

Energy Efficiency Success, Challenges, Plans for the Future

Roland Risser
Director, Customer Energy Efficiency
October 6, 2009



California Regulatory Framework



Putting Energy Efficiency First

California's Energy Action Plans (2003 and 2005) established a "loading order" of energy resources to guide procurement decisions made by utilities

- Energy efficiency
- Demand response
- Renewable generation
- Cleanest available conventional generation



"Decoupling": One way to facilitate large scale Energy Efficiency

Decoupling eliminates the upside that comes with selling more energy

It helps promote broad, long-term environmental goals

Under California's decoupling framework, the state's utilities collect only the revenues authorized to run their business and provide a fair return to investors

Decoupling removes the financial disincentive for utilities to promote energy efficiency



Decoupling

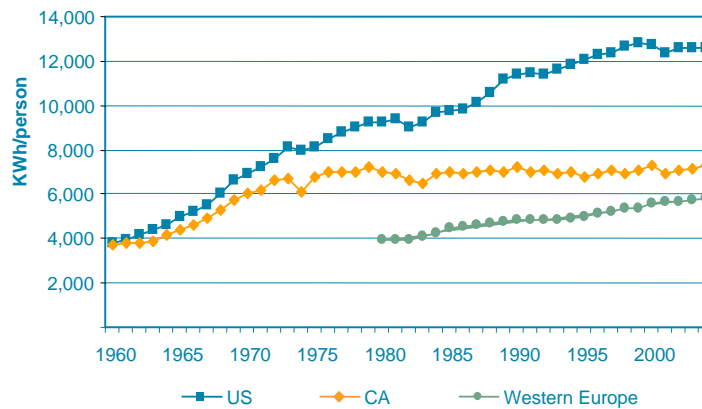
Rates recover investments and operating costs at predicted or forecasted levels of sales

If actual sales are lower or higher than predictions, the utility calculates the shortfall or excess of revenues (less variable costs)

- This difference is used to adjust the succeeding year's rate up or down
- Thus the utility's earnings are independent of its sales



Results: Decoupling Works



Courtesy Art Rosenfeld, California Energy Commission
Note: 2005 – 2008 are forecast data



Earning on Energy Efficiency

California's Risk Reward Mechanism (2006-2008 programs)

Incentive mechanism has two parts:

- Qualification thresholds, based on savings achieved
- Actual earnings, based on thresholds reached and customer benefits

Incentive mechanism is applied over the three-year program period

- Includes provisions for interim and true-up assessments

2009 and beyond Incentive mechanism under development



Risk-Reward Mechanism

In 2008, IOUs filed first interim claim for savings delivered in 2006 and 2007

	Interim Claim (\$ millions)	Holdback	2008 Earnings (\$ millions)
PG&E	\$118.6	65%	\$41.5
SCE	\$70.9	65%	\$24.7
SDG&E	\$31.0	65%	\$10.8
SoCal Gas	\$14.8	65%	\$5.2

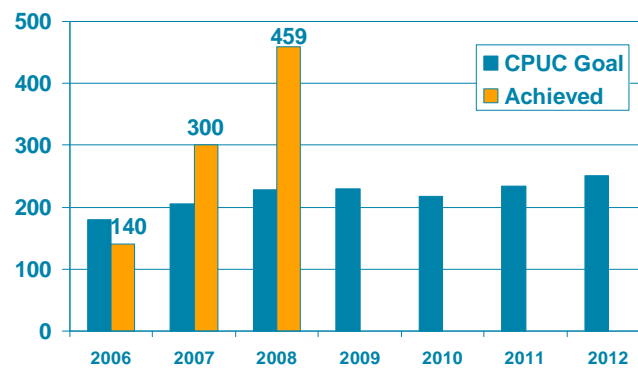
In 2009 PG&E filed claim for EE earnings of \$76.6 million



PG&E's Energy Efficiency Programs

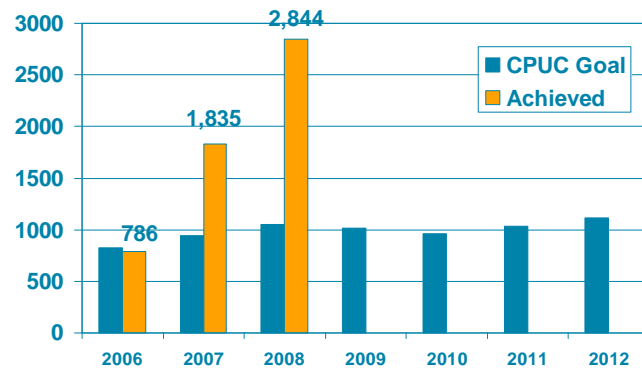


Demand Reduction (MW)

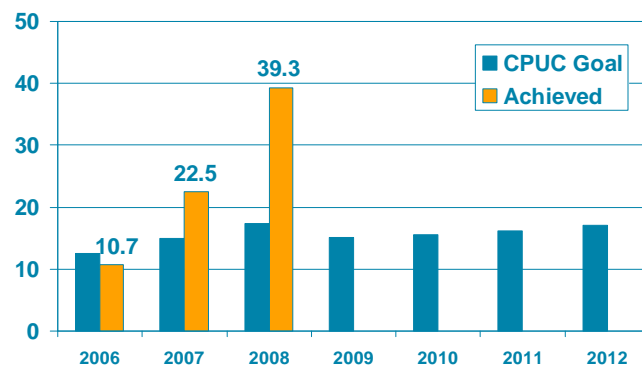




Electric Savings (GWH)



Natural Gas Savings (MM Therms)





Agriculture Program

Providing customized support

- Partnership with industry, trade allies and others
- Emphasize integrated solutions
- Targeted to end-use agriculture and food processing customers
- Asti Winery Case Study:
 - \$165,325 PG&E incentives
 - 1,224,191 annual kWh savings



Heavy Industry Energy Efficiency Program

Implemented by Lockheed Martin

- Identifies and facilitates installations of major process oriented and other energy efficiency upgrades (i.e., process, lighting, HVAC)
- Offerings include:
 - Design assistance
 - Engineering support
 - Financing guidance





Business & Consumer Electronics Program

A first-of-its-kind program

- Contracting directly with major manufacturers and retailers to deliver upstream/midstream incentives for energy-efficient consumer electronics
- Provides education to end-use customers through in-store signage and other marketing vehicles



PG&E's 2010-2012 EE Portfolio



2010–2012 EE Portfolio: Focus on the Customer

Portfolio includes: financial incentives and rebates, training, education, energy audits, emerging technology projects, low income energy efficiency, energy codes and standards support, marketing and outreach, and evaluation activities

Multiple delivery channel opportunities: utility programs, partnerships, third party programs

Designed around customer segments and individual customer needs

- Mass Market: single family, multifamily and small business customers
- Targeted Markets: Agriculture, Commercial and Industrial



2010-2012 Portfolio

Final Decision was issued by the California Public Utilities Commission September 24, 2009

Budget: \$ 1.338 Billion

Portfolio Savings Goals

- 3,100 GWh
- 703 MW
- 48.9 MMTherms

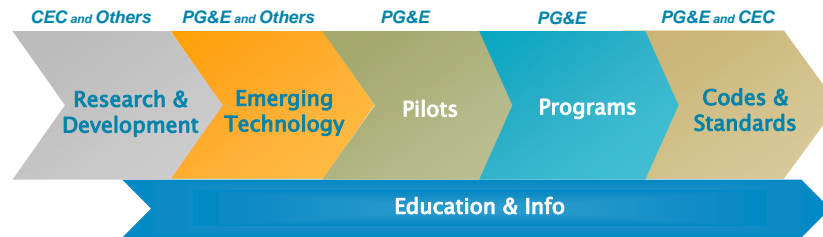
Compliance Advice Letter to be filed within 60 days by PG&E



Program Pipeline Management and Emerging Technologies



Lifecycle for New Energy-Efficient Products





Dual Air Regulation Technique (DART)

Emerging Technology

- The DART technology wirelessly monitors interior temperatures
- Its readings are used to regulate the speed of fans in commercial buildings



Solar Powered Water Circulator

Emerging Technology

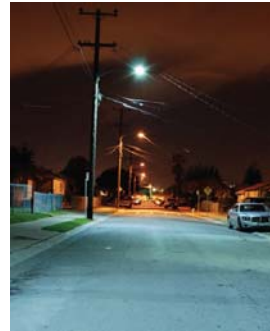
- Uses solar-powered equipment to drive mixing in water supply and wastewater treatment systems
- Battery equipped for continuous operation





LED Streetlight Program

- **Benefits of LED streetlights include**
 - longer life
 - reduced maintenance costs and energy use
 - higher color rendition
- **Program offers two types of incentives:**
 - Lower billing rate
 - Rebate for every qualified LED fixture purchased and installed



Behavior Change Savings Opportunity

- **Programs can range anywhere from comparative home energy reports to smart power strips to in home displays and energy management systems**
- **Moves beyond “widget counting” business model**
- **Energy savings opportunity = 20-30% (source: ACEEE)**
- **Non-traditional evaluation (EM&V) is needed to measure the energy savings and persistence**



Behavior Change Savings Opportunity

Near term behavior savings

● Sept-Dec 2009

PG&E comments on PD regarding Comparative Home Energy Reports

Investigate “experimental design” evaluation methodology (SB 488, CPUC, EM&V publications)

Cross-functional team to issue integrated RFP for customer outreach through comparative home energy reporting

● Long term behavior savings

● Jan 2010

Begin behavior attribution plan with CPUC EM&V efforts and area experts



Questions?

Roland Risser
Director, Customer Energy Efficiency
Pacific Gas and Electric Company
RJRb@pge.com
(415) 973-8437