing our water assets for energy



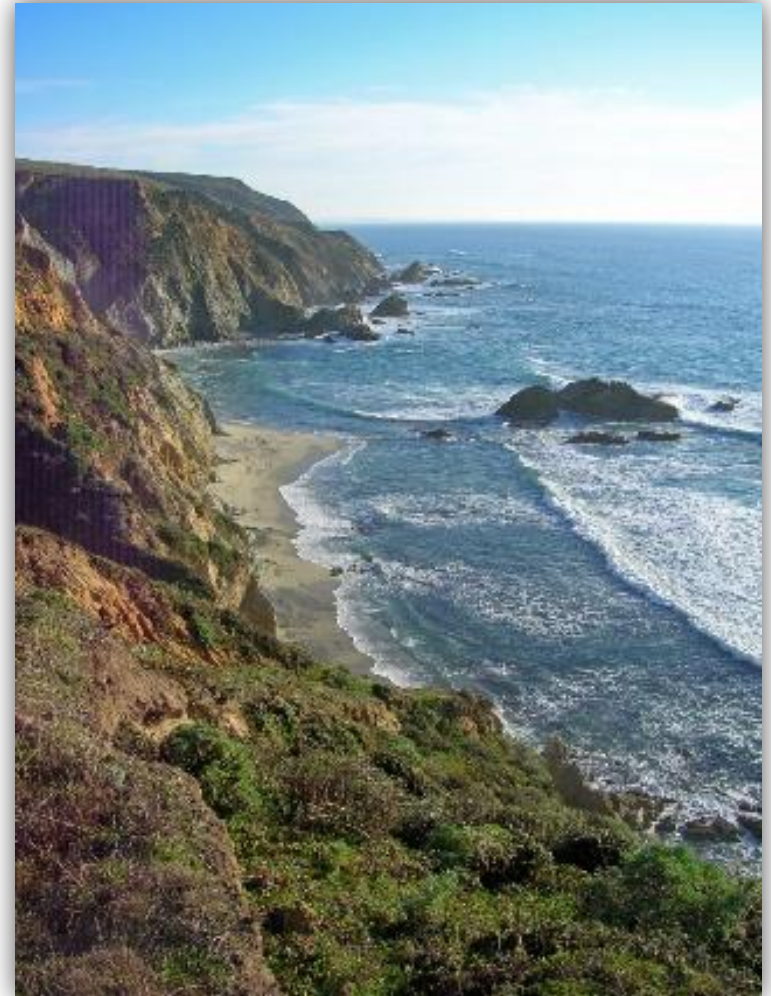
Floating Solar

- Uses already disturbed land
 - Preserves open space and/or agricultural land
- Generate renewable energy
 - Reduce costs
- Reduce some water evaporation & algae growth
- Simplified permitting process
- Slightly increases efficiency of solar panels



Take-Aways

- Based on Sustaining Healthy Watersheds
- Cost Effective Emphasis
- Measure, so you can manage
- Optimize assets
- Partnerships
- Leverage funding
- Replicable elsewhere



Thank you UC Davis Energy Affiliates Forum

Sonoma County Water Agency
Carbon Free Water & Energy Policy
Leaner, Cheaper, Greener



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