

**Technology Resource
Incubator Outreach
T.R.I.O. Program**

**“Working With Utility Companies: The Who,
What and How of Energy Efficiency”**



**Explore How Utilities Can Help You Speed Your Energy Efficiency or
Demand Response Ideas to Market**

February 28, 2012

SoCalGas Energy Resource Center, Downey, CA

Welcome

We would like to welcome you to the Technology Resource Incubator Outreach (TRIO) Symposium.

The Symposium is being sponsored by Southern California Gas Company and the members of the Emerging Technology Coordinating Council (ETCC). The ETCC members sponsoring this workshop include San Diego Gas and Electric (SDG&E), Southern California Gas Company (SCG), Southern California Edison (SCE), Pacific Gas & Electric (PG&E) and the Sacramento Municipal Utility District (SMUD).

TRIO is a statewide program designed to nurture new technologies from universities, entrepreneurs, and investor firms through symposiums, round table discussions, and support services. The program participants will receive information on how utilities can help guide the commercialization of cost effective energy-efficient technologies and/or programs. By doing so, the program will speed up the availability of new technologies and products.

This symposium is designed to help participants gain the necessary perspective and tools to work with utilities such as SoCalGas, SCE, PG&E and SDG&E. Symposiums are held quarterly in different Utilities' territories. Thank you for taking the time to join us.

Abdullah Y Ahmed

Southern California Gas Company
San Diego Gas & Electric Company

Robyn Zander

Southern California Edison Company

Randy Wong

Pacific Gas & Electric Company

Sponsor and Host



Southern California Gas Company (SoCalGas)

SDG&E and SoCalGas are the CPUC regulated utility subsidiaries of Sempra Energy, a fortune 500 energy services holding company, based in San Diego, CA, with 13,600 employees worldwide, and 2008 revenues of nearly \$11 billion. The Sempra Energy companies develop energy infrastructure, operate utilities, and provide related products and services to more than 29 million consumers worldwide.

SDG&E[®] lit its first lamp on San Diego streets in 1881. Today the full-service utility provides electricity and natural gas to 3.4 million consumers across 4,000 square miles from Orange County to the Mexican border.

SoCalGas[®] lit its first street lamp in Los Angeles in 1867 – years before Thomas Edison made his biggest discovery. Since then, the company has grown into the nation's largest natural gas distribution utility. SoCalGas serves more than 20 million consumers across 20,000 square miles throughout Central and Southern California.

Southern California Edison Company (SCE)



Today's Southern California Edison is the product of more than a century of providing reliable electric service to central, coastal and southern California.

We help our customers stretch their energy dollars through rebates, which they can receive through SCE's award-winning energy efficiency programs. Customers can receive incentives for helping to control power demand through "demand-response" programs, which help to keep wholesale supplies and prices under control. As part of our commitment to environmental protection, the electric power we provide for our customers includes more alternate and renewable energy (16.7 percent), from a greater variety of resources, than nearly any other utility in the world. We have been active in efforts to improve Southern California air quality since the 1940s. SCE is also an active donor to community and educational causes. SCE employee volunteers annually donate more than 700,000 hours of work to community and nonprofit organizations.

SCE's ethnically and culturally diverse customer base contains one of the largest concentrations of non-English speaking residents in California. Our company celebrates and accommodates the diversity of the community it serves through in-language services and special programs. An emphasis on diversity strategies, operational goals and accountability helped SCE maintain its rank in the top tier of Fortune magazine's annual list of the top 50 companies in America for ethnic minorities, placing high on the list at number eight. This is SCE's seventh consecutive year receiving this recognition, which highlights the company's commitment to develop a work force of first-rate professionals that embraces diversity and reflects the customers it serves. On an average day SCE provides power to:

- More than 13 million people
- 180 cities in 50,000 square miles of service area, encompassing 11 counties in central, coastal and Southern California
- Commercial industrial and nonprofit customers, including: 5,000 large businesses, 280,000 small businesses

To deliver that power, it takes:

- 16 utility interconnections
- 4,990 transmission and distribution circuits
- 425 transmission and distribution crews
- The days and nights of more than 15,500 employees
- More than a century of experience

Pacific Gas and Electric Company (PG&E)



*Pacific Gas and
Electric Company*

Pacific Gas and Electric Company, incorporated in California in 1905, is one of the largest combination natural gas and electric utilities in the United States. Based in San Francisco, the company is a subsidiary of PG&E Corporation. There are approximately 20,000 employees who carry out Pacific Gas and Electric Company's primary business—the transmission and delivery of energy. The company provides natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California. Pacific Gas and Electric Company has long been recognized as an environmental leader by providing safe, economical and reliable products and services in a responsible and environmentally sensitive manner. Doing more so that our impact on the environment is less drives us to adopt new technologies, improve our environmental management practices, build strong ties with local communities, reach out to stakeholders to address challenges and contribute to the development of public policies that raise the bar for our industry.

Pacific Gas and Electric Company and other utilities in the state are regulated by the California Public Utilities Commission. The CPUC was created by the state Legislature in 1911.

PG&E Facts:

- Service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east.
- 141,215 circuit miles of electric distribution lines and 18,616 circuit miles of interconnected transmission lines.
- 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines.
- 5.1 million electric customer accounts.
- 4.3 million natural gas customer accounts.

Symposium Affiliates

CalCEF Clean Energy Angel Fund



The CalCEF Clean Energy Angel Fund is a first-in-kind venture capital fund dedicated to making market-based returns in seed-and early-stage clean energy companies. The Fund deploys deep industry networks and experience to target capital-efficient companies focusing on renewable energy, energy efficiency, energy storage, and related products and services, designed to enhance the clean energy sector. For more information, go to www.calcefangelfund.com.

Agenda

TIME	SESSION	DESCRIPTION
7:30 AM	Registration and Breakfast	
8:00 AM	Welcoming Address	<ul style="list-style-type: none">➤ Welcome and recognition of organizing entities➤ Introduction to TRIO Program➤ Explanation of poster session and one-on-ones <p>Speaker: Jeffrey Reed, PhD: Director, Market Development & Emerging Markets, Sempra Energy Utilities</p>
8:20 AM	Big Picture	<ul style="list-style-type: none">➤ Background on IOUs and energy efficiency focus➤ ETCC➤ Often used terms <p>Speaker: Randy Wong: Emerging Technologies Program Manager, PG&E</p>
9:00 AM	Incentive Programs	<ul style="list-style-type: none">➤ The role of incentives in promoting technology adoption➤ What are the available programs for electricity and gas technology?➤ How to obtain technology incentives <p>Speakers: Gillian Wright: Director, Customer Programs & Assistance, SoCalGas George Katsufarakis: Manager, Customer Programs, SDG&E</p>
10:00 AM	Networking Break	
10:30 AM	Role of Emerging Technology	<ul style="list-style-type: none">➤ How utilities work in California, the drivers for EE & DR➤ Uniform, statewide PIP➤ Discussion of importance of emerging technologies <p>Speakers: Ahmed Abdullah: Emerging Technologies Program Manager, SoCalGas and SDG&E Edwin Hornquist: Emerging Technologies Program Manager, SCE</p>

TIME	SESSION	DESCRIPTION
		Randy Wong: Emerging Technologies Program Manager, PG&E Bruce Baccei: Emerging Technologies Program Manager, Sacramento Municipal Utility District
11:30 AM	Engaging with Emerging Technology Programs	<ul style="list-style-type: none"> ➤ How emerging technologies can engage with the utilities <p>Speakers: Susan Preston: General Partner, CalCEF Clean Energy Angel Fund (Moderator) Ahmed Abdullah: Emerging Technologies Program Manager, SoCalGas Edwin Hornquist: Emerging Technologies Program Manager, SCE Randy Wong: Emerging Technologies Program Manager, PG&E Bruce Baccei: Emerging Technologies Program Manager, Sacramento Municipal Utility District</p>
12:30 PM	Networking Lunch	
1:30 PM	Third Party Programs and Solicitations	<ul style="list-style-type: none"> ➤ How third parties work with utilities and can support the introduction of new technologies ➤ Experienced third party contractors discuss their experiences working with utilities and new technologies <p>Speakers: Andres Morrison, Ecova Steve Shallenberger, Synergy Companies</p>
2:30 PM	Networking Break	
3:00 PM	Roadmap for Collaboration of Entrepreneurs, Investors and IOUs	<ul style="list-style-type: none"> ➤ Where do these stakeholders, with different priorities work together and mutually benefit? ➤ Where are the intersections for collaboration? <p>Speaker: Robyn Zander: Manager, Contract Support Services, Customer Energy Efficiency & Solar, SCE</p>

TIME	SESSION	DESCRIPTION
3:30 PM	Poster Session and One-on-One Discussions	All companies, entrepreneurs and third parties are invited to display information on their company, as well as participate in brief, scheduled one-on-one sessions with utility representatives, third-party implementers looking for new technology and investors.
3:30 PM	Networking Reception	While the viewing company materials and in between your one-on-one sessions, enjoy general networking and beverages and appetizers.
6:00 PM	Program Closes	

Speakers

Abdullah Y Ahmed, PE - Sempra

Mr. Abdullah Y Ahmed is the Emerging Technologies Program manager for Sempra Energy Utilities (Southern California Gas Company and San Diego Gas & Electric Company). He joined Sempra in October 2005. Prior to that Mr. Ahmed was the founder and president of Occidental Analytical Group a consulting engineering firm in Walnut, CA, which was involved in energy project engineering and design and planning, implementation and evaluation of energy efficiency programs. He has over 25 years of experience in the energy field. Mr. Ahmed has a Bachelor of Mechanical Engineering degree from Dibrugarh University, India and a Masters Degree in Engineering Management from University of Missouri-Rolla.

Bruce Baccei – SMUD

Bruce Baccei (ba-shay) is devoted to accelerating a widespread movement towards Net Zero Energy buildings. He headed the Passive Solar Manufactured Buildings and Denver Metro Passive Solar Home Builders Programs at SERI before it became NREL. He designed super insulated passive solar custom homes and retrofits for 7 years in his architectural design business. For five years he lead Building America's West Coast team, BIRA, working with cutting edge home builders to construct and market over 5,000 homes integrating high levels of energy efficiency and PV, with homes saving 45-70% compared to average new homes built to code. These homes are located from mild, coastal Watsonville to deserts of Borrego Springs, in California and Utah to the cold, wet Pacific Northwest. Bruce currently is a project manager at the Sacramento Municipal Utilities (SMUD) in bringing energy efficient emerging technologies to the market. His responsibilities include field-testing and market introductions of Customer Advanced Technologies (CAT) focusing on HVAC technologies and Passive Solar. Bruce holds a Bachelor of Science degree from the U.S. Military Academy and a Master of Architecture degree from the University of Oregon.

Aline Dew – Southern California Gas

Aline Dew is currently the Strategic Project Manager in the Business Analysis and Growth Initiatives group for Southern California Gas Company. She joined the utility after starting up the Energy Services and commodities business for Sempra Global. Her energy expertise is in the areas of U.S. and international upstream and downstream new business development, operational & financial analysis at Exxon, ARCO/BP and So. Cal. Edison links her passion and visions of bringing advance technologies to market. Energy makes the world turn and it is the support and advancement of technology today that will benefit all tomorrow. An engineering alumni of UCLA she also has an MBA.

Edwin A Hornquist, M.E. - SCE

Mr. Hornquist has nearly 20 years of experience in the energy industry across a diverse spectrum of companies. He began his career working for public and investor-owned utilities focusing on energy efficiency (EE), demand-side-management (DR), supply resource planning, and meter data acquisition systems. During the early years of the deregulated electricity market in California, Mr. Hornquist held jobs with several prominent energy services providers managing the companies' retail commodity operations. Later he went on to lead the operations of a startup energy management company. In 2006, he joined Southern California Edison (SCE) where his initial focus included managing projects related to the utility's Advanced Metering Infrastructure (AMI) initiative, Codes & Standards (C&S),

Demand Response, and Emerging Technologies programs. He later managed SCE's C&S program advocacy efforts to advance energy efficient appliances both in California and at the national level. He currently manages SCE's Emerging Technologies Program which mission is to support increased energy efficiency product market demand and technology supply by contributing to development and deployment of new and under-utilized EE measures. He holds a Mechanical Engineering Degree from California Polytechnic University, Pomona, and a Masters Degree in Business Administration from Woodbury University, Los Angeles.

George Katsufakis – SDG&E

George Katsufakis is the Operations Manager for San Diego Gas & Electric's Customer Programs and Assistance. He has over 15 years of experience helping utility customers more effectively manage their energy usage. In his current role, George is responsible for all aspects of the design and implementation of the Energy Efficiency as well as Demand Response programs.

Steven Ly – Southern California Gas

Steven Q. Ly is a Senior Market Advisor in Emerging Technologies Program for Sempra Energy Utilities. He joined SoCalGas in 2007 as field assessment engineer then moved to segment advisor for new construction. During that time, he assessed more than 20 industrial facilities in Southern California and recommended and implemented numerous energy efficiency projects. Prior to join Sempra, Steven Ly is a Engineering Manager for a private company specializing in process chillers. Steven designed and built process chillers for various application ranging from welding equipment cooling, injection molding cooling to Magnet Resonance Imaging (MRI) cooling. Steven has a Bachelor and Master of Mechanical Engineering from California State University and currently pursuing an MBA. He is also registered professional engineer in the State of California and a Certified Energy Manager.

Andres Morrison – Ecova

Andres Morrison has worked at Ecova for the past five years overseeing and contributing to a variety of residential energy conservation programs for Idaho Power, Bonneville Power Administration, and Puget Sound Energy. He has managed programs focused on increasing the energy efficiency of homes by improving the performance of the heating, ventilation and air conditioning (HVAC) systems; and reducing building heating and cooling loads through air and duct sealing, and adding insulation. He has trained technicians on the use of pressure diagnostic equipment such as blower doors, duct blasters, and flow plates. He currently manages the Multi Family Home Tune Up program for Southern California Gas, which replaces showerheads and aerators in multifamily buildings to help reduce the use of gas for water heating. Previous to joining Ecova he worked for Clean Crawls, Inc., an insulation contracting firm, performing retrofit installations through a utility incentive program. Andres grew up in Ecuador and came to the US at 18 years of age. He holds an MBA from George Fox University, and lives in Portland with his wife and son.

Susan Preston – CalCEF Clean Energy Angel Fund

Ms. Preston is General Partner for the CalCEF Clean Energy Angel Fund. Susan has spent most of her career in senior management positions in public and private companies, from general counsel to CEO. She has also been a partner in two national law-firms and is a patent attorney. Susan is a world-recognized expert in angel financing, and is the author of numerous articles, white papers and books on angel financing. Her most recent book, *Angel Financing for Entrepreneurs*, was released by Wiley Publishing. She has been and continues to be a national and international speaker on economic development, angel and venture financing. She was an Entrepreneur-in-Residence with the Kauffman

Foundation for six years focusing on initiatives related to angel investing, angel organizations and women entrepreneurs. She is the architect of the Access to Capital for Entrepreneurs Act, a bipartisan federal income tax credit bill for private equity investing, which will be re-introduced in Congress this session. Ms. Preston received her JD, cum laude, from Seattle University and her BS, magna cum laude, Phi Beta Kappa, in Microbiology and Public Health from WSU.

Jeff Reed – Sempra Utilities

Jeffrey Reed is the Director of Emerging Technology for the Sempra Energy utilities -- Southern California Gas Company and San Diego Gas and Electric. In that capacity he leads development of policies and initiatives aimed at supporting the development and deployment of sustainable energy solutions and leads the natural gas RD&D, Emerging Technology, equity investment and natural-gas vehicle programs. He has also led numerous company initiatives related to renewable and low-carbon energy technologies. Prior to joining the Sempra utilities, Mr. Reed was a senior strategy consultant and was an officer with ABB Power Generation in Switzerland. Mr. Reed holds a doctorate in engineering from UC Berkeley and a masters degree in management from Stanford University.

Steve Shallenberger – Synergy Companies


Mr. Shallenberger is founder and President of Synergy Companies, which has been in business in the energy services industry for 30 years. He is a member of the World President's Organization. He is actively involved in working with the Commission and Utilities in serving the energy efficiency needs of the residential and small commercial markets, particularly for the State of California. He is on the Board of Directors of NAESCO and currently serves on the Board of Directors of the EGIA. He graduated in Accounting from Brigham Young University, where he has served as the President of the 350,000 member BYU Alumni association and also graduated from the Harvard Business School. He is bilingual in Spanish. He is a former President of the Chamber of Commerce.

Gillian Wright – Southern California Gas

Gillian Wright has worked for the Sempra Energy companies since 1999. Since May 2011 she has been Director of Customer Programs and Assistance. Gillian is responsible for managing SoCalGas' energy efficiency and low income customer assistance programs, representing a combined budget of over \$200 million annually. Prior to her current assignment Gillian had a variety of assignments for SoCalGas and its sister utility San Diego Gas & Electric (SDG&E), in the companies' energy markets, capacity products, and regulatory affairs functions. In prior assignments Gillian was responsible for SoCalGas' Self Generation Incentive Program and the California Solar Initiative – Thermal Program. She has also been involved in the utility's efforts to develop biomethane services, air quality compliance support, and other new business services for residential, commercial and industrial customers. Gillian has a Master of Public Policy degree from the John F. Kennedy School of Government at Harvard University, and a Bachelors Degree in Economics at Reed College in 1991. Gillian is a member of the board of the Los Angeles Business Council, and is currently Chair of the Board of the Energy Solutions Center, a trade association of North American gas utilities. She lives in Los Angeles with her husband and their three children.

Randy Wong – PG&E

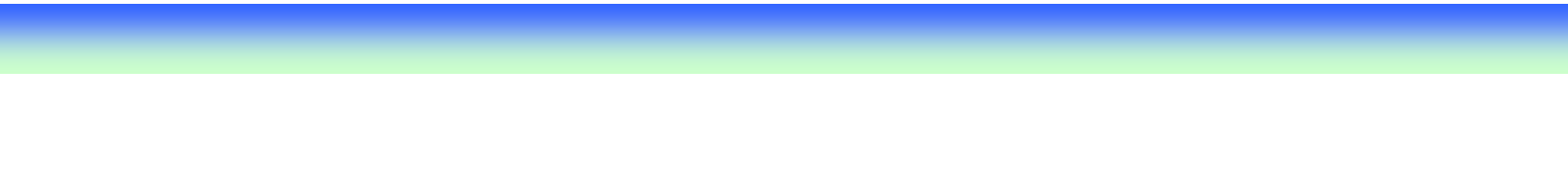
Randy Wong has worked for Pacific Gas and Electric Company (PG&E) for 30 years and is currently Emerging Technologies Program Manager within PG&E's Integrated Demand Side Manage (IDSMD) group. PG&E is one of the largest combination natural gas and electric utilities in the United States. The company provides natural gas and electric service to approximately 14 million people throughout



a 70,000-square-mile service area in northern and central California. Randy entire career at PG&E has been center around the concept of Integrated Demand Side Management (IDSM), providing both energy efficiency and demand response programs for our customers. PG&E's Emerging Technologies team help lead the first of its kind Business and Consumer Electronic Program that contracted directly with major manufacturers and retailers to deliver upstream/midstream incentives for energy-efficient consumer electronics. The Emerging Technology team is continually scanning and screening for the next energy efficiency / demand response technologies that will aid PG&E in meeting the goals set for in the California Long Term Energy Efficiency Strategic Plan. Randy holds a BA from San Francisco State University.

Robyn Zander – SCE

Robyn Zander is Manager of Contract Support Services in Energy Efficiency and Solar at Southern California Edison ("SCE"). SCE is one of the largest investor owned utilities in the United States, serving 13 million customers across a 50,000 square mile service territory. For the last six years, SCE has partnered with its customers to save more electricity through energy efficiency programs than any other utility in the nation. Before joining SCE, Robyn worked 10 years at Boeing as a program manager in the contracts division and 5 years as a general partner of a manufacturing company. As a general partner, Robyn grew the business through product development, increased international distribution, and marketing. Her specialty is product development and commercialization. Robyn joined SCE's Energy Efficiency Regulatory Group in 2006. Since joining the SCE team, she has been a major contributor in the development of the Technology Resource Incubator Outreach Program (TRIO). This program nurtures upstream technologies through workshops and education that focus on doing business with utilities. She works with all levels of the energy efficiency industry, from university engineering students, venture capitalists and angel investors, as well as with manufacturers, trade associations, utilities, and state and federal governments. Robyn received her MBA from Pepperdine University and BS in Psychology from Oregon State University.



Website References

California Energy Commission

<http://www.energy.ca.gov>

California Institute for Energy and Environment

<http://uc-ciee.org/>

California Public Utilities Commission

<http://www.cpuc.ca.gov>

Emerging Technologies Coordinating Council

<http://www.etcc-ca.com>

Pacific Gas and Electric Company

<http://www.pge.com>

Sacramento Municipal Utility District

<http://www.smud.org>

San Diego Gas and Electric Company

<http://www.sdge.com>

Southern California Edison Company

<http://www.sce.com>

Southern California Gas Company

<http://socalgas.com>

Abbreviations and Acronyms Used by the Utilities

AMI	Advance Metering Initiative
Auto DR	Automated Demand Response
CAISO	California Independent System Operator
CEC	California Energy Commission
CEE	Customer Energy Efficiency
CLTC	California Lighting Technology Center
CPP	Critical Peak Pricing
CPUC	California Public Utilities Commission
CSI	California Solar Initiative
CT	Combustion Turbine
CTAC	Customer Technology Application Center
DA	Direct Access
DR	Demand Response
DRA	Division of Ratepayer Advocates
ED	Energy Division of CPUC
EE	Energy Efficiency
EMS/EMCS	Energy Management Control System
EM&V	Evaluation, Measurement and Validation
EPRI	Electric Power Research Institute
ERC	SoCalGas Energy Resource Center
ET	Emerging Technologies
ETCC	Emerging Technologies Coordinating Council
FSTC	Food Service Technology Center
GRC	General Rate Case
GTI	Gas Technology Institute
HVAC	Heating Ventilation and Air Conditioning
IDSM	Integrated Demand Side Management
IOU	Investor Owned Utility
kW	Kilowatt
kWh	Kilowatt-hour
LEED	Leadership in Energy and Environmental Design
M&E	Measurement and Evaluation
PDP	Peak Day Pricing
PEC	Pacific Energy Center
PG&E	Pacific Gas and Electric Company
PIER	Public Interest Energy Research
PV	Photovoltaic
RTP	Real Time Pricing
PTR	Peak Time Rate
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric Company
SMUD	Sacramento Municipal Utility District
SoCal Gas	Southern California Gas Company
TA	Technical Audit
TI	Technology Incentive
TOU	Time-Of-Use

TRC Total Resource Cost test
TRIO Technology Resource Incubator Outreach
TURN The Utility Reform Network
UDC Utility Distribution Companies
WCEC Western Cooling Efficiency Center



www.etcc-ca.com