

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# Energy Smart Landscape Workshops

## Metropolitan Water District of Southern California and Southern California Gas Company



**Bill McDonnell/Doug Kent**

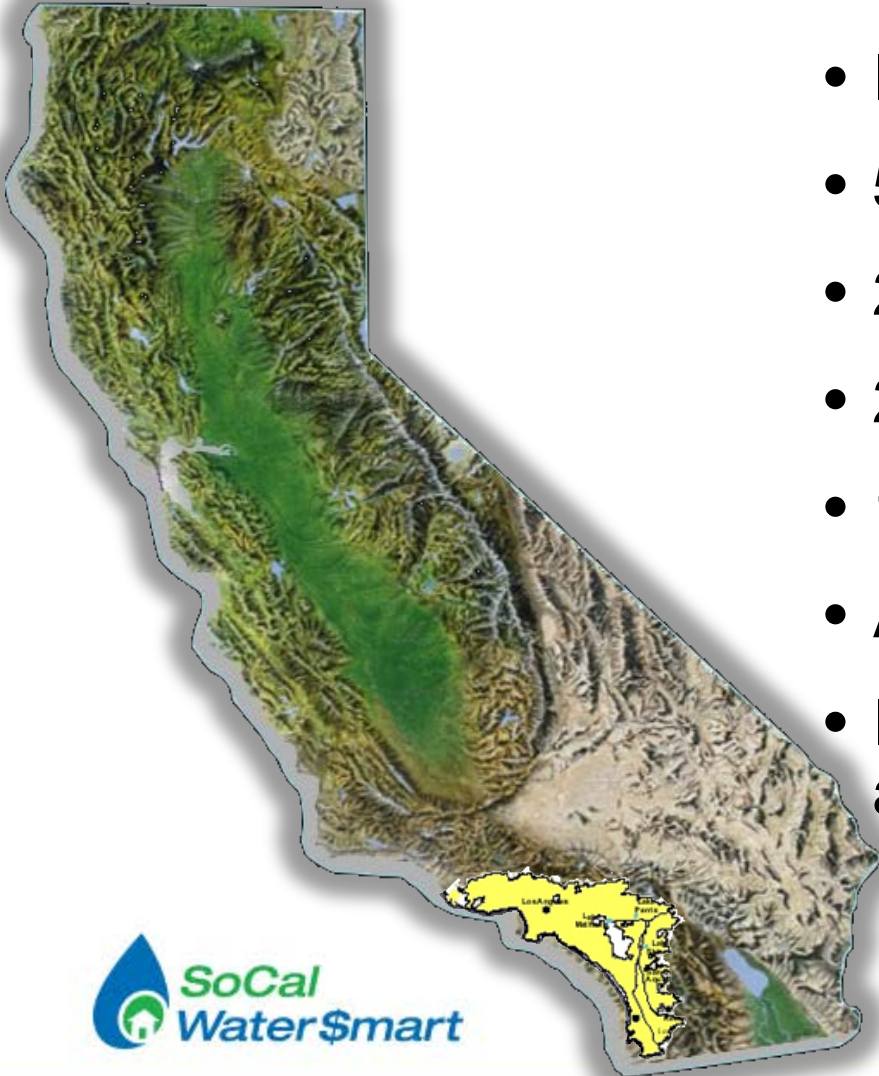
**October 4, 2013**

**Session F-1302**



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# Metropolitan Water District of Southern California



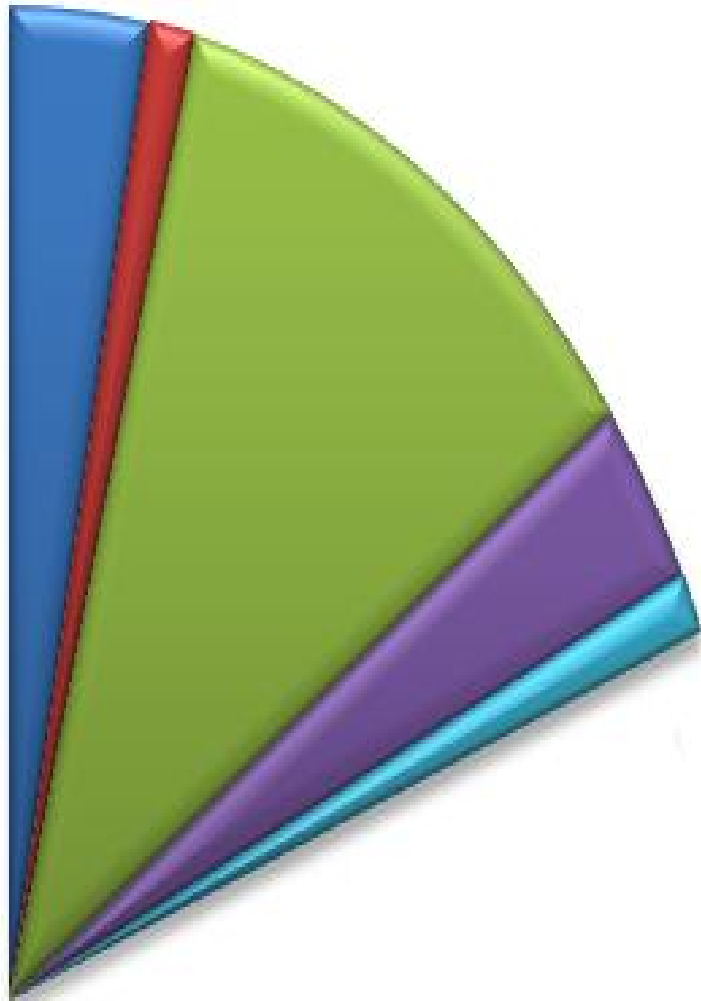
- Regional water wholesaler
- Includes 6 counties
- 5,200 square miles
- 26 member agencies
- 250-300 retail water agencies
- 19 million people
- Add about 150,000 people/yr
- Imported water supplies meet about half of retail demands

# Why Water and Energy?

- The California Energy Commission found
  - Water and energy resources are inextricably connected, called the *Water-Energy Nexus*
  - Transportation, treatment, heating, consuming, disposal of water and wastewater account
    - for 19% of the total electricity
    - and 30 percent of non-power plant related natural gas consumed in California.

# Why Water and Energy?

## How the 19% is broken down



■ Agricultural End-Use: 3%

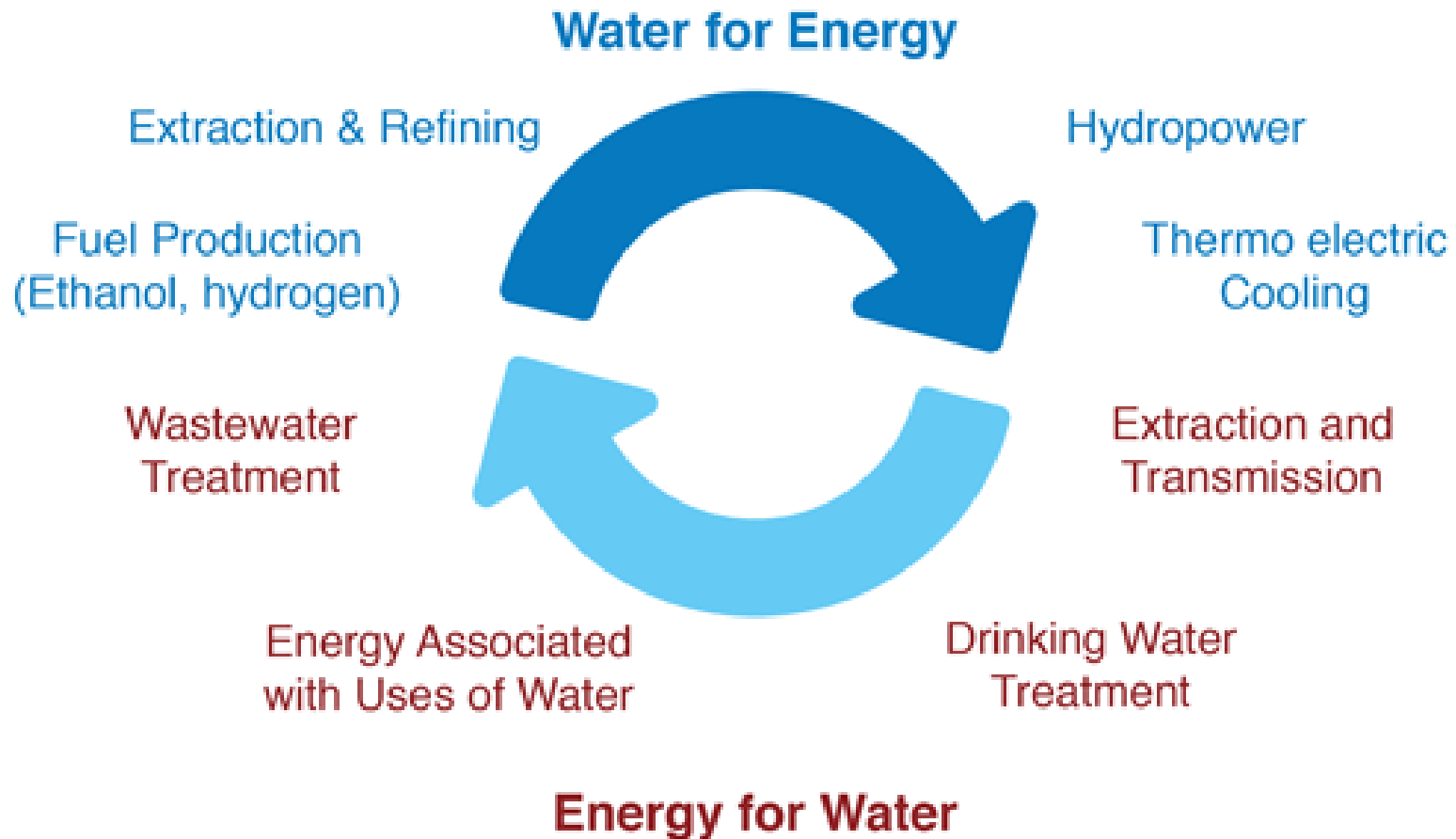
■ Agricultural Water Supply and Treatment: 1%

■ Residential, Commercial and Industrial Water End-Use: 11%

■ Residential, Commercial and Industrial Water Supply and Treatment: 3%

■ Wastewater Treatment: 1%

# Water and Energy Nexus





# Lots of Studies and Reports

## WATER-ENERGY SYNERGIES Coordinating Efficiency Programs in California

September 2013

Authors: Heather Cooley and Kristina Donnelly

## The Role of Natural Gas in California's Water-Energy Nexus

April 2013

## REFINING ESTIMATES OF WATER- RELATED ENERGY USE IN CALIFORNIA



Arnold Schwarzenegger  
Governor

California's  
Water-Energy Nexus:

Pathways to Implementation

## CPUC Embedded Energy in Water Studies

Study 1: "Statewide and Regional Water-Energy Relationship  
Study"

Study 2: "Water Agency and Function Component Study and  
Embedded Energy-Water Load Profiles"

March 20<sup>th</sup>, 2013

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# California Public Utilities Commission

**One of the state's largest end uses of electricity is in the treatment, heating, and conveyance of water in California. This is known to many as the “Water/Energy Nexus.”**

## **Water/Energy Nexus Programs**

[Navigant CPUC Embedded Energy in Water Studies](#)

[E3 Water-Energy Avoided Cost Framework](#)

[SCE Pioneering Partnership](#)

[Cost-effectiveness Calculations for Water Savings Measures and Program in the IOU](#)

[Energy Efficiency Portfolios: Added Considerations for “Embedded” Energy Savings and](#)

[Delivering a Program in Partnership with a Water Agency](#)

[SoCalGas Water—Energy Nexus](#)

## **Embedded Energy in Water Studies and Pilots**

[Water Studies 1, 2 and 3](#)

[Embedded Energy in Water Pilot Programs Impact Evaluation.](#)

[Explanation of Water Energy Calculator](#)

[Download Water Energy C-E Calculator v.4 \(zip file\)](#)



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# bewaterwise.com<sup>®</sup>

THE METROPOLITAN WATER DISTRICT of SOUTHERN CALIFORNIA and THE FAMILY of SOUTHERN CALIFORNIA WATER AGENCIES

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## Save Water & Energy



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Saving water and saving energy go hand in hand. When you save water, you also help save energy, which is important as temperatures rise this summer in California and demands on energy use increase.

You can help prevent power outages during summer's hottest days by minimizing your water and energy use. Turn off all unnecessary lights, run major appliances after 6 p.m. and set your air conditioning thermostat to 78 or higher. Also, avoid showering, hand-washing dishes and outdoor watering during the hottest part of the day. Check with your local water agency for specific advice on when it is best to water in your area.

### Web Links:

[Save Our Water](#)  
[Energy Upgrade California](#)  
[EPA's Water Sense](#)

## Find Your Member Agency

Find your local water agency. This search finds water providers in Metropolitan Water District's service area only. **Enter your Zip Code:**

## Member Agency Toolkit

[Click here](#) to access the Water and Energy Nexus Toolkit.

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# MWD and SoCal Gas Partnerships Hot Water Workshop





# SoCal Gas Energy Resource Center



(C) 2004 John Prince - Taken July 11, 2004



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# SoCal Gas Energy Resource Center

- The Center measures 44,572 square feet
- With 10,000-square-foot main exhibit hall
- Accommodating over 700 people
- A dozen specialty rooms are available for meetings, workshops, demonstrations and presentations
  - Air Quality
  - Combustion
  - Climate Control
  - Industrial Process Technology Room
  - Food Service Equipment
  - Natural Gas Vehicles







Wednesday, August 14<sup>th</sup>

8:00	NGV Room	Business Center
8:30	Energy Options	Residential Room
9:00	Combustion Demonstration Room	Ventilation & Baking Lab
9:30	Energy Options	Business Center
10:00	Combustion Demonstration Room	Ventilation & Baking Lab
10:30	Energy Options	Business Center
11:00	Combustion Demonstration Room	Ventilation & Baking Lab
11:30	Energy Options	Business Center
12:00	Combustion Demonstration Room	Ventilation & Baking Lab
12:30	Energy Options	Business Center
1:00	Combustion Demonstration Room	Ventilation & Baking Lab
1:30	Energy Options	Business Center
2:00	Combustion Demonstration Room	Ventilation & Baking Lab
2:30	Energy Options	Business Center
3:00	Combustion Demonstration Room	Ventilation & Baking Lab
3:30	Energy Options	Business Center
4:00	Combustion Demonstration Room	Ventilation & Baking Lab
4:30	Energy Options	Business Center
5:00	Combustion Demonstration Room	Ventilation & Baking Lab

NGV Room  
Energy Options  
Business Center  
Residential Room  
Combustion Demonstration Room  
Ventilation & Baking Lab

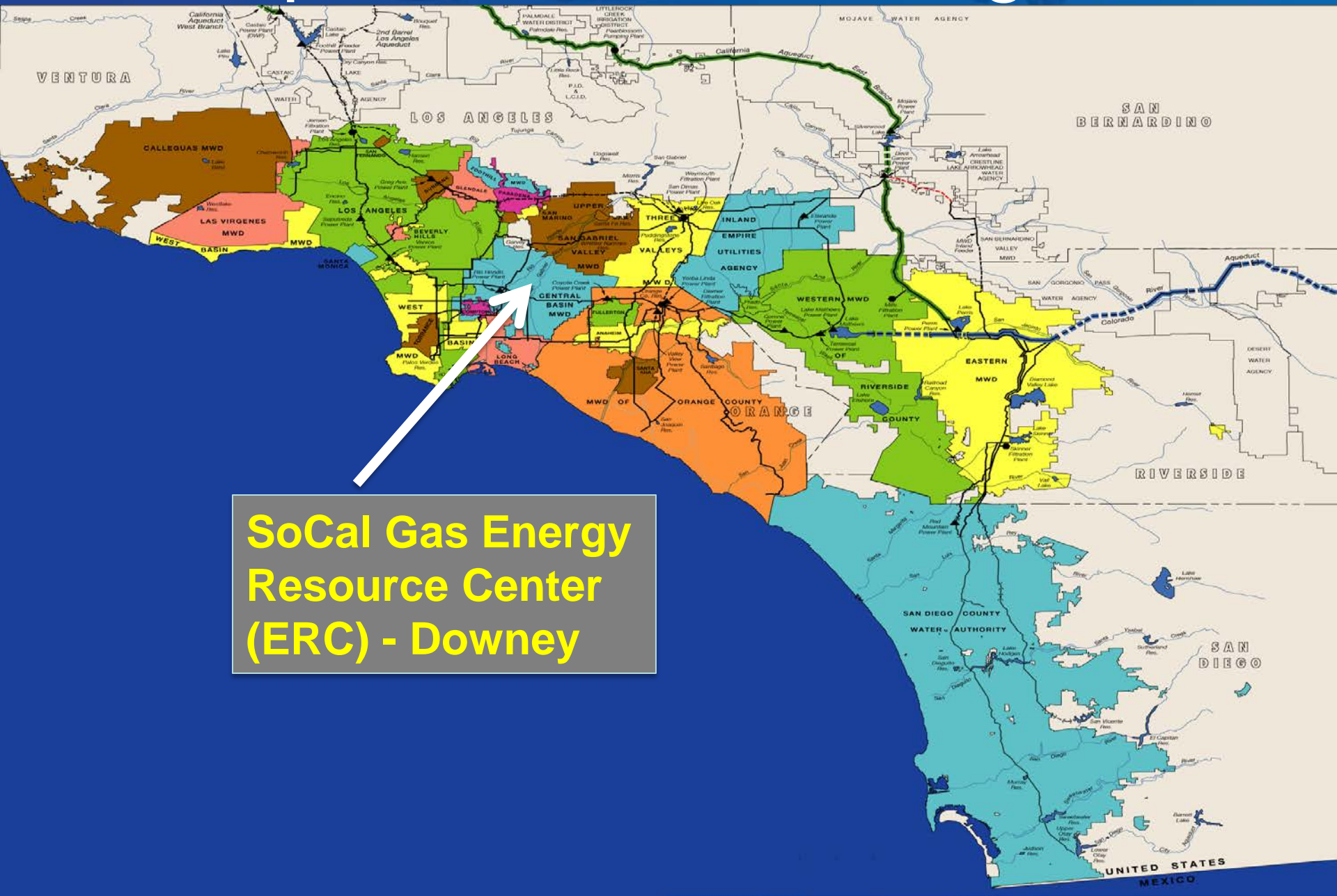
Main Hall



WELCOME TO THE  
ENERGY RESOURCES  
CENTER



# Metropolitan's Member Agencies



**SoCal Gas Energy  
Resource Center  
(ERC) - Downey**



# Beyond Hot Water

Metropolitan  
and  
SoCal Gas  
wanted  
to do more



[www.bewaterwise.com](http://www.bewaterwise.com)



# But there was an Issue













# SoCal Gas Re-Landscaped ERC





# California Friendly Look Now









# Signage in Front of Garden



## Sustainable Landscape Demonstration Garden



### Featured Plant Communities

Our sustainable landscape highlights eight plant communities and each will not only thrive in Southern California's hot, dry climate, but also conserve energy and water.

The highlighted plant communities include:

#### Woodland Understory



#### Coastal Flowering



#### Fire Resistant



#### Native Flowering Groundcovers



#### Edible Ornamentals



#### Sage and Chaparral



#### Mediterranean Style



#### Bio-Swale Meadow



Please do not use this signage system. Using signage is a violation of the terms of use of the site and will result in the site being removed.

### Stewardship for a brighter tomorrow

In a continuous effort to reduce energy and water usage, we have renovated the landscape at the Energy Resource Center (ERC) as an eco-friendly demonstration. This is part of our effort to attain a higher LEED certification and to train our customers in energy and water conservation opportunities. Our sustainable landscape includes the following: the use of climate appropriate plant material, smart irrigation, and stormwater management.

On behalf of Southern California Gas<sup>®</sup> Company and the team here at the ERC, we hope you enjoy our garden and find unique sustainable opportunities within your next landscape project.

Collaboration with: [Landscape Dynamics](http://LandscapeDynamics.net) [Best Landscaping](http://BestLandscaping.net) [Metropolitan Water District of Southern California](http://MetropolitanWaterDistrict.com)



### Applied Smart Irrigation

Our sustainable landscape utilizes a durable subsurface drip irrigation system and smart-controller. The irrigation controller is weather-based and uses local data gathered via satellite to self-adjust watering duration and frequency.

#### Benefits:

- Easy to maintain
- Reduces water use by up to 60%
- Minimizes loss from evaporation
- Controller can be manually adjusted
- Alleviates plant disease caused by overwatering
- Prevents over watering





A Sempra Energy utility\*

## ENERGY SMART LANDSCAPES: SESSION 3, STRATEGIES TO CUT ENERGY AND ECONOMIC COSTS WHILE IMPROVING LANDSCAPE SATISFACTION



### Energy Smart Landscape Series: Session 3: Schools, Colleges and Universities

Big properties, big costs and big opportunities - modern landscapes must provide positive experiences and be environmentally effective, they must be aesthetically beautiful and energy efficient. Along with tips on improving an individual's landscape experience, this seminar will teach how to maximize economies of scale to minimize energy and economic costs on large properties. The morning will also include an inspiring presentation on regional water conservation and tour of ERC's landscape.

Offering training and seminars is just one way Southern California Gas Company (SoCalGas®) is helping our customers manage their energy use to save money and energy.

#### This seminar is for:

- University, Community Colleges, K-12, and Private School Facility Directors
- Architects
- Engineers
- Water Efficiency Specialists
- Landscape Architects
- Irrigation Specialists
- Urban Designers
- Arborists
- Biologists

#### Attend if you want to:

- Reduce energy and maintenance costs
- Learn about lawn alternatives and removal methods
- Study landscape strategies that increase feelings of wellbeing
- Create landscapes that are good for the buildings, environment and people

#### Learn from the experts:

**Douglas Kent** has authored four landscaping books and over 50 articles, teaches at a variety of colleges and has clients throughout the state. Kent's presentations are as informative and professional as fun and fast paced.

**Bill McDannell** leads MWD's (Metropolitan Water District) water conservation efforts in the commercial and industrial sectors and represents MWD in various forums on matters concerning the interrelationships of California's water and energy resources and infrastructure.

If you have specific questions regarding our energy-efficiency programs and related rebates, contact your representative from SoCalGas or call 1-800-GAS-2000. For information on exhibiting and/or speaking opportunities, please call (562)-803-7453.

WEDNESDAY,  
DECEMBER 12, 2012  
(Seminar #28157)

TIME: 9 A.M. - 12 P.M.  
(8:30 a.m. check-in & continental breakfast)  
Lunch will be provided

#### NO COST TO ATTEND

LOCATION:  
Southern California  
Gas Company's  
Energy Resource Center  
9240 Firestone Blvd.  
Downey, CA 90241



Co-sponsored  
with:  
Metropolitan  
Water District

# Target Audience



Southern  
California  
Gas Company





## October 2013

Date		Event	Event ID
Wed 2		<a href="#"><u>IHACI - NATE 5: AC &amp; Heat Pump 1 (ERC - Downey)</u></a>	28189
Thu 3		<a href="#"><u>IHACI - NATE 6: AC &amp; Heat Pump 2 (ERC - Downey)</u></a>	28190
Wed 9		<a href="#"><u>EnergyPro Training: Envelope and Windows</u></a>	28209
Wed 9		<a href="#"><u>EnergyPro Training: Indoor &amp; Outdoor Lighting</u></a>	28210
Wed 9		<a href="#"><u>IHACI - NATE 7: Air Distribution 1 (ERC - Downey)</u></a>	28191
Thu 10		<a href="#"><u>EnergyPro Training: Mechanical</u></a>	28211
Thu 10		<a href="#"><u>EnergyPro Training: Advanced</u></a>	28212
Thu 10		<a href="#"><u>IHACI - NATE 8: Air Distribution 2 (ERC- Downey)</u></a>	28192
Fri 11		<a href="#"><u>California's NEW 2013 Title 24 Standards: Compliance and Beyond</u></a>	28213
Tue 15		<a href="#"><u>IHACI - NATE 5: A/C &amp; Heat Pump Part 1 (Chatsworth)</u></a>	28236
Wed 16		<a href="#"><u>IHACI - NATE 6: A/C &amp; Heat Pump Part 2 (Chatsworth)</u></a>	28237
Thu 17		<a href="#"><u>Controls, Integration, and Chiller Plant Optimization (Presented by Setpoint Systems)</u></a>	29546
Wed 23		<a href="#"><u>Energy Smart Landscapes Series: Session 3, Schools, Colleges, and Universities</u></a>	28633
Wed 23		<a href="#"><u>IHACI - NATE 7: Air Distribution Part 1 (Chatsworth)</u></a>	28238
Thu 24		<a href="#"><u>Distributed Generation/Combined Heat &amp; Power (CHP) A Clean and Efficient Way to Reduce Energy Costs</u></a>	29014

# Landscaping Efficiency or Inefficiency You Can See





# Contact Information



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