Southern California Gas Company

Southern California Gas Company (SoCalGas) has been delivering clean, safe and reliable natural gas to its customers for nearly 140 years.

It is the nation’s largest natural gas distribution utility, serving a population of 20.5 million consumers through 5.7 million gas meters in more than 500 communities.

Headquartered in Los Angeles, we are a regulated subsidiary of Sempra Energy (NYSE:SRE), a Fortune 500 company based in San Diego.

Awarded the J.D. Power and Associates 2011 Gas Utility Residential Customer Satisfaction Award in the West.
The company’s service territory encompasses approximately 20,000 square miles of diverse terrain throughout Central and Southern California, from Visalia to the Mexican border.

Our commitment to provide customers with world-class service has been the key to our longevity and success. Our motto, “Glad to be of service” reflects this spirit.
SCG EE 2013 - 2014 Programs

- SCG has been doing EE programs that relate to water since ------!

- Residential

- Commercial, Industrial, Agriculture
Single Family Rebate Program

- Single Family Rebates:
  - Cash rebates are available to residential customers for purchasing and installing qualified energy efficient products in existing single-family detached homes, attached homes (up to a four-plex), condominiums and mobile homes.
  - Customers may participate in 3 ways:
    - Mail-In Rebates
    - Online Application
    - Instant Rebates (Point of Sale)
    - Visit [www.socalgas.com/residential](http://www.socalgas.com/residential) for list of participating retailers and qualifying measures

- Qualifying Products & Rebates:
  - ENERGY STAR® Qualified Dishwashers (280 kWh or below) - $30
  - ENERGY STAR® Qualified Clothes Washers/ Tier I - $35/$50
  - High Efficiency/ENERGY STAR® Qualified Natural Gas Storage Water Heaters - $30/$75

For more information visit [www.socalgas.com/rebates/residential/](http://www.socalgas.com/rebates/residential/)
Single Family Rebate Program

- **Tankless Water Heater Rebate** *(available via manufacturer)*
  - Available for the purchase and installation of an ENERGY STAR® qualified tankless water heater via participating manufacturers.
    - $200 for EF of .90 or higher
    - $150 for minimum EF of .82
  - List of manufacturers on: [www.socalgas.com/rebates/residential/tanklesswaterheater](http://www.socalgas.com/rebates/residential/tanklesswaterheater)

- **Evolve Roadrunner Showerhead Rebate**
  - Rebated at select retailers within SoCalGas territory – $15
  - www.efi.org/socalgas - online sponsored web store front
Single Family Rebate Program

- **Energy Efficiency Starter Kits:**
  - Energy Efficiency Kit for 2013!
  - Available at NO COST to customers.
  - Includes one low-flow showerhead (1.5 GPM), one kitchen faucet aerator (1.5 GPM), two bathroom faucet aerators (1.0 GPM each), furnace filter whistle, and a hot water temperature gauge card.
  - May help save as much as 30% of water consumption and also reduce the energy used to heat the water.

- **How to request a kit:**
  - Online at www.socalgas.com/residential/EE_kit_promo
  - At events where SoCalGas is present (trade shows, fairs, seminars)
  - Kits arrive in 10-12 weeks.
  - Additional low flow showerhead may be purchased at www.efi.org/socalgas
Multifamily Rebate Program

Cash rebates are available for the installation of qualified energy efficiency products in apartment dwelling units, common areas of apartments, condominium complexes, and mobile home parks. Property owners (and managers) of existing residential multifamily complexes with two or more dwelling units may apply.

- Mail-In only applications (Online application to come)
- Reservations are required for controllers only, and are accepted via fax, e-mail or U.S. mail
- Reservations are valid for 45 days
- Measures are purchased and installed, customers mail complete application
- Once inspection has been completed and application is approved, a rebate check is mailed approximately 6–10 weeks from date of receipt.
- Controllers MUST be installed by a California State licensed contractor with the CSLB license number provided on the application.
- New State Law - permit numbers are now required to be submitted on applications for central furnace rebates in order for the rebate to be paid.
Multifamily Rebate Program

- Qualifying Products and Rebates:
  - ENERGY STAR® Natural Gas Storage Water Heaters - $30
  - Pool Heaters - $2.00/MBtu
  - Central System Natural Gas Water Heaters - $500
  - Natural Gas Water Heater and/or Boiler Controllers - $700 - $1400
  - Central System Natural Gas Boiler - $1500
    (May be Water/Space Heating, or Water Heating only)
Multifamily Rebate Program

- **Tankless Water Heater Rebate (POS)**
  - $300 rebate for models that meet a minimum Energy Factor (EF) of .82-.89.
  - $400 rebate for models that meet a minimum Energy Factor (EF) of .90 or greater.
  - Rebate available through December 31, 2013.
  - Must be replacing a conventional storage (tank-type) water heater in individual apartment units.
  - This offer is provided by participating tankless water heater manufacturers through licensed contractors. The application is valid and redeemable only through participating manufacturers and only for qualifying tankless water heaters.
  - For a list of participating manufacturers, visit socalgas.com and search “MULTIFAMILY.”
The REN also expects to be providing water-energy nexus programs. Details are TBD.
Commercial, Agriculture and Industrial Programs

- Rebates
- Custom Calculated:
  - $1/therm
  - For Engine
    - pump testing
    - Rebuild
    - replace

**RESULTS**

<table>
<thead>
<tr>
<th></th>
<th>PRE CONDITION 11/10/2010</th>
<th>POST CONDITION 7/14/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Speed (RPM)</td>
<td>1008</td>
<td>980</td>
</tr>
<tr>
<td>Pump Speed (RPM)</td>
<td>1760</td>
<td>1663</td>
</tr>
<tr>
<td>Water Flow (GPM)</td>
<td>1630</td>
<td>1739</td>
</tr>
<tr>
<td>Total Head (Feet)</td>
<td>354</td>
<td>401.39</td>
</tr>
<tr>
<td>Water Horse Power (hp)</td>
<td>146.71</td>
<td>175.25</td>
</tr>
<tr>
<td>Engine Shaft Horse Power (hp)</td>
<td>243.75</td>
<td>233.13</td>
</tr>
<tr>
<td>Pump Efficiency (%)</td>
<td>59.78%</td>
<td>75.98%</td>
</tr>
<tr>
<td>Input Thermal Horse Power (hp)</td>
<td>1,014.64</td>
<td>978.72</td>
</tr>
<tr>
<td>Engine Efficiency (%)</td>
<td>24.03%</td>
<td>26.83%</td>
</tr>
<tr>
<td>Combined Engine, Pump EFF</td>
<td>14.36%</td>
<td>20.13%</td>
</tr>
<tr>
<td>STU/BHP-hr</td>
<td>10.591.00</td>
<td>9.657.32</td>
</tr>
<tr>
<td>THERMS per ACRE FT per 100 FT LIFT</td>
<td>24.36</td>
<td>18.50</td>
</tr>
<tr>
<td>Fuel Improvement (% Savings)</td>
<td>9.78%</td>
<td></td>
</tr>
<tr>
<td>Overall System Improvement (%)</td>
<td>40.13%</td>
<td></td>
</tr>
</tbody>
</table>
West Kern MWD
Eastern MWD Mills Booster Pump
Financing

- On-Bill Financing
  - 0% Interest
  - Unsecured
  - $5,000 - $100,000
  - Up to 5 years

- Pilots
Cash for Kitchens: Parallel Implementation with West Basin Municipal Water District

Target: Commercial Food Service Sector
Governed by a 5-member publically elected Board

Water wholesale agency: 8 retail agencies & companies

Represents nearly 1 million people in 17 cities across 185 square miles

Provides imported water, recycled water, water efficiency and education programs to businesses and residents
In the beginning….

» In 2009, West Basin was awarded a grant from the Metropolitan Water District

» Materials and implementation strategy designed to help commercial kitchens save water and water-related energy

» Collaboration with local government partnership the South Bay Environmental Services Center (SBESC)

» First audits for target group of large commercial kitchens
Cash for Kitchens provides:

- Free water-use surveys
- Training for commercial kitchen management and staff
- Free devices to replace inefficient, qualifying equipment including: pre-rinse spray valves (PRSV), flow restrictors and waterbrooms.
Program Implementation

» Customers targeted through multiple channels including door-to-door campaigns, Chambers of Commerce and cold calling

» Walk through water assessment of faucets, dishwashing operations, cleaning and food preparation to identify areas for improvement

» Devices distributed to replace older, inefficient equipment
“Train the trainer” sessions conducted for management to help them address inefficient use of equipment

Bi-lingual collateral materials left behind with management to encourage behavior changes

Information provided for enhanced incentives for higher-cost equipment such as ice machines and food steamers.
And then there were three...

In 2010, through the SBESC partnership structure, discussions began with the managers from the So Cal Gas, Commercial Service Technician (CST) team to explore the addition of energy audits to the program.

West Basin and SBESC staff attend CST meetings talking about the benefits of the collaboration and to develop a framework to allow for parallel program implementation.
Benefits of Collaborating

• Customers receive benefit of a combined water and energy audit.
• CST performs free testing of gas-using equipment and ensures appliances are operating at maximum efficiency levels.
• Visits must be scheduled with a minimum of one-week lead time
Program Results

» Over 230 Cash for Kitchens visits to date

» 70% of these have been a combined water/energy audit with SBESC staff and SoCalGas CSTs.

» 500+ devices have been distributed saving an estimated 23 million gallons of water.
## Pre-Rinse Spray Valve/Water Cost Cost Calculation

Courtesy of Pacific Gas and Electric Company  
Food Service Technology Center  
fishnick.com

<table>
<thead>
<tr>
<th></th>
<th>New Device</th>
<th>Old Device</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spray Valve Performance and Use:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Flow Rate: (gal/m)</td>
<td>1.28</td>
<td>3.50</td>
</tr>
<tr>
<td>Operating Hours per Day: (h/day)</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Operating Days per Year: (d/year)</td>
<td>365</td>
<td>365</td>
</tr>
<tr>
<td><strong>Water Heating Performance and Costs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Heater Fuel Type:</td>
<td>Gas</td>
<td>Gas</td>
</tr>
<tr>
<td>Water Heater Efficiency: (%)</td>
<td>70.0</td>
<td>70.0</td>
</tr>
<tr>
<td>Temperature Rise through Heater: (°F)</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Gas Cost: (Therms)</td>
<td>$1.000</td>
<td>$1.000</td>
</tr>
<tr>
<td>Water and Sewer Costs: (per CCF)</td>
<td>$5.00</td>
<td>$5.00</td>
</tr>
<tr>
<td><strong>Results:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Water Consumption: (gal)</td>
<td>84096</td>
<td>229950</td>
</tr>
<tr>
<td>Annual Water Consumption: (CCF)</td>
<td>112.4</td>
<td>307.4</td>
</tr>
<tr>
<td>Annual Water Heating Energy: (Therms)</td>
<td>701</td>
<td>1915</td>
</tr>
<tr>
<td>Annual Water and Sewer Cost:</td>
<td>$562.00</td>
<td>$1537.00</td>
</tr>
<tr>
<td>Annual Water Heating Cost:</td>
<td>$700.52</td>
<td>$1915.48</td>
</tr>
<tr>
<td><strong>Total Annual Cost:</strong></td>
<td>$1262.52</td>
<td>$3452.48</td>
</tr>
</tbody>
</table>
Next Steps…

» Direct install of devices rather than distribution only pending grant funding application

» Reinstatement of PRSV to regional rebate program lists: newer models save more

» Regional implementation outside West Basin service area: share collateral materials and implementation strategy with other water agencies interested in outreaching to food service sector
The Metropolitan Water District of Southern California

Water and Energy Nexus
Metropolitan Water District of Southern California

- Regional water wholesaler
- Serves 6 counties, 19 million people
- 5,200 square mile service area
- $1 trillion regional economy
- 50%+ of region’s supply
- 150,000 people added/yr
- 1.7 billion gallons/day
Conservation, Recycling, Groundwater

Where Southern California Gets its Water

Local Supplies
LA Aqueduct (Local)

Colorado River Aqueduct

Water Banking / Exchanges
Transfers & Storage

State Water Project

Average Rainfall = 15 inches per year
26 Member Agencies

Average Rainfall = 15 inches per year
Metropolitan Member Agency Water Districts

- Calleguas
- Central Basin
- Eastern
- Foothill
- Inland Empire
- Las Virgenes
- Orange County
- San Diego
- Three Valleys
- Upper San Gabriel Valley
- West Basin
- Western
Metropolitan Member Agency Cities

- Anaheim
- Beverly Hills
- Burbank
- Compton
- Fullerton
- Glendale
- Long Beach
- Beverly Hills
- Burbank
- Los Angeles
- Pasadena
- San Fernando
- San Marino
- Santa Ana
- Santa Monica
- Torrance
Water and Energy Nexus with SoCalGas

- Partnering More than Ten Years
- Residential Washer Program
- Savings by Design
- Panel on MWD Innovative Conservation Program
- CII Customer Recognition Awards
- Food Service Expo
- Gas Co Business Expo
- Monthly Water Use Efficiency Meetings
- Co-Marketing Pieces and at ERC

- Water Savings Incentive Program
- Restaurant Vendor Program
- Green Team
- School Symposia
- Program for Resource Efficiency in Private Schools (PREPS)
- Restaurant Training
- Cooling Tower Classes
- Energy Resource Center Landscaping
- Landscaping Workshops
- Co-Presenting at WaterSmart 2013
Stewardship for a brighter tomorrow

In 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® 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
landscapedynamics.net
Best Landscaping
bestlandscaping.net
Metropolitan Water District of Southern California
mwd2a.com

Glad to be of service.
Energy Smart Landscape Series:

Save the Date: Tuesday, June 12, 2012
9:00-12:00pm. 8:30am check in and continental breakfast
Energy Smart Landscapes Series: Session 1, Design and maintenance Strategies for Leaner and Greener Landscapes
Landscaping Efficiency or Inefficiency You Can See
Landscaping Inefficiency You Can See
Landscaping Efficiency You Can See
Future Collaboration

» Water Savings Incentive Program (WSIP)
  ▪ Encourage custom projects
  ▪ Agricultural
  ▪ Industrial
  ▪ Large Landscape
  ▪ Commercial

» SoCalGas
  ▪ Promoting to Customers
  ▪ Through Account Reps
  ▪ Bringing hot water customers to program
Future Collaboration

» Energy Smart Landscape Workshops

» Maintenance Training, July 24th

» Colleges and Universities, October 23rd
Future Collaboration

» WaterSmart Innovations

» Energy Smart Landscape Workshops “Yes Energy Smart”
Future Collaboration

» Helping Cities Create Water/Energy Nexus

» City of South Pasadena

- Hospitals
- Schools
- Laundry
Contact Information

Bill McDonnell
213-217-7693
bmcdonnell@mwdh2o.com
(back to SoCalGas)
Pre-2013 Activity – Third Party

- **3rd Party Programs – Alliance**
  (http://sustainca.org)

- Onsite Water Generation
Pre-2013 Activity -- SCG Study

» Study methodology
- Identified largest water & wastewater customers (excluded natural gas used to produce electricity)
- Collected water data that corresponded to the natural gas data (obtained meter level for 3 years, where available)
- Computed energy intensity by meter, if possible; higher levels if corresponding water data not provided at meter level
- Mapped natural gas usage to segments of the water use cycle for 16 agencies
- Prepared natural gas profiles focused on 16 agencies (similar to CPUC Study 2, except that Study 2 focused on time-of-use electricity and did not include upstream & downstream map of agency relationships)
- Input natural gas and corresponding water data for CY2010 to an Excel spreadsheet
## SCG Natural Gas Average Energy Intensity

<table>
<thead>
<tr>
<th></th>
<th>Potable</th>
<th>Recycled</th>
<th>Waste Water</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum</strong></td>
<td>0.14</td>
<td>5.36</td>
<td>10.52</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>271.03</td>
<td>12.65</td>
<td>44.13</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>31.75</td>
<td>1.0</td>
<td>3.04</td>
</tr>
</tbody>
</table>

Therms/AF
2013 – 2014 Plans -- SoCalGas

- RFP for Leak Detection and Pressure Management
- Other? Additional Research?
RFP for Natural Gas Leak Detection/Pressure Management

- Natural Gas Engine Leak Detection/Pressure Management
- Leveraged CPUC Study 2 and Internal SCG Study
- Agency Load Profiles
- Calculate Therms/AF
Other Possible Research (Tentative Topics):

a) Closed Loop Cooling Towers
b) Water Use Efficiency (irrigation, recycled water, onsite water treatment)
c) Waste Water Treatment Plants
d) Ground Water Recharge
e) Sustainable Landscape
More Possibilities…

- Researching Flood Irrigation to Drip irrigation EE measure in AG programs
And More Possibilities….

- Calculated Water Engineering support with MWD
- Water Efficiency Program Development Assistance with Cities through MWD
THANK YOU!!!

Frank Spasaro
Manager, EE Partnerships and Finance
fspasaro@semprautilities.com
213-244-3648