

This presentation premiered at WaterSmart Innovations

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Managing Water in the West

Water and Energy Efficiency Program

**for Commercial, Industrial, and Institutional
Customer Classes in Southern California**

**Amy Campbell
Water Resources Planner
WaterSmart Conference
October 9, 2008**



U.S. Department of the Interior
Bureau of Reclamation

Bureau of Reclamation

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

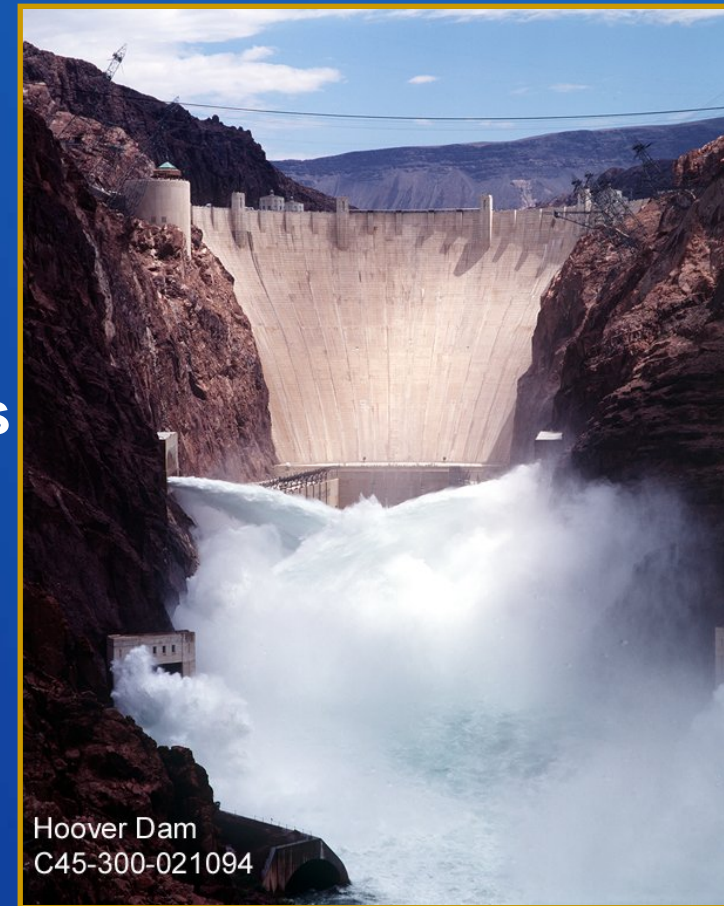
Bureau of Reclamation Areas



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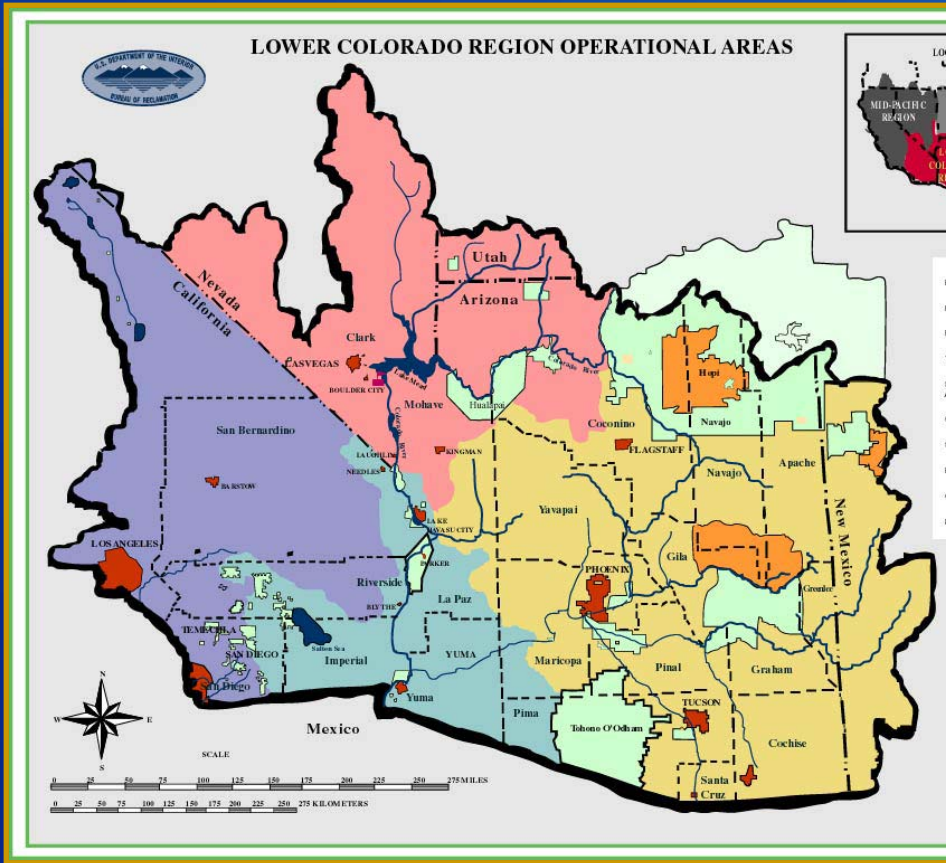
Water Storage and Hydropower

- 348 reservoirs with total storage capacity of 245 million acre-feet
- Second largest producer of hydropower
- Fifth largest electric utility
- 58 hydroelectric power plants producing 44 billion kilowatt-hours



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Lower Colorado Region



Over half of California's 36.4 million citizens live within the Southern California Area Office's boundaries

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Water and Energy Efficiency Program (WEEP)

Assess potential opportunities, identify barriers, and examine local and statewide benefits of a regional program that enables water, wastewater and energy utilities to create incentives that will promote the installation of water and energy efficiency measures within the industrial, commercial and institutional sectors throughout southern California.



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What makes WEEP unique?

- Brings together water and energy utilities to study the effectiveness of combining water and energy efficiency programs.
- Conducts audits in high water/energy categories to determine water and energy savings available.
- Identifies customer classes with the best likelihood for success in implementation.
- Recommends which types of incentive programs will result in business participation.

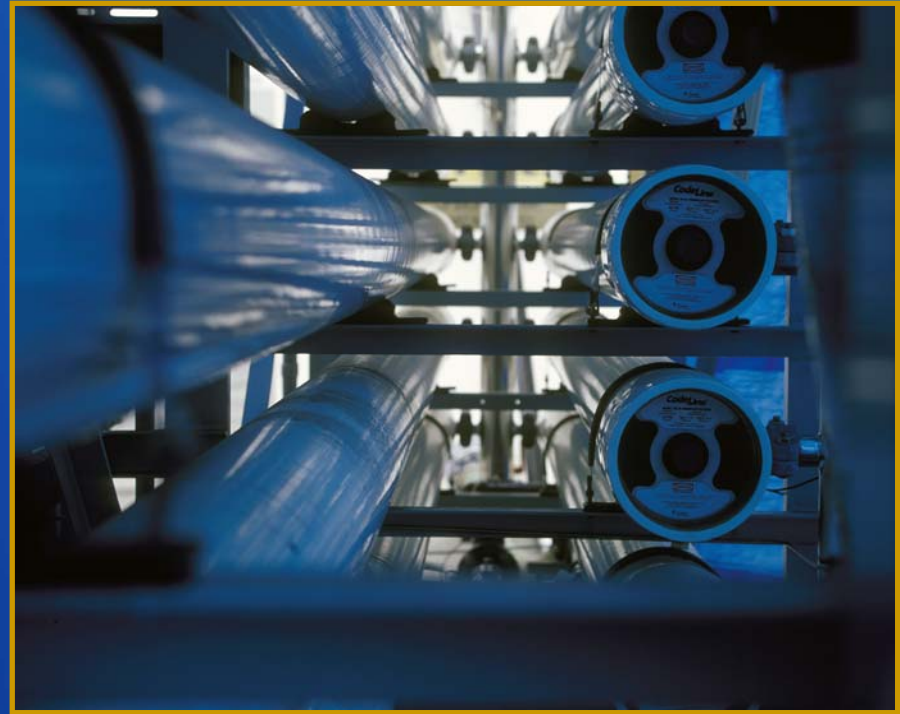
Project Advisory Committee (PAC)

- Burbank Water and Power
- Bureau of Reclamation
- California Department of Water Resources
- California Energy Commission
- Castaic Lake Water Authority
- Central Basin Municipal Water District
- City of Azusa Light and Water
- City of Glendale Water and Power
- City of Oxnard Public Works
- City of Riverside Public Utilities
- City of San Diego Water Department
- Inland Empire Utilities Agency
- Irvine Ranch Water District
- Los Angeles Department of Water and Power
- Metropolitan Water District of Southern California
- Municipal Water District of Orange County
- San Diego County Water Authority
- San Diego Gas and Electric Company
- Sanitation Districts of Los Angeles County
- Southern California Edison
- Southern California Gas Company
- The Cadmus Group, Inc.
- Water Replenishment District of Southern California
- West Basin Municipal Water District

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Project Timeline

- **February 2008**
 - Kick-off meeting with utilities and other stakeholders
- **Spring/Summer 2008**
 - Evaluate existing programs and potential savings
- **Fall 2008**
 - Conduct audits
- **Spring/Summer 2009**
 - Guideline development



Origins of the Program

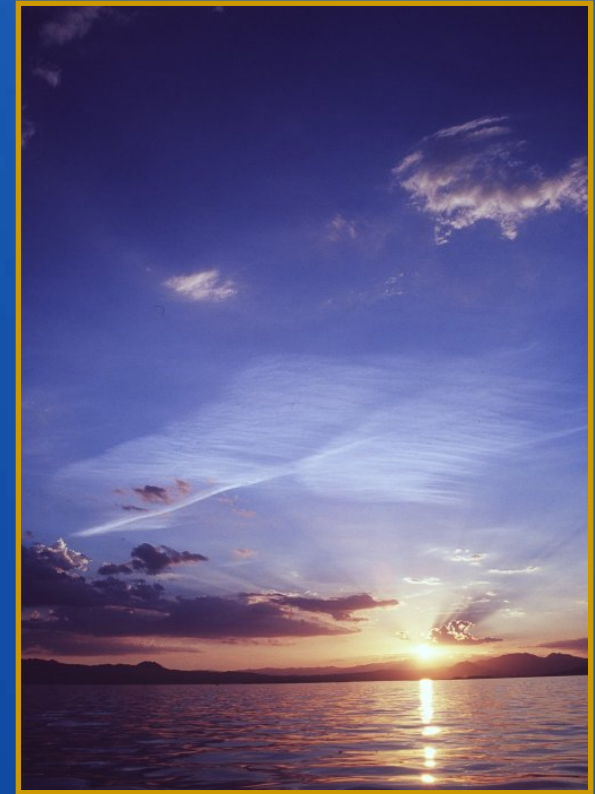
- Limited success reducing commercial and industrial process water
- Comprises 20% of southern California water demands
- Packaged savings not offered
- Greatest potential resource of water demand reduction from urban water use efficiency



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Objectives

- Identify potential water and energy savings
- Identify high water and energy users
- Prepare a set of on-site audit tools and identify available savings
- Identify barriers to a combined program
- Document marketing best practices
- Facilitate dialogue and coordination
- Develop a proposed incentive program



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Identify potential water and energy savings

- Focus on customers that are both big water and energy users
- Look for customers that are ubiquitous and projects that can be replicated
- Focus on commercial, industrial, and institutional, not just institutional

Water and Energy Savings Potential				
Item	Water	Electricity	Natural Gas	Wastewater
Dishwashing ¹	33% to 47%	33% to 47%	33% to 47%	
Steaming	Up to 95%	Up to 80%		
Frying/Grilling/Broiling			5% to 31%	
Baking		30%	39%	
Food Prep. & General Cleaning		55%		
Ice Making	20%	20%		
Refrigeration		14% to 67%		
Ventilation		33%		
Water Heating ¹		15%	15%	
Plumbing Fixtures	20% to 50%	10% to 25%	10% to 25%	
Lighting		26% to 75%		
Cooling	20% to 30%	20% to 30%		

Prepare a set of on-site audit tools and identify available savings

The audit prototype will consist of:

- General guidelines for planning, conducting, and completing WEEP audits
- A field tool for gathering information to assess opportunities to engage in water and energy efficiency measures at CII sites

The tool is structured to guide information gathering:

- Interviews with site personnel
- Review of water and energy bill and consumption
- Physical observation of the site



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Identify High Water and Energy Users

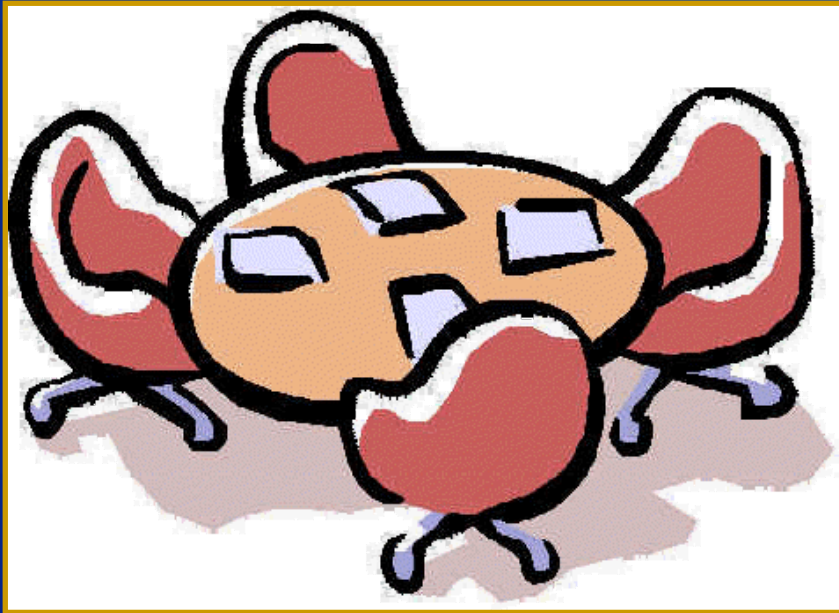
Example: High water and electricity usage

- Real Estate
- Food Services and Drinking Places
- Utilities
- Food and Beverage Stores
- Educational Services
- Hospitals
- Computer and Electronic Product Manufacturing
- Accommodation
- General Merchandise Stores
- Professional, Scientific, and Technical Services
- Fabricated Metal Product Manufacturing
- Chemical Manufacturing
- Amusement, Gambling, and Recreation Industries
- Food Manufacturing
- Transportation Equipment Manufacturing
- Plastics and Rubber Products Manufacturing
- Personal and Laundry Services



Identify Barriers to a Combined Program

- Interviews with Project Advisory Committee
 - Gather information about WEEP activities
 - Obtain concrete and “perspective” data



- Identify barriers to current programs
 - Focus groups of business owners
 - Determine why current programs are underutilized

Document Marketing Best Practices

- Determine existing marketing strategies in use by PAC
- Survey successful marketing techniques
- Interview business owners
- Propose marketing plan



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Facilitate Dialogue and Coordination

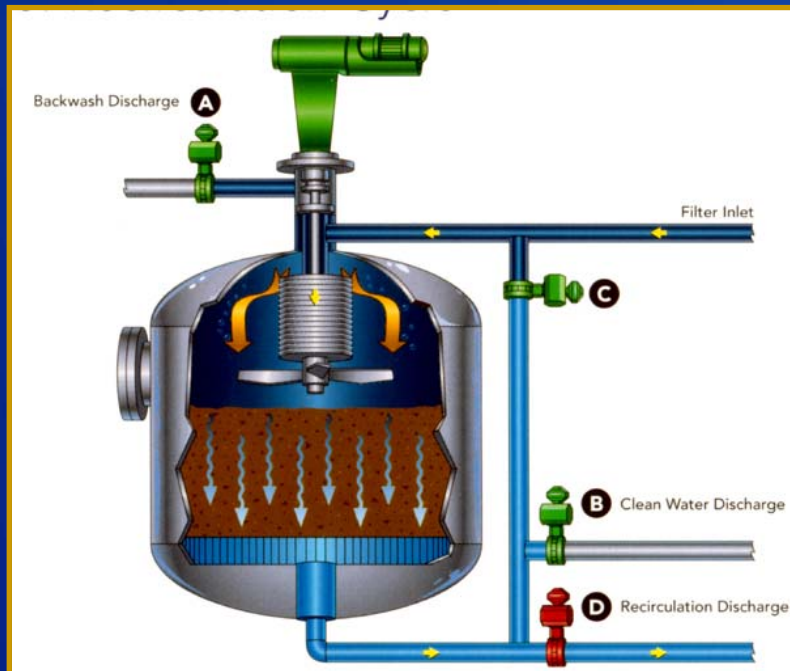
- Communication forum for water and energy providers
- Atmosphere conducive to brainstorming and creativity
- Presentations on the water/energy nexus



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Develop a proposed incentive program

- Result in business owner retrofit participation
- Optimal water and energy savings by customer category
- Intended for adoption by water and energy providers



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Summary

- Estimated study cost
- Opportunities for Project Advisory Committee participation
- Partnership interest
- Eventual expansion throughout California



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Thank you.



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