



Energy Efficiency and Conservation Programs

Progress Report to the Legislature July 2009



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1. EXECUTIVE SUMMARY

The California Public Utilities Commission (CPUC or Commission) issues this report under the statutory requirement set forth in Section 384.2 of the California Public Utilities Code. Section 384.2 replaces the Commission's previous reporting requirement, defined in the 1999 Supplemental Report on the Budget and calling for an annual review, with a report to be submitted to the Legislature beginning July 2009, and triennially thereafter.¹ This report is intended to update the Legislature on the energy efficiency and conservation programs overseen by the CPUC and include information regarding authorized utility budgets and expenditures, as well as projected and actual energy savings over the program cycle.

Energy efficiency highlights and achievements include:

- 215 programs in place for the 2006-2008 program cycle, with a budget of \$2.2 billion and projected energy savings of approximately 1685 MW, 7367 GWh, and 127 MTherms.
- The avoided construction of two 500 MW power plants between the years 2004 – 2007.²
- The elimination of an estimated 1.4 million tons of CO₂ emissions in 2006-2007, equivalent to the removal of approximately 270,000 cars from California roads.³ These greenhouse gas reductions contribute to the State's 2020 emissions reduction goals set forth in the Global Warming Solutions Act of 2006 (Assembly Bill 32) and articulated in the California Air Resources Board's Scoping Plan.⁴

Many activities in support of CPUC energy efficiency programs have occurred since the last report was issued in July 2005, prior to the conclusion of the 2004-2005 program cycle. The 2004-2005 energy efficiency program cycle included nearly \$1 billion in funding for IOU energy efficiency programs.⁵

The Commission adopted a number of policy initiatives and administrative changes that address energy efficiency and the work of the CPUC Energy Division for the 2006-2008 program cycle and beyond. These include the Energy Action Plan the Green Building Initiative, and the California Long-Term Energy Efficiency Strategic Plan (Energy Efficiency Strategic Plan).⁶ In each instance, energy efficiency was identified as the priority resource to meet California's energy needs in the future, placing greater importance on the collaborative efforts of the CPUC and IOUs.

¹ http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_2351-2400/ab_2390_bill_20060907_chaptered.pdf

² Based on verified energy savings for those years.

³ Ibid.

⁴ Available at <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

⁵ The IOUs are Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and Southern California Gas (SoCal Gas, or SCG).

⁶ Available at <http://www.cpuc.ca.gov/PUC/energy/Resources/Energy+Action+Plan/> and <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eesp/eesp.htm>

Specifically:

- For the 2006-2008 program cycle, the CPUC initially authorized \$1.97 billion in funding for the IOUs' energy efficiency programs over the three-year cycle.⁷ These programs were designed to cost-effectively meet energy savings goals established by the Commission. The IOUs projected to either meet or exceed the CPUC electricity and gas energy savings goals for the 2006-2008 program cycle and reduce CO2 emissions by 2.8 million tons over that same period.
- In 2007, the CPUC directed the IOUs to jointly prepare a single, comprehensive statewide long-term energy efficiency strategic plan.⁸ This new framework will maximize the impact of consumer outreach to save energy and reduce emissions through energy efficiency and create a process for collaboration with key businesses, consumer groups and governmental organizations in California, throughout the West, nationally and internationally.
- In 2007, the Commission also adopted an incentive mechanism, authorized in 2005, designed to reward IOUs for pursuing the most cost-effective energy efficiency programs and achieving energy savings targets. The Commission introduced a rigorous Evaluation, Measurement and Verification (EM&V) component that would be managed by Energy Division and used in part for determining verified energy savings and related financial payments under the incentive mechanism.
- In 2008, the CPUC adopted the Energy Efficiency Strategic Plan and required the utilities to use this as a framework when preparing their program activities for 2009-2011. This added a more strategic dimension for the 2009-2011 program cycle that will promote maximum energy savings through the coordinated actions of utility programs, market transformation and updated codes and standards.
- In 2005, the CPUC placed the Energy Division in the role of overseeing the majority of the EM&V for all utility programs, to provide an independent determination of the energy saved as a result of the programs.⁹
- In 2008, the CPUC also expanded funding and goals for the low-income energy efficiency programs. Although the results from these programs are counted towards utility goals, this report does not include detailed information on the

⁷ Mid-cycle funding requests approved by the Commission and EM&V funding for program evaluation and related projects, brought the final 2006-2008 budget to \$2.21 billion.

⁸ D. 07-10-032, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/74107.pdf.

⁹ D. 05-01-055, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/43628.pdf.

low income programs. The scope of this report is limited to mainstream energy efficiency programs.

2006-2007 IOU Energy Efficiency Programs

In early 2009, the CPUC Energy Division issued the “Energy Efficiency 2006-2007 Verification Report,” which analyzed the IOU-reported energy savings for the first two years of the 2006-2008 program cycle. The Verification Report analyzed IOU reported energy savings using actual energy efficiency measure installations and various parameter values used to calculate energy savings from the IOUs’ program portfolios. Based on these results, the IOU programs achieved an average of 64 percent to 73 percent of the CPUC’s energy savings goals for 2006-2007. It should be noted that energy savings and expenditures over the course of a three-year program cycle display a “hockey stick” effect, in which the bulk of energy savings and expenditures occur in the latter stages of a program cycle after a slower ramp-up period. In addition, under the verification mechanism adopted by the Commission, certain counting assumptions and metrics were updated during the course of the program cycle, making it difficult to compare planning assumptions for savings goals directly with verified results. This report, therefore, includes both IOU-reported data based on planning assumptions as well as verified results that used updated metrics.

Using the same methodology, Energy Division estimated CO2 emissions reductions from the energy savings determined in the Verification Report. Based on the verified energy savings, the IOUs achieved 57 percent to 68 percent of their projected GWh savings and related CO2 reductions, and 58 percent to 72 percent of their projected MTherm savings and related CO2 reductions.

The outcome of the Verification Report as it affected the first interim payment was subsequently contested by the IOUs. The Commission authorized a partial payment to the IOUs in late 2008, and the IOUs have asked the Commission to modify the incentive mechanism used to determine financial rewards. The Commission opened an entirely new Rulemaking proceeding¹⁰ to deal with the proposed modifications to the incentive mechanism and is currently considering various parties’ proposals at this time.

2008 IOU Energy Efficiency Programs

IOU reported energy savings suggest that the IOUs achieved a minimum of 100 percent of their projected energy savings for 2008, and similar success for their cumulative energy savings for the 2006-2008 program cycle. Energy Division is currently analyzing the energy savings data for 2008 and is scheduled to complete a Verification Report in August 2009. Energy Division’s final report on the energy savings impacts of the IOUs’ 2006-2008 programs will be available in March 2010.

¹⁰ R.09-01-019, available at http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/97023.htm

2009 IOU Energy Efficiency Programs

The 2009-2011 energy efficiency program cycle planning commenced in 2007. In that year the Commission adopted the planning framework for 2009-2011 and beyond, as well as four Big Bold Energy Efficiency Strategies to serve as long-term markers for deep and widely-adopted energy savings. In 2008 the Commission updated the efficiency goals for 2008-2020, bringing this into conformity with the planning period for the AB 32 Scoping Plan for greenhouse gas reduction strategies, and adopted the comprehensive Energy Efficiency Strategic Plan. The Plan reflected the extensive work that commenced in the fall of 2007 of a dozen working groups, over 40 public workshops, and the participation of over 500 individual stakeholders. The Plan is a single, comprehensive statewide long-term energy efficiency plan that embraces the Commission's ultimate goal of making energy efficiency a way of life. After an initial utility application for the 2009-2011 program period in mid-2008, the Commission directed the utilities to re-file plans in early 2009 to better reflect the aims and strategies articulated in the Strategic Plan. The IOUs submitted their 2009-2011 program plans to the Commission with initial proposed funding of \$4.2 billion for the next three-year program cycle, double the amount of the budget authorized for the 2006-2008 cycle. The Commission is currently reviewing the IOUs' applications, has sponsored numerous public workshops, and has taken stakeholder comment on these proposals. The Commission is expected to issue a decision on the IOUs' programs and budgets in September 2009.

2. INTRODUCTION

The California Public Utilities Commission (CPUC or Commission) has long been in the national and international forefront of pursuing and achieving energy savings through our 30-year history with energy efficiency programs. Energy efficiency is California's highest priority resource for meeting growing state energy needs in a clean, low cost manner and for fighting global warming. Producing “nega-watts,” “nega-watt hours” and “nega-therms” of energy by using limited energy supplies more efficiently is smart business - smart for California’s ratepayers and the least-cost way to address climate change.

The four largest investor-owned utilities (IOUs) in California are Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and Southern California Gas (SCG, or SoCalGas). Each of the IOUs serve customers located in their respective geographic areas, with PG&E and SDG&E providing electric and natural gas services, SCE providing electric service, and SCG providing natural gas services. These utilities serve over two thirds of total electricity demand and over three quarters of natural gas demand throughout California.¹¹ The IOUs play a key role as administrators of ratepayer-funded energy efficiency programs overseen by the CPUC. Due to this close interrelationship, this report addresses CPUC activities and IOU achievements spanning the 2004-2005 and 2006-2008 energy efficiency program periods.

3. CPUC POLICY and PROCEDURAL UPDATES

The CPUC is aggressively pursuing actions to further achieve energy efficiency goals. Since the 2005 report, the Commission has issued a number of significant policy decisions that have highlighted the importance of energy efficiency as the priority resource to meet California’s energy needs in the future. This section summarizes those milestones as they relate to the CPUC’s energy efficiency goals and programs.

3.1 Energy Action Plan

In 2003, the CPUC, in collaboration with the CEC and the Consumer Power and Conservation Financing Authority (now defunct) issued the first Energy Action Plan (EAP). The plan, developed in response to a crisis in California’s energy markets, represented a high-level, coherent approach to meeting California’s energy and natural gas needs. Significantly, the initial EAP set forth a loading order to define future efforts to meet California’s energy needs.¹² The loading order stipulated that the state would invest first in energy efficiency and demand-

¹¹ CPUC Annual Report 2008, available at: <http://www.cpuc.ca.gov/NR/rdonlyres/F7CE31C1-64AF-4656-8646-57E2D52264E2/0/CPUC2008AnnualReport.pdf>

¹² “Energy Action Plan I”, California Energy Commission, California Public Utilities Commission and Consumer Power and Conservation Financing Authority. May 8, 2003. Available at: http://docs.cpuc.ca.gov/word_pdf/REPORT/28715.pdf

side resources. The EAP is a “living” process, and there have been two subsequent plans issued in the past five years.

Energy Action Plan II (EAP II), issued in October 2005, described a coordinated implementation plan for state energy policies articulated through Executive Orders, instructions to agencies, public positions and appointees’ statements, the CEC’s Integrated Energy Policy Report (IEPR), CPUC and CEC processes, the agencies’ policy forums, and legislative direction. EAP II added important dimensions to the policies outlined in the first EAP. Climate change became a fundamental consideration in future energy planning, with a coordinated implementation plan for state energy policies and a reiterated commitment to the loading order described in the first EAP. EAP II declared:

“The goal is for California’s energy to be adequate, affordable, technologically advanced and environmentally-sound. Cost-effective energy efficiency is the resource of first choice for meeting California’s energy needs. Energy efficiency is the least cost, most reliable, and most environmentally-sensitive resource, and minimizes our contribution to climate change.”¹³

EAP II identified 15 action items to facilitate deployment of all cost-effective energy efficiency measures in the state, including increasing public outreach and education; promoting research, development and demonstration; and improving the evaluation, measurement and verification of energy efficiency programs. Action Item #1 requires:

“That all cost-effective energy efficiency is integrated into utilities’ resource plans on an equal basis with supply-side resource options..”¹⁴

The 2008 Update to the Energy Action Plan, issued in February 2008,¹⁵ refined the process initially outlined in EAP I, and complemented the overall guiding document on state energy policy, the CEC’s Integrated Energy Policy Report (IEPR).¹⁶

The 2008 EAP Update states, “the most important tool for addressing greenhouse gas emissions in the energy sector is energy efficiency.”¹⁷ Additionally, the report cited the 2006 California Climate Action Team report, which forecasts that nearly 25 percent of the emissions reductions targeted for 2020 will come from some form of energy efficiency, either through improved

¹³ “Energy Action Plan II, Implementation Roadmap for Energy Policies”, California Energy Commission and California Public Utilities Commission, September 21, 2005. Available at: http://docs.cpuc.ca.gov/word_pdf/REPORT/51604.pdf

¹⁴ Ibid.

¹⁵ Energy Action Plan Update 2008, February 2008, available at: <http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>

¹⁶ Available at http://www.energy.ca.gov/2009_energy/policy/documents/index.html

¹⁷ Energy Action Plan Update 2008, February 2008, available at: <http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>

building codes or appliance standards, utility energy efficiency programs, or smart growth strategies.¹⁸

3.2 Strategic Plan and Market Transformation

In 1998, the Commission initiated the idea of market transformation as it relates to energy efficiency programs.¹⁹ Specifically, the Commission defined market transformation as:

“long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”²⁰

IOU and Commission efforts with regard to energy efficiency programs have long sought to achieve this goal. Over time, the need for strategic planning to transcend existing utility energy efficiency programs and incorporate the ideas and resources of other market actors became clear. Thus, in October 2007, the Commission directed the IOUs to collectively prepare a “single, comprehensive statewide long-term energy efficiency plan” that embraces the Commission’s ultimate goal of making energy efficiency a way of life.²¹ The IOUs submitted their proposed Strategic Plan in June 2008. The Commission subsequently opened a rulemaking proceeding²² the following month to further integrate extensive public feedback from public workshops and stakeholder comments, better reflect a statewide approach, and integrate the actions that will be required from a wide variety of market actors – from product manufacturers and builders to service providers and local governments. This resulted in the release of a Commission-sponsored, widely acclaimed, and broadly embraced California Long Term Energy Efficiency Strategic Plan. The Commission adopted the Plan in September 2008.²³

While the CPUC Strategic Plan acknowledges the comprehensive policy framework that has already defined California’s energy efficiency investment to date, it focuses on looking forward by highlighting important long-term issues such as California’s growing population, increasing demand for energy, and the imminent need to reduce greenhouse gas (GHG) emissions, as mandated by the California Global Warming Solutions Act of 2006 (AB 32). The Strategic Plan clearly states that energy efficiency, as both an emissions-free and low-cost energy resource alternative, will play a central role in addressing these challenges. A key element of the Strategic Plan is its articulation of how energy efficiency implementation strategies should be designed with the goal of moving beyond a narrow focus of achieving short-term savings to a more strategic focus of producing deep levels of energy efficiency throughout the state that

¹⁸ California Climate Action Team Report, 2006, available at:

http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF

¹⁹ D. 98-04-063, available in hard copy format from the CPUC Energy Division

²⁰ Ibid.

²¹ D.07-10-032, available at: http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/74107.PDF

²² R.08-07-011, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/85150.pdf

²³ D.08-09-040, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/91068.PDF

fully exploit economic potential, making efficiency become “business as usual”, and achieving a set of long-term efficiency resource goals. The Strategic Plan sets forth a roadmap for energy efficiency in California through the year 2020 and beyond. Consequently, the Strategic Plan will have a significant influence on CPUC energy efficiency programs beginning with the 2009-2011 program cycle. It builds on the legacy of prior Energy Action Plans, the CEC’s Integrated Energy Policy Report (issued in 2007), and Commission decisions that created a policy framework to motivate the IOUs to develop and continuously expand energy efficiency programs on behalf of their customers.

Echoing the Commission’s initial definition of market transformation in 1998, the Commission stated that “a key element of the Strategic Plan is that it articulates how energy efficiency programs are or will be designed with the goal of transitioning to either the marketplace without ratepayer subsidies, or codes and standards.”²⁴ Historically, ratepayer funded energy efficiency programs were designed to either encourage the sale of products and services to “push” the market or “pull” consumers to purchase these products. The Strategic Plan, however, states that such utility programs have overly relied on measures that produce easily-quantified, low-cost, near-term savings with limited market effects (i.e. replacing incandescent bulbs with compact fluorescents) at the expense of long-term transformation (i.e. multi-year and holistic lighting system strategies). The evaluative framework used to assess utility performance against the CPUC’s energy savings goals emphasizes short-term measurable savings and thus does not provide strong incentives to pursue longer-term strategic efforts that may not produce measurable savings in the nearer term. The Strategic Plan fills this gap by identifying efforts that are critically important to realizing the full potential of energy efficiency in the state. Coupled with the IOUs’ energy efficiency portfolios, the Strategic Plan provides a comprehensive policy approach to maximizing energy efficiency savings by addressing both the near and longer term timeframes.

The Strategic Plan embraces four distinct programmatic goals that serve as cornerstones for this transition to market transformation. The four cornerstones have been labeled “Big Bold Energy Efficiency Strategies” (BBEES). These are:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2020;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure its energy performance is optimal for California’s climate; and
- All eligible low-income customers will be given the opportunity to participate in the low income energy efficiency program by 2020.

²⁴ D.07-10-032, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/74107.PDF.

Additionally, the Strategic Plan identifies five policy tools for market transformation to occur:

- **Customer Incentives**, including rebates, innovative or discounted financing, and/or non-financial support to consumers are the “carrots” that help pull consumers into choosing the efficient option.
- **Codes and Standards**, which mandate minimum efficiency thresholds for buildings, appliances and/or equipment, remove the less efficient choices from the marketplace, and are the “sticks” that push builders and manufacturers to provide efficient goods and services.
- **Education and Information** through marketing, education and outreach inform market actors about energy efficiency opportunities. These programs often include labeling; benchmarking; internet-based comparisons; professional and trade materials; school curricula; peer-to-peer exchanges; and other resources.
- **Technical Assistance**, which helps to ensure that knowledge barriers on the part of customers, installers or retailers are not unnecessarily hampering the progress of critical efficiency initiatives.
- **Emerging Technologies**, which rely on research, development, demonstration and/or deployment to move energy-efficient products and developments from the laboratory into the commercial marketplace.

Finally, the Strategic Plan is acknowledged as a dynamic and “living” document that over time will be updated to accommodate and reflect experiences in the field and various program outcomes and allow California to take advantage of ever-more cost-effective ways of implementing energy efficiency programs in the future.

3.3 New Energy Efficiency Savings Goals for 2012-2020

In September 2004, the Commission established²⁵ explicit, numerical goals for electricity and natural gas savings for the IOUs through the year 2013, including the 2006-2008 program cycle, and also defined a new accounting standard for measuring energy savings from energy efficiency programs. For post-2005 programs, commitments would no longer be counted and only actual installations would be considered in evaluating portfolio performance relative to the adopted goals.

In July 2008,²⁶ the Commission set forth energy savings goals through 2020. The first part of the decision prescribes the adoption of interim electricity and natural gas energy efficiency

²⁵ D. 04-09-060, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/40212.PDF

²⁶ D. 08-07-047, available at: http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/85995.PDF

savings goals for 2012-2020 that will be based on a “total market gross” definition. These adopted “total market gross” goals will encompass not just savings expected from utility programs, but also savings from other critical activities such as state building standards, federal appliance standards, the CPUC’s Big Bold Energy Efficiency Strategies, and AB 1109, which requires improvement in general service lighting as a means of substantially reducing energy consumption. The goals call for energy savings within IOU service areas of over 4,500 megawatts, the equivalent of nine major power plants, and over 16,000 GWh of electricity savings and 620 million therms for 2012-2020.

The interim goals adopted in the decision are to be considered by the California Air Resources Board (CARB) as that agency embarks on the implementation of AB32 and provide guidance for the Commission’s long-term procurement planning process. Additionally, the second part of the decision establishes that the energy efficiency savings goals for the 2009-2011 program cycle will be defined as “gross.” These “gross” energy savings goals will include all “free riders”²⁷ and additional market effects of the utility programs on actions taken outside the program in order to better reflect changes in underlying energy efficiency calculations since 2004 and to assist utilities in developing portfolios consistent with the Strategic Plan and D.07-10-032.²⁸

3.4 Green Building Initiative (GBI)

On December 14, 2004, the Governor signed Executive Order S-20-04, the “Green Building Initiative.” It established the State of California’s priority for energy and resource-efficient high performance buildings. It directed the CPUC to use its authority over the IOUs’ energy efficiency programs to help achieve the Initiative’s energy savings goals.²⁹ Specifically, the GBI declared that all state buildings are required to reduce their grid-based energy purchases 20 percent by the year 2015 over a 2003 baseline.

The CPUC actively supports the GBI by ensuring the IOUs’ programs meet CPUC-mandated energy savings goals in parallel with offering important programs and services that enable commercial and institutional buildings to achieve the GBI goals. At the time of the CPUC’s last report in 2005, the Commission was evaluating the extent to which energy efficiency programs could be used to support the goals of the GBI. Subsequently, in September 2005,³⁰ the Commission directed the IOUs to consider the GBI in their energy efficiency program portfolios for the 2006-2008 program cycle. Of the approximately \$2 billion in ratepayer funding authorized for the 2006-2008 program cycle, some \$700 million or nearly one-third was spent on programs that the IOUs identified as contributing to GBI goals. These programs combined the use of outreach efforts (to inform building owners and operators of opportunities to

²⁷ “Free riders” are defined as program participants who would have implemented the program measure or practice in the absence of the program.

²⁸ D.08-07-047, available at: http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/85995.PDF

²⁹ See <http://www.energy.ca.gov/greenbuilding/>

³⁰ D.05-09-043, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/49859.pdf.

improve energy efficiency) and a broad mix of program delivery methods that included rebates and incentives to encourage investment in energy efficient technologies.

The CPUC also directed the IOUs to report on GBI achievements by market segment, specifically state buildings, commercial buildings (private sector) and other public buildings (federal and local governments) on a quarterly basis and post these reports on a publicly accessible website (<http://eega2006.cpuc.ca.gov/>). Section 5.4 below shows summary data from the IOUs related to their projected and reported energy savings from specific GBI-related programs.

3.5 Administrative Structure for Post-2005 Energy Efficiency Programs

In January 2005,³¹ the CPUC adopted an administrative structure for post-2005 energy efficiency programs designed to meet the objectives of the Energy Action Plan and the load reduction reflected in the energy savings goals adopted in September 2004.³² The Commission replaced the design of previous program cycles, which occurred either annually or, in the case of the 2004-2005 cycle, over the course of two years, with a three-year program cycle to encourage longer term planning. The Commission directed that utility energy efficiency performance be evaluated based on overall portfolio energy savings achievements, rather than on the performance of each individual program, in order to “encourage innovation, and allow for some risk-taking on pilot programs and/or measures in the portfolio.”³³ Consequently, for the purposes of this report, projected and actual energy savings are at the overall portfolio level.

For the 2006-2008 and future program cycles, the adopted structure returned to the utilities the functions of selecting the activities and implementers for the portfolio of energy efficiency programs (this function is referred to as program choice) and the daily tasks associated with administering and coordinating program activities during funding cycles (this function is referred to as portfolio management). While also providing program oversight, the CPUC Energy Division became responsible for managing and contracting for all evaluation, measurement and verification (EM&V) studies to:

- Measure and verify energy and peak load savings for individual programs, groups of programs and at the portfolio level;
- Generate the data for savings estimates and cost-effectiveness inputs;
- Measure and evaluate achievements of energy efficiency programs, groups of programs and/or the portfolio terms of the “performance basis” established under the CPUC-adopted EM&V protocols;³⁴

³¹ D.05-01-055, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/43628.PDF

³² D.04-09-060, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/40212.PDF

³³ D.05-04-051, available at: http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/45783.PDF.

³⁴ The California Energy Efficiency Evaluation Protocols are guidance tools policymakers use to plan and structure evaluation efforts and that staff of the California Public Utilities Commission’s Energy Division (CPUC-ED) and the California Energy Commission (CEC) (collectively the Joint Staff), and the portfolio (or program) administrators (Administrators) use to plan and oversee the completion of evaluation efforts. The Protocols are also guidance documents for the design and evaluation of

- Evaluate whether programs or portfolio goals are met.

3.6 The Risk-Reward Incentive Mechanism (RRIM)

Beginning with the 2006-2008 program cycle, the Commission also adopted a Risk/Reward Incentive Mechanism (RRIM), which was intended to reward IOUs for the successful procurement of cost-effective energy efficiency programs and address an inherent utility bias towards supply-side procurement under cost-of-service regulation and investment in “steel in the ground” as a means of generating earnings for shareholders.

The RRIM seeks to align ratepayer and shareholder interests by creating “incentives of a sufficient level to insure that utility investors and managers view energy efficiency as a core part of the utility’s regulated operations that can generate meaningful earnings for its shareholders.”³⁵ The incentive mechanism also aimed to protect ratepayers’ financial investment in energy efficiency, ensure that program savings are real and verified, and impose penalties for substandard performance.

The RRIM includes a Minimum Performance Standard (MPS), which is the minimum level of savings that IOUs must achieve relative to the Commission-adopted savings goal before accruing any earnings. IOU savings are based on overall portfolio performance, rather than the energy savings performance of each individual measure and program. The IOUs must achieve a minimum of 80% of the savings goals for each of three individual savings metrics (MW, GWh, and MTherms), *and* achieve a minimum of 85% of the savings goals, based on a simple average of the percentage achieved for each individual goal.³⁶

If a utility meets the MPS and is eligible for shareholder incentive rewards, the specific amount is determined by applying a “shared savings rate” associated with a given level of goal achievement to the Performance Earnings Basis (PEB), which represents an estimate of the net benefits created by the utility portfolios.

As Figure 1 illustrates, earnings begin to accrue at a 9% sharing rate if the utility meets the individual thresholds and 85% of the Commission’s savings goals adopted in D04-09-060. If the utility meets 100% of the goals, earnings increase from 9% to 12%. Conversely, if utility portfolio performance falls to 65% of the adopted savings goals or lower, financial penalties begin to accrue. There are two penalty provisions and the greater of the two applies when savings fall to (or below) the 65% threshold. “Per unit” penalties are \$.05 per kWh, \$.45 per therm and \$25 per kW for each unit below the savings goal. Should performance fall below 50% of the savings goals, penalties associated with the cost-effectiveness guarantee are

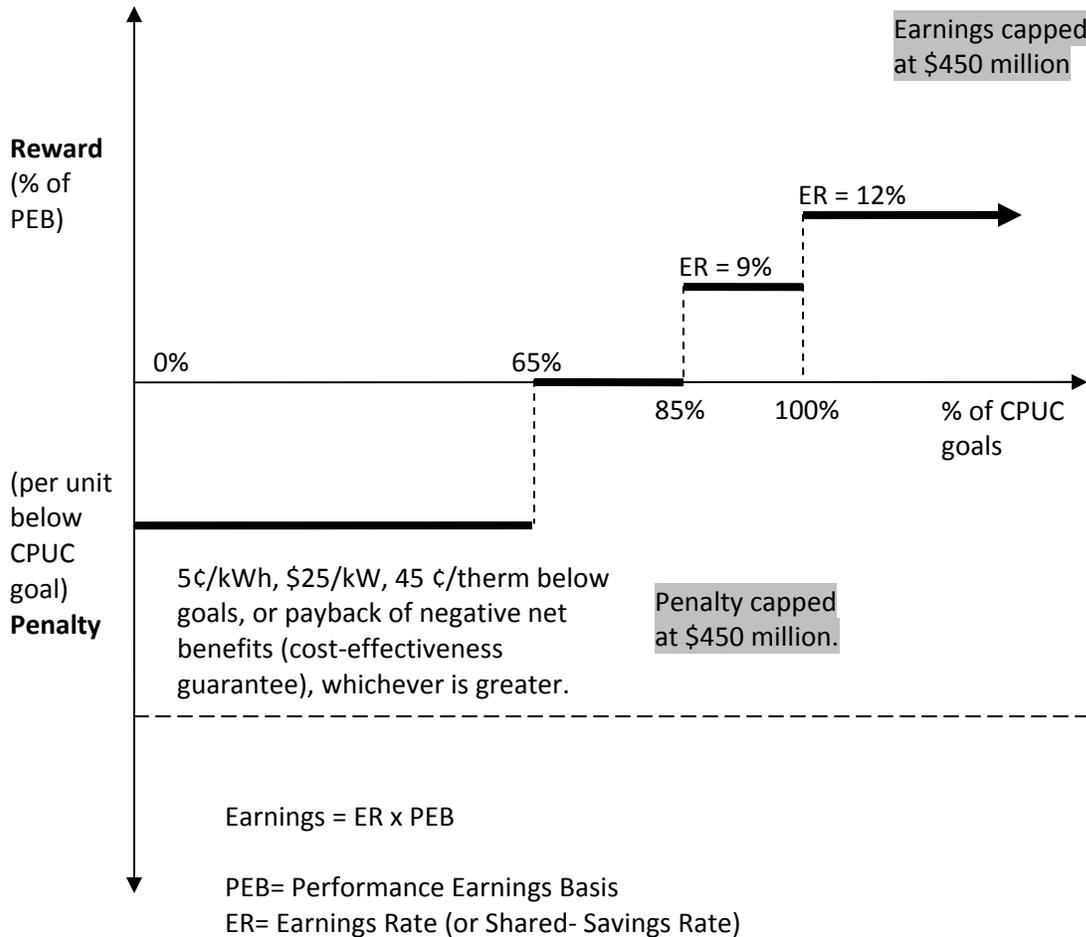
programs implemented after December 31, 2005. The Protocols are available at <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/>

³⁵ D.07-09-043, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/73172.PDF, as modified by D.08-01-042, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/78370.PDF

³⁶ In D.07-09-043, the Commission established an MPS of 80% for SoCalGas, because it is subject to a single goal (for MTherms) and consequently has less flexibility than the other IOUs in meeting an average MPS of 85%.

expected to become larger than per-unit penalties and shareholders are obligated to pay ratepayers back dollar-for-dollar for negative net benefits. There are no earnings penalties within what is called a “deadband” range of performance greater than 65% and less than 85% of goals achievement. The earnings and penalties are capped at \$450 million for all four IOUs.

Figure 1: Adopted Incentive Mechanism Earnings/Penalty Curve



Over the course of a three-year program cycle, there are two “progress payment” interim earnings claims from the IOUs, based on verified measure installation and cost reports combined with *ex ante* (pre-installation) performance estimates, with a final true-up claim to determine the level of net benefits (PEB) and MW, GwH and MTherm savings produced by the portfolio over the three year period. Thirty percent of the interim claims are held back with their ultimate disbursement dependent upon the final true-up, which is based on *ex post* (after installation) performance review at the end of the three-year cycle. All of these claims are linked to the Energy Division’s Verification and Performance Basis Reports.

The Commission intended that the RRIM be used for the 2006-2008 and subsequent program cycles, and also envisioned that it be revisited in 2011. The Commission further indicated that

changes to overall energy savings goals could result in a need for modifications to the RRIM.³⁷ See Section 7.6 for additional discussion of the new proceeding initiated by the Commission to reassess the RRIM.

4. THE 2004-2005 ENERGY EFFICIENCY PROGRAM CYCLE

The previous Commission report in July 2005 summarized the programs developed for the 2004-2005 program cycle and provided a partial accounting of energy savings based on data for 2004 as reported by the IOUs to the Commission's Energy Efficiency Groupware Application (EEGA) website.³⁸ (The EEGA website is a public-access repository of up-to-date IOU-reported energy savings.) For that program cycle, the CPUC approved:

- \$706 million for 2004-2005 programs sponsored by utilities;
- \$114 million for 2004-2005 programs sponsored by non-utility entities;
- \$24 million for 2004-2005 program studies and contract administration.

Subsequent to the Commission's previous report, the programs implemented in the 2004-2005 cycle were subjected to full impact evaluations. The IOUs hired evaluation contractors starting in 2004, with final evaluation plans approved by Energy Division staff. The contractors conducted program evaluations, and the utilities, Energy Division staff and Energy Division consultants reviewed the draft evaluation results.

The data representing the actual energy efficiency savings generated by the IOU programs undergo a process of refinement over the course of each program cycle. Initially, the IOUs file their proposed portfolio of programs and project the savings achievable from each program and for the entire portfolio. Typically this indicates that their program offerings will exceed the annual and cumulative CPUC goals set for that program cycle.

Once approved, programs begin operation, achieve actual savings and the IOUs report these savings to the CPUC/EEGA website monthly, quarterly and annually until the completion of the program cycle. The reported figures are referred to as "*ex-ante*" because they use some savings assumptions for the purposes of reporting and projected energy savings. Over the course of a program cycle, these *ex-ante* figures may be updated and used to determine verified energy savings results.

The CPUC requires rigorous measurement and verification of the reported savings and evaluation of the largest programs by independent contractors.³⁹ This process allows for actual savings to be determined for certain measures and verifies that savings that were reported

³⁷ D08-07-047, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/85995.PDF

³⁸ EEGA is located at <http://eega2006.cpuc.ca.gov/>.

³⁹ For the 2004-2005 program cycle, the IOUs hired and managed the evaluation contractors.

were actually installed. This “true-up” process adjusts the savings achievements reported by IOUs and results in the “*ex-post*” (actual post-installation) energy savings totals.

In Table 1, the first column represents the cumulative energy savings associated with the 2004-2005 program cycle that the IOUs reported on the EEGA website. The second column provides the final cumulative savings based on the evaluation results for that program cycle as determined by Energy Division in its Verification Report. (See discussion of the 2006-2007 Verification Report in Section 6.1.)

Table 1. 2004-2005 Cumulative IOU Reported Energy Savings and Verified Savings Results⁴⁰

	IOU Reported Energy Savings	CPUC Goal	Final Verified Energy Savings	% of CPUC Goal
PG&E				
GWh-Annual	1741.4	1487	1011.6	68%
MW	356.9	321.5	216.8	67%
MMTherm-Annual	44.7	19.6	19.1	100%
SCE				
GWh-Annual	2296.9	1652	1498	91%
MW	529.4	333.95	270.5	81%
SDG&E				
GWh-Annual	632.4	536	342.6	64%
MW	121.3	100.78	59.3	59%
MMTherm-Annual	3.6	3.7	4.5	126%
SoCalGas				
MMTherm-Annual	26.3	19.2	11.1	58%

The results for the 2004-2005 program cycle illustrate the distinct differences between energy savings that are “self-reported” by the IOUs to the EEGA website and actual verified energy savings as determined by Energy Division. Such differences are not uncommon, due the *ex post* nature of the evaluative framework, which relies on energy savings assumptions that are updated late in the program cycle after reported data are submitted. Those assumptions differ from those used to plan the programs and used for purposes of the IOU-reported data. Thus, the data are not strictly comparable, but all data is presented in this report for reference. While some significant natural gas energy savings goals were met, significant savings opportunities in terms of GWh and MW were not fully maximized.

⁴⁰ Energy Efficiency 2006-2007 Verification Report, available at:
http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117_Verification+Report.htm

5. THE 2006-2008 ENERGY EFFICIENCY PROGRAM CYCLE

5.1 IOU Programs and Budgets for the 2006-2008 Energy Efficiency Program Cycle

In September 2005,⁴¹ the Commission authorized IOU energy efficiency portfolio plans and initial funding levels for the 2006-2008 program cycle. Funding for these programs is collected via a surcharge that IOU customers pay based on their electricity and natural gas consumption. The Commission authorized \$1.97 billion in funding to be used by the four IOUs to implement their energy efficiency programs over the three-year cycle.⁴² Summary and detailed funding, and projected energy savings for the three-year program cycle are described in Table 2, Table 3, and Table 4, respectively. Note that for the 2006-2008 program cycle, the Commission approved fund-shifting rules that afforded the IOUs greater latitude in allocating funds among budget categories within programs, among programs within a category, and among categories, creating the potential for program budgets at the end of the program cycle that differed from those initially authorized in 2005.

Table 2. Summary of Initial Authorized Energy Efficiency Budgets , 2006-2008 Program Cycle⁴³

	2006	2007	2008	2006-2008
PG&E	\$244,653,750	\$279,428,777	\$343,385,716	\$867,468,243
SCE	\$216,574,075	\$225,111,946	\$233,145,977	\$674,831,998
SDG&E	\$75,135,490	\$84,665,039	\$97,740,036	\$257,540,565
SCG	\$44,322,946	\$56,582,684	\$68,016,003	\$168,921,633
Total	\$580,686,261	\$645,788,446	\$742,287,732	\$1,968,762,439

⁴¹ D.05-09-043, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/49859.PDF

⁴²The Commission authorized additional funding of \$162.8 million for evaluation, measurement, and verification (EM&V) activities to be conducted by CPUC staff and the IOUs over the 2006-2008 program cycle in D.05-11-011. The Commission also authorized \$87.3 million in additional program funding for PG&E and SCE in D.06-12-013, D. 08-10-027, and Resolution G-3421.

⁴³ D.05-09-043, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/49859.PDF

Table 3. IOU Energy Efficiency Programs and Budgets, 2006-2008 Program Cycle⁴⁴

SDG&E	2006-2008 Budget	SCE	2006-2008 Budget
Programs Without Reported Savings		Programs Reporting Energy and Demand Savings	
Codes and Standards	\$1,200,000	Appliance Recycling	\$39,885,951
Emerging Technologies	\$4,089,000	Residential EE Rebates	\$67,301,657
Statewide Marketing and Outreach	\$8,383,230	Multifamily Rebates	\$53,165,366
On-Bill Financing for EE Equipment	\$3,750,000	Home Energy Efficiency Surveys	\$5,965,280
Residential Customer Education & Information	\$2,198,208	Integrated Schools	\$4,988,158
Partnership Programs(1)		CA New Homes	\$18,332,158
IOU/Community College	\$6,000,000	Comprehensive HVAC - Residential	\$13,413,906
CA Dept. of Corrections	\$1,200,000	Comprehensive HVAC - Non-Residential	\$47,233,739
IOU/UC/CSU	\$6,000,000	Retrocommissioning	\$11,756,050
City of Chula Vista	\$2,193,225	Industrial Processes	\$40,535,116
City of San Diego	\$2,883,768	Agricultural Energy Efficiency	\$38,062,834
SDREO Energy Resource Center	\$4,131,581	Small Business Direct Install	\$48,400,458
County of San Diego	\$989,000	Savings by Design	\$30,932,770
San Diego Water Authority	\$2,137,000	Sustainable Communities	\$4,429,150
Programs Reporting Energy and Demand Savings		Business Incentives Program	\$105,923,305
Savings By Design	\$13,599,939	Partnerships	\$44,491,054
Energy Savings Bids	\$50,943,289	IDEEA	\$32,662,058
Express Efficiency Rebate Program (2)	\$9,958,395	InDEE	\$5,780,860
Small Business Super Saver	\$30,946,431	Third Party Programs	\$0
Standard Performance	\$10,927,951	IOU Contract Admin Fee	\$0
Third Party(2,3)	\$51,508,113	Summer Initiative	\$0
Upstream Lighting(4)	\$16,877,863	Programs Without Reported Savings	
Advanced Home(1)	\$6,639,750	Flex Your Power/Marketing Outreach	\$20,213,514
Sustainable Communities	\$1,694,830	Education Training and Outreach	\$24,076,499
Lighting Exchange and Education	\$1,550,330	Emerging Technologies	\$11,430,240
Limited Income Refrigerator Replacement	\$3,271,560	Codes and Standards Advocacy	\$5,851,877
Multi-Family Rebate	\$6,778,144	Total SCE Program Budget	\$674,832,000
Single-Family(2,4)	\$7,688,958	Total SCE EM&V Budget	\$53,986,560
Total SDG&E Program Budget	\$257,540,565	Total SCE Portfolio Budget	\$728,818,559
Total SDG&E EM&V Budget	\$20,603,245		
Total SDG&E Portfolio Budget	\$278,143,810		

- (1) New Programs for 2006-2008
- (2) Includes Winter Filing funds authorized in D04-12-019
- (3) Budget includes IOU administration and Non-IOU program budget
- (4) In 2005 Single Family Rebate and Upstream Lighting were both part of Single Family Rebate

PG&E	2006-2008 Budget	SCG	2006-2008 Budget
Programs With Reported Savings		Programs Reporting Energy and Demand Savings	
Mass Market	\$450,928,124	Multi-Family Rebate	\$9,500,000
Industrial	\$121,840,379	Advanced Home	\$8,750,000
Agricultural and Food Processing	\$47,523,131	Third Party	\$33,784,327
Commercial (Office Buildings)	\$36,899,055	Express Efficiency Rebate	\$22,101,237
Medical	\$28,419,024	Local Business Energy Efficiency	\$26,846,940
Retail	\$18,868,784	Home Efficiency Rebate	\$19,500,000
High Technology	\$19,337,223	Savings by Design SCG SCE	\$7,500,000
Schools, Colleges and Universities	\$18,391,870	Savings by Design SCG Muni	\$3,000,000
Hospitality (Lodging)	\$5,975,472	Sustainable Communities Demo/City of Santa Monica	\$900,000
Residential New Construction	\$36,046,067	Programs Without Reported Savings	
Programs Without Reported Savings		Home Energy Efficiency Survey	\$1,900,000
Statewide Marketing and Information	\$26,948,382	Codes and Standards	\$900,000
Emerging Technologies	\$11,260,377	Education and Training	\$6,450,000
Education and Training	\$40,394,601	Energy Efficiency Delivery Channel Innovation	\$3,000,000
Codes and Standards	\$4,635,754	Emerging Technologies	\$3,000,000
Total PG&E Program Budget	\$867,468,243	Statewide Marketing and Outreach	\$6,039,129
Total PG&E EM&V Budget	\$75,432,017	On-Bill Financing for Energy Efficiency Equipment	\$3,750,000
Total PG&E Portfolio Budget	\$942,900,260	Partnership Programs	\$12,000,000
		Total SCG Program Budget	\$168,921,633
		Total SCG EM&V Budget	\$13,313,731
		Total SCG Portfolio Budget	\$182,235,364

⁴⁴ Ibid.

The CPUC directed that the IOUs identify a minimum of 20% of funding for the entire 2006-2008 portfolio to be put out for competitive bids by third parties for the purpose of soliciting innovative ideas and proposals for improved portfolio performance.⁴⁵ Pursuant to that directive, approximately \$500 million of the program funds were set aside for third-party proposals. These programs are part of the utilities' portfolios, and energy savings realized by the programs apply toward the utilities' energy savings goals.

Program examples include:

PG&E's Fabrication, Process and Heavy Industrial Manufacturing Program - The program will support energy efficiency project development through on-site facility audits, facility benchmarking and customized design assistance and engineering support as well incentives for energy efficient retrofit and new construction. The program has statewide elements and customized support and targets manufacturing and process industries such as printing plants, plastic injection molding facilities, lumber and paper mills, metal processing, petroleum refineries, chemical industries, assembly plants and water treatment plants.

SCE's Business Incentive Program – The Business Incentive Program targets all non-residential customers regardless of size in terms of monthly kW demand. It offers a full range of solutions, including audits, design assistance, and incentives for qualifying measures. The program is primarily delivered directly to customers by vendors, SCE account representatives, direct mail, or the Internet. The intent of dividing the program in terms of itemized, calculated, and customized rebates is to make it easier for customers to participate in energy efficiency activities and to receive acknowledgement in the form of a financial incentive.

SDG&E's Upstream Lighting Program – This program provides rebates to customers via manufacturer-to-retailer discounts or buy-downs to motivate consumers to purchase and install qualifying energy efficient lighting products. Incentives are provided to the customer through a discounted price or a discount at the register so there is no application needed. The program targets customers who shop at home improvement, grocery and drug stores such as single-family homeowners, renters, and multi-family tenants as well as some apartment and small business owners.

SCG's Single Family Home Energy Efficiency Retrofit Program – A program designed to help residential customers reduce their natural gas energy usage by replacing inefficient appliances with new energy-efficient appliances and weatherizing their homes. The program offers rebates for installation of energy efficient natural gas measures and targets residential home owners and renters of single-family homes, condominiums, mobile homes, and attached homes up to a four-plex.

⁴⁵ D.05-09-043, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/49859.PDF

The utilities' portfolios also continued their history of partnering with local governments and other entities in order to effectively tap the energy savings potential in local communities. There were over 50 local government partnership programs in the 2006-2008 cycle.

Each of the IOUs' 2006-2008 portfolios included support for statewide program activities in the areas of emerging technologies, codes and standards, and statewide marketing and outreach. The Flex Your Power statewide campaign closely coordinates with the utilities, third-party implementers and other program providers to develop materials, events, the website and other outreach strategies that provide program information using consistent and compelling messages. Specific targeted campaigns for rural areas and to reach California's Hispanic population were also funded under the program.

5.2 Projected Energy Savings, Cost-Effectiveness and CO2 Reductions for the 2006-2008 Cycle

Based on the IOUs' applications for the 2006-2008 program cycle, in which the IOUs expected to exceed the Commission's energy savings targets cost-effectively, projected total resource savings to ratepayers (avoided utility generation and electric power and natural gas purchases, transmission and distribution costs) based on achieving those energy savings targets were estimated to be approximately \$5.4 billion over the life of the measures. Table 4 illustrates the annual IOU projected energy savings for 2006-2008 compared to Commission-established energy savings goals.⁴⁶

Table 4. IOU Projected Annual Energy Savings for 2006-2008⁴⁷

	<u>2006</u>	CPUC Goal	% of Goal	<u>2007</u>	CPUC Goal	% of Goal	<u>2008</u>	CPUC Goal	% of Goal	Total	CPUC Goal	% of Goal
PG&E												
Net Summer MW	132	180	73.1%	223	205	108.8%	258	228	113.3%	613	613	100.0%
Net Annual GWh	677	829	81.7%	1,125	944	119.1%	1,261	1,053	119.8%	3,063	2,826	108.4%
Net Annual MTherms	10,147	12,600	80.5%	17,889	14,900	120.1%	19,465	17,400	111.9%	47,500	44,900	105.8%
SDG&E												
Net Summer MW	59	55	106.5%	71	54	132.0%	88	54	163.4%	218	163	133.8%
Net Annual GWh	287	281	102.0%	329	285	115.5%	376	284	132.3%	992	850	116.6%
Net Annual MTherms	3,813	2,700	141.2%	4,002	3,100	129.1%	3,846	3,700	103.9%	11,661	9,500	122.7%
SCG												
Net Summer MW	na			na			na			na		
Net Annual GWh	na			na			na			na		
Net Annual MTherms	18,127	14,700	123.3%	23,306	19,300	120.8%	26,673	23,300	114.5%	68,105	57,300	118.9%
SCE												
Net Summer MW	199	207	95.9%	311	227	137.2%	344	253	135.9%	854	687	124.3%
Net Annual GWh	769	922	83.4%	1,204	1,046	115.1%	1,340	1,167	114.8%	3,313	3,135	105.7%
Net Annual MTherms	na			na			na			na		

The IOUs also estimated the cost-effectiveness of their respective portfolios/programs, which is measured by the Total Resource Cost (TRC) and Program Administrator Cost (PAC) tests. The

⁴⁶ See the CPUC website (www.cpuc.ca.gov) for complete energy savings goals data for the 2006-2008 program cycle

⁴⁷ As reported to the EEGA website, <http://eega2006.cpuc.ca.gov>

TRC measures the net resource benefits from the perspective of all ratepayers by combining the net benefits of the program to participants and non-participants. Benefits are the costs of supply-side resources avoided or deferred, while the costs include all those paid by both the utility and participant and encompass costs of the measures and installed equipment and the costs incurred to start and administer the program. Under the TRC, a program is cost-effective when the value of the total energy savings for ratepayers (estimated in dollars) is greater than the total cost to ratepayers of the installed measures and all costs incurred to start and administer the program, excluding incentives. Under the PAC, program benefits are the same as those related to determining the TRC, but costs include all costs incurred by the program administrator, including all incentives and all other program costs. Cost-effectiveness is achieved when the value of energy savings (in dollars) is greater than the cost of utility financial incentives to customers and all other program costs. A TRC or PAC ratio larger than “1” means that the benefits of a program have exceeded the costs.

Based on these IOU energy savings projections, the total investment in energy efficiency during 2006-2008 was projected to produce \$2.7 billion in net resource benefits (resource benefits minus costs), translating into the avoidance of the equivalent of three giant (500 megawatt) power plants over the next three years. Table 5 summarizes the projected cost-effectiveness of the 2006-2008 IOU programs.⁴⁸ Additionally, as Table 6 illustrates, lifetime electricity savings that result from measures installed during the 2006-2008 program cycle were projected to reduce annual CO2 emissions by an estimated 3.4 million tons by 2008, equal to the removal of approximately 649,000 cars from California’s roads.⁴⁹

Table 5. Summary Table of Projected IOU Portfolio Cost Effectiveness, 2006-2008(1)⁵⁰

	<u>SDG&E</u>	<u>SCG</u>	<u>SCE</u>	<u>PG&E</u>	<u>Total</u>
Total Costs to Ratepayers (TRC)	\$299,443,761	\$225,381,390	\$857,516,394	\$1,341,473,455	\$2,723,814,999
Total Savings to Ratepayers (TRC)	\$579,619,963	\$318,003,849	\$2,367,984,783	\$2,153,115,608	\$5,418,724,203
Net Benefits to Ratepayers (TRC)	\$280,176,202	\$92,622,459	\$1,510,468,390	\$811,642,153	\$2,694,909,204
Total Program Administrator Cost	\$266,000,587	\$177,115,748	\$661,327,990	\$959,472,970	\$2,063,917,295
Total Resource Cost Benefit Cost Ratio	1.94	1.41	2.76	1.61	1.99
Program Administrator Cost Benefit Cost Ratio	2.18	1.80	3.58	2.24	2.63

(1) [1] This is based on PG&E Application No. 05-06-004, June 1 filing, Appendix 9.5, ED Workbook Attachment I.

[2] Excludes costs and benefits associated with the low-income energy efficiency programs.

Excludes savings benefits associated with Codes and Standards program activities, but the budget costs associated with C&S program are included in the overall portfolio cost effectiveness calculations.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ From D05-09-043, based on PG&E Application No. 05-06-004 for the 2006-2008 program cycle.

Table 6. IOU Projected CO2 Emissions Reductions, 2006-2008⁵¹

	SDG&E	SCG	SCE	PG&E	Total 2006-2008
Net Electricity Savings (GWhr)	982	36	3,291	3,021	7,371
CO2 Savings (tons)	384,308	13,907	1,237,620	1,135,651	2,771,484
Cars taken off road each year	73,027	2,642	235,714	215,798	526,641
Net Gas Savings (MTh)	9,537	60,696	na	51,756	121,989
CO2 Savings (tons)	50,527	321,568	na	274,203	646,298
Cars taken off road each year	9,601	61,105	na	52,104	122,810
Total CO2 savings (tons)	434,835	335,475	1,237,620	1,409,854	3,417,782
Total Cars taken off road	82,628	63,747	235,174	267,902	649,451

5.3 IOU Reported Expenditures and Energy Savings for the 2006-2008 Program Cycle

The IOUs are responsible for publishing monthly, quarterly, and annual reports on the EEGA website. These reports provide detailed information on IOU-administered energy efficiency programs and their related budgets and expenditures. Table 7 provides a snapshot illustration of reported IOU expenditures related to energy efficiency programs for the 2006-2008 program cycle. Note that the IOU expenditures for 2008 range from 43 percent to 52 percent of the total for the entire three-year program cycle. Like energy savings, expenditures for energy efficiency programs display a “hockey stick” effect, in which the bulk of expenditures occur in the latter stages of a program cycle. In this case, IOUs had a late start in 2006 due to the timing of Commission approvals and subsequent ramp-up time for the wide range of programs.

Table 7. IOU Energy Efficiency Program Expenditures, 2006-2008⁵²

	SDG&E	SCG	SCE	PG&E	Total
2006	\$33,982,873	\$19,414,415	\$120,774,404	\$229,362,520	\$403,534,211
2007	\$67,894,050	\$42,768,899	\$261,056,370	\$374,887,833	\$746,607,152
2008	\$113,282,559	\$59,261,163	\$289,835,673	\$555,262,500	\$1,017,641,895
Total	\$215,159,481	\$121,444,476	\$671,666,447	\$1,159,512,853	\$2,167,783,258

Additionally, IOUs reported on their installed energy savings throughout the course of the 2006-2008 program cycle. Table 8, which shows IOU reported annual energy savings for 2006-2008, suggests significant energy savings achieved throughout the program cycle and that the IOUs exceed energy savings goals for the 3-year period. However, the IOU reported energy

⁵¹ From D05-09-043, available at: http://docs.cpuc.ca.gov/Published/Final_decision/49859.htm

⁵² As reported to the EEGA website, <http://eeга2006.cpuc.ca.gov/> as of December 31, 2008.

savings for 2006-2007 were analyzed and verified by the Commission’s Energy Division to determine actual energy savings. The verified energy savings for 2006-2007 are discussed in Section 6 and, like the verified energy savings for 2004-2005, reveal distinct differences between projected, reported, and actual verified energy savings. Verified energy savings for 2008 are still under review at the time of this report and a Final Report for the 2006-2008 program cycle will be released in March 2010.

Table 8. IOU Reported Installed Annual Energy Savings, 2006-2008⁵³

	2006	CPUC Goal	% of Goal	2007	CPUC Goal	% of Goal	2008	CPUC Goal	% of Goal	Total	CPUC Goal	% of Goal
PG&E												
Net Summer MW	140	180	78.0%	299	205	146.1%	455	228	199.7%	895	613	146.0%
Net Annual GWh	786	829	94.8%	1,835	944	194.3%	2,824	1,053	268.2%	5,444	2,826	192.7%
Net Annual MTherms	10,653	12,600	84.5%	22,445	14,900	150.6%	39,350	17,400	226.1%	72,448	44,900	161.4%
SDG&E												
Net Summer MW	27	55	48.6%	73	54	136.1%	70	54	129.0%	170	163	104.2%
Net Annual GWh	138	281	49.0%	419	285	147.0%	393	284	138.5%	950	850	111.8%
Net Annual MTherms	1,778	2,700	65.9%	2,910	3,100	93.9%	3,193	3,700	86.3%	7,881	9,500	83.0%
SCG												
Net Summer MW	na			na			na			na		
Net Annual GWh	na			na			na			na		
Net Annual MTherms	11,811	14,700	80.3%	26,068	19,300	135.1%	27,114	23,300	116.4%	64,993	57,300	113.4%
SCE												
Net Summer MW	133	207	64.2%	268	227	118.2%	345	253	136.2%	746	687	108.6%
Net Annual GWh	792	922	85.9%	1,635	1,046	156.3%	1,692	1,167	145.0%	4,120	3,135	131.4%
Net Annual MTherms	na			na			na			na		

5.4 Energy Savings Related to the Green Building Initiative

As indicated earlier, the CPUC has directed the IOUs to report on GBI achievements by market segment, specifically state buildings, commercial buildings (private sector), and other public buildings (federal and local governments), on a quarterly basis and post these reports to the public-access EEGA website.

In February 2008, the Commission submitted to the Governor a report on “Energy Efficiency Programs in Support of the Green Building Initiative” in response to Executive Order S-20-04. The report highlighted energy efficiency savings attributed to Green Building Initiative-related programs administered by the IOUs and included information on projected and reported savings for the 2004-2005 program cycle and the first 6 quarters (1 ½ years) of the 2006-2008 program cycle. The energy savings data for that report were unverified and taken directly from the energy savings reported by the IOUs to the EEGA website. The report illustrated that as of mid-program cycle the savings achieved across all segments (state buildings, commercial buildings and other public buildings) were low. Only gas savings were on track to achieve the

⁵³ As reported to the EEGA website, <http://eeга2006.cpuc.ca.gov/> as of December 31, 2008.

three-year GBI target, with most of the savings coming from the private commercial building segment. State buildings had achieved only 4 percent of the MW savings target, and less than 1 percent of the three-year target for gas savings. Other public buildings had managed to achieve an average of 13 percent of the three-year targets for electric and gas savings.⁵⁴

The IOUs have now reported energy savings data related to the Green Building Initiative for all three years of the 2006-2008 program cycle. Table 9 illustrates the reported energy savings for each of the three sectors and the total savings.

Table 9. IOU Reported Energy Efficiency Savings Attributed to GBI-Related Programs, 2006-2008⁵⁵

	Peak Reduction			Energy Savings			Gas Savings		
	MW Reported	MW Target	% of Target	GWh Reported	GWh Target	% of Target	MTherms Reported	MTherms Target	% of Target
State Buildings									
PG&E	39	101	39%	25	50	51%	2,171	510	426%
SCE	4	88	4%	2	54	4%			n/a
SDG&E	8	60	14%	4	35	12%	3	1,024	0%
SCG			n/a			n/a	1,294	208	621%
Commercial Buildings									
PG&E	1,390	948	147%	785	378	208%	5,260	3,590	147%
SCE	1,094	2,359	46%	553	943	59%			n/a
SDG&E	576	400	144%	308	297	104%	3,066	437	701%
SCG			n/a			n/a	25,730	3,542	726%
Other Public Buildings									
PG&E	303	246	123%	75	109	69%	991	1,080	92%
SCE	56	472	12%	30	169	18%			n/a
SDG&E	62	140	44%	26	72	36%	127	2,490	5%
SCG			n/a			n/a	260	3,786	7%
Total									
PG&E	1,733	1,295	134%	885	537	165%	8,422	5,180	163%
SCE	1,153	2,919	40%	585	1,166	50%			n/a
SDG&E	646	600	108%	339	403	84%	3,197	3,951	81%
SCG			n/a			n/a	27,284	7,537	362%

5.5 IOU Reported Cost-Effectiveness of the 2006-2008 Energy Efficiency Programs

Table 10 summarizes the IOU-reported cost-effectiveness of their overall portfolios for the 2006-2008 program cycle. The IOUs' cost-effectiveness calculation for the entire three-year cycle shown in the table are based on the IOUs' reported energy savings that were unverified at the time these results were submitted on the EEGA website. (Section 6.3 below shows the cost-effectiveness calculation for 2006-2007 based on verified energy savings in Energy Division's Verification report issued in February 2009.)

⁵⁴ "Energy Efficiency Programs in Support of the Green Building Initiative," available at www.cpuc.ca.gov.

⁵⁵ Reported by IOUs to the EEGA website, available at: <http://eeega2006.cpuc.ca.gov/>. As of July 1, 2009, GBI data reported to EEGA by SCE was incomplete and covers only 2006.

Table 10. IOU-reported Portfolio Cost-effectiveness, 2006-2008⁵⁶

	<u>SDG&E</u>	<u>SoCalGas</u>	<u>SCE</u>	<u>PG&E</u>
Total Costs to Billpayers (TRC)	\$325,155,718	\$278,373,466	\$1,034,702,221	\$1,387,752,551
Total Savings to Billpayers (TRC)	\$613,500,427	\$445,740,278	\$2,189,689,510	\$3,118,078,103
Net Benefits to Billpayers (TRC)	\$288,344,709	\$167,366,812	\$1,154,987,290	\$1,730,325,651
Total Resource Cost Benefit Cost Ratio	1.89	1.60	2.12	2.25
Program Administrator Cost Benefit Cost Ratio	2.94	3.72	3.41	2.96

6. VERIFIED ENERGY SAVINGS FOR 2006-2007

6.1 The 2006-2007 Verification Report

In September 2007 and again in February 2008,⁵⁷ the Commission required the Energy Division to verify the costs and installations of the IOU energy efficiency programs and publish reports that calculate the earnings the utilities are eligible to claim under the RRIM. In February 2009, the Energy Division issued the “Energy Efficiency 2006-2007 Verification Report,” which is the first verification of IOU-claimed energy savings related to the 2006-2008 program cycle and applies to the first interim incentives claim for that period.

As the Commission directed in February 2008,⁵⁸ Energy Division updated the *ex ante* parameters used to estimate program savings and benefits for the 2006-2007 period covered in the verification report. (“*Ex ante*” parameters are savings assumptions made prior to program implementation.⁵⁹) This update entailed replacing certain utility claimed *ex ante* values with new values derived from EM&V field and survey work and other sources.

The Energy Division 2006-2007 Verification report was not without controversy. In August 2008, the IOUs filed a joint “Petition for Modification of D.07-09-043 and D.08-01-042,” asking the Commission to modify the RRIM and eliminate the requirement that the *ex ante* savings parameters used in the verification report to calculate interim claims be updated. One major controversy pertains to the use of updated *ex ante* parameters to capture interactive effects it concluded are attributable to the installation of compact fluorescent bulbs (CFLs). At issue is the replacement of incandescent bulbs, which generate significant amounts of heat, with CFLs and the resulting negative interactive effects (i.e. increased gas use in the winter to compensate for the heat loss) and positive interactive effects (i.e. diminished electricity use in the summer, in the form of less air conditioning, as a result of the heat loss).

In an effort to accommodate the separate positions regarding *ex ante* parameters, Energy Division calculated the energy savings and corresponding incentive earnings or penalties for

⁵⁶ From IOU reports submitted to the EEGA database as of December 31, 2008. See <http://eega2006.cpuc.ca.gov/>

⁵⁷ Decisions 07-09-043 and 08-01-042

⁵⁸ D.08-01-042

⁵⁹ These parameters include unit energy savings, effective useful lives, hours of operations, free-ridership, and other characteristics pertaining to various energy efficient equipments and/or processes that the IOUs offer through their programs, and are used in calculating overall energy savings and cost-effectiveness of the IOUs’ portfolios.

each utility using three scenarios -- without interactive effects, with interactive effects, and with only positive interactive effects -- in its Final 2006-2007 Verification Report issued in February 2009.⁶⁰

Another controversy concerns the Net To Gross (NTG) assumptions used to attribute savings from a given measure to a utility program. The NTG is an estimate of the percent of savings a measure provides that would not have been realized but for the existence of a utility program. For example, some customers who take advantage of a utility rebate program to purchase a new, energy efficient appliance CFL would have purchased that appliance or CFL even in the absence of the utility program. In such instances, the NTG would be less than 100% indicating that some percent of the savings would have occurred even if the utility program didn't exist. Under the methodology adopted by the Commission, only energy efficiency savings that would not occur but for a utility program count toward the utilities' energy efficiency goals. In the context of the utilities various CFL programs, the update to the NTG ratios, as mandated by incentive mechanism, resulted in a significant reduction in the energy savings from the installation of CFLs that the IOUs could take credit for.

As discussed in Section 3.3, energy savings goals for 2012-2020 will be based on a "total market gross" definition. Total market gross energy savings do not discount savings attributable to the IOU program via the application of the NTG. This will improve the understanding of the full impact the energy efficiency measures installed under the IOU programs have on energy demand, even if the entirety of those savings cannot be attributed to the existence of IOU programs.

6.2 Verified Energy Savings for 2006-2007

The IOUs' verified energy savings accomplishments for 2006-2007 are illustrated in Table 11. Typically, the energy savings over the course of a three-year program cycle display a "hockey stick" effect, in which the bulk of energy savings occur in the latter half of the program cycle. For instance, Table 8 highlights the IOUs' reported energy savings for 2006-2008 and shows that reported energy savings for 2008 are approximately double the reported savings for the prior two years. The verified results in Table 11 show that the IOUs achieved an average of between 64 percent and 73 percent of the CPUC's energy savings goals for 2006-2007 depending on the metric and scenario. As discussed previously in Section 4, differences between IOU-reported energy savings and verified savings are not uncommon, due the *ex post* nature of the evaluative framework, which relies on energy savings assumptions that are updated late in the program cycle after reported data are submitted.

⁶⁰ For a complete description of the evaluation and verification process, including details regarding the RRIM calculator tool, please see the Energy Efficiency 2006-2007 Verification Report at http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117_Verification+Report.htm .

Table 11. Verified Energy Savings for 2006-2007

<u>With Positive Interactive Effects</u>							
	<u>PG&E</u>	<u>SCE</u>	<u>SDGE</u>	<u>SoCalGas</u>	<u>Total</u>	<u>CPUC Goals</u>	<u>% of Goals</u>
Total Cumulative Savings (GWh)	1303.1	1550.8	371.8	n/a	3225.65	4307	75%
Total Peak Savings (MW)	252.8	287.9	83.5	n/a	624.12	928	67%
Total Cumulative Natural Gas Savings (MTh)	21.3	n/a	3.3	26.2	50.69	67	76%
<u>With Positive and Negative Interactive Effects</u>							
Total Cumulative Savings (GWh)	1303.1	1550.8	371.8	n/a	3225.65	4307	75%
Total Peak Savings (MW)	252.8	287.9	83.5	n/a	624.12	928	67%
Total Cumulative Natural Gas Savings (MTh)	9.2	n/a	1.5	26.2	36.9	67	55%
<u>Without Interactive Effects</u>							
Total Cumulative Savings (GWh)	1249.3	1437.3	370.2	n/a	3056.82	4307	71%
Total Peak Savings (MW)	214.8	242.1	77.6	n/a	534.47	928	58%
Total Cumulative Natural Gas Savings (MTh)	21.3	n/a	3.4	26.2	50.86	67	76%

Energy Division is currently reviewing the energy savings for 2008 and the entire three-year program cycle and is scheduled to issue its second verification report for 2008 in August 2009 and the final evaluation report in March 2010.

6.3 Cost-Effectiveness Based on Verified Energy Savings for 2006-2007

Based on the verified energy savings from the 2006-2007 Verification Report, it is possible to determine the Total Resource Cost (TRC) and Program Administrator Cost (PAC) ratios⁶¹ achieved by the IOUs for that two year period and compare them to the estimated values laid out by the IOUs in their reports to the EEGA website. Table 12 contains the IOU reported portfolio cost effectiveness as of the conclusion of the 2006-2007 reporting period and portfolio cost-effectiveness based on verified energy savings from the 2006-2007 Verification Report. The IOU reported data was published on the EEGA website in early 2008, prior to the release of the verification report. At that point in time, all IOUs, with the exception of PG&E, were performing as expected in terms of their projected portfolio cost-effectiveness. However, the cost-effectiveness of the IOU portfolios differs from reported cost-effectiveness when calculated based on verified energy savings for the 2006-2007 period, due to the methodological differences discussed above.

⁶¹ See Section 4 for discussion of TRC and PAC ratios.

Table 12. Portfolio Cost-Effectiveness, Based on IOU Reported and Verified Energy Savings 2006-2007⁶²

	<u>SDG&E</u>	<u>SoCalGas</u>	<u>SCE</u>	<u>PG&E</u>
IOU Reported				
Total Costs to Billpayers (TRC)	\$155,865,349	\$128,178,123	\$598,499,727	\$680,761,007
Total Savings to Billpayers (TRC)	\$395,017,325	\$230,066,940	\$1,311,858,993	\$1,392,053,491
Net Benefits to Billpayers (TRC)	\$239,151,976	\$101,888,816	\$713,359,266	\$711,292,484
Total Resource Cost Benefit Cost Ratio	2.53	1.79	2.19	2.04
Program Administrator Cost Benefit Cost Ratio	3.91	3.76	3.64	2.65
Verified				
Total Costs to Billpayers (TRC)	\$147,350,156	\$118,416,580	\$579,621,975	\$508,329,536
Total Savings to Billpayers (TRC)	\$269,502,686	\$147,754,792	\$926,613,835	\$846,638,257
Net Benefits to Billpayers (TRC)	\$122,152,530	\$29,338,212	\$346,991,860	\$338,308,721
Total Resource Cost Benefit Cost Ratio	1.82	1.24	1.59	1.66
Program Administrator Cost Benefit Cost Ratio	2.66	2.52	2.56	2.18

6.4 Estimated CO2 Emissions Reductions for 2006-2007

In September 2005,⁶³ the IOUs forecast CO2 emissions reductions that would result from the projected GWh and MTherm energy savings related to their energy efficiency portfolios for the 2006-2008 program cycle. The Strategic Plan issued in September 2008 stressed the role of energy efficiency as the primary means of reducing California’s greenhouse gas emissions (GHG) and achieving the GHG emissions reductions goals laid out in AB32. In this section, we revisit those forecasts and evaluate them in light of the Verification Report, which provides verified energy savings for 2006 and 2007.

For 2006 and 2007, the IOUs forecast cumulative CO2 reductions from GWh and MTherms savings of approximately 2.15 million tons, and the equivalent removal of approximately 408,000 cars from California’s roads. Table 13 shows the estimated CO2 emissions reductions based on verified energy savings using the without interactive effects scenario in Energy Division’s 2006-2007 Verification Report. (Note that this emissions reduction estimate covers only the first two years of the 2006-2008 program cycle. Typically, the cumulative savings over the course of a three-year program cycle display a “hockey stick” effect, in which the bulk of energy savings occur in the latter half of the program cycle. As noted earlier, Energy Division is currently verifying the energy savings for 2008 and for the entire three-year program cycle, including the GHG emissions reductions associated with the verified energy savings from the 2006-2008 programs.)

In estimating CO2 emissions reductions associated with MTherm and GWh savings, Energy Division used the emission factors that were used in the IOU forecasts presented in D.05-09-043: 5298 metric tons of CO2 per million therms and 376 metric tons of CO2 per GWh. Table 13 illustrates that the IOUs achieved between 57% and 68% of their projected GWh savings and

⁶² IOU reported data taken from the EEGA website. Verified data provided by Energy Division’s Verification Report Template.

⁶³ D.05-09-043, available at D.05-09-043, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/49859.pdf.

related CO2 reductions, and 58% to 72% of their projected MTh savings and related CO2 reductions over the 2006-2007 period. The IOUs achieved 58% to 72% of their projected CO2 emissions reductions, and a similar range of the estimated number of cars taken off the road for the two year period. Statewide (the four IOUs programs in aggregate), 58% of projected GWh savings were achieved; 68% of MTherm savings were achieved; and 66% of projected CO2 emissions reductions and cars removed from the roads of California were achieved.

Table 13. IOU Projected and Verified Energy Savings and Estimated CO2 Emissions Reductions, 2006-2007 ⁶⁴

	SDG&E			SCG			SCE			PG&E			Total		
	Projected	Verified	% of Projected	Projected	Verified	% of Projected									
Annual Net Electricity Savings (GWh/year)	644	370.2	57%	23	n/a	n/a	2,123	1,437.3	68%	1,872	1,249.3	67%	4,662	2,686.6	58%
Annual CO2 Savings (tons)	242,205	139,195	57%	8,862	0.0	n/a	798,399	540,425	68%	703,804	469,737	67%	1,753,270	1,149,357	66%
Annual Net Gas Savings (MTh/year)(1)	5.84	3.40	58%	36.40	26.20	72%	-	-		32.10	21.30	66%	74.34	50.90	68%
Annual CO2 Savings (tons)	30,962	18,013	58%	192,847	138,808	72%	-	-		170,066	112,847	66%	393,875	269,668	68%
Total Annual CO2 savings (tons/year)	273,167	157,208	58%	201,709	138,808	69%	798,399	540,425	68%	873,870	582,584	67%	2,147,145	1,419,025	66%
Total Cumulative Cars taken off road each year	51,913	29,876	58%	38,333	26,379	69%	151,729	102,703	68%	166,072	110,715	67%	408,047	269,674	66%

7. LOOKING AHEAD

7.1 The 2009-2011 Energy Efficiency IOU Program Cycle

In July 2008, the IOUs filed their 2009-2011 energy efficiency program portfolio applications for Commission consideration and approval.⁶⁵ The IOU proposed portfolios total over \$4.2 billion, and include some 500 energy efficiency programs. The IOUs provided a substantial amount of information on their new and existing programs for this application cycle. Subsequent to the IOUs' application filings, the Commission adopted the California Energy Efficiency Strategic Plan in September 2008 and required the IOUs to update their program portfolios to incorporate the goals laid out in the Strategic Plan. At the same time the Commission directed the utilities to adopt a core set of ten or so common, statewide programs and to reduce the overall number of efficiency programs to a more manageable number, in the range of 20-30 for the entire suite of utility portfolios (not including third-party programs). This should reduce consumer confusion by presenting more streamlined programs that look the same across the state, and help to simplify the task of evaluating the savings from these programs. The IOUs submitted their revised portfolio plans reflecting the Strategic Plan goals and initiatives in March 2009.

⁶⁴ For consistency, the therm savings projected by the IOUs and initially shown in Tables 5 and 6 have been aligned with the reporting format of the 2006-2007 Verification Report for the calculations used in this Table. Consequently, projected CO2 savings and cars removed may vary slightly.

⁶⁵ A.08-07-021, et.al

In their initial portfolio applications, all four IOUs requested an extensive set of policy changes and energy cost and savings accounting changes that they argued are necessary to meet the Commission-mandated energy savings targets and achieve greater cost-effectiveness of their portfolios at reasonable costs. The Commission considered the IOUs' proposed policy changes, as well as other stakeholders' comments, and on May 26, 2009,⁶⁶ resolved the policy requests and required the IOUs to resubmit updated applications in July 2009 to reflect the adopted policy changes and their effects on energy savings or program budgets.

Energy Division is currently engaged in the evaluation of the March and July updated IOU portfolio applications. Energy Division is also reviewing and incorporating comments on the proceeding from participating parties and from discussions at a dozen or more public workshops held in May - June 2009 to facilitate and improve understanding of the IOU applications and implementation plans. The Commission's final approval of these plans is anticipated to occur in Fall 2009.

7.2 Bridge Funding to Continue Certain 2006-2008 IOU Energy Efficiency Programs

Recognizing the need to ensure a smooth transition from one program cycle to the next, the Commission issued D.08-10-027 in October 2008 to allow the IOUs to expend funds to continue successful 2008 energy efficiency programs through 2009 until the Commission adopts a final decision on the IOU energy efficiency portfolio applications for the 2009-2011 cycle. The bridge funding period commenced on January 1, 2009, and will conclude three months after the effective date of a final Commission decision on the 2009-2011 IOU portfolio applications, or December 31, 2009, whichever comes first. The IOUs will include program accomplishments achieved during the bridge funding period toward the cumulative goals of their 2009 programs.⁶⁷

7.3 Preliminary Budgets for the IOUs' 2009-2011 Energy Efficiency Programs

The 2009-2011 programs proposed by the IOUs in March 2009 have made significant progress in achieving alignment with the Strategic Plan and providing consistent statewide programs across utility territories. The now thirteen major statewide programs outlined in the portfolios address these areas:

- Residential
- Commercial
- Industrial
- Agriculture
- New Construction
- Lighting Market Transformation
- Heating, Ventilation, and Air Conditioning (HVAC)

⁶⁶ D.09-05-037, available at http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/101543.PDF

⁶⁷ See D08-10-027 at http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/92371.htm.

- Codes and Standards (C&S)
- Emerging Technologies (ET)
- Workforce, Education, and Training (WE&T)
- Marketing, Education, and Outreach (ME&O)
- Statewide Demand-Side Management (DSM)
Coordination and Integration
- Local Government Partnerships

In addition to the statewide programs listed above, each utility proposes additional programs in one of three categories – utility local programs, third-party administered programs, and local government partnerships. Totalling over 200 proposed programs across the four IOUs, these programs encompass such activities as on-bill financing, pilot programs, and a variety of innovative programs or delivery mechanisms that target niche markets. Twenty percent of the utility budget is to be allocated for competitive third party programs, as a way to foster innovative programs to achieve cost-effective savings. Detailed information on the initial proposed total budget of \$4.2 billion for the 2009-2011 program cycle is available on the Commission website under Proceeding A08-07-021.⁶⁸ Table 14 illustrates the IOU-proposed 2009-2011 budgets.

⁶⁸ <http://docs.cpuc.ca.gov/proceedings/A0807021.htm>.

Table 14. IOU Proposed Energy Efficiency Programs and Budgets, 2009-2011

	PG&E
Residential	\$ 273,613,236
Commercial	\$ 182,922,093
Industrial	\$ 98,303,380
Agriculture	\$ 76,976,308
New Construction	\$ 51,803,078
Lighting Market Transformation	\$ 449,187
HVAC	\$ 90,053,785
Codes & Standards	\$ 19,006,039
Emerging Technologies	\$ 46,587,158
WE&T	\$ 46,916,680
ME&O	\$ 24,948,382
Statewide DSM Coordination	\$ 1,200,000
Zero Net Pilots	\$ 30,697,168
Local DSM Coordination	\$ 7,300,000
Institutional and Government	\$ 199,548,799
On-Bill Financing	\$ 29,450,781
Local Party	\$ 330,347,490
Total PG&E Program Budget	\$ 1,510,123,564
Total PG&E EM&V Budget	\$ 112,184,483
MDSS Replacement - EM&V	\$ 8,772,206
MDSS Replacement - Programs	\$ 1,196,210
Zero Net Energy Lab/Demo Home	\$ 638,848
Total PG&E Portfolio Budget	\$ 1,632,915,311

	SCE
Residential	\$ 227,166,000
Commercial	\$ 231,606,000
Industrial	\$ 101,066,000
Agriculture	\$ 29,578,000
New Construction	\$ 77,655,000
Lighting Market Transformation	\$ 1,054,000
HVAC	\$ 76,413,000
Codes & Standards	\$ 11,080,000
Emerging Technologies	\$ 22,901,001
WE&T	\$ 38,869,000
ME&O	\$ 20,213,514
IDSMS	\$ 1,264,000
Institutional and Government	\$ 106,496,001
Local Party	\$ 45,626,000
Third Party	\$ 263,031,486
Total SCE Program Budget	\$ 1,254,019,002
Total SCE EM&V Budget	\$ 31,663,691
Total SCE Portfolio Budget	\$ 1,285,682,693

	SDG&E
Residential	\$ 80,290,528
Commercial	\$ 91,693,985
Industrial	\$ 41,321,235
Agriculture	\$ 13,359,900
New Construction	\$ 24,465,794
HVAC	\$ 1,610,786
Codes & Standards	\$ 4,275,722
Emerging Technologies	\$ 6,409,919
WE&T	\$ 15,094,006
ME&O	\$ 8,919,698
IDSMS	\$ 600,122
Institutional and Government	\$ 30,922,604
Local Party	\$ 80,641,253
Third Party	\$ 62,053,329
Total SDG&E Program Budget	\$ 461,658,881
Total SDG&E EM&V Budget	\$ 36,937,403
Total SDG&E Portfolio Budget	\$ 498,596,284

	SoCalGas
Residential	\$116,556,144
Commercial	\$ 26,156,661
Industrial	\$ 110,457,232
Agriculture	\$ 28,097,630
New Construction	\$ 19,980,242
HVAC	\$ 1,756,378
Codes & Standards	\$ 2,760,458
Emerging Technologies	\$ 5,289,583
WE&T	\$ 10,877,458
ME&O	\$ 6,341,089
IDSMS	\$ 600,122
Institutional and Government	\$ 11,974,299
Local Party	\$ 25,491,172
Third Party	\$ 91,584,616
Total SoCalGas Program Budget	\$ 457,923,085
Total SoCalGas EM&V Budget	\$ 36,638,021
Total SoCalGas Portfolio Budget	\$ 494,561,106

7.4 Energy Efficiency Coordination with AB32 GHG Emissions Reductions

The Global Warming Solutions Act of 2006, AB32, caps California greenhouse gas (GHG) emissions at 1990 levels by 2020. Achieving this goal will require collaboration on many fronts including increased cooperation between state agencies and the private sector. The California Air Resources Board (CARB), in its role as the implementing agency, stated in its Scoping Plan that meeting the emissions reductions goals laid out in AB 32 will require renewed commitments by the electricity and natural gas sectors, especially in light of the electricity sector's potential to achieve approximately 40 percent of the total statewide GHG emissions reductions.⁶⁹ CARB's adopted AB 32 Scoping Plan calls upon energy efficiency in buildings and industry to achieve at least 15% of the total California target for GHG emission reductions by 2020.

In October 2008, the CPUC and the California Energy Commission (CEC) issued a joint decision to provide recommendations to ARB on measures and strategies for reducing GHG emissions in the electricity and natural gas sectors.⁷⁰ This decision builds off D08-03-018, which identified the point of regulation for the electricity sector, while also advising on programmatic and market-based mechanisms to reduce emissions. Decision 08-10-037 is based on uncertainty in the federal and international cap and trade programs, and may need to be adjusted as changes in energy policies and markets create new challenges in California. The efficiency-related recommendations from CPUC and CEC to ARB in the Decision are:

- 1. Need for both Mandatory Emission Reduction Measures and Market-Based Regulations**
 - Aggressive energy efficiency programs
 - Increased reliance on combined heat and power (CHP)
- 2. Energy Efficiency: The Cornerstone of the Approach**
 - EE is a vital strategy to achieve AB32 goals and reduce energy consumption – building/appliance standards, technologies, and utility programs will all play a role.

7.5 Coordinating Energy Efficiency Resource Plans and GHG Emissions Reduction Strategies

Parallel proceedings by the CARB, CEC, and CPUC dictate that there be uniformity in assumptions and methodologies for making clear to what degree energy efficiency strategies are either embedded in the “baseline” electric and gas forecasts, or are “untapped potential” available as additional strategies to help fulfill the AB32 Scoping Plan's aims to produce 169 MMTCO₂E (million metric tons of CO₂ equivalent) GHG reductions by 2020, representing a 30 percent decrease from “business as usual” emissions over that same time period.⁷¹ CPUC staff

⁶⁹ D08-10-037, available at http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/92591.htm

⁷⁰ Ibid.

⁷¹ “Climate Change Scoping Plan”, p. 12. Available at: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

has engaged in two efforts to assure this important coordination. During 2008 CPUC staff participated in a working collaborative with CARB staff to help inform options and strategies during the development of the AB 32 Scoping Plan. Late in 2008 CPUC staff also joined the CEC in an effort to unravel and make transparent all assumptions about IOU efficiency program savings and how these would be embedded in the CEC's electricity and gas forecasts, or identified as remaining potential energy resources. This effort to reach full transparency and remove possible double-counting of efficiency savings (i.e. that might be reported by utilities as energy resource savings, while already having been partially reflected by the CEC in its load forecast as the baseline for planning expanded energy resource investments) is underway and an integral part of the CEC's 2009 Integrated Energy Policy Report proceeding.

7.6 Revisiting the Risk-Reward Incentive Mechanism (RRIM)

The 2006-2007 Verification Report highlighted a number of issues that are relevant to the implementation of the RRIM initially adopted in D.07-09-043. In that report, the Energy Division concluded that, based on the results of its RRIM analysis, PG&E, SCE and SDG&E were ineligible and SCG was eligible for an interim EE shareholder earnings payment for program years 2006-2007. Preparation of that report encountered significant delays, due to a late start for the programs and related evaluation and other issues outside of Commission control, and prompted the IOUs to file a Joint Petition for Modification of Decisions 07-09-043 and 08-01-042, seeking changes to the RRIM and financial rewards for energy savings the IOUs achieved during the 2006-2008 program cycle. In D.08-12-059, the Commission acknowledged the importance of timeliness and consistency to the reporting structure and authorized a partial interim payment to the IOUs for the 2006-2007 period.

Consequently, as the 2009-2011 program cycle goes forward, the Commission is revisiting the RRIM. The Commission opened an entirely new Rulemaking (R.09-01-019) to deal with RRIM-related issues for the 2009-2011 program cycle. In opening this new rulemaking, the Commission identified the need to reconsider the RRIM earlier than anticipated in D.07-09-043, suspended the schedule for verification and review of incentive claims for 2006-2008 energy efficiency claims in favor of the new rulemaking, and stated:

“We believe it is necessary to consider a more transparent, more streamlined and less controversial RRIM program. This may require making small but significant changes to the existing RRIM, or may require wholesale adoption of a new incentive mechanism.”⁷²

The Commission's Energy Division issued a White Paper in April 2009, which proposed modifications to help align the RRIM with Commission policy that puts energy efficiency as the first loading order resource.⁷³ Energy Division's proposed modifications seek to encourage the

⁷² R09-01-019, “Order Instituting Rulemaking,” available at: http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/97023.PDF

⁷³ http://www.cpuc.ca.gov/NR/rdonlyres/A51D61E2-DF03-4D9B-BFDB-221109638165/0/ProposedEnergyEfficiencyRiskRewardIncentiveMechandEM_VActivities.pdf

pursuit of strategic initiatives, market transformation, and all cost-effective energy efficiency. The Commission will be considering proposed changes to the RRIM that Energy Division, the IOUs, and other parties have proposed to date in R.09-01-019 and resolve these issues in future decisions later this year or in 2010.

APPENDIX A
IOU Energy Efficiency Programs, 2006-2008

PG&E - Program Specific Summaries				
Program Names	Mass Markets	Agricultural and Food Processing	Fabrication, Process and Heavy Industrial Manufacturing	High Technology Facilities
Short Description	This program is a new integrated approach to serve residential and small commercial customers with similar purchasing patterns, vendors, and approaches to energy use. Large commercial and industrial customers will be channeled through this program for some deemed savings measures.	Specialists in these areas will provide targeted services to agricultural and food processing customers.	This program serves the heavy industry market. The program will support energy efficiency project development through on-site facility audits, facility benchmarking and customized design assistance and engineering support as well as incentives for energy efficient retrofit and new construction.	This program offers high technology facilities energy specialists to provide a wide range of energy services including incentives for projects to improve energy efficiency in new and existing buildings.
% of IOU Budget (w/o EM&V*)	49.24%	5.72%	15.85%	1.99%
MWh	575,503	49,456	96,827	13,786
MW (Summer Peak)	96.21	8.2	21.01	2.99
Mtherms	2.7	1.92	9.24	0
TRC (w/o EM&V*)	1.66	3.28	3.11	1.93
Design & Delivery	The Mass Market program will use a variety of up stream, mid-stream and down stream approaches to involve all actors in this integrated market.	The program will use specialists from PG&E and third parties to facilitate delivery of a portfolio of energy services. It will include statewide elements along with specific components tailored to PG&E's customers.	The program will have statewide elements and customized support.	The program will incorporate statewide rebate elements as well as elements specifically targeted to and customized for PG&E's high technology customers.
Markets Targeted	Mainly residential and small commercial. Other programs may channel customers into the deemed savings component for certain measures, e.g., an industrial customer with a small item or limited number of items to replace (a motor) could participate in the Mass Market program, but mid-and large-sized projects at industrial sites are not the main targets for the Mass Market program.	Targets new and existing agricultural and food processing facilities. Both types of customers have high energy intensities where energy bills are large components in profit margins and both sectors have unique measures and systems that require experienced utility representatives.	Manufacturing and process industries such as printing plants, plastic injection molding facilities, lumber and paper mills, metal processing, petroleum refineries, chemical industries, assembly plants and water treatment plants.	Biotechnology, pharmaceutical plants, electronics manufacturing, cleanrooms, data centers, and telecommunications.
* EM&V costs (\$21,274,235) for 2006 are at the portfolio level only.				

PG&E Programs				
Hospitality Facilities	Large Commercial (Office Buildings, Government, Large Institutions)	Medical Facilities	Residential New Construction	Retail Stores
This program targets new and existing lodging using PG&E and other third party specialists to provide commissioning, demand response options and incentives for energy efficient retrofit and new construction.	The Large Commercial program provides energy efficiency and demand response services to customers using PG&E and third party specialists. It will also include statewide components and Mass Market rebates as well as elements targeted to the large commercial facilities customers.	This program targets existing and new medical facilities offering integrated energy services for retrofit and new construction while channeling medical offices and smaller nursing homes to the Mass Market program.	The program targets new residential single family, multifamily, and manufactured housing.	The Retail Stores program will offer energy efficiency services for both retrofit and new construction to supermarkets, restaurants, general retail and big box retail.
0.65%	4.30%	3.10%	4.06%	2.10%
5,252	47,478	30,838	5,408	25,396
0.689	10.3	4.32	3.7	4.41
0	0	0	0.4	0
1.94	3.13	2.76	0.57	3.34
Will address the energy needs of larger hotels, convention centers, and chains. The Mass Market program will be the primary delivery channel for smaller hotels/motels. Will promote efficiency services for their operations, education and training of customers and market actors on new energy efficiency equipment and practices in the industry as well as financial incentives for retrofit and new construction.	Services offered include life cycle costing and finance education, case studies, financial incentives for retrofit and new construction; commissioning and retro commissioning, and upstream activities targeting HVAC, lighting, and plug load devices.	Many hospitals are challenged with meeting seismic standards in the near future. PG&E experts will focus on reducing the barriers such as lengthy design and capital constraints that hinder energy efficient design and retrofit.	The program will include statewide elements as well as those targeted specifically to residential developers and contractors. The program includes a prescriptive based component offering deemed savings measures as well as a performance based component targeted at set percentages over Title 24.	The program will address the energy needs of big box retail, chain supermarkets and restaurants. The Mass Market program will support the smaller retail stores and restaurants. PG&E and industry experts will provide a package of services to centralized decision makers.
New and existing hotels, resorts, convention centers, hotel chains, and prisons as well as the architects, engineers, contractors, and vendors who specialize in this segment.	New and existing large commercial, governmental, and institutional office facilities.	Hospitals, medical offices, nursing homes as well as the specialized architects and engineers in this market.	Residential developers, contractors, architects and designers of single family, multifamily, and manufactured housing.	Diverse markets will be targeted including supermarket chains, restaurants and fast food chains, general and big box retail.

PG&E Programs				
	Codes and Standards	Education and Training	Emerging Technologies	Statewide Marketing and Information
Schools and Colleges				
This program will serve public and private K-12 schools, colleges, universities and campus student housing. It will provide assistance of specialists to help school districts plan energy projects including retrofit and new construction. Colleges and universities will participate in a statewide partnership.	This existing statewide program provides case studies for potential new code and standard applications as well as supports training of codes officials for code compliance.	This program offers a wide variety of educational seminars and training sessions to customers, contractors, vendors, designers and others who provide a variety of energy efficiency services. It also includes energy audits for residential and nonresidential customers.	This information only program is designed to accelerate the introduction of innovative energy efficiency technologies, applications, and tools into the market.	Three contractors will provide general energy efficiency messaging to wide audiences.
1.84%	0.61%	5.36%	1.50%	3.67%
7,187	Energy savings under consideration	Energy savings under consideration	N/A	N/A
0.98	Energy savings under consideration	Energy savings under consideration	N/A	N/A
0	Energy savings under consideration	Energy savings under consideration	N/A	N/A
1.06	N/A	N/A	N/A	N/A
This program will provide K-12 school districts with an assigned energy efficiency specialist, which they often lack, to recommend energy efficiency improvement projects and help develop a long term energy plan. The program will also work with the more sophisticated college and university staff to promote and implement more complex energy projects.	This program produces studies of new and promising design practices and technologies, advocates for code enhancements, conducts supporting research and analysis and supports training to improve compliance.	The Energy Training Center - Stockton, the Pacific Energy Center, and the Food Service Technology Center are the main delivery points but will also offer classes in less central locations, at customer or contractor sites or retail/distributor locations.	The program identifies promising new products or practices and accelerates the market acceptance through demonstration projects and information dissemination about the projects' results.	Efficiency Partnership, Runyon Saltzman & Einhorn and Staples Marketing will provide statewide efficiency messaging and marketing of energy efficiency.
Public and private K-12 schools, colleges, universities and campus student housing including the full spectrum of uses such as class rooms, offices, gymnasiums, pools, laboratories.	No targeted markets, but codes can affect most customers.	Customers, contractors, retailers/distributors, designers, architects, and engineers who design and build energy efficient project or sell and service energy efficient equipment.	The program targets all markets.	All markets, but primarily the mass markets. One focuses on rural customers and another on residential, primarily Spanish speaking customers.

SCE	Appliance Recycling Program	Residential Energy Efficiency Incentive Program	Multifamily Energy Efficiency Rebate Program
Short Description	The program will emphasize the energy-efficiency benefits associated with the disposal of spare refrigerators and freezers and will also encourage the accelerated retirement of older and least efficient primary refrigerators and freezers, and room air conditioners with more energy efficient (e.g., ENERGY STAR®) units.	The program will incorporate innovative approaches to address opportunities in the upstream, midstream, and downstream markets. In a systematic approach, the program will achieve maximum energy savings through two program components—lighting and non-lighting measures—to effectively address market barriers specific to each end-use technology.	The Multifamily Energy Efficiency Rebate Program (MFEER) is designed specifically to motivate the multifamily property owner/manager toward installing energy efficient products.
% of IOU Budget	5.9%	10.0%	7.9%
MWh	177,323	788,040	132,383
MW	38.48	160.20	28.73
Mtherms	-	-	-
TRC	6.57	4.17	2.47
Design & Delivery	The program will offer customers on a first-come, first-served basis free pickup of working refrigerators or freezers and a cash incentive. Customers can schedule a pickup appointment of their standard size refrigerator or freezer by calling a toll-free number or going to the designated SCE web site.	The program will utilize three program strategies: Upstream strategy including Point of Sale rebates, Midstream strategy aimed at retail stores, and a Downstream strategy.	The program uses independent contractors to market and install the program.
Markets Targeted	Residential and nonresidential customers will be eligible to participate in the program.	The program will target homeowners and renters for the non-lighting measures, and for lighting SCE will also target residential new construction and small commercial customers.	The MFEER eligible customer will be the property owner or manager of multifamily complexes of two or more dwelling units. The program will also extend its services to mobile home parks.

SCE	Home Energy Efficiency Survey	Integrated School-Based Program	CA New Homes Program
Short Description	The program provides customers with information at no charge to help them become familiar with ways to control and reduce energy usage in their homes. The program will also include a direct install component by installing CFLs in the homes of customers participating in the in-home survey.	Combines three school-based efforts on residential use through child education, and integration of school use and student education at middle/high schools and college campuses.	The program will target builders and developers for the improvement of energy efficiency in single family and multifamily dwelling units.
% of IOU Budget	0.9%	0.7%	2.7%
MWh	18,011	10,704	10,526
MW	3.91	2	2.28
Mtherms	-	-	-
TRC	0.93	1.32	0.43
Design & Delivery	The program will be delivered through six strategies: Mail-In Energy Survey, On-Line Energy Survey, In-Home Energy Survey, Phone Energy Survey, Welcome Package, and an Energy Efficiency Mortgage Display.	The program will be delivered through three coordinated program strategies to effectively address the barriers faced by the schools market. The strategies will be LivingWise, Green Schools, and Green Campus.	The program will work with builders and contractors as well as many related professional organizations.
Markets Targeted	The program targets residential customers in distinct markets, including hard-to-reach and multilingual areas.	The program targets K-12 and college students and their families in SCE's rural and moderate-income areas. The program will also target K-12 schools; regional occupational centers; and universities within SCE's service territory.	The program shall target all residential builders regardless of production size, market segment, or geographic location.

SCE	Business Incentive Program	Comprehensive HVAC Program (Residential)	Comprehensive HVAC Program (Non-Residential)
Short Description	The Business Incentive Program will target all nonresidential customers regardless of size in terms of monthly kW demand. This innovative, integrated program design will offer a full range of solutions, including audits, design assistance, and incentives for qualifying measures to all nonresidential customers, from the smallest GS-1 customer to the largest TOU commercial or industrial customer.	The Comprehensive HVAC Program will utilize three distinct strategies to target the Upstream/Midstream/Downstream markets of the Residential and Nonresidential HVAC market.	The Comprehensive HVAC Program will utilize three distinct strategies to target the Upstream/Midstream/Downstream markets of the Residential and Nonresidential HVAC market.
% of IOU Budget	15.7%	2.0%	7.0%
MWh	1,043,035	24,153	138,357
MW	192.32	5.17	29.60
Mtherms	-	-	-
TRC	3.74	0.71	1.14
Design & Delivery	The Business Incentive program will primarily be delivered directly to customers by vendors, SCE account representatives, direct mail, or the internet. The intent of dividing the program in terms of itemized, calculated, and customized rebates is to make it easier for customers to participate in energy efficiency activities and to receive acknowledgement in the form of a financial incentive.	The program will utilize 3rd party contracts for implementation of the three program strategies: Upstream, Midstream, and Downstream	The program will utilize 3rd party contracts for implementation of the three program strategies: Upstream, Midstream, and Downstream
Markets Targeted	The Business Incentive Program will be open to all SCE nonresidential customers.	All SCE customers will be eligible for the program. Since the program focuses primarily on small packaged air conditioning units, the customers are residential and commercial.	All SCE customers will be eligible for the program. Since the program focuses primarily on small packaged air conditioning units, the customers are residential and commercial.

SCE	Retrocommissioning	Industrial Energy Efficiency Program	Agricultural Energy Efficiency Program
Short Description	The Retrocommissioning program will apply a systematic process for improving and optimizing larger sized building's operations and for supporting those improvements with enhanced documentation and training.	The program will strive to offer integrated industry and process-specific customer assistance in implementing projects from inception to completion, overcoming barriers at every phase and nurturing the customer relationship such that future savings opportunities occur within each facility on an ongoing, sustainable basis.	The Agricultural Energy Efficiency Program will encourage agricultural production and water supply customers to improve the energy efficiency of their facilities, including electricity used for water pumping and non-pumping activities.
% of IOU Budget	1.7%	6.0%	5.6%
MWh	39,040	194,474	129,368
MW	8.47	42.20	28.07
Mtherms	-	-	-
TRC	1.72	2.97	1.51
Design & Delivery	The program will contract with many commissioning providers and will utilize SCE account reps and networks with customers and local governments	The program's strategy will be to increase industrial customer participation in the full menu of existing and proposed energy efficiency programs by reducing market barriers through coordinated multi-channel program delivery mechanisms for traditional and nontraditional incentive structures.	The program will utilize SCE reps and contract organizations to outreach to SCE's agricultural customers.
Markets Targeted	Nonresidential medium and large customers in the commercial & industrial, government and institutional segments will be the primary customer groups.	This program is open to all industrial customers. Specific targets: Oil & gas extraction, food processing, chemicals, paper, and water and wastewater.	The Agricultural Energy Efficiency Program will target customers that engage in farming, agricultural product processing, and water supply and treatment.

SCE	Nonresidential Direct Install	Savings By Design New Construction Program	Sustainable Communities
Short Description	The Nonresidential Direct Installation Program is designed to produce cost-effective, long-term peak demand and energy savings by providing no-cost and low-cost energy efficient equipment retrofits to very small and small commercial customers in SCE's service territory.	Savings By Design will offer a full spectrum of support to building owners, architects, engineers, and other specialized consultants, providing the tools and information necessary to achieve optimum energy and resource efficiency in their projects.	The program will facilitate development of an integrated solutions proposal that incorporates the approach, design, and delivery of this pilot program for specific community or facility needs.
% of IOU Budget	7.2%	4.6%	0.7%
MWh	348,848	132,261	8,212
MW	75.70	11.80	0.36
Mtherms	-	-	-
TRC	5.42	2.67	3.68
Design & Delivery	The Nonresidential Direct Installation program works through a set of approved contractors and third-party (CBO/FBOs) implementers who are empowered to promote, enroll, and audit qualified customers to the program and to install measures at no cost to participants.	The program will work early with projects, architect, designers, workshops, education to encourage whole building approach.	The primary focus of the program is to utilize utility and community delivery channels to offer an enhanced bundled package of SCE's energy efficiency products.
Markets Targeted	The targeted market segments will be very small and small nonresidential customers whose annual electric demand is less than 20 kW in targeted rural areas other than the Los Angeles basin, and targeted areas identified by the CBO/FBOs working with SCE.	SBD is available to the following customer participants: New construction or major renovation projects in nonresidential market segments (commercial, governmental, institutional, agricultural, and industrial).	The target audience will include architects, building contractors, building owners, engineering firms, land developers, and municipalities and their internal agencies.

SCE	Education and Training	Statewide Emerging Technologies	Statewide Crosscutting Codes and Standards
Short Description	The Education, Training, and Outreach Program will play a significant role in overcoming market barriers related to insufficient information and product knowledge regarding energy efficient products and technologies.	The Statewide Emerging Technologies program is an information-only program that will seek to accelerate the introduction of innovative energy efficient technologies, applications and analytical tools that are not widely adopted in California.	The statewide Codes and Standards (C&S) program is an information-only program that will advocate upgrades and enhancements in energy efficiency standards and codes.
% of IOU Budget	3.6%	1.7%	0.9%
MWh	-	-	-
MW	-	-	-
Mtherms	-	-	-
TRC	-	-	-
Design & Delivery	Includes CTAC, AGTAC, the mobile energy unit, remote facility audits (mail-in Spanish), CLEO, and BOC	The utilities will deliver the program through custom demonstration projects, often working with targeted “innovators” and coordinated efforts such as the Emerging Technologies Coordinating Council database.	The program will work closely with California Energy Commission staff and other codes and standards advocates.
Markets Targeted	The program will target all market segments with information and education with an added focus on emerging tech, demand response, and distributed generation.	Customers from all markets segments will be eligible to host emerging technology application demonstration projects.	The program will target key stakeholders such as equipment manufacturers, government institutions, and numerous other businesses and public agencies.

SCE	Local Government Partnerships Program	IDEEA	InDEE
Short Description	SCE's Local Government Partnerships (LGP) program will optimize the opportunities for institutions, Jurisdictions and their communities to work toward the common goal of achieving short and long-term energy savings, reduced utility bills, and an enhanced level of comfort in municipal and commercial buildings as well as homes.	The program will conduct a general solicitation to look for new program designs that have a real potential for cost effective energy efficiency.	The program will conduct a general solicitation to search for unique and newer energy efficiency technologies and/or very distinctive approaches to capturing cost effective energy efficiency.
% of IOU Budget	6.6%	4.8%	0.9%
MWh	131,961	96,875	14,539
MW	28.64	21.02	3.16
Mtherms	-	-	-
TRC	3.15	4.23	3.84
Design & Delivery		Competitively Bid Programs	Competitively Bid Programs
Markets Targeted	The LGP Programs will target cities, counties, state and community universities and colleges and local government organizations.	The program applies to all residential and nonresidential customers in SCE territory.	The program applies to all residential and nonresidential customers in SCE territory.

SCE	Statewide Marketing & Outreach	
Short Description	The overarching goal of the Flex Your Power campaign will be to increase overall statewide awareness and demand for energy efficiency and continue to build the market for energy efficient appliances, products and services to help the state reach its long-term energy goals.	Totals differ from filed tables in part due to rounding and in part due to CA New Homes having bad data in the Master sheet and this table missing LIEE.
% of IOU Budget	3.0%	100.0%
MWh	-	3,438,112.14
MW	-	682.41
Mtherms	-	-
TRC	-	-
Design & Delivery	The program will achieve its goals using a full and synergistic range of marketing and outreach strategies including television; radio and newspaper ads; earned media; printed educational materials; events; a comprehensive website resource serving all parties statewide; a biweekly electronic newsletter; forums and workshops; and partnerships with thousands of businesses, government and nonprofit organizations.	
Markets Targeted	The Flex Your Power campaign targets all customers and market segments and actors in the state, including hard-to-reach.	

SDG&E (Assessment Still in Progress)	Limited Income Refrigerator Replacement Program	Lighting Exchange Program	Residential Customer Education Information	Residential Incentive Program
Short Description	Provides no cost refrigerators to customers just above LIEE funding limits	Customers exchange inefficient lights for efficient lights via neighborhood targeted outreach	Provides education and information through several program components: Home Energy Efficiency Survey (HEES) a statewide education and information based program; Home Energy Comparison Tool (HECT); the PEAK Student Energy Action Program (PEAK) a partnership program with the Energy Coalition and neighborhood outreach event.	Provides rebates and point of purchase discounts for selected energy-efficient residential measures and equipment.
% of IOU Budget	1.2%	0.6%	0.8%	2.8%
MWh	6	6,532	-	37
MW	0.85	1.25	-	33.18
Mtherms	-	-	-	566
TRC	1.49	2.73	-	1.44
Design & Delivery	Program coordination with LIEE will be seamless for the customer. If they are approached for possible participation in the LIEE program and do not income qualify, but are within the LIRR Program income guidelines, an assessment of the refrigerator will be performed. If the existing unit qualifies for replacement, the customer will be offered a new energy efficient unit.	The program is designed to provide maximum ease for customers to participate in exchanging their incandescent bulbs and torchieres for compact florescent lighting at convenient neighborhood locations. These events will be held in conjunction with local community agencies. The program manager and community facilitation will coordinate site locations.	Customers will receive energy efficiency information via, online, telephone, or mail-in surveys. They will also be able to compare their energy use with others in their neighborhood with the energy comparison tool. School children will also receive energy efficiency information as part of this program.	The program is designed to provide maximum ease for customers to participate including the expansion of the point-of-purchase delivery method.
Markets Targeted	The LIRR Program will target limited income customers who are marginally above the income qualification in LIEE but within 250% of Federal Poverty Guidelines.	Homeowners and renters in lower income/underserved areas	Residential customers.	Residential home owners and renters of single-family homes, condominiums, mobile homes, and attached homes up to a four-plex.

SDG&E (Assessment Still in Progress)	Multifamily Rebate Program	Statewide Nonresidential Express Efficiency Program	Small Business Super Saver	Standard Performance Contract (SPC)
Short Description	Provides incentive to get measures installed in both common space and in occupants units.	Rebate for prescriptive retrofit measures for commercial customers with a monthly demand of over 100kW or average monthly consumption of 20,800 therms	Rebate for prescriptive retrofit measures for commercial customers with a monthly demand of under 100kW or average monthly consumption of 20,800 therms	A statewide non-residential energy efficiency incentive program for non-prescriptive measures. SPC targets mid to large-sized customers but will accommodate small non-residential customers that cannot be served by other programs.
% of IOU Budget	2.4%	3.6%	11.1%	3.9%
MWh	14	49,825	157,510	36,456
MW	3.27	7.10	21.75	4.54
Mtherms	1,166	926	1,311	501
TRC	2.23	1.67	2.84	2.45
Design & Delivery	Continues effort to go after this very large and largely underserved market via owners, associations, property managers, plumbers and linking to education program efforts.	Long standing program known by larger customers and promoted by vendors. Included incentive to go to demand response measures. Simple rebate systems.	Uses rebates and direct install to capture savings. Reduces incentives from previous programs. Uses prescribed measures. Uses on-bill financing.	Tries to influence project planning to capture energy savings, requires confirmation of savings estimates.
Markets Targeted	Residential property owners or managers of residential multifamily properties with two or more units.	Nonresidential customers over 100kW of monthly demand and/or a monthly average natural gas usage of 20,800 therms or above.	Nonresidential customers under 100kW of monthly demand and/or under an average monthly usage of 20,800 therms.	Industrial, commercial, and agricultural customers including manufacturing facilities, office buildings, and retail facilities and governmental facilities are the customers targeted by this program.

SDG&E (Assessment Still in Progress)	Energy Savings Bid Program	Savings By Design	Sustainable Communities Program	Advanced Home Program
Short Description	An existing local incentive program designed for large commercial or industrial energy-efficiency projects including the military and public agencies. Projects may include large individual sites or an aggregation of smaller sites. Incentives will be provided for design and audit assistance	A statewide non-residential new construction program that promotes integrated design and emphasizes early design involvement by offering building owners and their design teams a wide range of services including education, design assistance, and owner incentives, as well as design team incentives.	Promotes sustainable development that incorporates high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies	A comprehensive residential new construction concept with a cross-cutting focus to sustainable design and construction, green building practices and emerging technologies.
% of IOU Budget	18.3%	4.9%	0.6%	2.4%
MWh	169,459	20,660	1,699	5,154
MW	34.90	4.54	0.41	5.6
Mtherms	594	351	44	204
TRC	2.82	2.28	1.78	2.13
Design & Delivery	ESBP is an incentive program that addresses the market barriers of: (1) higher costs for high energy-efficiency measures, (2) long payback periods for energy-efficiency measures, (3) reluctance to participate in other incentive and rebate programs, (4) un-familiarity with energy-efficient equipment and technologies, (5) lack of design and audit assistance incentives, and (6) limited flexibility of other programs. Public agencies in particular require a long project approval lead time which presents a time barrier when competing with private industry for incentive funds.	The program targets key "influencers" in the new construction market segment including: architects and designers, property developers and building owners, industry and trade associations, energy consultants and service providers, engineers, building-system contractors, building department inspectors and plan checkers. The program emphasizes intervention with no-cost design assistance and analysis early in the planning and design process and offers a wide range of customized services including education, owner incentives, and design team incentives	SCP will utilize the Account Executives from the new construction statewide programs to explain the program to customers and guide them the best solution for their project.	Program participants will be developed through a team of customer representatives, who, working with the builder and his design team, will evaluate each project and its design for participation.
Markets Targeted	The ESBP will target large nonresidential customers, including public agencies that customers that can save a minimum of 500,000 kWh annually. Contractors, vendors and/or project sponsors are also targeted because of their involvement with customers and their retrofit projects. Smaller customers can be combined to meet the minimum kWh program criteria.	Targets owners, developers, design teams, and contractors. All end-uses in buildings are included within program offerings, as are all end uses found in commercial, governmental, institutional, and industrial or agricultural processes.	Building owners, building contractors, architects, engineering firms, municipalities, and land developers.	Design and construction teams: architects, energy analysts, HERS raters, trade contractors, and residential builders. Market segment is low-rise and high-rise residential new construction with participation is open to all residential new construction including custom homes, single-family production housing, condominiums, town homes and rental apartments

SDG&E (Assessment Still in Progress)	On-Bill Financing Pilot Program	Statewide Crosscutting Codes and Standards Program	Statewide Emerging Technologies	Upstream Lighting Program
Short Description	Provides easy access to financing energy efficiency measures and incorporate payments into energy bills.	Promotes upgrades and enhancements in energy efficiency standards and codes.	Works to move new commercial introduction of energy-efficient technologies, applications, and analytical tools into the market so they can be used by confirming energy impacts.	Provides rebates to consumers via manufacturer-to-retailer discounts or buy-downs to motivate consumers to purchase and install qualifying energy-efficient lighting products.
% of IOU Budget	1.3%	0.4%	1.5%	6.1%
MWh	-	-	-	296,509
MW	-	-	-	54.49
Mtherms	-	-	-	-
TRC	-	-	-	5.17
Design & Delivery	Linked as an option to other programs.	This program is intended to inform the process of modifying existing or developing new energy efficiency measures.	Standard approach used in the past for new technologies, but coordinated with CEE, ETCC, PIER and the IOUs.	Incentives are provided to the customer through a discounted price or a discount at the register so there is no application needed
Markets Targeted	Targets certain multifamily, small commercial customers (20-100 kW) and local government facilities.	Equipment manufacturers, standards enforcement agencies, government institutions, agencies responsible for standard enforcement such as building departments, architects, engineers, designers, and building industry associations, among others.	New technology across markets.	Targets customers who shop at home improvement, grocery and drug stores such as single-family homeowners, renters and multi-family tenants as well as some apartment and small business owners

SDG&E (Assessment Still in Progress)	City of Chula Vista Partnership	City of San Diego Partnership	County of San Diego Partnership	SD Energy Resource Center
Short Description	A partnership between SDG&E, and the City of Chula Vista. The program aims to enable Chula Vista, residents, developers, and Southbay cities to implement energy efficiency and conservation measures by overcoming existing barriers. The program also aims to increase public awareness about energy efficiency and conservation through non-traditional education and outreach outlets and channels used by cities and the County.	A partnership between SDG&E, and the City of San Diego. The program aims to enable San Diego, residents, developers to implement energy efficiency and conservation measures by overcoming existing barriers. The program also aims to increase public awareness about energy efficiency and conservation through non-traditional education and outreach outlets and channels used by cities and the County.	A partnership between SDGE and the County of San Diego that targets small and large commercial county government facilities and county residential public housing units as well as promotion of the County's Green Building Program to business and commercial property owners that work with the County of San Diego's (County) Department of Planning and Land Use (DPLU).	A collaborative effort between SDREO's Energy Resource Center and SDG&E's statewide Education and Training Program. SDERC is a local program that provides energy efficiency information, education and outreach. The combined program will serve both the residential and non-residential sectors.
% of IOU Budget	0.8%	0.4%	1.0%	1.5%
MWh	3,833	3,833	-	-
MW	0.40	0.40	-	-
Mtherms	110	109.78	-	-
TRC	0.89	0.83	-	-
Design & Delivery	Will coordinate internally with city staff to develop and implement retrofit projects for City facilities, with SDREO, SDG&E; cities and the County to develop and place the mobile ECO Exhibits in high traffic locations; with SDG&E and the City's Planning and Building staff to streamline the City's plan review and permitting process application for condominium conversions projects; and will develop a series of four workshops per year to assists cities develop individual strategic plans to manage their energy use and budget more effectively.	Will coordinate internally with city staff to develop and implement retrofit projects for City facilities, with SDREO, SDG&E; cities and the County to develop and place educational exhibits in high traffic locations; with SDG&E and the City's Planning and Building staff to streamline the City's plan review and permitting process application for condominium conversions projects; and will develop a series of four workshops per year to assists cities develop individual strategic plans to manage their energy use and budget more effectively.	The County's program will facilitate energy project and demand response implementation at County facilities and public housing units, coordinate an on-bill financing pilot project development and implementation, provide peer-to-peer education to other local governments, and promote energy efficiency in County facilities to County staff along with county-wide energy efficiency promotion for public and private entities.	The program will provide education and outreach through direct customer related activities include workshops, training, on-line resources and promotional events. Technical Assistance sessions with individual customers will provide follow-up information for appropriate implementation as customers research ideas learned during SDERC programs.
Markets Targeted	Targets city facilities and staff, residents, condominium conversion developers, Southbay cities in San Diego County are eligible to participate in programs.	Targets city facilities and staff, residents, condominium conversion developers, Southbay cities in San Diego County are eligible to participate in programs.	County staff along with residential and business customers located in areas served by the County's DPLU.	Targets local, state and federal agencies, local institutions and schools, architectural and engineering firms, manufacturers, contractors and distributors, commercial food service operations, technical, trade and vendor businesses, building owners, and facility managers.

SDG&E (Assessment Still in Progress)	UC CSU Partnership	Community College Partnership	Department of Corrections Partnership	San Diego Co. Water Authority Partnership
Short Description	The SDG&E, University of California and California State University (SDG&E/UC/CSU) program is an existing statewide nonresidential program that will continue in the 2006 through 2008. The program will continue to offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers	The SDG&E/California Community Colleges program is a new statewide nonresidential program that will be very similar to the existing SDG&E UC/CSU Partnership program. The program will offer incentives for retrofit and new construction projects, continuous commissioning, and educational training for the community colleges.	The SDG&E/California Department of Corrections program is a new statewide nonresidential program that will be very similar to the existing SDG&E UC/CSU Partnership program. The program will offer incentives for retrofit projects, continuous commissioning, and educational training for the prisons and youth facilities.	The high-efficiency clothes washer component of the Voucher Incentive Program offers point-of-purchase vouchers to encourage consumers to purchase high-efficiency clothes washers. Water customers of participating water agencies are eligible as long as vouchers are available for those agencies. Vouchers are provided to single-family and multi-family (in unit only) residences.
% of IOU Budget	2.2%	2.2%	0.4%	0.8%
MWh	160,994	12,141	3,579	-
MW	1.96	1.86	0.58	-
Mtherms	470	470	29	593
TRC	2.03	2.37	2.72	0.13
Design & Delivery	The partnership will include coordination with other energy efficiency programs and ongoing campus projects; Energy Efficiency Retrofit Program Element Implementation (including project selection and implementation); Facility Monitoring Based Commissioning Implementation; and Energy Efficiency Education and Best Practices Development and Training Implementation.	The partnership will include coordination with other energy efficiency programs and ongoing campus projects; Energy Efficiency Retrofit Program Element Implementation (including project selection and implementation); Facility Monitoring Based Commissioning Implementation; and Energy Efficiency Education and Best Practices Development and Training Implementation.	The partnership will include coordination with other energy efficiency programs and ongoing campus projects; Energy Efficiency Retrofit Program Element Implementation (including project selection and implementation); Facility Monitoring Based Commissioning Implementation; and Energy Efficiency Education and Best Practices Development and Training Implementation.	Customer can obtain instant point-of-purchase vouchers at the Dealer by calling the Voucher Processing Center and requesting a voucher. In most cases, the voucher will be faxed directly to the store within 30 minutes to be used immediately. The customer does not have to deal with filling out paperwork and submitting for an after-purchase rebate. Information is also provided by the individual water agencies through billings and newsletters. The Water Authority and most of the participating retail water agencies have information on the respective web sites.
Markets Targeted	The customer is the UC/CSU campus facilities in the four IOU service areas.	The program will be offered to all California Community College campus facilities in the four IOU service areas.	The CDC institutional campus facilities in the four IOU service areas	Single-family and multi-family (in unit) for residential washers. Laundromats and multi-family common use laundries for coin-operated machines.

SCG (Assessment Still in Progress)	Single Family Home Energy Efficiency Retrofit Program	Multifamily Energy Efficiency Retrofit Program	Home Energy Efficiency Survey
Short Description	An existing statewide program designed to help residential customers reduce their natural gas energy usage by replacing inefficient appliances with new energy-efficient appliances and weatherizing their homes	Targets property owners and managers with multifamily residential dwellings, homeowners associations and mobile home park associations. The program encourages property owners and managers to install qualifying energy efficiency products in individual tenant units and common areas for residential apartments, mobile home parks and condominium complexes.	An existing statewide program that provides residential customers the opportunity to participate in mail-in, online, and in-home analysis of their home energy use.
% of IOU Budget	10.7%	5.2%	1.0%
MWh	30,641.75	701.28	-
MW	12.73	0.42	-
Mtherms	5,604.07	4,113.66	-
TRC	1.42	1.37	-
Design & Delivery	Rebates for installation of energy efficient natural gas measures.	Expansion of current effort. Includes outreach and incentives to distributors, contractors, and others for MF installation, Includes utility program staff outreach liaison with large property managers and other actors in this market to expand program effort.	Continuation of current effort. Multilingual surveys marketed for Mail-In. Marketing of On-Line from web site and others. In-Home available upon request.
Markets Targeted	Residential home owners and renters of single-family homes, condominiums, mobile homes, and attached homes up to a four-plex.	Residential Multifamily Property Owners of two or more dwelling units, Home Owner Associations, Mobile Home Park Associations and other similarly defined housing.	Residential, hard-to-reach, and customer usage inquiries.

SCG (Assessment Still in Progress)	Statewide Nonresidential Express Efficiency Program	Local Business Energy Efficiency Program (BEEP)	SoCalGas/SCE Joint Savings By Design (SBD) Program
Short Description	Continuation and expansion of statewide Express Efficiency Program and collapsed statewide Nores. Audit into it.	Custom local non-residential incentive programs. Includes local non-residential rebates for measures not covered by other programs."	Based on prior SBD effort, funds gas measures with electric measures by SCE, whole building and systems approach
% of IOU Budget	12.1%	14.7%	4.1%
MWh	-	-	-
MW	-	-	-
Mtherms	11,409.12	18,081.00	5,291.47
TRC	1.96	2.89	1.71
Design & Delivery	Long standing program known by larger customers and promoted by vendors. Outreach for promotion by vendors, contractors, distributors, and mfg. Added more outreach, use of CBOs and FBOs, incentives for bldg owners, ability for ON-Bill Financing pilot, and small grass-roots outreach in rural areas. Includes bulk purchase initiative.	Direct promotion by utility reps. Rebate effort based on outreach for promotion by vendors, mfg., distributors, contractors. Includes new Grant effort to encourage innovative projects from largest customers.	Program works early with projects, architect, designers, workshops, education to encourage whole bldg approach.
Markets Targeted	Targets all nonresidential customers.	Targets all nonresidential customers.	New Nonresidential Construction

SCG (Assessment Still in Progress)	SoCalGas/Municipal Electric Utility Collaborative Savings By Design (SBD) Program	Sustainable Communities-Santa Monica Demonstration Program	Advanced Home Program
Short Description	Based on prior SBD effort, funds gas measures with electric measures by Municipal Electric Utilities, whole building and systems approach	Joint effort with SCG, SCE the Energy Division, and the City of Santa Monica for more efficient and sustainable communities that include efficiency, transportation, gray water use etc.	A comprehensive residential new construction concept with a cross-cutting focus to sustainable design and construction, green building practices and emerging technologies.
% of IOU Budget	1.6%	0.5%	4.8%
MWh	-	7.31	5,634.52
MW	-	0.01	6.18
Mtherms	3,016.65	202.04	220.49
TRC	2.10	0.94	1.21
Design & Delivery	Program works early with projects, architect, designers, workshops, education to encourage whole bldg approach	A local program designed to promote sustainable development, showcase energy-efficient design and building practices, and encourage local developers to incorporate clean on-site energy generation systems in their multifamily and commercial new construction projects.	Program participants will be developed through a team of customer representatives, who, working with the builder and his design team, will evaluate each project and its design for participation.
Markets Targeted	New Nonresidential Construction	The target audience will include building owners, building contractors, architects, engineering firms, municipalities, land developers, new construction public buildings, schools, office buildings, retail, and multi-family housing.	Design and construction teams; architects, energy analysts, HERS raters, trade contractors, and residential builders. Market segment is low-rise and high-rise residential new construction with participation is open to all residential new construction including custom homes, single-family production housing, condominiums, town homes and rental apartments

SCG (Assessment Still in Progress)	Statewide Crosscutting Codes and Standards	Statewide Emerging Technologies	On-Bill Financing Program
Short Description	Promotes upgrades and enhancements in energy efficiency standards and codes.	Works to move new commercial introduction of energy-efficient technologies, applications, and analytical tools into the market so they can be used by confirming energy impacts.	Pilot test of on-bill financing for efficiency investments to compliment other programs.
% of IOU Budget	0.5%	1.6%	2.1%
MWh	-	-	-
MW	-	-	-
Mtherms	-	-	-
TRC	-	-	-
Design & Delivery	This program is intended to inform the process of modifying existing or developing new energy efficiency measures.	Standard approach used in the past for new technologies, but coordinated with CEE, ETCC, PIER and the IOUs.	Linked as an option to other programs.
Markets Targeted	Equipment manufacturers, standards enforcement agencies, government institutions, agencies responsible for standard enforcement such as building departments, architects, engineers, designers, and building industry associations, among others.	New technology across markets.	Targets certain multifamily, small commercial customers, and local government facilities.

