

California Public Utilities Commission

Report to the Governor

ENERGY EFFICIENCY PROGRAMS IN SUPPORT OF THE GREEN BUILDING INITIATIVE

Biennial Report Required by Executive Order S-20-04

**Prepared by the California Public Utilities Commission (CPUC) Division of
Strategic Planning and Energy Division**

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I. Executive Summary

This report is issued in response to the Governor's Executive Order S-20-04, Green Building Initiative (GBI), and discusses the California Public Utilities Commission (CPUC or Commission) actions to advance the GBI goals via its authority over the energy efficiency programs offered by the utilities. The report identifies specific CPUC activities in support of the GBI and the extent to which the energy efficiency offerings of the utilities, authorized by the CPUC, facilitate reduced energy consumption by state and commercial buildings.

CPUC funds energy efficiency programs and sets energy savings goals that advance the objectives of the GBI.

The CPUC has long recognized the critical role of energy efficiency in meeting the energy needs of the state, and for decades has worked with the utilities to ensure that energy efficiency is well represented in utility resource plans. In Decision (D.) 05-09-043, issued on September 22, 2005, the CPUC approved *over \$2 billion* in ratepayer funding to support energy efficiency measures for 2006-2008, an increase of over 60% on an annualized basis relative to the 2004-2005 program cycle. In 2004-2005, approximately \$339 million in ratepayer funding supports programs that the utilities identified as contributing to the goals of the GBI. For 2006-2008, this funding will increase to \$693 million, a 36% annual increase. These funds support a variety of statewide and local programs that, through a combination of outreach and incentive programs, encourage end-user customers to implement a variety of energy efficiency measures. Expenditures on programs to support energy efficiency efforts specifically in state and commercial buildings account for over 50% of the total expenditures in both the 2004-2005 and 2006-2008 program cycles, indicative of the orientation of these programs in supporting the primary aims of the GBI.

Our commitment to energy efficiency was recently reaffirmed through adoption of Energy Action Plans (EAP) I and II.¹ EAP I established a loading order that ranked energy efficiency as the resource of first choice, ahead of all other resource options. It further identified reduction of

¹ EAP I and II were adopted on May 8, 2003 and August 25, 2005 respectively.

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energy use per capita as one of six actions of critical importance. In response to this goal, on September 23, 2004, the CPUC issued D.04-09-060, setting *annual and cumulative goals for energy savings through the year 2013* for the four largest investor owned utilities (utilities).² More recently, EAP II identified 15 action items to facilitate deployment of all cost-effective energy efficiency measures in the state.

CPUC takes action to support the GBI and implement the Green Building Action Plan.³

In response to the GBI, the Commission has taken a number of specific steps to facilitate achievement of the goals identified therein. These actions include:

- Issuance of a ruling on December 29, 2004 by the Assigned Commissioner in the Energy Efficiency proceeding to explore the extent to which the energy efficiency programs authorized and funded in 2004-2005 can be used to support the goals of the GBI, and to seek comments regarding how the CPUC should alter program designs and funding to implement the GBI in the future.
- Adoption of *EAP II* articulating the CPUC's commitment to taking the steps identified in the Green Building Action Plan.
- Directing the utilities to consider the GBI in their *energy efficiency program portfolios for the 2006-2008 program cycle*.

In the years ahead, the CPUC is wholly committed in pursuing the goals of the GBI through collaborative efforts with other state agencies.

Going forward, achievement of the ambitious reductions in energy use for state and commercial buildings envisioned by the GBI will require overcoming several key barriers that may prevent more widespread adoption of energy efficiency measures. For state buildings, financing the up-front costs represent the principal impediment with near-term budget

² Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE) and Southern California Gas Company (SCG).

³ The Green Building Action Plan accompanied the GBI Executive Order and provided more detailed directions to support implementation of the initiative.

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constraints limiting the ability of state building operators to take full advantage of cost-effective energy efficiency measures and programs. The CPUC should work with the *Department of General Services*, as well as the *Department of Finance* to identify strategies that address this concern.

In the commercial building sector, lack of information may pose more of a challenge than financing concerns. Some building operators may simply be unaware of the various opportunities to significantly reduce their energy costs. In light of this, it is incumbent on the CPUC, working in collaboration with the *California Energy Commission* (CEC) and the utilities to ensure that building owners and operators are fully aware of ways to cost-effectively reduce energy consumption through the diverse portfolio of energy efficiency programs offered by the utilities.

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II. GBI Executive Order Directs the California Public Utilities Commission (CPUC) to Support Energy Efficiency Activities to Reduce Energy Use in Commercial and Institutional Buildings

On July 27, 2004, Governor Schwarzenegger signed Executive Order S-20-04,⁴ establishing the Green Building Initiative (GBI). The GBI specifically directed the CPUC to:

“apply its energy efficiency authority to support a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve [the goal of reducing grid-based energy use by 20% by 2015]; and submit a biennial report to the Governor commencing in September 2005, on progress toward meeting these goals”

Section 2.1.3 of the Green Building Action Plan, which accompanied the Executive Order,⁵ also directed the CPUC to describe how the energy efficiency programs approved by the CPUC are facilitating the goals identified therein, specifically to:

“produce greater measured efficiency gains per dollar of program expenditure; encourage increasing levels of efficiency investments in longer terms payback measures than those now typically occurring, including the use of new or improved incentive programs, (such as utility bill discounts, incentives based on measured performance, and “on bill” financing); [and] include building commissioning and advanced metering practices in programs wherever appropriate.”

⁴ A copy of the Executive Order is appended to this report as Attachment A.

⁵ A copy of the Green Building Action Plan is appended to this report as Attachment B.

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III. CPUC Supports the Goals of the GBI

As an active participant in the interagency process that helped develop the GBI, the CPUC is wholly committed to the goals established in the GBI Executive Order. Since the issuance of the GBI Executive Order, the CPUC has taken a number of steps to facilitate the GBI objectives.

The Energy Action Plan II Commits the CPUC to Implementing the Green Building Action Plan

Building on the foundation of EAP I, on August 25, 2005, the Commission adopted EAP II, providing an implementation plan to achieve the objectives identified in both EAP I and additional objectives put forward in EAP II. Among other things, EAP I established a prioritized loading order, which identifies, in order of preference, the resources that should be considered in meeting the state's energy needs. Energy efficiency is identified as the resource of first choice followed by, in order of priority, demand response, renewable energy, distributed generation, and clean, fossil fuel, central-station generation. Consistent with this loading order, EAP II emphasizes the implementation steps necessary to realize the full energy efficiency potential of the state. Among the actions identified in EAP II, action 6 under energy efficiency clearly articulates the Commission's dedication to the GBI goals, stating that the CPUC will:

“Implement actions outlined in the Governor's Green Buildings Action Plan to improve building performance and reduce grid-based electrical energy purchases in all State and commercial buildings by 20 percent by 2015.”

CPUC Commissioner Issues Ruling Exploring Ways to Utilize Energy Efficiency to Accomplish GBI Goals.

On December 29, 2004, Commissioner Susan Kennedy issued an Assigned Commissioner's Ruling (“ACR”)⁶ requesting information from the utilities,⁷ non-utility implementers of energy efficiency programs involved

⁶ A copy of the ACR is provided as Attachment C to this report.

⁷ PG&E, SCE, SDG&E and SCG submitted responses to the ACR.

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in the building sector, building owners and operators of the commercial building sector and other interested parties⁸ to:

“gather information on how energy efficiency programs that are currently authorized and funded in the 2004-2005 cycle can be utilized to accomplish the goals outlined in the Executive Order, and to seek comments on the how the CPUC should modify subsequent program design and funding to implement the Governor’s order.”

Several parties responded to the ACR with suggestions and recommendations. The CPUC has addressed a number of issues raised in the comments in various proceedings. For example, in their responses, the utilities emphasized the need for additional flexibility in how they administer their energy efficiency programs, pointing out that some projects that offer substantial net benefits cannot be implemented due to existing customer-eligibility restrictions. The utilities also argued that Commission oversight over energy efficiency programs prevents them from adjusting programs and funding consistent with the goal of spending energy efficiency funds in the most cost-effective manner possible. The Commission through D.05-01-055 addressed similar concerns raised in Rulemaking (R.) 01-08-028 and delegated both program selection and portfolio management activities to the utilities for post-2005 energy efficiency programs. Furthermore, the Commission granted the utilities greater flexibility in D.05-09-043.

CPUC Funds 2006-2008 Energy Efficiency Programs that Support GBI Goals.

In addition to issuing the ACR, the Commission has formally recognized the GBI as an important element that must be considered by the utilities. As part of the 2006-2008 program cycle planning process, the utilities included GBI initiatives in their energy efficiency program portfolios. In D.05-09-043, the Commission further directed the utilities to work with the Energy Division to “develop the appropriate tracking mechanisms, so that the utilities, their advisory groups and Energy Division can assess whether

⁸ The following non-utility parties submitted responses to the ACR: The Building Operations and Managers Association (BOMA), National Association of Energy Service Companies (NAESCO), Efficiency Partnership, Alliance to Save Energy, City and County of San Francisco (CCSF), County of Los Angeles, San Diego Regional Energy Office (SDREO), Department of General Services (DGS), and the U.S. Environmental Protection Agency (EPA).

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the utility offerings and funding levels will meet the GBI efficiency improvement goals.”⁹

⁹ See D.05-09-043, pg. 36.

IV. Existing and Anticipated Energy Efficiency Programs Advance GBI Goals

The GBI represents an important step on a number of fronts including resource adequacy, environmental sustainability, and economic efficiency by establishing firm targets for state buildings and further encouraging energy efficiency improvements in the commercial building sector. These goals are largely consistent with those of the energy efficiency programs developed by the utilities under CPUC direction. Many of the energy efficiency programs contribute to the same goals identified in the GBI through a combination of outreach programs to inform building owners and operators of opportunities to improve energy efficiency, as well as a diverse mix of rebates and incentives to offset the costs of investing in energy efficient technologies.

In D.05-09-043, the Commission notes that in developing their portfolio plans, the utilities have incorporated strategies to improve commercial building efficiencies into the portfolio offerings that will be implemented by the utilities themselves, third parties and through the partnership arrangements with local governments and other entities. Rather than establish a separate statewide program focused exclusively on commercial and/or state buildings, each utility has integrated the GBI initiatives into the portfolio plans in a manner that can be responsive to differing customer needs across the various market sectors. For example, for the 2006-2008 program cycle, PG&E has developed a “Market Integrated Demand Side Management” portfolio, which organizes program offerings and strategies around “mass market” and “targeted market” segments, providing specific customer types with a menu of options that are relevant to their specific needs and maximizes energy savings over time. Similarly, SCE will be offering a variety of previously stand-alone programs oriented toward the needs of the non-residential sector under the umbrella of its Business Incentive Program.

At the CPUC’s request the utilities have identified the programs in their energy efficiency portfolios that contribute to the goals of reducing state and commercial building energy usage.¹⁰ For the 2006-2008 program cycles, SCE’s programs to support the goals of the GBI include

¹⁰ Commission staff issued a data request in August 2005. See Attachment F for detailed tables summarizing the utilities’ responses to this data request.

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Retrocommissioning, Savings by Design, Sustainable Communities, and Education, Training and Outreach programs. These programs are designed to focus on the commercial and government sectors as well as other market sectors. SDG&E's programs include Building Operator Certification, San Diego Resource Center (Partnership with San Diego Regional Office), Savings by Design, and Sustainable Communities programs. PG&E's portfolio includes market-focused programs to support the GBI, such as Mass Market offerings to small businesses and the Targeted Market programs, particularly the Schools and Colleges, Office and Institutional Buildings, and Education and Training programs. Finally, SoCalGas' portfolio includes Building Operator Certification, Energy Efficiency Education & Training, Energy Efficiency Delivery Channel Innovation Program, Savings by Design, and Sustainable Communities programs. A complete list of these programs and related descriptions are provided in Attachment E. In addition to the programs detailed in Attachment E, many of the utility program offerings will provide seminars, training, workshops and certification programs that educate building operators and facilities staff on how to incorporate energy efficiency practices and measures in their facilities.

A case study exploring how the state's two university systems (University of California and California State University) are working in partnership with the utilities in 2004-2005 to substantially reduce their energy usage is also provided in Attachment G.

A Significant Share of the Energy Efficiency Budget is Allocated to Programs That Are Directly Responsive to the Goals of the GBI.

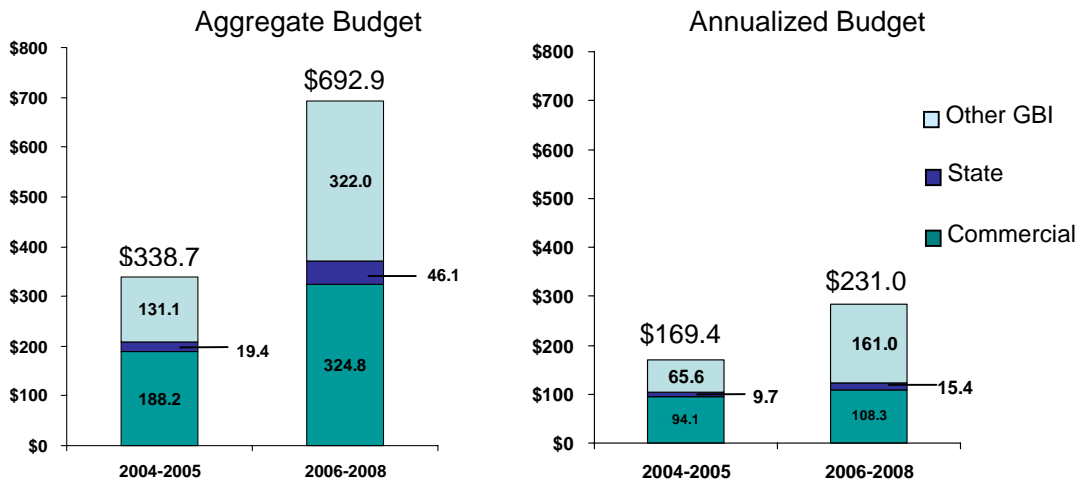
In the 2004-2005 funding cycle, the utilities budgeted approximately \$339 million in ratepayer funds to support energy efficiency programs that contribute to the GBI. An estimated 61%, or \$208 million, of this budget was allocated to program activities the utilities have identified as contributing directly to increasing energy efficiency in state and commercial buildings. For the 2006-2008 funding cycle, the utilities project spending \$693 million on programs that support the GBI. Of this amount, an estimated \$371 million, or 54%, is allocated specifically to state and commercial buildings.

On an annualized basis, funding for GBI-contributing programs will increase by approximately 36% between the 2004-2005 and 2006-2008

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program cycles. The increase in funding, on an annualized basis, for state and commercial buildings, is 58% and 15% respectively. It should be noted that these amounts represent a conservative estimate of GBI relevant expenditures as some funds in both the 2004-2005 and 2006-2008 program cycles are allocated to non-utility entities, whose GBI related activities are not captured here. Furthermore, those programs for which energy savings could not be reasonably estimated, but likely contribute to GBI goals are omitted.¹¹ Figure 1 shows the allocated budget for GBI directed programs, including state and commercial buildings.

Figure 1: GBI Program Aggregate and Annual Budgets (\$ Millions)



The Savings from State and Commercial Buildings Represent a Substantial Share of Total Energy Savings

The utilities have also provided estimates of the total energy savings they anticipate achieving through GBI-contributing programs. Figures 2 through 4 below compare the total projected energy savings across these programs with energy savings that are anticipated from state and commercial buildings for both the 2004-2005 and 2006-2008 program cycles.

¹¹ Statewide programs that may fit this characterization include Nonresidential Energy Audits, Building Operator Certification and Training, and Standards and Codes Advocacy. See Attachment E for more detail on these programs.

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Figure 2: Projected Peak Demand Savings, 2004-2005 & 2006-2008 (MW)

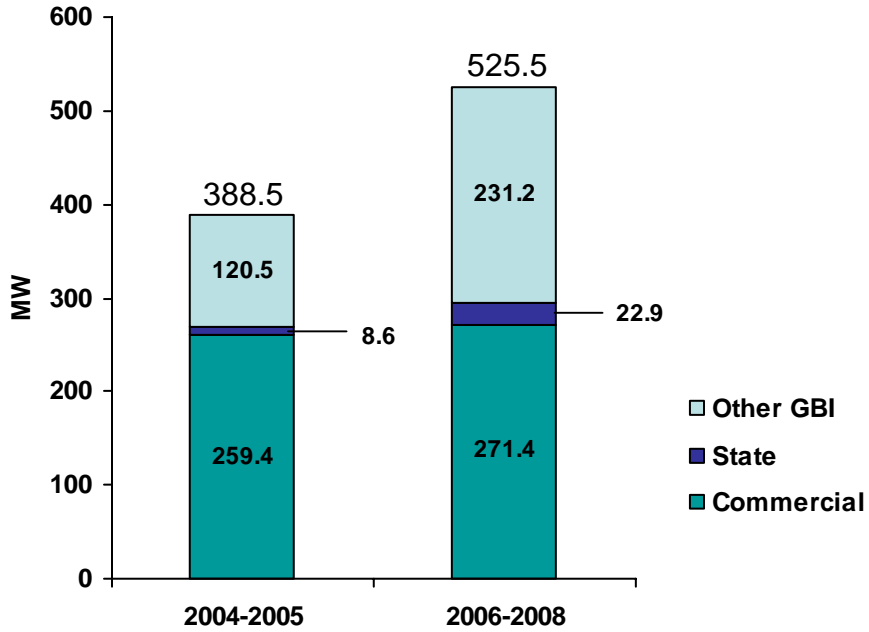
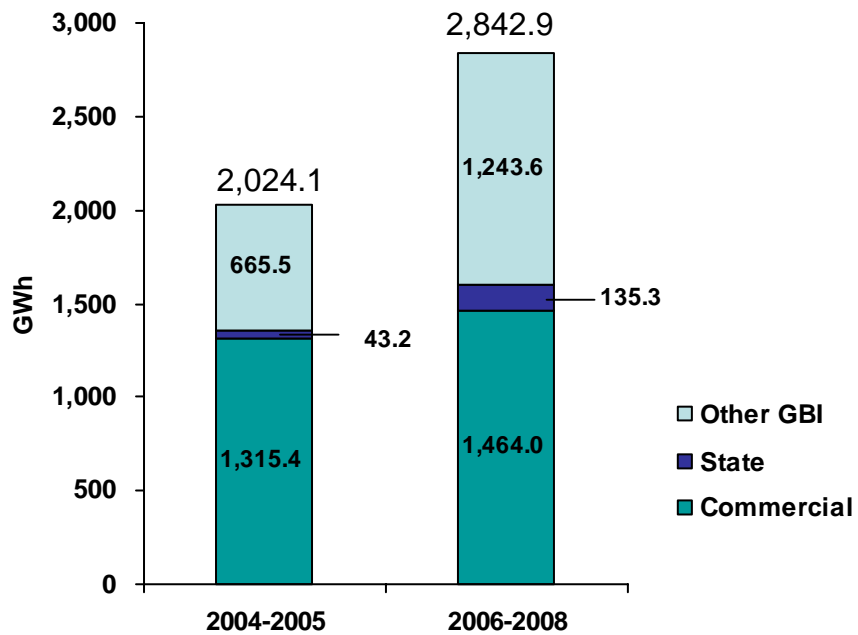
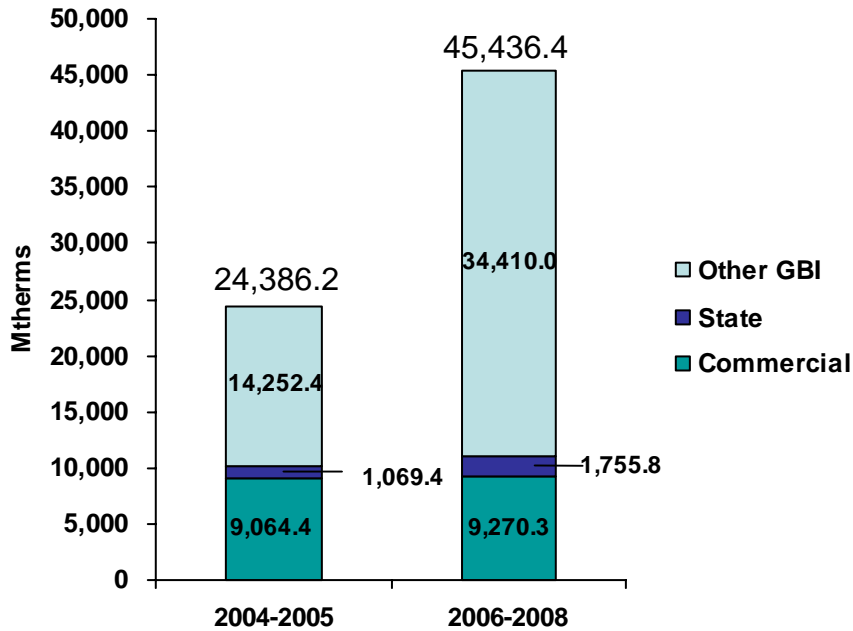


Figure 3: Projected Usage Savings, 2004-2005 & 2006-2008 (GWh)



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Figure 4: Projected Gas Savings, 2004-2005 & 2006-2008 (MTherms)



As Table 1 indicates, energy efficiency programs that target state and commercial buildings are anticipated to contribute a substantial share of overall savings.

Table 1: State & Commercial Building Share of GBI-Contributing Program Energy Savings

	Share of Demand Savings (MW)	Share of Usage Savings (GWH)	Share of Therm Savings (MTherms)
2004-2005	69%	67%	42%
2006-2008	56%	56%	22%

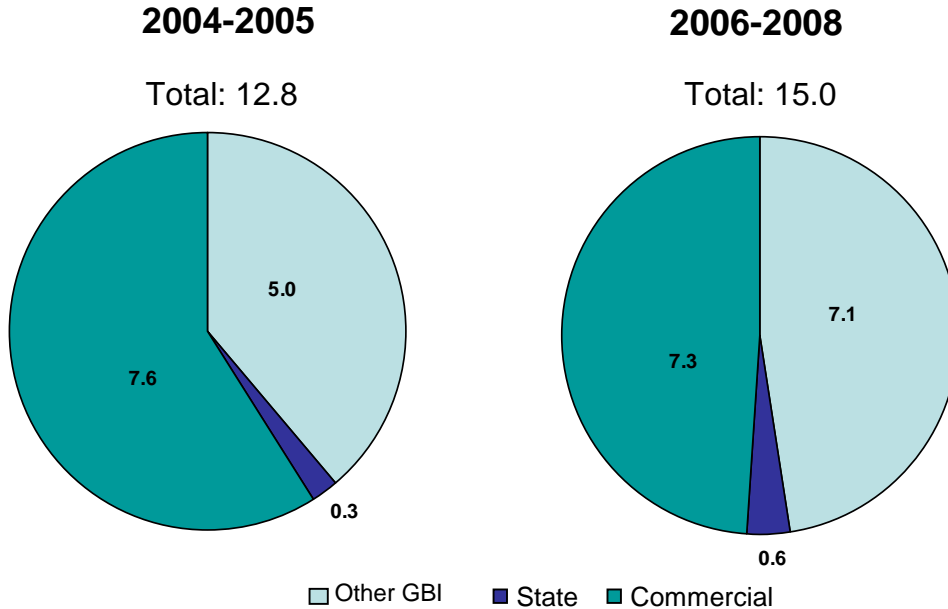
Energy Efficiency Programs Realize Substantial Greenhouse Gas Emission Reductions from State and Commercial Buildings.

The GBI Executive Order observes that “commercial buildings use 36% of the state’s electricity and account for a large percentage of greenhouse gas emissions...” Although estimates of total avoided emissions the program will achieve have not been calculated, the Green Building Initiative has been identified by the Governor’s Climate Action Team as a critical element in an overall strategy to reduce greenhouse gas emissions

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pursuant to the targets established by the Governor in Executive Order S-3-05.¹² Collectively, the measures implemented through July 2005 under the programs identified by the utilities as contributing to the GBI yielded an estimated 12.8 million tons in avoided CO₂ emissions. Of these reductions, state and commercial buildings account for 7.8 million tons or approximately 61% of the total from these programs. Utility projections for the 2006-2008 program cycle indicate that GBI-contributing programs will reduce CO₂ emission by approximately 15 million tons, of which 7.9 million tons, or 53%, will come from state and commercial buildings. The greenhouse gas emission reduction estimates are provided in Figure 5 below.

Figure 5: Avoided CO₂ Emissions Attributable to GBI Relevant Programs (millions of tons)



A Substantial Share of Total Energy Efficiency Outreach and Marketing Budgets Support Efforts Targeting Commercial and State Buildings.

Paragraph 4 of the GBI Executive Order requests that the CPUC report on its progress in supporting a campaign to inform building owners and

¹² On June 1, 2005 the Governor signed Executive Order S-3-05 establishing greenhouse gas emission reduction goals for California. See "Strategies Underway in California That Reduce Greenhouse Gas Emissions" at http://www.climatechange.ca.gov/climate_action_team/factsheets/2005-06_GHG_STRATEGIES_FS.PDF

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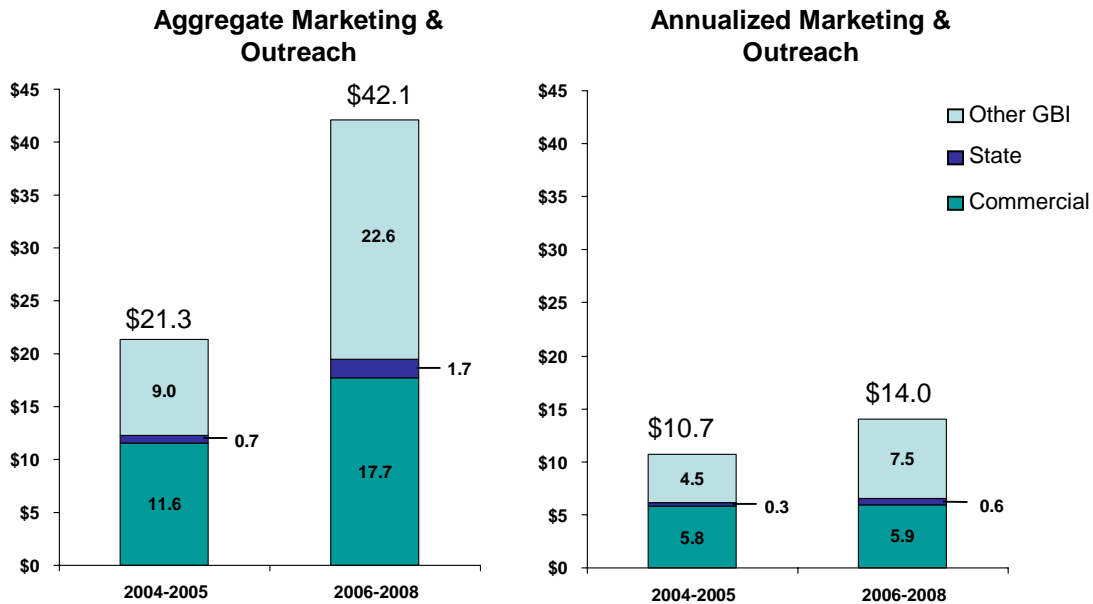
operators of the compelling economic benefits of Energy Efficiency measures. In general, the utilities, working in collaboration with the CPUC, have developed outreach efforts that are tailored to the specific needs of building owners and operators, recognizing the diversity of concerns and institutional environments.

Each utility estimated the marketing and outreach budgets for GBI-contributing programs as well as marketing and outreach expenditures specific to state and commercial buildings.¹³ These budgets are detailed in Figure 6. On an annual basis, the total marketing and outreach budget for GBI programs has increased by approximately 31% from the 2004-2005 program cycle to the 2006-2008 program cycle. For 2004-2005, energy efficiency marketing and outreach budgets for commercial and state buildings collectively represent 57% of the total budget associated with GBI-contributing programs. For 2006-2008, the marketing and outreach budgets associated with state and commercial buildings will account for an estimated 46% of the total. These values are conservative to the extent that they do not include more generalized marketing and outreach expenditures that may influence the decisions of all building operators, including state and commercial building operators, to pursue energy efficiency investments. Although the increase in marketing and outreach budget directed toward commercial building operators is a modest 2% on an annualized basis, efforts directed at state building operators have increased dramatically, from \$0.343 million per year to an estimated \$0.582 million per year, an increase of approximately 70%.

¹³ The utilities provided their estimates in their response to the Commission staff August 2005 data request.

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Figure 6: Energy Efficiency Marketing and Outreach Budgets (millions)



In the ACR issued December 29, 2004, the utilities were asked to comment on the idea of establishing a statewide campaign specifically aimed at informing building owners and operators of the benefits of energy efficiency. The utilities were unanimous in their position that redirecting funds away from existing programs to implement a statewide initiative would not advance the GBI, in light of the diverse needs of end users. Instead, the utilities suggested that existing programs could be modified to make them more responsive to the goals established in the Executive Order. That being said, substantial work remains to be done to ensure that state and commercial building operators are adequately informed of the benefits of energy efficiency and the various opportunities that exist to deploy efficiency measures or other energy saving operational measures. A collaborative approach leveraging the expertise of the CPUC and CEC and the customer relationships of the utilities could greatly further this objective.

Energy Efficiency Programs Oriented Toward Commercial and Institutional Buildings Are Cost Effective.

In approving the utilities' proposed energy efficiency plans, the CPUC places substantial emphasis on cost-effectiveness. For the 2004-2005 program cycle, the CPUC evaluated and ranked the programs proposed by the utilities. Among these criteria, cost effectiveness was given the highest priority, with a weight double that of the second most important criterion,

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long-term annual energy savings.¹⁴ Similarly, in the 2006-2008 funding cycle, the CPUC has directed the utilities to use cost-effectiveness, from both the total resource costs perspective, as well as from the program administrator perspective,¹⁵ as the primary evaluative tool in developing their portfolios.¹⁶

The utilities provided the Total Resource Cost (TRC) cost-benefit ratios associated with all of the programs they identified as contributing to the goals of the GBI for both the 2004-2005 and the 2006-2008 program cycles.¹⁷ These ratios compare the total benefits each program offers to the total costs (a ratio of greater than one indicates that a program yields positive net benefits). As shown in Table 2 below, the TRC values aggregated across all programs for 2004 through July 2005 for PG&E, SCE and SDG&E/SCG exceed 2.5, indicating that the benefits these program provide are almost triple the costs required to implement them. For the 2006-2008 period, the TRC ratios are in excess of 1.8 indicating that benefits are almost twice as great as costs.¹⁸

Table 2: Total Resource Cost Ratios of Utility Energy Efficiency Programs that Support GBI

	Projected TRC (2004-2005)	Actual TRC (As of 6/30/05)	Projected TRC (2006-2008)
PG&E	2.97	3.09	1.85
SCE	3.00	2.87	2.55
SDG&E/SCG	2.11	2.66	2.50

¹⁴ Cost effectiveness was applied to hardware and incentive programs, not information only and statewide marketing & outreach programs. See D.03-12-060, pg. 9.

¹⁵ See D.05-09-043, pgs. 51-52; Cost-effectiveness under the Total Resource Cost analytic requires that the value of the energy savings a program provides be greater than the total cost of installed measures and all program costs; Under the Program Administrator perspective, cost-effectiveness is achieved when the value of energy savings outweighs the cost of utility financial incentives to customers and all other program costs.

¹⁶ The CPUC delegated program selection and portfolio management to the utilities in D.05-01-055.

¹⁷ The TRC ratios are not specific to state and commercial buildings specifically, but rather are indicative of performance of a program across all relevant sectors, including agricultural, industrial, federal and local buildings.

¹⁸ The lower returns may reflect the associated evolution of programs to include measures characterized by longer-term payback periods.

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Utility Energy Efficiency Programs Aimed at Commercial and Institutional Buildings Encompass Measures With Longer-Term Payback Periods.¹⁹

SCE, SDG&E and SCG assert that their respective portfolios offer their Commercial and Institutional customers multiple ratepayer-supported energy efficiency outreach, technical assistance, and incentive programs including both projects with longer-term and shorter-term payback periods.

Long-term customer energy efficiency projects such as those attributed to the integration of energy efficient design into newly constructed or renovated buildings or those involving multiple customer processes and energy end use applications are supported through utility programs designed to reduce the payback period associated with these efforts. While the energy efficiency improvements and the resulting customer bill savings contribute significantly to reducing the payback period, rebates further assist customers in reducing the payback period of these investments. In addition to offering rebates to offset the costs of energy efficiency projects, SCE, SDG&E and SoCalGas will also offer on bill financing in the 2006-2008 program cycle, providing eligible customers the option to finance energy efficiency projects through on-bill repayment of the costs of installing qualified energy efficiency measures. SCE's on-bill financing program will initially target small businesses, while those of SDG&E and SCG will be offered to small businesses, local governments and multi-family building owners. This approach should further encourage adoption of energy efficiency measures characterized by longer-term paybacks.

According to PG&E, its 2006-2008 energy efficiency portfolio specifically includes longer term payback projects in its "Targeted Market" programs. The Targeted Market programs focus on the energy needs of customers in a specific market segment to help them identify the most cost-effective energy efficiency projects they should consider. Increasingly these projects will have longer term paybacks as the savings from longer-term projects become better understood and market barriers erode.

¹⁹ Payback period refers to the amount of time it takes until the cost of an investment is completely offset by savings resulting from that investment.

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Like SCE, SDG&E and SCG, PG&E is also offering innovative financing approaches to complement the rebates it provides to support energy efficiency measures and thus encourage implementation of projects with longer-term payback periods. Although at present on-bill financing is not available, owing to an ongoing upgrade to its billing system that precludes changes to billing until the upgrade is complete, PG&E plans to pilot test an internet-based financing option for small business customers in 2006. PG&E believes that this approach will be less costly to develop and implement than on-bill financing—and can be available sooner to its customers. Based on evaluation of this pilot and the on-bill financing options offered by SDG&E and SCG, PG&E may improve upon this option or proceed to incorporate a financing option within its energy billing system.

Utility Energy Efficiency Program Portfolios Recognize Opportunities to Increase Energy Efficiency Through Commissioning.

In developing their portfolio plans for the 2006-2008 program cycle, both PG&E and SCE acknowledge the potential to achieve substantial energy efficiency gains through building commissioning programs. In its application, SCE describes a new “retro-commissioning” program that reduces energy use by correcting operational inefficiencies in existing buildings with respect to the operation of heating, ventilation and air conditioning (HVAC), lighting, domestic hot water systems and related controls. PG&E also identifies retro-commissioning as one of many options it intends to offer in its portfolio of energy efficiency services under its targeted market approach to reduce energy consumption. As for SDG&E, its peer review group has recommended that SDG&E include retro- or continuous-commissioning in its targeted solicitation.

The CPUC is Reviewing the Merits of Specific Utility Advanced Metering Proposals in the Demand Response Proceeding.

Currently there are no specific outreach or incentive programs in place to support advanced metering activities. However, the Commission is reviewing proposals put forward by the utilities in the Demand Response proceeding.²⁰ Pending a decision by the CPUC regarding these proposals,

²⁰ See the following proceedings for more information: R.02-06-001 A.05-01-016 (PG&E), A.05-01-017 (SDG&E); A.05-01-018 (SCE); A.05-03-016 (PG&E); A.05-03-015 (SDG&E).

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inclusion of advanced metering practices into outreach or incentive programs would be premature. However, all large customers with monthly demand greater than 200 kW have received advanced meters to replace their conventional meters and are subject to time of use rates.

V. The CPUC Will Continue to Pursue Energy Efficiency Efforts in Support of the GBI

The GBI, by establishing specific energy efficiency targets for state buildings and encouraging improved efficiency from commercial building operators builds upon the significant achievements accomplished thus far via existing energy efficiency programs developed by the investor owned utilities under CPUC direction. The goals of the GBI are well-represented in the program portfolios offered by the utilities, for both the 2004-2005 and 2006-2008 program cycles. In particular, energy efficiency measures applied to state and commercial buildings account for a substantial share of total energy savings. The Commission has effectively formalized its commitment to pursue the goals of the GBI in Energy Action Plan II, which includes specific commitment to implement the actions detailed in the Green Building Action Plan. The Commission has also recognized the GBI in its recent decision approving the utilities' 2006-2008 portfolio plans and budgets, which incorporates programs responsive to the goals of the initiative. Going forward, the CPUC will continue to work with the utilities in aggressively pursuing cost-effective energy efficiency programs, consistent with the goals of the GBI, as well as other programs that further the objective of reducing grid-based energy demand, including distributed generation and demand response programs.

Despite the significant contribution to total energy savings achieved through energy efficiency programs by state and commercial buildings, a number of challenges remain that must be addressed if the goals of the GBI are to be achieved. Preliminary data suggests that deployment of energy efficiency measures in state buildings will need to increase dramatically to reach the goal of reducing state building energy use by 20% by 2015, as described in Figure 7 below.²¹ However, increasing deployment of energy efficiency measures for state buildings may be challenged by near-term budget concerns that limit the ability of state agencies to invest the upfront capital necessary. The Green Building Action Team Financing and Execution Subcommittee is currently exploring ways to rigorously assess the energy and net cost savings associated with energy efficiency projects

²¹ The Department of General Services is tasked with the responsibility of reporting to the Governor on an annual basis progress toward attaining the 20% energy use reduction goal for State buildings, pursuant to the Green Building Action Plan section 1.1.3.3.

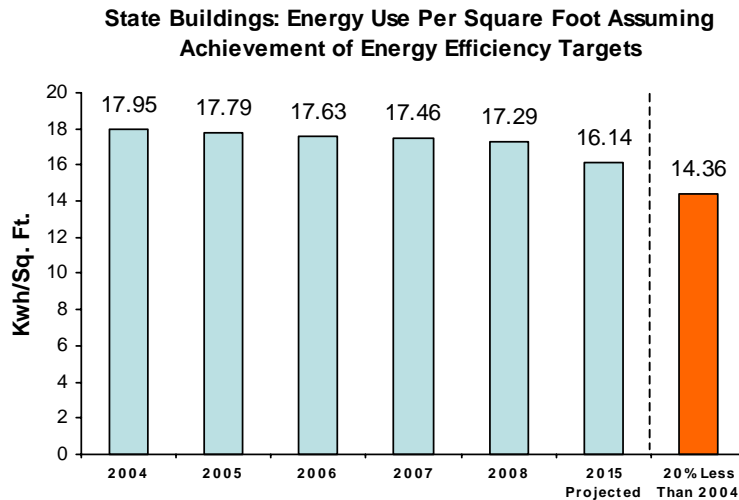
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and the various funding options available to support cost-effective, energy efficiency projects.²² The outcome of this effort will be critical in enabling state building operators to fully exploit opportunities to deploy cost-effective energy efficiency measures and realize the GBI's energy reduction goals.

Figure 7: State Buildings: Projected Energy Use Per Square Foot

According to data provided by the CEC, the state currently operates approximately 273 million square feet of office space. Energy use per year is estimated to be 17.95 kilowatt-hours per square foot. If the energy saving goals identified by the utilities in response to the CPUC's August data request are achieved and assuming no net change in the square footage occupied by the state, by end of year 2005 energy usage will decline to 17.79 kilowatt-hours per square foot, a reduction in energy use per square foot of .89%. If the 2006-2008 energy savings goals are reached, this will drop to approximately 17.29 kilowatt-hours, a decline of 3.68% relative to 2004 energy use by end of year 2008, again assuming no net change in total square footage.

At this rate, by 2015 energy use will have declined to approximately 16.1 kilowatt-hours per square foot, a reduction of only 10.3% relative to 2004. It should be noted that relative to a 2003 baseline, the year against which progress is assessed under the GBI, these efficiency gains will be larger.



Reaching less informed commercial building operators also remains a key challenge, that, if overcome, offers the potential to achieve substantial savings at relatively low cost. A collaborative effort between the CPUC, the CEC, and the utilities, specifically focused on attainment of the GBI objectives, could help overcome whatever informational hurdles may exist. This effort should work with commercial and state building owners and operators to educate them on the goals of the GBI as well informing them

²² See "Progress Report Toward Goals of the Green Action Plan", Green Action Team Financing and Execution Subcommittee, August 18, 2005.

CPUC GBI 2005 REPORT

of all opportunities to reduce energy consumption, including deployment of energy efficiency measures as well as new operational approaches.

ATTACHMENTS

Attachment A – Green Building Executive Order

EXECUTIVE DEPARTMENT

STATE OF CALIFORNIA



EXECUTIVE ORDER S-20-04
by the
Governor of the State of California

WHEREAS, the Energy Action Plan adopted by the state's energy agencies places conservation and energy efficiency first in the loading order of energy resources because they are the least expensive and most environmentally protective resources; and

WHEREAS, commercial buildings use 36 percent of the state's electricity and account for a large percentage of greenhouse gas emissions, raw materials use and waste; and

WHEREAS, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), the nation's leading green building rating system, promotes "high performance" building practices; energy, water and materials conservation; environmentally preferred products and practices; improvements in employee health, comfort and productivity; and reductions in facility operation costs and environmental impacts; and

WHEREAS, electricity costs for California's commercial and institutional buildings exceed \$12 billion per year, and cost-effective efficiency practices outlined in this Order can save more than \$2 billion per year; and

WHEREAS, the state's own buildings consume over \$500 million of electricity per year, and the measures outlined in this Order can save California taxpayers \$100 million per year; and

WHEREAS, high-performance schools also reduce energy and resource consumption, while creating safer and healthier learning environments; and

WHEREAS, investments in energy efficiency measures provide high returns on investment and boost California's economy, creating more jobs, local spending and tax revenue.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power vested in me by the Constitution and statutes of the State of California, do hereby order effective immediately:

1. That the state commit to aggressive action to reduce state building electricity usage by retrofitting, building and operating the most energy and resource efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded or leased by the state and to encourage cities, counties and schools to do the same.

Attachment A – Green Building Executive Order

2. That state agencies, departments, and other entities under the direct executive authority of the Governor cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20% by 2015, through cost-effective efficiency measures and distributed generation technologies; these measures should include but not be limited to:

2.1. Designing, constructing and operating all new and renovated state-owned facilities paid for with state funds as "LEED Silver" or higher certified buildings; and

2.2. Identifying the most appropriate financing and project delivery mechanisms to achieve these goals; and

2.3. Seeking out office space leases in buildings with a U.S. EPA Energy Star rating; and

2.4. Purchasing or operating Energy Star electrical equipment whenever cost-effective.

3. The Division of the State Architect in the Department of General Services should adopt guidelines by December 31, 2005, to enable and encourage schools built with state funds to be resource and energy efficient.

4. That the California Public Utilities Commission (CPUC) is urged to apply its energy efficiency authority to support a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve the 20% goal; and submit a biennial report to the Governor commencing in September 2005, on progress toward meeting these goals.

5. That the California Energy Commission (CEC) propose by July 2005, a benchmarking methodology and building commissioning guidelines to increase energy efficiency in government and private commercial buildings.

6. That the CEC undertake all actions within its authority to increase efficiency by 20% by 2015, compared to Titles 20 and 24 non-residential standards adopted in 2003; collaborate with the building and construction industry state licensing boards to ensure building and contractor compliance; and promptly submit its report as per Assembly Bill 549 (Statutes of 2001) on strategies for greater energy and peak demand savings in existing buildings.

7. The California Public Employees Retirement System and State Teachers Retirement System are requested to target resource efficient buildings for real estate investments and commit clean technology funds to advanced sustainable and efficiency technologies.

8. Other entities of state government not under the Governor's direct executive authority, including the University of California, California State University, California Community Colleges, constitutional officers, legislative and judicial branches, and CPUC, are requested to actively participate in this effort.

9. Nothing in this Order shall be construed to confer upon any state agency decision-making authority over substantive matters within another agency's jurisdiction, including any informational and public hearing requirements needed to make regulatory and permitting decisions.

10. Commercial building owners are also encouraged to take aggressive action to reduce electricity usage by retrofitting, building and operating the most energy and resource efficient buildings by taking measures described in the Green Building Action Plan.

Attachment A – Green Building Executive Order

11. This Order is not intended to, and does not create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

12. That as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

IN WITNESS WHEREOF I have here unto set my hand and caused the Great Seal of the State of California to be affixed this the fourteenth day of December 2004.

Attachment B – Green Building Action Plan

State of California Green Building Action Plan

(Detailed direction that accompanies Governor’s Executive Order S-20-04)

1. PUBLIC BUILDINGS

1.1. State Buildings

All employees and all State entities under the Governor’s jurisdiction shall immediately and expeditiously take all practical and cost-effective measures to implement the following goals specific to facilities owned, funded, or leased by the State:

1.1.1. Green Buildings

1.1.1.1. The U.S. Green Building Council (USGBC) has developed green building rating systems that advance energy and material efficiency and sustainability known as Leadership in Energy and Environmental Design for New Construction and Major Renovations (LEED-NC) and LEED Rating System for Existing Buildings (LEED-EB)

1.1.1.2. All new State buildings and major renovations of 10,000 sq. ft. and over and subject to Title 24 will be designed, constructed and certified at LEED-NC Silver or higher, (or LEED-EB as applicable.) Certification to an equivalent or higher standard is acceptable as approved by the Green Action Team. Life cycle cost assessment methodology as defined in Section 1.1.1.3 shall be used in determining cost effective criteria. Building projects less than 10,000 sq. ft. shall use the same design standard, but certification is not required.

1.1.1.3. The California Sustainable Building Task Force (SBTF) in consultation with the Department of General Services (DGS), Department of Finance (DoF), and the California Energy Commission (CEC) shall define a life cycle cost assessment methodology that shall be used to evaluate the cost effectiveness of building design and construction decisions and their impact over a facility’s life cycle, and shall propose this methodology to the Green Action Team within six months of this Order.

1.1.1.4. Each new building or large renovation project initiated by the State shall also evaluate the merits of clean on-site power generation.

1.1.1.5. All existing State buildings over 50,000 square feet shall meet LEED-EB standards (including meeting an Energy Star rating of at least 75, or equivalent established by the CEC) by no later than 2015 to the maximum extent cost-effective per Section 1.1.1.3.

Attachment B – Green Building Action Plan

1.1.2. Energy Efficiency

1.1.2.1. All State-owned buildings will reduce the volume of energy purchased from the grid, with a goal to reduce their energy consumption by at least 20% by 2015 (as compared to a 2003 baseline) by undertaking all cost-effective operational and efficiency measures as well as onsite renewable energy technologies. Alternatively, buildings that already have taken significant efficiency actions must achieve a minimum efficiency benchmark to be established by the CEC.

1.1.2.2. Consistent with Executive Order S-12-04 all State buildings are directed to investigate “demand response” programs administered by utilities, the California Power Authority, or the CA ISO, to take advantage of financial incentives in return for agreeing to reduce peak electrical loads when called upon, to the maximum extent cost effective for each facility.

1.1.2.3. All occupied State-owned buildings, beginning no later than July 2005 and completed by 2007, shall be benchmarked for energy efficiency, using guidelines established by the CEC according to Section 2.2.2. Building managers of low-rated buildings shall prepare a plan to undertake cost-effective efficiency retrofit projects.

1.1.2.4. All State buildings over 50,000 square feet shall be retro-commissioned, and then recommissioned on a recurring 5-year cycle, or whenever major energy consuming systems or controls are replaced. This will assure that energy and resource consuming equipment is installed and operated at optimal efficiency;

1.1.2.5. DGS and other State agencies will seek out and select whenever cost-effective State facility leases for spaces of 5,000 square feet or more in buildings that meet a minimum U. S. EPA Energy Star rating whenever such spaces are cost-effective and meet the State’s programmatic needs, beginning in 2006 for new leases, and beginning in 2008 for renewal leases;

1.1.2.6. All State agencies that purchase or operate electrical equipment such as computers, printers, copiers, refrigerators, and unit air conditioners shall insure that these are Energy Star-rated where cost-effective and that procurement goals and operating practices minimize energy and resource use and impacts.

1.1.3. Financing and Execution

1.1.3.1. The DoF, in consultation with the CEC, State Treasurer’s Office, DGS, and the Infrastructure Bank, shall identify and develop appropriate financing and project delivery mechanisms to facilitate State building energy and resource efficiency projects. These mechanisms shall include the use of the life cycle cost

Attachment B – Green Building Action Plan

methodology described in Section 1.1.1.3. and shall maximize the use of outside financing, including loan programs, revenue bonds, municipal tax-exempt leases and other financial instruments supported by project savings, and to minimize the use of General Funds for these purposes. The DoF shall report its findings and recommendations on financing and delivery mechanisms to the Green Action Team by July 2005; and

1.1.3.2. The DoF will develop additional mechanisms to encourage and incentivize costeffective projects improving energy efficiency, such as sharing at least 25% of the net savings with the operating department or agency.

1.1.3.3. DGS shall report to the Governor each year on progress toward attaining the 20% energy use reduction target for 2015 in State buildings, and make recommendations on any changes in rules or procedures to ensure this goal is met.

1.2. Schools

1.2.1. New School Construction

1.2.1.1. By December 31, 2005 the Division of State Architect (DSA), in consultation with the Office of Public School Construction, the CEC, and other appropriate organizations, shall lead the adoption of technical resources and guidelines that will enable schools built with state funds to be resource and energy efficient. The State agencies shall consider all available guidelines and technical resources including the Collaborative for High Performance Schools (CHPS), The United States Green Building Council and its LEED guidelines, The Department of Energy's Best Practices and Federal Energy Management Program, and the Sustainable Building Industry Council.

1.2.1.2. Until December 31, 2005, DSA shall use best efforts to enable schools to have the technical resources and guidelines to be designed and built in a manner that is resource and energy efficient, and that enhances student performance.

2. ALL COMMERCIAL AND INSTITUTIONAL BUILDINGS (including private sector buildings, State buildings and schools)

2.1. CPUC- Ratepayer-Supported Efficiency Programs

2.1.1. The California Public Utilities Commission (CPUC) can play a major role in leading action to achieve this building-centered energy and resource efficiency agenda by funding a statewide campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures, benchmarking, and building commissioning. This campaign should seek to present integrated information in a way that motivates and enables building decision-makers to reach the 20% efficiency goal for commercial and

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institutional buildings. The CPUC is urged to do this in collaboration with the CEC, utilities, the real estate industry, energy service companies, architects, engineers and the Flex Your Power program's outreach efforts. These efforts should assure that that suggestions and guidelines for mechanisms to finance efficiency improvements are available via Energy Commission or other websites, utility programs, and the CPUC-sponsored statewide motivational campaign.

2.1.2. The CPUC should assure that ratepayer-supported efficiency incentives and technical assistance programs for commercial and institutional building owners and tenants are strengthened or improved as necessary to contribute toward a 20% or more efficiency gain improvement by 2015, compared to 2003.

2.1.3. The CPUC is requested, in collaboration with the CEC and all of California's utilities, to ensure that ratepayer-supported energy efficiency outreach, technical assistance and incentive programs:

- produce greater measured efficiency gains per dollar of program expenditure;
- encourage increasing levels of efficiency investments in longer term payback measures than those now typically occurring, including the use of new or improved incentive programs, (such as utility bill discounts, incentives based on measured performance, and "on bill" financing);
- include building commissioning and advanced metering practices in programs wherever appropriate; and
- to submit a report to the Governor biannually, commencing September 2005, regarding those actions it has taken toward these ends.

2.1.4. The CPUC is requested to determine the level of ratepayer-supported energy efficiency and clean generation funding so as to contribute toward the 20% efficiency goal, and to submit its determination to this end to the Governor by September 2005.

2.2. CEC – Building Benchmarking and Commissioning

2.2.1. A combination of benchmarking the energy efficiency of all buildings, and conducting commissioning activities that ensure that buildings and their energy systems are operated at their optimal designed efficiency, can contribute towards the overall goal of 20% by 2015.

2.2.2. The CEC, in consultation with other governmental agencies, public and private utilities, and representatives of the business community, shall propose

Attachment B – Green Building Action Plan

by July 2005 a simple building efficiency benchmarking system for all commercial buildings in the State. This should be California-specific, coordinated with the US EPA Energy Star benchmarking system, and should clarify which buildings are energy efficient.

2.2.3. The CEC shall develop guidelines and standards for commissioning activities to achieve operational and maintenance efficiency savings in commercial and public buildings.

2.2.4. The CEC shall prepare and submit to the Governor's office by July 2005 a plan, timetable and recommendations to accomplish benchmarking of all commercial and public buildings in California, including benchmarking at the time of sale, as well as a system by which benchmarking ratings can be disclosed to tenants, buyers, and lenders to advise them in making decisions.

2.3. CEC and State Licensing Boards – Standards and Enforcement

2.3.1. That the State agencies with responsibility for building standard amendments to the State's building code, shall develop and consider adoption of building code amendments to ensure that:

2.3.1.1. All proven, cost-effective, and achievable energy and resource efficiency, health and safety technologies and design practices are considered and employed in new nonresidential buildings, with the goal to increase efficiency by 20% by 2015 compared to the Title 24 non-residential building standards adopted in 2003.

2.3.1.2. Standards capture increased energy and resource savings and applicability for the building floor space that annually undergoes renovation, and at specified points in the life of existing buildings; and

2.3.1.3. Commissioning and other approaches ensuring the achievement and persistence of efficiency measures are incorporated into the building and appliance standards process.

2.3.1.4. Training and fee-based private-sector delivery of these commissioning services is available in California.

2.3.1.5. This is done on a schedule whereby strengthened standards are adopted or updated beginning in 2006.

2.3.2. The CEC along with the building and construction industry State Licensing Boards shall undertake an expanded standards enforcement effort. This should include development of new tools to aid building officials, communication with equipment marketers to ensure their compliance with

Attachment B – Green Building Action Plan

California appliance standards, and assurance by the State licensing boards that licensed-contractors comply with the standards.

2.4. New Tools and Strategies

2.4.1 The CEC shall promptly complete its report required by Assembly Bill 549 (Statutes of 2001) and submit this to the Governor’s Office and Legislature by October 2005, including a plan for voluntary and regulatory strategies to capture energy and peak demand savings in existing buildings in California.

2.4.2 The Governor will ask the California Public Employees Retirement System and State Teachers Retirement System to consider:

- Cutting energy use of California real estate investment portfolio by 20% by 2015 through cost effective means including but not limited to retro-commissioning and retrofitting of energy consuming systems, and
- Adopting a commitment to seek certified LEED or Energy Star-rated buildings in their commercial real estate investments, and
- Devoting a portion of their Clean Technology investment portfolio to activities that facilitates green and advanced energy efficiency technologies in buildings.

3. LEADERSHIP

3.1. Green Action Team

3.3.1. That to ensure progress toward the goals of this Order, there is hereby established an interagency team know as the “Green Action Team,” composed of the Director of the Department of Finance, and the Secretaries of Business, Transportation, and Housing; Environmental Protection; Resources; Education; State and Consumer Services Agencies; the Team will invite participation by a CPUC commissioner and a real estate industry representative and which will have a chair selected by the Governor.

3.3.2. That to advise the Green Action Team, a Real Estate Industry Leadership Council is hereby created, consisting of at least five private sector commercial real estate leaders.

3.3.3. That the Green Action Team, in cooperation with other agencies and organizations as appropriate, shall oversee and direct progress toward the goals of the Green Building Order, and shall recommend any additional actions, mandates or legislation that may be warranted to ensure progress consistent with the Green Building Order.

Attachment B – Green Building Action Plan

3.3.4. That the Sustainable Building Task Force, as requested by the Chair of the Green Action Team, shall perform support activities for this Order.

Attachment C – Assigned Commissioner Ruling

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine the Commission’s Future Energy Efficiency Policies, Administration, and Programs.

Rulemaking 01-08-028
(Filed August 23, 2001)

ASSIGNED COMMISSIONER’S RULING REQUESTING INFORMATION IN RESPONSE TO THE GOVERNOR’S EXECUTIVE ORDER S-20-04

Summary

This Assigned Commissioner’s Ruling (“ACR”) is in response to Governor Schwarzenegger’s Green Building Executive Order (“Green Buildings Executive Order” or “Executive Order”), issued on December 15, 2004. In Ordering Paragraph 4, the Governor urged the California Public Utilities Commission (“CPUC”) to apply its energy efficiency authority to support a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve the 20% goal. I am issuing this ACR in order to gather information on how energy efficiency programs that are currently authorized and funded in the 2004-2005 cycle can be utilized to accomplish the goals outlined in the Executive Order, and to seek comments on how the CPUC should modify subsequent program design and funding to implement the Governor’s Order. I am specifically requesting information and how an outreach campaign and programs to the commercial sector might be implemented immediately and further developed for future funding cycles. This information gathered in response to this ACR will be used in a report to the Governor as requested in the Executive Order.

Attachment C – Assigned Commissioner Ruling

Background

On December 15, 2004, Governor Schwarzenegger signed the Green Buildings Executive Order. In general, the Green Buildings Executive Order²³ required increased investments in energy efficiency for state-owned buildings and encouraged cities, counties and private businesses to reduce their energy use. Governor Schwarzenegger stated a goal of reducing electricity used in existing government and private commercial buildings by 10% per square foot by 2010 and 20% per square foot by 2015. He also mandated that all new and renovated buildings paid for with state funds be certified as Leadership in Energy and Environmental Design (“LEED”) Silver standard or higher, and that office spaces and office equipment leased or purchased by the state be ENERGY STAR-qualified where cost-effective.

In particular, ordering paragraph 4 of the Green Buildings Executive Order stated,

“That the California Public Utilities Commission is urged to apply its energy efficiency authority to support a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve the 20% goal; and submit a biennial report to the Governor commencing in September 2005, on progress toward meeting these goals.”

Proposed Actions

In order to implement the Governor’s Green Building Executive Order and the goals of the Energy Action Plan, I request that all Investor Owned Utilities (“Utilities”), non-utility implementers of energy efficiency programs involved in the commercial buildings sector, building owners and operators of the commercial building sector and other interested parties submit comments to the Commission by **February 4, 2005**. Specifically, responses should answer the following questions, and include definitions for “government” and “private commercial” and customer type:

²³ For the complete Executive Order,
<http://www.governor.ca.gov/state/govsite/gov_htmldisplay.jsp?sFilePath=/govsite/executive_orders/20041214_S-20-04.html&sCatTitle=Executive%20Orders&iOID=60045&sTitle=Executive%20Orders%20%20%20&BV_SessionID=@@@@0967855522.1103765311@@@@&BV_EngineID=ccchadddgehdkmgcfn_gcfkmdffidfog.0>

Attachment C – Assigned Commissioner Ruling

- (1) How much electricity and natural gas is currently used by government and private commercial buildings in your service territory?
- (2) What level of energy savings (kWh, MW and therm) was captured in 2004 from currently approved energy efficiency programs targeted towards building efficiency for government and private commercial buildings? What other customer types are currently eligible for existing building efficiency programs, and how much savings have been captured by these customers by participating in ratepayer-funded energy efficiency programs in 2004.
- (3) What level of savings is anticipated to be captured by these programs in 2005? In addition to presenting the expected kWh, MW and therm savings levels, present estimates of reduced per square footage electricity usage relative to 2004 usage, so that it can be compared directly to the Governor's goals of achieving a reduction of 10% per square foot by 2010 and 20% per square foot by 2015.
- (4) How are current programs supporting a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures? Should a single, statewide campaign be initiated for this purpose? How might authorized funds for the 2004-2005 program year be redirected to support such an effort?
- (5) How much money is currently allocated to supporting programs to inform building owners and operators about the compelling economic benefits of energy efficiency measures and to improve commercial building efficiency? Present a breakdown of this funding information by individual programs and IOU service territory.
- (6) Describe how these programs are currently coordinated and how such coordination could be improved upon in the future.
- (7) How might CPUC-funded energy efficiency programs be modified or enhanced to help achieve the reductions in per square footage electricity use for commercial buildings, as directed in the Green Buildings Executive Order?

Attachment C – Assigned Commissioner Ruling

- (8) What funding reallocations could be undertaken during 2005 to further facilitate meeting this goal? What level of additional funding in future years for commercial building efficiency programs do you estimate would be required to meet this goal?

Respondents may also submit additional information that they believe is relevant for the Commission's response to paragraph 4 of the Green Buildings Executive Order.

IT IS RULED that all Investor Owned Utilities, non-utility implementers of energy efficiency programs involved in the commercial buildings sector, building owners and operators of the commercial building sector and interested parties should submit comments with the Commission by **February 4, 2005** to the questions posed above in order to implement and further the goals articulated in the Governor's Green Buildings Executive Order. The electronic service protocols attached to the Assigned Commissioner's Ruling dated December 22, 2003, which can be viewed at the Commission website (www.cpuc.ca.gov) will apply to the comments requested by this ruling.

Dated December 29, 2004, at San Francisco, California.

/s/ Susan P. Kennedy

Susan P. Kennedy
Assigned Commissioner

Attachment D – 2004-2005 Energy Efficiency Programs that Support GBI

2004-2005 Energy Efficiency Programs that Support the GBI

	Program Name	Program Description	Major Program End-Use/Services
SDG&E	Energy Savings Bids	Local incentive program designed for large commercial or industrial energy-efficiency projects including the military and public agencies.	The targeted measure types include Lighting/Daylighting, HVAC/Refrigeration, central plant optimization via variable speed drives, and other technologies.
SDG&E	Express Efficiency Rebate Program	Statewide prescriptive rebate program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment.	The targeted measure types include Lighting, HVAC/Refrigeration, and other technologies.
SDG&E	Small Business Energy Saver (SBEE)	Rebate program that provides financial incentives to schools, nonprofit organizations and tax-exempt entities in San Diego Gas & Electric's (SDG&E) service territory.	long-term annual energy savings and demand reductions through energy-efficient retrofits of energy efficiency refrigerators, software plug load sensors and torchieres.
SDG&E	Standard Performance Program	SPC targets mid to large-sized customers but will accommodate small non-residential customers that cannot be served by other programs.	Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	IOU/UC/CSU Partnership	The program will offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers.	Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	Savings By Design (PGC)	The program 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.	The targeted measure types include Lighting/Daylighting, HVAC, Refrigeration, Water Heating, and other technologies.
SDG&E	Savings By Design (Procurement)	The program 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.	The targeted measure types include Lighting/Daylighting, HVAC, Refrigeration, Water Heating, and other technologies.
SDG&E	Sustainable Communities	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.	Incorporates high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies.

Attachment D – 2004-2005 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SCG	Express Efficiency Rebate Program	Program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment.	The targeted measure types include water and space heating retrofits, and other technologies.
SCG	Nonresidential Financial Incentive Program	Local program focusing on small to medium nonresidential (commercial and industrial) gas customers served under core rate schedules.	The program incorporates technical support, education, training, outreach, contractor referral, bulk procurement, prescriptive rebates and equitable financial incentives.
SCG	Savings By Design SCE Program	Through this joint program SoCalGas will offer incentives for gas energy savings	The targeted measure types include Space heating, Water Heating, and other technologies. Systems and Whole Building approaches.
SCG	Energy Coalition - 50% of program is designated to Residential customers	Partnership committed to delivering short- and long-term energy efficiency savings in California.	Information and Energy Efficiency Knowledge through the PEAK program. Energy Efficiency Assistance. Marketing and outreach to encourage participation in statewide energy efficiency programs.
SCG	Ventura County REA	Identifies participation barriers, better serve local needs and hard-to-reach customers, and increase participation in energy efficiency programs.	Information and Energy Efficiency Knowledge through Energy Resource Center. Energy Efficiency Assistance. Marketing and outreach to encourage participation in statewide energy efficiency programs.
SCG	South Bay Cities	Community-based resource for energy information, training and materials to assist the member agencies, businesses and citizens to best utilize the resources available to them through the wide variety of statewide and local energy efficiency programs.	Energy Resource Center provides information and Energy Efficiency Knowledge through Energy Resource Center. Energy Efficiency Assistance. Marketing and outreach to encourage participation in statewide energy efficiency programs.
SCG	Bakersfield/Kern Energy Watch Partnership - 50% of program is designated to Residential customers	Reduces energy use by providing energy efficiency information and direct installation of energy efficient equipment to the City and County's local community.	Offers install services to hard-to-reach customers and small businesses, free energy audits to both residential and nonresidential hard-to-reach customers, marketing and outreach to encourage participation in energy efficiency programs, energy efficiency retrofits, support for codes and standards enforcement, and local training seminars for contractors working on commercial properties.

Attachment D – 2004-2005 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SCG	LA County	Implements energy efficiency projects in existing County facilities and leverage the County's existing energy management infrastructure.	Energy Efficiency Audits and Retrofits, Retro/Continuous-Commissioning, Multi-Family Public Housing Retrofits, Public Agency Energy Efficiency Technology Transfer.
SCG	IOU/UC/CSU Partnership	The program will offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers.	Primarily targets Gas Measures and Other.

	Program Name	Program Description	Major Program End-Use/Services
SCE	Standard Performance Contract	Program offers cash incentives to non-residential customers for replacing existing electrical equipment with high efficiency equipment or systems.	HVAC, Lighting, Refrigeration, Food Processing, Other
SCE	Express Efficiency	Program provides cash rebates to customers who replace or retrofit existing qualified equipment.	HVAC, Lighting, Refrigeration, Food Processing, Other
SCE	Savings By Design	Program offers nonresidential building owners and their design teams design assistance and incentives for meeting the minimum energy efficiency requirements of the program.	HVAC, Lighting, Other
SCE	Upstream HVAC and Motors Rebates	Program provides upstream financial incentives to distributors to stock and sell qualifying high efficiency products.	HVAC, Motors
SCE	Small Nonresidential Hard to Reach	Program that provides no-cost energy efficiency lighting retrofits to small and very small business customers.	HVAC, Lighting
SCE	VeSM Advantage Plus2	Program offers a four-step approach that focuses on process improvements in manufacturers that first, improve energy efficiency and second, enhance productivity.	Other
SCE	IOU/UC/CSU Partnership	Program will provide the energy efficiency improvements and training to 33 UC and CSU campuses statewide.	HVAC, Lighting
SCE	Bakersfield/Kern Energy Watch	Program provides education and outreach to all customer segments of the City of Bakersfield and Kern County.	HVAC, Lighting, Other
SCE	LA County/SCE/SCG Partnership	Program targets various LA County facilities and multi-family complexes with residential and non-residential direct install measures and energy audits.	HVAC, Lighting, Other

Attachment D – 2004-2005 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SCE	The Energy Coalition	Program works with city government and community organizations to transform the attitudes of participants toward a sustainable energy future through community involvement, local events, and the delivery of energy efficiency measures.	HVAC, Lighting, Other
SCE	Ventura Regional Energy Alliance	Program targets all SCE/SCG electric and natural gas customers, with an emphasis on hard-to-reach markets, such as low-income, seniors, renters, and non-English speaking audiences of diverse ethnic backgrounds.	HVAC, Lighting, Other

	Program Name	Program Description	Major Program End-Use/Services
PG&E	Standard Performance Contracts (PGC funded)	The SPC program provides incentives for designed for electric and/or gas energy and demand savings.	Lighting, HVAC, Motors, Others
PG&E	Express Efficiency (PGC funded)	Express Efficiency pays specific rebates for selected measures that provide specified electric or gas energy and demand savings.	Lighting, HVAC, Motors, Others
PG&E	Upstream HVAC & Motor (PGC Funded)	The Upstream HVAC and Motors program provides incentives to distributors to stock and sell high efficiency products.	Lighting, HVAC, Motors, Others
PG&E	Saving-by-Design (PGC Funded)	SBD provides energy design education, design assistance, and incentives to nonresidential building owners and designers to exceed Title 24 in new buildings.	Lighting, HVAC, Motors, Others
PG&E	Standard Performance Contracts (Procurement Funded)	The SPC program provides incentives for specific retrofit projects designed for electric energy and demand savings.	Lighting, HVAC, Motors, Others
PG&E	Express Efficiency (Procurement Funded)	Express Efficiency pays specific rebates for selected measures that provide specified electric energy and demand savings.	Lighting, HVAC, Motors, Others
PG&E	Upstream HVAC & Motor (Procurement Funded)	The Upstream HVAC and Motors program provides incentives to distributors to stock and sell high efficiency products.	Lighting, HVAC, Motors, Others
PG&E	Saving-by-Design (Procurement Funded)	SBD provides energy design education, design assistance, and incentives to nonresidential building owners and designers to exceed Title 24 in new buildings.	Lighting, HVAC, Motors, Others
PG&E	Local Government Partnerships (PGC Funded)	Partnerships between PG&E and local governments or other entities provide energy and demand savings, design assistance, and implementation services.	Lighting, HVAC, Motors, Others

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

2006-2008 Energy Efficiency Programs that Support the GBI

A. Education and Outreach Programs

- Provide seminars, training, workshops and certification programs that educate building operators and facilities staff on how to incorporate energy efficiency practices and measures in their facilities.
- Provide training and design assistance to assist state facilities in complying with Title 20 and Title 24 building codes.
- Programs that provide these opportunities:

SCE:

Retrocommissioning, Savings By Design, Sustainable Communities, and Education, Training and Outreach programs.

SDG&E:

Building Operator Certification, San Diego Resource Center (Partnership with San Diego Regional Office), Savings By Design, and Sustainable Communities programs.

PG&E:

Portions of the Mass Market program focused on small business, and the Targeted Market programs, particularly the Schools and Colleges, Office and Institutional Buildings, and Education and Training programs.

SoCalGas:

Building Operator Certification, Energy Efficiency Education & Training, Energy Efficiency Delivery Channel Innovation Program, Savings By Design, and Sustainable Communities programs.

B. Incentive/Rebate and Energy Audit Programs

- Provide incentives or rebates for purchase and installation of energy efficiency measures, e.g., lighting, HVAC, process, water heating, boilers, etc.
- The rebate/incentive programs incorporate the energy efficiency audit services.
- Programs that provide these opportunities:

SCE:

Industrial Energy Efficiency, Agricultural Energy Efficiency, Nonresidential Direct Installation, Business Incentive Program, Savings By Design, and Sustainable Communities programs.

- SCE's Business Incentive Program will have a module to help customers comply with the specific requirements of the GBI for state-owned buildings, and will encourage and provide assistance to cities, counties, and private businesses to adopt the requirements of the Executive Order on a voluntary basis.
- While relatively few agricultural facilities are affected by the GBI, State-run fish hatcheries are within the targeted market of SCE's Agricultural Energy Efficiency Program. SCE plans to include state-owned fish hatcheries for pump testing and efficiency improvements.

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

- SCE’s Savings by Design Program will include a “green building” incentive tier to support and work with industry trends toward sustainability will also be explored in conjunction with incentive restructuring.

SDG&E:

Small Business Super Saver, Express Efficiency, Standard Performance Contract, Energy Savings Bid, Savings By Design, and Sustainable Communities programs.

PG&E:

Programs that provide these opportunities include the portions of the Mass Market focused on small business, and the Targeted Market programs, particularly the Schools and Colleges and Office and Institutional Buildings programs.

SoCalGas:

Express Efficiency, Local Business Energy Efficiency Program, Savings By Design, and Sustainable Communities programs.

C. Statewide Utility Partnerships with State Institutions

- UC/CSU Partnership: The program will continue to offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers.
- California Community Colleges Program: This is a new statewide nonresidential program that will offer incentives for retrofit and new construction projects, continuous commissioning, and educational training for the community colleges similar to the UC/CSU Partnership program.
- California Department of Corrections Program: This is a new statewide nonresidential program that will offer incentives for retrofit projects, continuous commissioning, and educational training for the prisons and youth facilities.

D. Other Program Services That Support the Green Buildings Initiative

- Codes & Standards program: The utilities provide Code and Standards Enhancement Studies (CASE) that promote the upgrade and enhancement to existing California building and appliance codes.
- Emerging Technologies: These utility programs promote acceleration of the introduction of energy efficient technologies, applications and analytical tools that are not widely available or accepted in California.
- Local Government Partnerships: LGP involves the creation of energy partnerships with cities, local governments, local government organizations, state and community universities and colleges to set energy efficiency goals and generate measurable, verifiable energy savings through identification of specific energy efficiency projects and community outreach activities. PG&E is developing a series of LGPs that will emphasize raising efficiency in local government facilities, as well as work to increase efficiency in businesses and homes. SCE will assist Jurisdictions in retrofitting municipal buildings to in complying with the Governor’s “Green Building Action Plan”. Included are SCE partnerships with The City of Bakersfield/Kern County, the Community Energy Partnership, Los Angeles County, Pomona Inland Valley, South Bay Cities, Ventura

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

County, The City of Riverside, The City of Santa Barbara, and the Local Government Energy Action Resources.

- Third-Party Competitive Bidding: Additional program services may become available through the solicitation process.

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SDG&E	SDGE IOU/Community College Partnership	Program will offer incentives for retrofit and new construction projects, continuous commissioning, and educational training for the community colleges.	Energy Efficiency Retrofits and Load Management Projects, along with New Construction Assistance. Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	SDGE CA Department of Corrections Partnership	The program will offer incentives for retrofit projects, continuous commissioning, and educational training for the prisons and youth facilities.	Energy Efficiency retrofits, education, and Monitoring Based Commissioning. Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	SDGE Energy Savings Bids	Local incentive program designed for large commercial or industrial energy-efficiency projects including the military and public agencies.	The targeted measure types include Lighting/Daylighting, HVAC/Refrigeration, central plant optimization via variable speed drives, and other technologies.
SDG&E	SDGE Express Efficiency Rebate Program	Statewide prescriptive rebate program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment.	The targeted measure types include Lighting, HVAC/Refrigeration, and other technologies.
SDG&E	SDGE Small Business Super Saver	Local program targeting nonresidential customers under 100kW of monthly demand and/or under an average monthly of 20,800 therms.	The targeted measure types include Lighting, HVAC/Refrigeration, and other technologies.
SDG&E	SDGE Standard Performance Program	SPC targets mid to large-sized customers but will accommodate small non-residential customers that cannot be served by other programs.	Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	SDGE IOU/UC/CSU Partnership	The program will offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers.	Primarily targets Lighting, HVAC, Gas Measures and Other.
SDG&E	SDGE Savings By Design	The program 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.	The targeted measure types include Lighting/Daylighting, HVAC, Refrigeration, Water Heating, and other technologies. Systems and Whole Building approaches.

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SDG&E	SDGE Sustainable Communities	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.	Incorporates high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies.

	Program Name	Program Description	Major Program End-Use/Services
SCG	SCG Express Efficiency Rebate Program	Program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment.	The targeted measure types include water and space heating retrofits, and other technologies.
SCG	SCG Local Business Energy Efficiency Program	Targets all nonresidential customers, including commercial, industrial and agricultural customers.	Program consists of prescriptive Efficient Equipment Rebates, Process Equipment Replacement incentives, Custom Process Improvement Incentives, Grant and Recognition programs. The targeted measure types include heating, cooking, and other technologies.
SCG	SCG Savings By Design SCG SCE Program	Through this joint program SoCalGas will offer incentives for gas energy savings	The targeted measure types include Space heating, Water Heating, and other technologies. Systems and Whole Building approaches.
SCG	SCG Savings By Design SCG Muni Program	Through this joint program SoCalGas will offer incentives for gas energy savings	The targeted measure types include Space heating, Water Heating, and other technologies. Systems and Whole Building approaches.
SCG	SCG Sustainable Communities Demo/City of Santa Monica	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.	Incorporates high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies.

	Program Name	Program Description	Major Program End-Use/Services
SCE	SCE - Business Incentive Program	The Business Incentive Program will target all nonresidential customers by offering a full range of solutions, including audits, design assistance, and incentives for qualifying measures.	HVAC, Lighting, Refrigeration, Food Processing, Other

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
SCE	SCE - Comprehensive HVAC	Program will target the upstream, midstream and downstream nature of the commercial and residential HVAC market.	HVAC
SCE	SCE - Retrocommissioning	Program applies a systematic process for improving and optimizing larger sized building's operations and for supporting those improvements with enhanced documentation and training.	Other
SCE	SCE - Industrial EE	Program is structured to reflect the process industry's reluctance to alter elements of a working production system for reasons other than product output or quality.	HVAC, Lighting, Motors, Other
SCE	SCE - Agricultural EE	Program will encourage agricultural production and water supply customers to improve the energy efficiency of their facilities, including electricity used for water pumping and for non-pumping activities.	HVAC, Lighting, Refrigeration, Other
SCE	SCE - Nonresidential Direct Install	Program will provide the nonresidential new construction industry with a broad palette of technical and financial resources to aid them in designing new facilities to the most cost-effective energy and resource efficiency standards.	Other
SCE	SCE - Savings By Design	Program provides comprehensive energy efficiency and demand response services to help address the increasing demand for electricity in the State.	Other
SCE	SCE - Sustainable Communities	Program targets local Governments, especially cities, counties and special districts who have access to residential, commercial and institutional constituents that are also SCE customers.	Other

	Program Name	Program Description	Major Program End-Use/Services
PG&E	PG&E -Mass Markets	This program integrates services and rebates for single family and multi-family residential and small commercial customers who have similar energy efficiency needs and barriers.	Lighting HVAC, Motors, Others
PG&E	PG&E -School and Colleges	Schools, colleges and universities will be provided analytical, technical, educational, informational and financial assistance for energy efficiency projects.	Lighting HVAC, Motors, Others

Attachment E – 2006-2008 Energy Efficiency Programs that Support GBI

	Program Name	Program Description	Major Program End-Use/Services
PG&E	PG&E -Retail Stores	This program offers general retail, big box retail, supermarkets, and restaurants energy efficiency services and rebates especially for lighting, refrigeration and cooking.	Lighting HVAC, Motors, Others
PG&E	PG&E -High Technology Facilities	Laboratories, clean rooms, data centers, and other high tech facilities will receive services such as benchmarking, retro-commissioning and incentives especially for lighting and specialized HVAC systems.	Lighting HVAC, Motors, Others
PG&E	PG&E -Medical Facilities	New and existing nursing homes, hospitals, and medical offices will receive services and incentives for energy efficiency retrofit and new construction	Lighting HVAC, Motors, Others
PG&E	PG&E -Large Commercial Buildings	The program will provide large commercial and institutional offices design assistance, education, commissioning and financial incentives for retrofit and new construction.	Lighting HVAC, Motors, Others
PG&E	PG&E -Hospitality Facilities	Hotels, motels, resorts, bed and breakfast inns and prisons will receive information, audits, and financial assistance for lighting, HVAC, plug load, laundry and cooking end use upgrades during remodeling or new construction.	Lighting HVAC, Motors, Others

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2004-2005 Program Budgets and Savings – GBI Contributing Programs

Utility	Program	2004-2005	2004-2005	2004-2005 Energy Savings Goals		
		Program Budget – Total GBI	Marketing & Outreach – Total GBI	kWh	kW	Therms
SDG&E	Energy Savings Bids	\$ 20,412,118	\$ 192,419	108,800,000	17,600	320,000
SDG&E	Express Efficiency Rebate Program	\$ 7,336,609	\$ 451,059	95,091,152	15,213	354,383
SDG&E	Small Business Energy Saver	\$ 3,278,000	\$ 0	9,025,076	1,660	-
SDG&E	Standard Performance Program	\$ 7,721,500	\$ 51,900	30,240,000	3,767	680,400
SDG&E	IOU/UC/CSU Partnership	\$ 3,010,229	\$ 0	4,098,891	590	150,090
SDG&E	Savings By Design	\$ 11,532,827	\$ 1,109,906	33,620,000	6,724	576,920
SDG&E	Sustainable Communities	\$ 1,300,000	\$ 80,000	1,684,773	390	31,773
	SDG&E Total	\$ 54,591,283	\$ 1,885,284	282,559,892	45,944	2,113,566
SCG	Express Efficiency Rebate Program	\$ 8,448,858	\$ 2,594,625	432,221	-	6,214,018
SCG	Nonresidential Financial Incentive Program	\$ 4,936,084	\$ 228,150	-	-	3,019,998
SCG	Savings By Design SCG SCE Program	\$ 4,621,150	\$ 302,772	22,628,568	4,367	296,194
SCG	Energy Coalition	\$ 1,223,000	\$ 43,000	-	-	917,440
SCG	Ventura County Regional Energy Alliance	\$ 380,294	\$ 5,290	-	-	141,772
SCG	South Bay Cities	\$ 793,490	\$ 23,000	-	-	-
SCG	Bakersfield/Kern Energy Watch Partnership	\$ 500,000	\$ 439,900	-	-	-
SCG	LA County	\$ 650,000	\$ 0	-	-	402,428
SCG	IOU/UC/CSU Partnership	\$ 2,039,405	\$ 0	-	-	425,945
	SCG Total	\$ 23,592,281	\$ 3,636,737	23,060,789	4,367	11,417,795
PG&E	Standard Performance Contract	\$ 37,740,630	\$ 2,403,093	200,012,460	37,410	5,181,380
PG&E	Express Efficiency Rebate Program	\$ 37,587,871	\$ 2,721,225	488,627,364	95,938	3,697,693
PG&E	Upstream HVAC & Motor	\$ 3,187,134	\$ 464,045	6,907,727	3,562	-
PG&E	Savings By Design	\$ 39,772,726	\$ 3,025,550	152,673,027	36,856	1,185,742
PG&E	Local Government Partnerships	\$ 17,437,918	\$ 1,360,836	36,970,057	8,231	789,986
	PG&E Total	\$ 135,726,279	\$ 9,974,749	885,190,635	181,997	10,854,801
SCE	Standard Performance Contract	\$ 50,248,394	\$ 1,900,000	326,503,917	47,748	-
SCE	Express Efficiency Rebate Program	\$ 17,035,562	\$ 1,490,700	278,548,418	58,229	-
SCE	Savings By Design	\$ 25,803,685	\$ 652,800	136,803,420	26,727	-
SCE	Upstream HVAC & Motor	\$ 5,079,453	\$ 661,500	20,412,195	7,438	-
SCE	Small Nonresidential Hard to Reach	\$ 11,920,895	\$ 670,000	32,920,857	6,422	-
SCE	VeSM Advantage Plus	\$ 940,000	\$ 115,500	2,822,400	235	-
SCE	IOU/UC/CSU Partnership	\$ 4,500,000	\$ 0	6,817,104	1,004	-
SCE	Bakersfield/Kern Energy Watch Partnership	\$ 1,000,000	\$ 32,308	2,082,199	520	-
SCE	LA County	\$ 3,000,000	\$ 2	4,723,641	1,902	-
SCE	Energy Coalition	\$ 4,000,000	\$ 298,000	15,262,440	4,298	-
SCE	Ventura County Regional Energy Alliance	\$ 1,273,152	\$ 18,575	6,432,343	1,618	-
	SCE Total	\$ 124,801,141	\$ 5,839,385	833,328,934	156,141	
	GRAND TOTAL	\$ 338,710,984	\$ 21,336,155	2,024,140,250	388,449	24,386,162

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2004-2005 Program Budgets and Savings – State Buildings

Utility	Program	2004-2005	2004-2005	2004-2005 Projected Savings - State		
		Program Budget – State	Marketing & Outreach Budget – State	kWh	kW	Therms
SDG&E	Energy Savings Bids	\$ 332,986	\$ 3,139	1,774,872	485	5,171
SDG&E	Express Efficiency Rebate Program	\$ 119,683	\$ 7,358	1,551,237	420	5,727
SDG&E	Small Business Super Saver	\$ 53,475	\$ 0	147,228	46	-
SDG&E	Standard Performance Program	\$ 125,962	\$ 847	493,310	104	10,996
SDG&E	IOU/UC/CSU Partnership	\$ 3,010,229	\$ 0	4,098,891	590	150,090
SDG&E	Savings By Design	\$ 188,137	\$ 18,106	548,448	185	9,323
SDG&E	Sustainable Communities	\$ 21,207	\$ 1,305	27,484	11	513
	SDG&E Total	\$ 3,851,679	\$ 30,755	8,641,470	1,841	181,821
SCG	Express Efficiency Rebate Program	\$ 67,093	\$ 20,604	3,432	-	49,346
SCG	Nonresidential Financial Incentive Program	\$ 39,198	\$ 1,812	-	-	23,982
SCG	Savings By Design SCG SCE Program	\$ 36,697	\$ 2,404	179,696	35	2,352
SCG	SCG Energy Coalition I	\$ 0	\$ 0	-	-	-
SCG	Ventura County REA	\$ 0	\$ 0	-	-	-
SCG	South Bay Cities	\$ 0	\$ 0	-	-	-
SCG	Bakersfield/Kern Energy Watch Partnership I	\$ 0	\$ 0	-	-	-
SCG	LA County	\$ 0	\$ 0	-	-	-
SCG	IOU/UC/CSU Partnership	\$ 2,039,405	\$ 0	-	-	425,945
	SCG Total	\$ 2,182,394	\$ 24,820	183,129	35	501,626
PG&E	Standard Performance Contract	\$ 308,405	\$ 19,800	1,578,794	187	54,964
PG&E	Express Efficiency	\$ 544,413	\$ 31,150	6,852,220	1,395	24,072
PG&E	Upstream HVAC and Motors Rebates	\$ 58,384	\$ 9,158	121,707	62	-
PG&E	Savings by Design	\$ 0	\$ 0	-	-	-
PG&E	Local Government Partnerships	\$ 6,775,813	\$ 528,777	14,365,372	3,198	306,963
	PG&E Total	\$ 7,687,015	\$ 588,885	22,918,093	4,842	386,000
SCE	SPC	\$ 903,147	\$ 34,150	4,084,046	477	-
SCE	Express Efficiency	\$ 1,336	\$ 117	35,084	7	-
SCE	Savings by Design	\$ 296,199	\$ 7,493	530,286	359	-
SCE	Upstream HVAC and Motors Rebates	\$ 0	\$ 0	-	-	-
SCE	Small Non-Residential Hard to Reach	\$ 0	\$ 0	-	-	-
SCE	VeSM Advantage Plus	\$ 0	\$ 0	-	-	-
SCE	IOU/UC/CSU Partnership	\$ 4,500,000	\$ 0	6,817,104	1,004	-
SCE	Bakersfield/Kern Energy Watch Partnership I	\$ 0	\$ 0	-	-	-
SCE	LA County/SCE/SCG Partnership	\$ 0	\$ 0	-	-	-
SCE	Energy Coalition	\$ 0	\$ 0	-	-	-
SCE	Ventura County REA	\$ 0	\$ 0	-	-	-
	SCE Total	\$ 5,700,682	\$ 41,760	11,466,520	1,847	-
	GRAND TOTAL	\$ 19,421,770	\$ 686,220	43,209,212	8,565	1,069,446

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2004-2005 Program Budgets and Savings – Commercial Buildings

Utility	Program	2004-2005	2004-2005	2004-2005 Projected Savings		
		Program Budget - Commercial	Marketing & Outreach - Commercial	kWh	kW	Therms
SDG&E	Energy Savings Bids	\$ 14,044,251	\$ 132,391	74,858,204	10,785	231,470
SDG&E	Express Efficiency Rebate Program	\$ 5,047,844	\$ 310,344	65,426,038	9,322	256,341
SDG&E	Small Business Super Saver	\$ 2,255,379	\$ 0	6,209,568	1,017	-
SDG&E	Standard Performance Program	\$ 5,312,662	\$ 35,709	20,806,177	2,308	492,164
SDG&E	IOU/UC/CSU Partnership	\$ 0	\$ 0	-	-	-
SDG&E	Savings By Design	\$ 7,934,988	\$ 763,654	23,131,736	4,120	417,312
SDG&E	Sustainable Communities	\$ 894,445	\$ 55,043	1,159,183	239	22,983
	SDG&E Total	\$ 35,489,569	\$ 1,297,141	191,590,905	27,793	1,420,271
SCG	Express Efficiency Rebate Program	\$ 1,140,520	\$ 350,251	58,346	-	838,836
SCG	Nonresidential Financial Incentive Program	\$ 666,327	\$ 30,798	-	-	407,673
SCG	Savings By Design SCG SCE Program	\$ 623,814	\$ 40,871	3,054,653	590	39,984
SCG	SCG Energy Coalition1	\$ 1,223,000	\$ 43,000	-	-	917,440
SCG	Ventura County REA	\$ 380,294	\$ 5,290	-	-	141,772
SCG	South Bay Cities	\$ 793,490	\$ 23,000	-	-	-
SCG	Bakersfield/Kern Energy Watch Partnership1	\$ 500,000	\$ 439,900	-	-	-
SCG	LA County	\$ 0	\$ 0	-	-	-
SCG	IOU/UC/CSU Partnership	\$ 0	\$ 0	-	-	-
	SCG Total	\$ 5,327,444	\$ 933,111	3,112,999	590	2,345,704
PG&E	Standard Performance Contract	\$ 15,206,905	\$ 963,502	82,229,449	18,576	1,716,172
PG&E	Express Efficiency	\$ 30,457,810	\$ 2,098,590	393,042,110	77,812	2,616,492
PG&E	Upstream HVAC and Motors Rebates	\$ 1,935,194	\$ 283,552	4,181,141	2,154	-
PG&E	Savings by Design	\$ 30,673,897	\$ 2,333,393	117,745,933	28,424	914,479
PG&E	Local Government Partnerships	\$ 1,130,880	\$ 88,253	2,397,575	534	51,232
	PG&E Total	\$ 79,404,687	\$ 5,767,290	599,596,208	127,500	5,298,375
SCE	SPC	\$ 18,507,195	\$ 699,797	130,097,117	21,618	-
SCE	Express Efficiency	\$ 14,605,087	\$ 1,278,021	242,956,386	49,337	-
SCE	Savings by Design	\$ 19,308,585	\$ 488,482	100,667,150	20,902	-
SCE	Upstream HVAC and Motors Rebates	\$ 3,600,446	\$ 468,888	14,468,686	5,273	-
SCE	Small Non-Residential Hard to Reach	\$ 11,920,895	\$ 670,000	32,920,857	6,422	-
SCE	VeSM Advantage Plus	\$ 0	\$ 0	-	-	-
SCE	IOU/UC/CSU Partnership	\$ 0	\$ 0	-	-	-
SCE	Bakersfield/Kern Energy Watch Partnership1	\$ 0	\$ 0	-	-	-
SCE	LA County/SCE/SCG Partnership	\$ 0	\$ 0	-	-	-
SCE	Energy Coalition	\$ 0	\$ 0	-	-	-
SCE	Ventura County REA	\$ 0	\$ 0	-	-	-
	SCE Total	\$ 67,942,208	\$ 3,605,188	521,110,196	103,552	-
	GRAND TOTAL	\$188,163,908	\$ 11,602,730	1,315,410,308	259,434	9,064,351

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2006-2008 Program Budgets and Savings – GBI Contributing Programs

Utility	Program	2006-2008	2006-2008	2006-2008 Savings		
		Program Budget – Total GBI	Marketing & Outreach – Total GBI	kWh	kW	Therms
SDG&E	IOU/Community College Partnership	\$ 6,000,000	\$ -	12,000,000	1,614	410,556
SDG&E	CA Department of Corrections Partnership	\$ 1,200,000	\$ -	267,858	57	14,664
SDG&E	Energy Savings Bids	\$ 50,943,289	\$ 1,406,995	167,068,838	27,588	371,000
SDG&E	Express Efficiency Rebate Program	\$ 9,958,395	\$ 1,508,593	48,424,297	5,440	920,665
SDG&E	Small Business Super Saver	\$ 30,946,431	\$ 2,279,057	156,489,931	21,791	1,263,552
SDG&E	Standard Performance Program	\$ 10,927,951	\$ 344,621	36,398,515	4,535	495,250
SDG&E	IOU/UC/CSU Partnership	\$ 6,000,000	\$ -	12,000,000	1,731	439,971
SDG&E	Savings By Design	\$ 13,599,939	\$ 2,198,392	20,630,320	6,206	350,989
SDG&E	Sustainable Communities	\$ 1,694,830	\$ 343,094	1,699,375	416	44,462
	SDG&E Total	\$ 131,270,835	\$ 8,080,753	454,979,134	69,378	4,311,109
SCG	Express Efficiency Rebate Program	\$ 22,101,237	\$ 4,871,004	-	-	11,380,310
SCG	Local Business Energy Efficiency Program	\$ 26,846,940	\$ 1,676,590	-	-	17,966,744
SCG	Savings By Design SCG SCE Program	\$ 7,500,000	\$ 1,390,168	-	-	5,269,560
SCG	Savings By Design SCG Muni Program	\$ 3,000,000	\$ 302,381	-	-	3,000,000
SCG	Sustainable Communities Demo/City of Santa Monica	\$ 900,000	\$ 281,047	-	-	5,500
	SCG Total	\$ 60,348,177	\$ 8,521,189	-	-	37,622,114
PG&E	Mass Markets	\$ 70,209,509	\$ 2,336,000	202,910,372	34,751	3,503,162
PG&E	School and Colleges	\$ 18,391,870	\$ 2,571,000	43,408,288	9,420	
PG&E	Retail Stores	\$ 9,434,392	\$ 700,000	41,222,310	8,946	
PG&E	High Technology Facilities	\$ 15,469,778	\$ 1,503,000	35,804,503	7,770	
PG&E	Medical Facilities	\$ 22,735,219	\$ 1,057,000	80,089,056	17,380	
PG&E	Large Commercial (Office Bldg, Gov't, Large	\$ 36,899,055	\$ 2,179,000	154,132,264	33,447	
PG&E	Hospitality Facilities	\$ 4,780,378	\$ 755,000	13,639,825	2,960	
	PG&E Total	\$ 177,920,201	\$ 11,101,000	571,206,618	114,674	3,503,162
SCE	Comprehensive HVAC - Nonresidential	\$ 47,233,739	\$ 3,384,935	138,357,062	29,596	-
SCE	Retrocommissioning	\$ 11,756,050	\$ 121,000	39,040,000	8,472	-
SCE	Industrial Energy Efficiency	\$ 40,535,116	\$ 925,040	194,474,222	42,201	-
SCE	Agricultural Energy Efficiency	\$ 38,062,834	\$ 3,987,981	129,368,274	28,073	-
SCE	Savings By Design	\$ 30,932,770	\$ 897,831	132,261,143	11,799	-
SCE	Sustainable Communities	\$ 4,429,150	\$ 647,000	8,212,000	356	-
SCE	Business Incentive Program	\$ 105,923,305	\$ 1,775,743	1,043,034,770	192,315	-
SCE	Partnerships	\$ 44,491,054	\$ 2,632,578	131,961,428	28,636	-
	SCE Total	\$ 323,364,018	\$ 14,372,108	1,816,708,899	341,448	-
	GRAND TOTAL	\$ 692,903,231	\$ 42,075,050	2,842,894,651	525,500	45,436,385

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2006-2008 Program Budgets and Savings - State Buildings

Utility	Program	2006-2008	2006-2008	2006-2008 Savings		
		Program Budget - State	Marketing & Outreach - State	kWh	kW	Therms
SDG&E	IOU/Community College Partnership	\$ 6,000,000	\$ -	12,000,000	1,614	410,556
SDG&E	CA Department of Corrections Partnership	\$ 1,200,000	\$ -	267,858	57	14,664
SDG&E	Energy Savings Bids	\$ 831,046	\$ 22,953	2,725,421	760	5,995
SDG&E	Express Efficiency Rebate Program	\$ 162,453	\$ 24,610	789,953	150	14,878
SDG&E	Small Business Super Saver	\$ 504,834	\$ 37,179	2,552,846	601	20,420
SDG&E	Standard Performance Program	\$ 178,269	\$ 5,622	593,775	126	8,003
SDG&E	IOU/UC/CSU Partnership	\$ 6,000,000	\$ -	12,000,000	1,731	439,971
SDG&E	Savings By Design	\$ 221,858	\$ 35,863	336,546	171	5,672
SDG&E	Sustainable Communities	\$ 27,648	\$ 5,597	27,722	11	718
	SDG&E Total	\$ 15,126,108	\$ 131,823	31,294,121	5,221	920,877
SCG	Express Efficiency Rebate Program	\$ 175,509	\$ 38,681	-	-	90,373
SCG	Local Business Energy Efficiency Program	\$ 213,196	\$ 13,314	-	-	142,676
SCG	Savings By Design SCG SCE Program	\$ 59,558	\$ 11,040	-	-	41,846
SCG	Savings By Design SCG Muni Program	\$ 23,823	\$ 2,401	-	-	23,823
SCG	Sustainable Communities Demo/City of Santa Monica	\$ 7,147	\$ 2,232	-	-	44
	SCG Total	\$ 479,233	\$ 67,668	-	-	298,762
PG&E	Mass Markets	\$ 10,745,193	\$ 357,512	31,054,355	5,318	536,140
PG&E	School and Colleges	\$ 945,318	\$ 132,146	2,231,129	484	-
PG&E	Retail Stores	\$ 84,149	\$ 6,244	367,677	80	-
PG&E	High Technology Facilities	\$ 122,353	\$ 11,887	283,183	61	-
PG&E	Medical Facilities	\$ 211,477	\$ 9,832	744,966	162	-
PG&E	Large Commercial (Office Bldg, Gov't, Large Institution)	\$ 291,840	\$ 17,234	1,219,053	265	-
PG&E	Hospitality Facilities	\$ 37,809	\$ 5,971	107,879	23	-
	PG&E Total	\$ 12,438,139	\$ 540,827	36,008,242	6,393	536,140
SCE	Comprehensive HVAC - Nonresidential	\$ -	\$ -	-	-	-
SCE	Retrocommissioning	\$ 211,299	\$ 2,175	488,328	85	-
SCE	Industrial Energy Efficiency	\$ 728,564	\$ 16,626	2,432,564	422	-
SCE	Agricultural Energy Efficiency	\$ 684,128	\$ 71,679	1,618,192	280	-
SCE	Savings By Design	\$ 355,075	\$ 16,137	512,679	159	-
SCE	Sustainable Communities	\$ 50,842	\$ 11,629	31,832	5	-
SCE	Business Incentive Program	\$ 1,401,366	\$ 23,493	14,134,276	2,224	-
SCE	Partnerships	\$ 14,579,119	\$ 862,660	48,734,812	8,079	-
	SCE Total	\$ 18,010,393	\$ 1,004,399	67,952,683	11,254	-
	GRAND TOTAL	\$ 46,053,873	\$ 1,744,717	135,255,046	22,868	1,755,779

**Attachment F – Energy Efficiency Program Budgets and Savings that Support GBI –
For State and Commercial Buildings Only-**

2006-2008 Program Budgets and Savings - Commercial Buildings

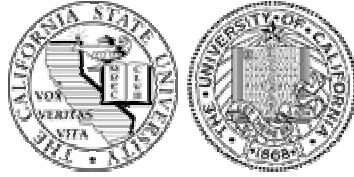
Utility	Program	2006-2008	2006-2008	2006-2008 Savings		
		Program Budget - Commercial	Marketing & Outreach - Commercial	kWh	kW	Therms
SDG&E	IOU/Community College Partnership	\$ -	\$ -	-	-	-
SDG&E	CA Department of Corrections Partnership	\$ -	\$ -	-	-	-
SDG&E	Energy Savings Bids	\$ 35,050,764	\$ 968,062	114,949,202	16,906	268,361
SDG&E	Express Efficiency Rebate Program	\$ 6,851,724	\$ 1,037,965	33,317,610	3,334	665,958
SDG&E	Small Business Super Saver	\$ 21,292,226	\$ 1,568,071	107,670,544	13,353	913,984
SDG&E	Standard Performance Program	\$ 7,518,812	\$ 237,111	25,043,451	2,779	358,237
SDG&E	IOU/UC/CSU Partnership	\$ -	\$ -	-	-	-
SDG&E	Savings By Design	\$ 9,357,234	\$ 1,512,571	14,194,382	3,803	253,886
SDG&E	Sustainable Communities	\$ 1,166,102	\$ 236,061	1,413,392	276	29,364
	SDG&E Total	\$ 81,236,863	\$ 5,559,841	296,588,581	40,451	2,489,791
SCG	Express Efficiency Rebate Program	\$ 2,983,468	\$ 657,542	-	-	1,536,239
SCG	Local Business Energy Efficiency Program	\$ 3,624,095	\$ 226,325	-	-	2,425,349
SCG	Savings By Design SCG SCE Program	\$ 1,012,432	\$ 187,660	-	-	711,343
SCG	Savings By Design SCG Muni Program	\$ 404,973	\$ 40,819	-	-	404,973
SCG	Sustainable Communities Demo/City of Santa Monica	\$ 121,492	\$ 37,939	-	-	742
	SCG Total	\$ 8,146,460	\$ 1,150,284	-	-	5,078,646
PG&E	Mass Markets	\$ 34,052,390	\$ 1,132,986	98,413,778	16,855	1,699,072
PG&E	School and Colleges	\$ 7,594,309	\$ 1,061,609	17,924,003	3,890	-
PG&E	Retail Stores	\$ 4,309,335	\$ 319,738	18,829,060	4,086	-
PG&E	High Technology Facilities	\$ 7,881,345	\$ 765,729	18,241,221	3,959	-
PG&E	Medical Facilities	\$ 10,534,999	\$ 489,790	37,111,502	8,054	-
PG&E	Large Commercial (Office Bldg, Gov't, Large Institution)	\$ 18,798,859	\$ 1,110,129	78,525,338	17,040	-
PG&E	Hospitality Facilities	\$ 2,435,446	\$ 384,648	6,949,044	1,508	-
	PG&E Total	\$ 85,606,682	\$ 5,264,629	275,993,945	55,391	1,699,072
SCE	Comprehensive HVAC - Nonresidential	\$ 33,480,482	\$ 2,399,328	98,071,024	20,978	-
SCE	Retrocommissioning	\$ 4,329,920	\$ 44,566	15,555,683	3,835	-
SCE	Industrial Energy Efficiency	\$ 14,929,657	\$ 340,705	77,489,225	19,106	-
SCE	Agricultural Energy Efficiency	\$ 14,019,081	\$ 1,468,830	51,547,435	12,710	-
SCE	Savings By Design	\$ 23,146,617	\$ 330,684	97,324,703	9,228	-
SCE	Sustainable Communities	\$ 3,314,279	\$ 238,299	6,042,821	279	-
SCE	Business Incentive Program	\$ 56,614,636	\$ 949,112	545,635,118	109,449	-
SCE	SCE Partnerships	\$ -	\$ -	-	-	-
	SCE Total	\$ 149,834,673	\$ 5,771,524	891,666,011	175,585	-
	GRAND TOTAL	\$ 324,824,678	\$ 17,746,278	1,464,004,374	271,406	9,270,307

Attachment G – IOU/UC/CSU Energy Efficiency Partnership Case Study

UC/CSU/IOU Energy Efficiency Partnership Case Study

Overview:

Program Type: Institutional
Size: 160 million Sq. Ft.
CPUC Funding: \$15,101,706



Projected Energy Savings:

3,464 kW
18,416,901 kWh
Net Total Savings: \$2,819,265

The UC/CSU/IOU Energy Efficiency Partnership Program (The Partnership Program) is a compelling example of how the CPUC can leverage its authority to achieve substantial energy efficiency improvements in the institutional building sector. In December of 2003, the CPUC approved approximately \$15,101,706 for the UC/CSU/IOU Energy Efficiency Partnership Program to provide technical and financial support for the deployment of energy efficiency measures at 33 UC and CSU campuses across the state. The implementation plan identified goals of the program which included immediate and long-term energy demand savings (3.1MW), improved energy efficiency objectives and maintenance practices, to provide leadership for other statewide partnerships and to incorporate community colleges in the next funding cycle.

As of July 2005, the program has spent approximately \$12,640,702 of the program budget, achieving total energy savings of 3,925 kW and 24,965,658 kWh.²⁴ In contrast, the program was anticipated to achieve total energy savings per year of 3,464 kW and 18,416,901 kWh thereby providing total savings of \$16,859,828 yielding a net benefit of \$2,819,265. Given that the program has already exceeded expectations by over 35% in terms of kWh and 13% in terms of kW, it follows that net benefits will likely be substantially higher than originally projected. Furthermore, these energy savings represent a reduction in CO2 emissions of an estimated 9,441 tons per year. The Partnership Program is comprised of three elements, operated on statewide and integrated basis:

- Energy Efficiency Retrofits
- Facility Retro and Continuous Commissioning
- Energy Efficiency Education and Best Practices Development and Training.

The **Energy Efficiency Retrofits** consists of bringing buildings, including classrooms, offices, labs, dorms, sports/recreational facilities, theatres and central plants up to “best energy efficient practices” for lighting, HVAC systems, and other equipment and systems. The **Facility Retro and Continuous Commissioning** is a unique approach to obtain savings through the expertise of the Universities’ campus facility management staff, additional utility and subcontractor expertise, and the installation of energy monitoring and metering equipment at the building sub-meter and system level.

The third element, the **Energy Efficiency Education and Best Practices Development and Training**, provides a comprehensive program for energy education and information exchange among the UC/CSU/Community College campus energy and facility managers as well as with the Utilities. So far, the

²⁴ These data, reflecting results through July 30, 2005, were reported to the CPUC by the utilities and are subject to verification.

Attachment G – IOU/UC/CSU Energy Efficiency Partnership Case Study

IOU's have conducted 17 energy training courses and two sustainability conferences that focus on educating and informing the UC/CSU staff.

Going forward, a new program, the IOU/Community College Partnership, will closely resemble the UC/CSU/IOU Program, but pertains to all of the community colleges in California within the four IOU service areas.