

SERIOUS DROUGHT HELP SAVE WATER

Water Energy Nexus

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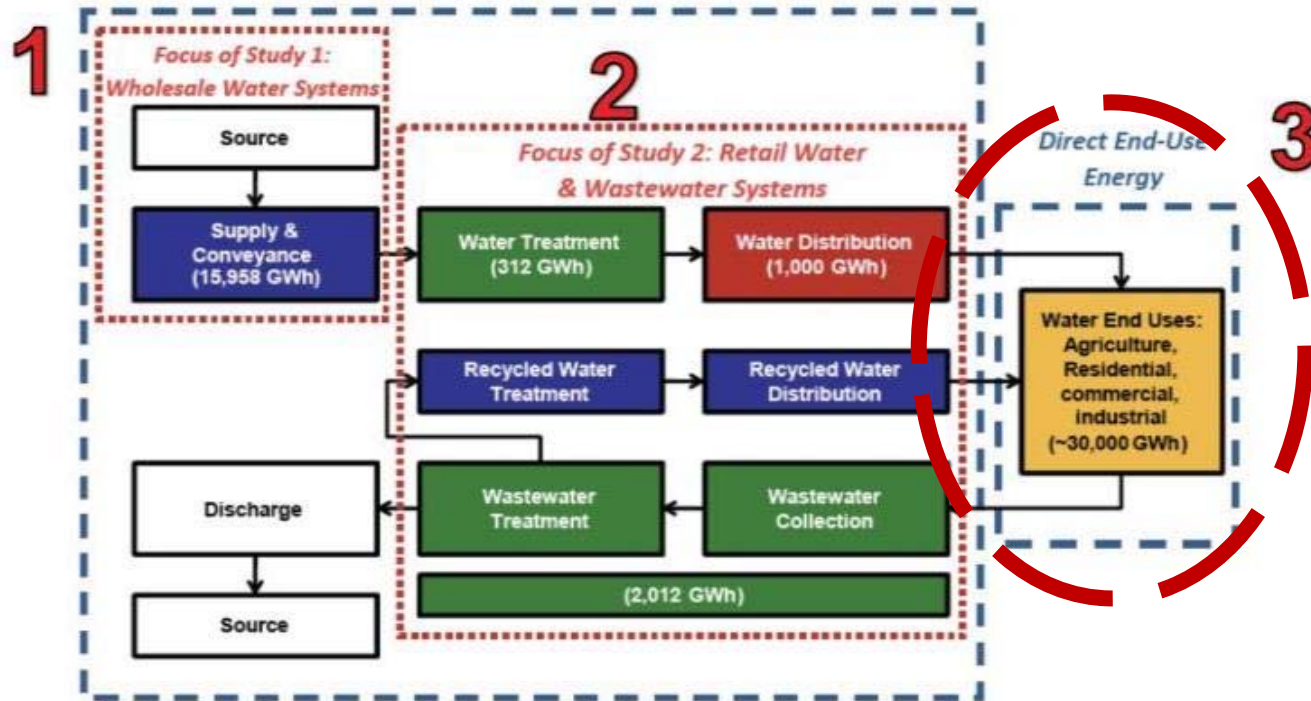
CPUC Cost Allocation Workshop
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Water Energy Nexus



Three Studies of Embedded Energy

*"Embedded" Energy (Upstream & Downstream of End Use) =
Direct Energy Use by Water & Wastewater Agencies*



Total Embedded Energy in Water = Sum of Energy Upstream and Downstream of End Use



Update: Water-Energy Initiatives

(*Partnering* with Water Agencies for more than 10 years)

Water/Energy Measures:

- Low Flow Kitchen & Bathroom Aerators
- Low Flow Shower Head
- Thermostatic Control Valve
- Energy Star Dishwashers
- Energy Star clothes washers
- Natural Gas Boilers
- Custom measures: ozone laundry, condensate return, water treatment, etc.
- Combination Oven
- Steamers
- Pre-rinse spray valve

Potential measures and program:

- Custom Calculated Flood Irrigation to drip
- Tub Spout (Low Income)
- **Clothes Washer Appliance Recycling**

Programs:

- Continue current programs
- Incorporate water-energy measures into Home Upgrade
- Increase support for hard-to-reach commercial small business food service providers
- Energy Savings Assistance Program - Direct Install High Efficiency Measures
- Water heating demonstration lab
- **MOU with Municipal Water District – Joint Programs**
- Sustainable landscape seminars
- **Water Loss Control Program**
- Continuous Energy Improvement Program

Programs with MWD

- **Energy Savings Assistance Program - Direct Install High Efficiency Washers (Low Income)**

Other Activities:

- Sustainable Agriculture Roundtable
- Research with water agencies to quantify natural gas energy savings

How should we allocate W-E program costs and savings credit?

- Program Cost Allocation Options
 1. Split based on program energy/water savings
 2. As already determined in Contract/Agreement with the Partner

- Savings Credit
 1. Both SoCalGas and Water Agency will track water savings and can report to respective regulating entities

- Combining results from Water Energy Calculator with E3 Calculator
 1. Only include gas savings with societal benefits in E3
 2. Include gas and proportional water savings & add to the societal benefits in E3

What factors should be considered in determining cost allocations?

Depends... Maybe the type of joint water energy programs

Multi Family Direct Install Program

- Qualifying owners and managers of multifamily buildings (market rate customers) are provided with no-cost energy audits, products and their installation. No-cost products include low-flow showerheads and kitchen/bathroom aerators for hot water distribution systems.

(Service Counties: Los Angeles, Ventura, Kern, San Luis Obispo, and Santa Barbara Orange, San Bernardino, Riverside, and Imperial Counties)



LADWP/SoCalGas Partnership: Multifamily Direct Install Program

Measure	Program Costs	Split	Gas Savings	Water Savings
Faucet Aerator	\$8.00	SCG: 50% DWP: 50%	4.95 Therms/yr	800 gallons/yr
Low Flow Showerhead	\$30.00	SCG: 50% DWP: 50%	8.60 Therms/yr	1400 gallons/yr

*Does not represent actual costs, stated costs are for illustrative purposes only

- SoCalGas pays full amount and is reimbursed by LADWP
- Combining results from Water Energy Calculator with E3 Calculator
 1. Only include gas savings with societal benefits in E3
 2. Include gas and proportional water savings & add to the societal benefits in E3

Direct Install Cost-Effectiveness

*Figures depicted are for illustrative purposes and may not necessarily reflect actual results

- E3 Calculator

Measure	Gas Savings Benefits	Program Costs	Total TRC
Faucet Aerator	\$284,000	\$190,000	1.49
Low Flow Showerhead	\$773,000	\$805,000	0.96

- E3 Calculator results are then added to Water Energy Calculator results for avoided gas energy benefits

Measure	Gas/Electric Saving Benefits	Gas/Electric TRC	Water Saving Benefits	Gas/Electric + Water TRC
Faucet Aerator	\$77,000	1.90	\$440,000	4.21
Low Flow Showerhead	\$160,000	1.15	\$916,000	2.30

Summary and Next Steps

- SoCalGas has a role in the Water Energy Nexus
- Look at End Use Hot Water conservation to aid in the drought efforts
- Partner with Water agencies to create cost effective programs
- IOUs begin to use water energy cost effectiveness tools for program design