

ENERGY EFFICIENCY PROGRAMS ANNUAL SUMMARY AND TECHNICAL APPENDIX

2004 Results
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A  Sempra Energy utility™

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Executive Summary of Accomplishments

Overview

SoCalGas submitted its 2004-05 program proposals on September 23, 2003, requesting approval of its 2004-05 Energy Efficiency program plans and budgets as directed by D. 03-08-067. D.03-12-60, issued by the CPUC on December 18, 2003, approved funding for the majority of the statewide and local utility and non-utility 2004-05 energy efficiency program budgets and goals. This decision also authorized bridge funding for specific program proposals. The utilities were directed to provide discussion on the relevancy of programs not funded and justification for funding them in 2004-05. On February 26, 2004, in D.04-02-059, the CPUC approved funding for additional utility and non-utility energy efficiency programs for 2004-05.

On October 7, 2004, SoCalGas filed a joint petition with PG&E and SDG&E seeking authority for each utility to increase spending on natural gas energy efficiency programs. D.04-12-019 authorized SoCalGas to increase its natural gas energy efficiency budget, authorized in D.03-12-060, and the corresponding increase in the 2004-05 natural gas savings goals.

In 2004, SoCalGas' expenditures (actual and commitments) for its 2004 Energy Efficiency programs totaled \$21.0 million and achieved a total of 24,407 megawatt-hours (MWh) in energy savings, 6.4 megawatts (MW) in demand savings and 11,282,123 therms in gas savings.

Residential Energy Efficiency Programs

The 2004 energy efficiency Residential Program Area included statewide efforts that were designed to encourage customers to improve energy efficiency behaviors and to increase the installation of energy efficient products and appliances. These programs, which were designed to provide more energy efficiency options to residential customers, also coordinated efforts with other key market players to offer customers the largest selection of energy efficiency options.

The Statewide Home Energy Efficiency Survey program (HEES) is a comprehensive multi-lingual program designed to reach a wide range of customers by offering three types of survey options: Mail-In, On-Line, and In-Home. HEES is on track to meet its mail-in and in-home survey and hard-to-reach (HTR) goals for 2004-2005. SoCalGas mailed 39,757 Home Energy Efficiency Surveys to HTR customers resulting in a total response of 5,016 completed surveys. SoCalGas completed 809 in-home audits in 2004. Marketing efforts included letters, flyers, website banners, newspaper articles and advertisements, bill inserts, radio and a Statewide Spanish television energy efficiency marketing campaign.

The Single Family Rebate program is a comprehensive program targeting all market actors in the residential efficient retrofit and renovation product supply chain to increase the availability and market penetration of these products. The program contains three core components: (1) customer incentives; (2) customer information and education; and (3) marketing and outreach to trade allies including manufacturers, retailers and distributors. In 2004, SoCalGas' Single Family Rebate program continued to be very popular. Marketing and outreach efforts included a marketing campaign using radio spots, newspaper ads and collateral materials for contractors and retailers; retailer management comprised of training retailers about the program, site visit to retailers, distribution and display of collateral materials and on going communications; available

on the SoCalGas Website and disseminated at community events and through community based organizations, in combination with other outreach programs.

The statewide Multifamily Energy Efficiency Rebate (MFEER) program promotes energy savings by providing cash rebates for the installation of qualified energy-efficiency products in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. In 2004, the SoCalGas' Statewide Multifamily rebate program received a tremendous response from multifamily property owners and managers in SoCalGas' service area. By December 2004, customer demand for rebates resulted in the program exceeding the 2004 targets for kW, kWh and therm savings goals.

Nonresidential Energy Efficiency Programs

SoCalGas' Nonresidential Program Area continued to provide energy education, promote energy efficiency improvements, offered rebates and incentives, and offered training seminars and participated in numerous trade show and community events.

The Building Operator Certification program is a seven-module course designed to train and certify facility managers of their professional competence in energy efficient building operations and maintenance. In 2004, SoCalGas offered one BOC Level 1 course.

In 2004, SoCalGas continued to offer the Nonresidential Energy Audits program through on-line, on-site, phone, CD-ROM and mail-in audits to all nonresidential customer sectors. SoCalGas used various resources and methods to reach the hard-to-reach customer segment. A total of 5,722 audits were completed and 629 of these audits were in the HTR customer segment.

The statewide Express Efficiency program targets small-and medium-sized nonresidential customers. The program offers prescriptive rebates on selected gas measures. These measures include clothes washers, greenhouse curtains, boilers, water and space heaters, pipe and tank insulation and various cooking equipment. SoCalGas' marketing efforts included trade shows, seminars, community based organization (CBO) outreach, various program brochures, bill inserts, and online at the SoCalGas website. SoCalGas is on target to meet its 2004-2005 program goals.

The Nonresidential Financial Incentives Program (NRFIP) is a local program focusing on small to medium nonresidential (commercial and industrial) gas customers. The program incorporates technical support, education, training, outreach, contractor referral, prescriptive rebates and incentives. SoCalGas marketing efforts included trade shows, seminars, community based organization (CBO) outreach, program brochures, bill inserts, and online at the SoCalGas website. SoCalGas is on target to meet its 2004-2005 program goals.

New Construction Energy Efficiency Programs

SoCalGas' New Construction Program Area provides design assistance services aimed at identifying and capturing energy savings opportunities in new construction projects. New construction programs also offered incentives to encourage the installation of energy efficient design and equipment that exceed Title 24 energy standards.

The statewide California Energy Star New Homes Program (CESNHP) is designed to influence the design and construction of single family and multifamily residential new construction. Working together with single and multifamily builders, architects, energy analysts and other

building industry professionals, the program will increase energy efficiency through a combination of education, design assistance and financial incentives. In 2004, SoCalGas continued an aggressive marketing and design assistance program to the building industry to promote the program. As a result, 48 projects were accepted into the program in 2004.

The statewide Savings By Design (SBD) is an energy efficiency program for the nonresidential new construction industry to provide statewide consistency, program stability, and savings persistence to the new construction market. 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. In 2004, the program continued to offer on-site training and project-specific design assistance to the nonresidential new construction market. Over 37 design assistance/training sessions were presented to the market. The SBD program is making progress towards achieving the 2004-2005 energy savings goals.

Cross Cutting Programs

The Statewide Energy Efficiency Education and Training Program promotes energy efficiency to a variety of customers segments through energy centers (physical and virtual) and other informational programs. In 2004, SoCalGas delivered 184 seminars/workshops and 126 events were provided for the HTR market. SoCalGas is on target for reaching its 2004-2005 goal.

The Statewide Emerging Technologies (ET) program is an information-only program that seeks to accelerate the commercial introduction of energy-efficient technologies, applications, and analytical tools that are not widely adopted in California. In 2004, SoCalGas initiated eight Emerging Technology application assessments. The Emerging Technologies Coordinating Council (ETCC) helped the California Energy Commission to bridge the gap between emerging energy-efficient products and “the market”.

The Statewide Codes and Standards (C&S) program is an information-only program that advocates upgrades and enhancements in energy efficiency standards and codes. Program activities are conducted over long-term code upgrade cycles. Additionally, the program supports implementation of energy efficiency standards through strategic initiatives or training. In 2004, SoCalGas participated in a number of various workshops, meetings, code adoptions and CASE studies in 2004. SoCalGas prepared and reported three CASE studies in 2004.

IOU Partnership Programs

The Commission approved funding for six SoCalGas Partnership programs in D. 03-12-060 and D. 04-02-059. The partnership programs included the IOU/UC/CSU Partnership, South Bay Cities Energy Efficiency Center, Bakersfield/Kern Energy Watch, LA County/SCE/SCG Partnership, The Energy Coalition, and the Ventura County Regional Energy Efficiency Center and Comprehensive Public Sector Program.

Statewide Marketing

The Commission also selected the Flex Your Power Campaign, Runyon Saltzman & Einhorn, and the Univision Television Group to implement the statewide marketing efforts in D. 03-12-060. SCE and the other IOUs worked closely with these organizations to ensure coordinated, statewide energy efficiency messages in support of the statewide programs.

Non-IOU Programs

The Commission awarded non-utility programs to be implemented by third parties for 2004-2005 and designated the IOUs to administer each program in D. 03-12-060 and D. 04-02-059. SoCalGas was designated to administer four of the non-utility programs operating in the SoCalGas service area. Program implementation began after the contracts were signed between the non-IOUs and SoCalGas.

Market Assessment & Evaluation

The PY 2004-05 MA&E Studies were designed primarily to support energy savings estimates of various technologies. The studies were begun and funded in 2004.

**TABLE 1.1
SUMMARY OF COSTS**

	Natural Gas					
	2004 ^{1,2}		2004 ^{1,2}		2005 Planned ³	
	Budgeted	PGC Recorded	Procurement Budgeted	Procurement Recorded	Budgeted	Recorded
Residential	\$8,623,390	\$5,977,391	\$0	\$0	\$8,623,390	\$0
Nonresidential	\$7,700,115	\$5,765,290	\$0	\$0	\$7,700,115	\$0
New Construction	\$4,164,000	\$4,639,485	\$0	\$0	\$4,164,000	\$0
Crosscutting	\$2,694,657	\$2,290,764	\$0	\$0	\$2,694,657	\$0
IOU Partnership Programs	\$2,487,601	\$235,826	\$0	\$0	\$2,487,601	\$0
Total IOU Programs	\$25,669,763	\$18,908,755	\$0	\$0	\$25,669,763	\$0
Statewide Marketing	\$2,013,043	\$0	\$0	\$0	\$2,013,043	\$0
Non-IOU Programs	\$4,401,269	\$1,185,273	\$0	\$0	\$4,401,269	\$0
Total Non-IOU Programs	\$6,414,312	\$1,185,273	\$0	\$0	\$6,414,312	\$0
Utility Adm. Of Non-IOU Programs	\$189,868	\$8,433	\$0	\$0	\$189,868	\$0
MA&E & Reg Oversight	\$909,245	\$909,245	\$0	\$0	\$909,245	\$0
Shareholder Incentives	\$0	\$0	\$0	\$0	\$0	\$0
EE Total	\$33,183,187	\$21,011,706	\$0	\$0	\$33,183,187	\$0

Notes:

1. SoCalGas PGC Energy Efficiency recorded expenditures exclude \$396,919 in payroll taxes. However, these costs are included in the SoCalGas Energy Efficiency balancing account as a result of SoCalGas' Cost of Service proceeding per Commission Decision 04-12-015.
2. All Recorded amounts include payments in 2004 and amounts committed to projects in 2004. Committed amounts may not be fully realized.
3. Planned 2005 reflects annualized budgets from proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060, D.04-02-059 and D.04-12-019.

TABLE 1.2a
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS
Annual and Lifecycle Energy Reductions, Electric, MWH

	2004 (Recorded)					
	PGC		Procurement		Total	
	Annual	Life Cycle	Annual	Life Cycle	Annual	Life Cycle
Residential	10,301	127,153	-	-	10,301	127,153
Nonresidential	1,151	12,663	-	-	1,151	12,663
New Construction	12,955	201,156	-	-	12,955	201,156
Crosscutting	-	-	-	-	-	-
IOU Partnership Programs	-	-	-	-	-	-
Non-IOU Programs ¹	896	8,337	-	-	896	8,337
Total EE Portfolio	25,303	349,309	-	-	25,303	349,309

TABLE 1.2b
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS
Annual and Lifecycle Energy Reductions, Electric, MWH

	2005 (Planned)					
	PGC		Procurement		Total	
	Annual	Life Cycle	Annual	Life Cycle	Annual	Life Cycle
Residential	7,571	159,746	-	-	7,571	159,746
Nonresidential	216	190	-	-	216	190
New Construction	12,690	199,760	-	-	12,690	199,760
Crosscutting	-	-	-	-	-	-
IOU Partnership Programs	-	-	-	-	-	-
Non-IOU Programs ¹	1,570	17,027	-	-	1,570	17,027
Total EE Portfolio	22,047	376,722	-	-	22,047	376,722

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

* Note: Planned 2005 reflects proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060, D.04-02-05 and D.04-12-019.

TABLE 1.2c
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS
Annual Demand Reductions, Electric, MW

	2004 (Recorded)		2005 (Planned)			
	PGC	Procurement	Total	PGC	Procurement	Total
Residential	0.98	-	0.98	1.12	-	1.12
Nonresidential	-	-	-	-	-	-
New Construction	5.42	-	5.42	4.08	-	4.08
Crosscutting	-	-	-	-	-	-
IOU Partnership Programs	-	-	-	-	-	-
Non-IOU Programs ¹	0.30	-	0.30	0.64	-	0.64
Total EE Portfolio	6.70	-	6.70	5.84	-	5.84

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

* Note: Planned 2005 reflects proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060, D.04-02-05 and D.04-12-019.

TABLE 1.2d
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS
Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2004 (Recorded)					
	PGC		Procurement		Total	
	Annual	Life Cycle	Annual	Life Cycle	Annual	Life Cycle
Residential	2,812	34,629	-	-	2,812	34,629
Nonresidential	7,976	102,746	-	-	7,976	102,746
New Construction	345	5,796	-	-	345	5,796
Crosscutting	-	-	-	-	-	-
IOU Partnership Programs	150	750	-	-	150	750
Non-IOU Programs ¹	1,057	7,824	-	-	1,057	7,824
Total EE Portfolio	12,339	151,745	-	-	12,339	151,745

TABLE 1.2e
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS
Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2005 (Planned)					
	PGC		Procurement		Total	
	Annual	Life Cycle	Annual	Life Cycle	Annual	Life Cycle
Residential	3,170	42,308	-	-	3,170	42,308
Nonresidential	4,617	64,140	-	-	4,617	64,140
New Construction	284	4,664	-	-	284	4,664
Crosscutting	-	-	-	-	-	-
IOU Partnership Programs	944	10,263	-	-	944	10,263
Non-IOU Programs ¹	3,736	18,354	-	-	3,736	18,354
Total EE Portfolio	12,750	139,729	-	-	12,750	139,729

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

* Note: Planned 2005 reflects proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060, D.04-02-05 and D.04-12-019.

TABLE 1.3a
SUMMARY OF COST-EFFECTIVENESS
Benefit-Cost Ratios

	2004 (Recorded)							
	PGC				Procurement			
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ¢/(kWh) ¹	Levelized Cost ¢/(Therm) ¹	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ¢/(kWh) ¹	Levelized Cost ¢/(Therm) ¹
Residential	2.93	1.84	3.91	27.28	0.00	0.00	0.00	0.00
Nonresidential	5.83	4.52	1.56	11.28	0.00	0.00	0.00	0.00
New Construction	2.33	2.90	2.59	18.12	0.00	0.00	0.00	0.00
Crosscutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IOU Partnership Programs	1.27	0.69	0.00	67.43	0.00	0.00	0.00	0.00
Non-IOU Programs ³	2.70	-9.53	-7.14	-4.98	0.00	0.00	0.00	0.00
Total EE Portfolio	3.29	2.67	2.77	19.05	0.00	0.00	0.00	0.00

TABLE 1.3b
SUMMARY OF COST-EFFECTIVENESS
Benefit-Cost Ratios

	2005 (Planned)							
	PGC				Procurement			
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ¢/(kWh) ²	Levelized Cost ¢/(Therm) ²	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ¢/(kWh) ²	Levelized Cost ¢/(Therm) ²
Residential	2.45	1.42	55.99	203.20	0.00	0.00	0.00	0.00
Nonresidential	2.62	1.98	40617.60	153.84	0.00	0.00	0.00	0.00
New Construction	2.51	2.09	17.31	791.84	0.00	0.00	0.00	0.00
Crosscutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IOU Partnership Programs	1.34	1.17	0.00	139.16	0.00	0.00	0.00	0.00
Non-IOU Programs ³	3.27	3.77	59.49	30.96	0.00	0.00	0.00	0.00
Total EE Portfolio	2.23	1.67	63.26	139.23	0.00	0.00	0.00	0.00

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

² Levelized Cost: Per unit of the total cost of the resource from the Energy Division monthly report workbooks.

³ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

* Note: Planned 2005 reflects proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060, D.04-02-05 and D.04-12-019.

**TABLE 1.4
SUMMARY OF COST-EFFECTIVENESS**

Net Benefits; \$ Mil	2004 TRC Recorded		2005 TRC Planned*	
	PGC	Procurement	PGC	Procurement
Residential	\$ 8.01	\$ -	\$ 6.23	\$ -
Nonresidential	\$ 26.19	\$ -	\$ 9.75	\$ -
New Construction	\$ 7.09	\$ -	\$ 5.45	\$ -
Crosscutting	\$ (2.24)	\$ -	\$ (2.55)	\$ -
IOU Partnership Programs	\$ (0.14)	\$ -	\$ 0.48	\$ -
Non-IOU Programs ¹	\$ 3.53	\$ -	\$ 5.73	\$ -
Total EE Portfolio	\$ 42.44	\$ -	\$ 25.08	\$ -

Net Benefits = RBn - Net Costs

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

* Note: Planned 2004 reflects proposals submitted to the CPUC on 9/23/03 and revised per Decisions D.03-12-060 and D.04-02-059.

Residential Program Area Accomplishments

Energy Management Services

Statewide Residential Home Energy Efficiency Survey Program

Program Description:

The Statewide Home Energy Efficiency Survey (HEES) program is a comprehensive multi-lingual program designed to reach a wide range of customers by offering three types of energy survey options: Mail-In, On-Line, and In-Home. HEES provides practical information that customers can use to better understand energy use in their homes and to empower them to make educated decisions related to energy efficiency and equipment upgrades. This multifaceted approach recognizes that customers have distinct needs that may make one type of delivery channel more appealing than another. As a result, the HEES program is positioned to reach the largest number of customers possible by providing more options for customer participation, including hard-to-reach customers who in the past have had less access and fewer program alternatives. All delivery channels help customers understand how their behavior can affect energy costs, how to improve their homes' energy efficiency and what additional resources and programs are available to help reduce energy use.

2004 Results and Achievements:

In 2004, SoCalGas mailed out 39,757 Home Energy Efficiency Surveys to Hard-to-Reach (HTR) customers resulting in a total response of 5,016 completed surveys. The program is on track to meet its 2004-2005 goals. Asian language survey forms were developed in 2004 and made available to customers. The on-line audit option generated 723 English and 20 Spanish language participants.

During 2004, SoCalGas worked jointly with SCE on the in-home audit option and mailed out 75,000 direct mailers to customers who are both SoCalGas and SCE customers in SCE's services territory. The mailer directed the customer to the contracted third party auditor, to set up an appointment for a free in-home audit. In addition, SoCalGas mailed out 12,000 direct mailers to SoCalGas customers living in SCE's service territory (via zip code). As a result, 809 in-home audits were conducted. SoCalGas plans to aggressively market the in-home audit program in 2005 to achieve its two-year goal.

Energy Efficient Incentives

Statewide Residential Single Family Energy Efficiency Rebates Program

Program Description:

The Single Family Home Energy Efficiency Rebate (SFEER) program incorporates three core components: (1) customer incentives; (2) customer information and education; and (3) marketing and outreach to trade allies including manufacturers, retailers and distributors. The program targets energy usage in existing residential homes including single-family dwellings up to four units, condominiums, and mobile homes, and covers ENERGY STAR® appliances, ENERGY

STAR® Lighting, home improvement, heating, ventilation and air conditioning (HVAC) and pools.

2004 Results and Achievements:

SoCalGas was successful in achieving each of the energy savings targets established for 2004. In addition, per D. 04-12-019 SFR received additional funding to extend the availability of rebates for measures that generate natural gas savings through the winter months,

During 2004, the program again coordinated with the Flex Your Power campaign to deliver point-of-purchase materials into retail stores, develop broadcast and radio productions to promote energy efficiency. The statewide Investor-Owned Utilities implemented point-of-purchase instant rebate program with the help of several major retailers. Through 2004, the campaign has been instrumental in the rebate of over 10,000 programmable thermostats.

The program printed and distributed over 75,000 applications through its Customer Call Center and Energy Information Center. The program processed over 50,000 applications during the 2004 campaign. Other marketing efforts included extensive communication such as two press releases to local media outlets, consumer events such as the Los Angeles City Marathon, customer bill inserts and the utility newsletter distributed to over 3 million residential customers. To expand hard-to-reach efforts, SoCalGas created a page on its Spanish readers website to promote the program. SoCalGas increased in-house resources to better serve non-English speaking customers when the program application was converted into Spanish.

Statewide Residential Multifamily Energy Efficiency Rebates Program

Program Description:

The statewide Multifamily Energy Efficiency Rebate (MFEER) program is offered in the service areas of Pacific Gas & Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E) and Southern California Gas (SoCalGas). The program promotes energy savings by providing cash rebates for the installation of qualified energy-efficiency products in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. Property owners (and property managers, as authorized agents for property owners) of existing residential multi-family complexes with five or more dwelling units may qualify for rebates for installing a variety of energy efficiency measures. These include apartment improvements (e.g. interior and exterior hardwired fixtures, ceiling fans, compact fluorescent lights (CFLs), clothes washers and dishwashers), common-area improvements (e.g., exit signs, occupancy sensors, photocells, high performance dual-paned windows), mechanical improvements, and high-efficiency heating and cooling equipment.

2004 Results and Achievements:

In 2004, SoCalGas was very successful towards achieving its 2004 energy savings and HTR targets. SoCalGas increased the program participation level to well over 700 customers in 2004. SoCalGas used a combination of participation in customer (multifamily property owner) events, advertisement and marketing to increase awareness and participation in the program during 2004. In addition, per D. 04-12-019 MFR received additional funding to extend the availability of rebates for measures that generate natural gas savings through the winter months,

The statewide IOUs teamed to advertise in a statewide publication, 'Multifamily Trend' to demonstrate statewide coordination with industry and trade groups. Each of the IOUs participated in trade fair events and meetings with market agents of the program to discuss implementation improvement to the program. Finally, the statewide IOUs expanded its reservation system to include all gas measures to better monitor program activity and demand to help forecast 2005 activity and plan 2006 program design.

**TABLE 2.1
SUMMARY OF COSTS:
RESIDENTIAL PROGRAM AREA**

Natural Gas

	2004	
	PGC	PGC
	Budgeted	Recorded
Information	\$274,000	\$234,379
EMS		
EEI		
SPCs		
Rebates	\$8,349,390	\$5,743,012
Loans		
Other		
Upstream		
Information		
Financial Assistance		
Total	\$8,623,390	\$5,977,391

**TABLE 2.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
RESIDENTIAL PROGRAM AREA**

Annual and Lifecycle Energy Reductions, Electric, MWH

	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPC	N/A	N/A
Rebates	10,301	127,153
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	10,301	127,153

Demand Reductions, Electric, MW

	2004 Annual Recorded
Information	N/A
EMS	N/A
EEI	
SPC	N/A
Rebates	0.98
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	0.98

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPC	N/A	N/A
Rebates	2,812	34,629
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	2,812	34,629

**TABLE 2.3
SUMMARY OF COST-EFFECTIVENESS:
RESIDENTIAL PROGRAM AREA**

Benefit-Cost Ratios	2004 Recorded			Levelized Cost ϕ /(Therm) ¹
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ϕ /(kWh) ¹	
Information	N/A	N/A	N/A	N/A
EMS	N/A	N/A	N/A	N/A
EEI				
SPCs	N/A	N/A	N/A	N/A
Rebates	3.05	1.89	3.82	26.61
Loans	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
Upstream Programs				
Information	N/A	N/A	N/A	N/A
Financial Assistance	N/A	N/A	N/A	N/A

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

**TABLE 2.4
SUMMARY OF COST-EFFECTIVENESS:
RESIDENTIAL PROGRAM AREA**

Net Benefits, \$Mill

	2004 Recorded
Information	\$ (0.23)
EMS	N/A
EEL	
SPCs	N/A
Rebates	\$ 8.24
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	\$ 8.01

Nonresidential Program Area Accomplishments

Nonresidential Information

Statewide Nonresidential Building Operator Certification Program

Program Description

The Building Operator Certification (BOC) and Training Program offered by Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas and Electric (SDG&E) and Southern California Gas Company (SoCalGas) is a continuation of the uniform statewide building operator training and certification program that began in 2002. Operators of medium and large commercial buildings (including governmental and institutional buildings and complexes) are the primary target group for this program. The program content trains operators of these buildings to identify and implement long term annual energy savings and electric peak demand reduction opportunities as an integral part of their operations and maintenance activities. As a certification program, BOC seeks to establish a recognized professional credential for building operators.

Results & Achievements

SoCalGas offered one BOC Level I training course in 2004 with 27 students attending. In 2005, a Level II course will be offered as recommended by the National Energy Efficiency Council (NEEC).

Energy Management Services

Statewide Nonresidential Energy Audit Program

Program Description

The Statewide Nonresidential Energy Audit program provides customers with an assessment of their current energy use and recommendations regarding ways to improve their performance, reduce their energy consumption, and save money. The Audit program is offered by the four investor-owned utilities (IOUs), Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), San Diego Gas and Electric (SDG&E) and Southern California Gas Company (SoCalGas). It includes a full range of professional technical assistance to educate customers on how to implement no-cost and low-cost measures and cost-effective energy efficiency retrofits in their buildings enabling them to reduce energy consumption and lower their energy bills. The program provides direct support and coordination with many of the IOUs' other programs.

2004 Results and Achievements

In 2004, the IOUs continued to offer audit services to all nonresidential customers. Each IOU rolled out their program, designed and printed marketing materials, and updated their web tools. The SoCalGas Audit program was devised to allow customers a variety of options. All methods of audits have been used at or above expectations in 2004.

The audit program achieved 5,722 audits, and 629 audits were the HTR customer segment. This exceeded the first year target in reaching the 2004-2005 goal. This high response is partially due

to a marketing campaign using this program as an example of methods customers can use to obtain information to help reduce energy usage at their facilities as gas costs continue to rise. Customer response to that campaign exceeded the normal return rate by 400%. In an effort to further disseminate audit information to HTR customers, an on-line Chinese version was added in 2004. This version complements the existing Spanish version, which has been available since 2003. The SoCalGas audit program also designed an audit seminar for SoCalGas customers showing them how to conduct an audit of their own facility.

Energy Efficiency Incentives

Statewide Nonresidential Express Efficiency Program

Program Description

Express Efficiency is a statewide rebate program that is targeted to all investor-owned utility (IOU) small-and medium-sized nonresidential customers. The design prescribes what measures may be installed in a very straightforward and customer-friendly design that helps ensure that the smallest customers have a hassle-free, reliable means to decrease their utility bill and make their business more energy efficient. One of the program's goals is to place a major emphasis on customers who are described as hard-to-reach (HTR) and who deserve access to energy efficiency technologies that had previously been more available to larger customers.

2004 Results and Achievements

SoCalGas completed the 2004 Express Efficiency Program applications and translated applications into Spanish, Chinese, Korean and Vietnamese. SoCalGas also offered these applications online.

SoCalGas promoted the Express Efficiency program in various ways. Program promotional and delivery vehicles included participation in trade shows, seminars, community based organization (CBO) outreach, various program brochures, bill inserts, and also online at the SoCalGas website. SoCalGas used their various resources to contact manufacturers, vendors, distributors and key sales personnel to inform them about the program and encourage them to promote the program to their customers. SoCalGas utilized their Commercial and Industrial Field Technicians, as well as their Account Executives to further provide program information to their customers.

SoCalGas achieved the 2004 therm and kWh savings goals within the allocated program budget. SoCalGas is on target to reach its hard to reach (HTR) goal of 43% of closed applications, and to have 20% of closed applications linked to a SoCalGas audit. Per D. 04-12-019, issued in December 2004, the SoCalGas Express Efficiency program budget and therm goal was increased to encourage customer participation of natural gas savings measures through the winter months.

Local Nonresidential Financial Incentive Program

Program Description

The Nonresidential Financial Incentives Program (NRFIP) is a 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 through three program elements. The “Commercial Food Service Rebate” program provides a list of approved products eligible for rebates. The “Nonresidential Equipment Replacement” program (NRER) provides incentives for “kind-for-kind” replacement of old, inefficient commercial or industrial end-use gas-fired technology with higher efficiency alternatives. The “Nonresidential Energy Conservation” (NREC) incentive element provides qualified customers with a financial incentive to implement comprehensive energy saving commercial building envelope or industrial process modernizations.

2004 Results and Achievements

SoCalGas relied on the SoCalGas Account Executives and Commercial and Industrial Field Technicians to promote these programs to nonresidential customers. Other promotional and delivery vehicles included participation in trade shows, seminars, community based organization (CBO) outreach, with program brochures, bill inserts, and on the SoCalGas website. A Spring Commercial Food Service Sprint campaign, along with Point-of-Purchase brochure and application displays were used to contact food service equipment manufacturers, vendors, distributors and key sales personnel to inform them about the “Commercial Food Service Equipment” program and encourage them to promote the program to their customers. SoCalGas’ NRFIP and Nonresidential Audit programs continued to closely coordinate activities to increase customer participation in both programs.

SoCalGas achieved the 2004 NRFIP therm savings goals within the authorized program budget. SoCalGas is on target to have 20% of closed applications directly linked to a SoCalGas audit. Per D. 04-12-019, issued in December 2004, the SoCalGas NRFIP program budget and therm goal was increased to encourage customer participation of natural gas savings measures through the winter months.

**TABLE 3.1
SUMMARY OF COSTS:
NONRESIDENTIAL PROGRAM AREA**

		2004	
		PGC	PGC
		Budgeted	Recorded
Information		\$165,525	\$76,803
EMS			
Large			
Small/Medium		\$932,568	\$655,407
EEl: Custom Rebates			
Large			
Small/Medium			
EEl: Pres Rebates			
Large			
Small/Medium		\$6,602,022	\$5,033,080
EEl: SPCs			
Large			
Small/Medium			
Upstream Programs			
Financial			
Total		\$7,700,115	\$5,765,290

**TABLE 3.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
NONRESIDENTIAL PROGRAM AREA**

Annual and Lifecycle Energy Reductions, Electric, MWH		
	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Customized Rebates		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Prescriptive Rebates		
Large	N/A	N/A
Small/Medium	1,151	12,663
EEI: SPCs		
Large		
Small/Medium	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	1,151	12,663

Demand Reductions, Electric, MW	
	2004 Annual Recorded
Information	N/A
EMS	
Large	N/A
Small/Medium	N/A
EEI: Customized Rebates	
Large	N/A
Small/Medium	N/A
EEI: Prescriptive Rebates	
Large	N/A
Small/Medium	0.00
EEI: SPCs	
Large	
Small/Medium	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	0.00

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's		
	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Customized Rebates		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Prescriptive Rebates		
Large	N/A	N/A
Small/Medium	7,976	102,746
EEI: SPCs		
Large	N/A	N/A
Small/Medium	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	7,976	102,746

**TABLE 3.3
SUMMARY OF COST-EFFECTIVENESS:
NONRESIDENTIAL PROGRAM AREA**

Benefit-Cost Ratios	2004			
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ¢/(kWh) ¹	Levelized Cost ¢/(Therm) ¹
Information	N/A	N/A	N/A	N/A
EMS				
Large	N/A	N/A	N/A	N/A
Small/Medium	N/A	N/A	N/A	N/A
EEI: Customized Rebates				
Large	N/A	N/A	N/A	N/A
Small/Medium	N/A	N/A	N/A	N/A
EEI: Prescriptive Rebates				
Large	N/A	N/A	N/A	N/A
Small/Medium	6.68	5.01	1.41	10.17
EEI: SPCs				
Large	N/A	N/A	N/A	N/A
Small/Medium	N/A	N/A	N/A	N/A
Upstream Programs				
Information	N/A	N/A	N/A	N/A
Financial Assistance	N/A	N/A	N/A	N/A

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

**TABLE 3.4
SUMMARY OF COST-EFFECTIVENESS:
NONRESIDENTIAL PROGRAM AREA**

Net Benefits, \$MILL

	2004 Recorded
Information	\$ (0.08)
EMS	
Large	N/A
Small/Medium	\$ (0.66)
EEl: Customized Rebates	
Large	N/A
Small/Medium	N/A
EEl: Prescriptive Rebates	
Large	N/A
Small/Medium	\$ 26.92
EEl: SPCs	
Large	N/A
Small/Medium	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	\$ 26.19

New Construction Program Area Accomplishments

Residential

California Energy Star New Homes Program

Program Description:

The California Energy Star New Homes Program (CESNHP) is offered by the four California investor owned utilities (IOUs): Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE) and Southern California Gas (SoCalGas). Program participation is available on a statewide basis, managed locally by each utility. All applications, procedures and program requirements are consistent across all utility service territories. The program will influence the design and construction of single family and multifamily residential new construction. Working together with single and multifamily builders, architects, energy analysts and other building industry professionals, the program will increase energy efficiency through a combination of education, design assistance and financial incentives. Single family and low rise multifamily building projects meeting the program requirements will additionally meet the requirements of the U. S. Environmental Protection Agency (EPA) Energy Star[®] Homes Program.

2004 Results and Achievements:

Building on the momentum and interest generated during the first year of the program, SoCalGas continues an aggressive marketing and design assistance program to the building industry to promote the California Energy Star New Homes Program. Through the field contact team and program management team, the design assistance offered by the utility has been very effective in educating the builder, design and mechanical community in methods that will increase the energy efficiency of residential new construction. SoCalGas placed a special focus on the multifamily market. This market segment has been an area of increased activity in residential new construction. Through the design assistance offered, numerous projects have been able to qualify for the California Energy Star New Homes Program. This success is reflected in the 48 projects accepted into the program totaling 7,303 dwelling units for both single and multifamily.

Throughout the year, CESNHP program staff participated in state, regional and local business industry associations' meetings, conferences and trade shows, promoting the program and related training opportunities. An electronic mailbox was created to support CESNHP, allowing interested parties to request CESNHP applications, seek design assistance and allow program participants to submit their documents electronically.

In addition, during 2004, the California Energy Star New Homes Program presented to the construction industry 57 energy efficiency training classes attended by over 791 industry professionals. Feedback received from attendees indicated information received through the classes has helped them to become aware of how energy efficiency measures and opportunities can be utilized in new home design and construction.

The success of the 2004 California Energy Star New Homes program's accomplishments have again, now for the third consecutive year, been recognized by the Environmental Protection

Agency and acknowledged through the Energy Star Award for “Regional, State and Community Leadership in Energy Efficiency” slated to be presented to the statewide team in March 2005.

Per D. 04-12-019, issued in December 2004, the SoCalGas CESNHP program budget and therm goal was increased to encourage customer participation of natural gas savings measures through the winter months.

Nonresidential

Savings By Design

Program Description:

Southern California Gas Company’s (SoCalGas) Savings By Design (SBD) is an energy efficiency program for the nonresidential new construction industry started by the investor-owned utilities (IOUs) in 1999 to provide statewide consistency, program stability, and savings persistence to the new construction market. SBD builds on the best elements of successful new construction programs run by the IOUs since the early 1990’s. 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.

2004 Results and Achievements:

The 2004-05 Program was introduced on January 1, 2004. Only slight changes were incorporated into this on-going, statewide, consistent program. These changes were limited to: increasing the incentive offered to process and industrial energy efficiency measures from \$0.03/kWh to \$0.10/kWh; aligning the program rules with Federal Air Conditioning and Water Heating Standards baselines; promoting SBD standards across previously unregulated building types and investigating the appropriateness of introducing Exterior Lighting measures, both with the intention of helping to prepare the market for upcoming Title 24 code changes.

In 2004, the program continued to offer on-site training and project-specific design assistance to the nonresidential new construction market. Over 37 design assistance/training sessions were presented to the market. Over 1,290 attendees were provided with up-to-date energy efficiency information and their completed surveys indicate they found the seminars’ content valuable and influential upon their daily design practice.

SBD also supported and sponsored many events. For the fifth year, the program co-sponsored the SBD Energy Efficiency Integration Awards with the American Institute of Architects California Council and presented awards to outstanding examples of excellent design and energy efficiency at a statewide conference held in Indian Wells, California. The program also supports the Collaborative for High Performance Schools (CHPS) and other trade organizations - such as the local chapters of The American Institute of Architects (AIA), The American Society of Heating, Refrigeration, and Air-conditioning (ASHRAE), and the U S Green Building Council (USGBC) – who share an interest in promoting energy efficiency in nonresidential new construction. Through trade show appearances and personal meetings, over 275 Energy Design Resources CD-ROMs were distributed. The SBD team at SoCalGas posted excellent progress towards the 2004-2005 energy savings goal and outperformed their personal goals in 2004.

The Energy Design Resources component of SBD was expanded with additional free information posted on the statewide website, and a dedicated brochure designed and distributed to promote this effort. Twelve articles, discussing energy efficiency topics and trainings, were produced and placed in trade journal publications. In addition, two Progress Through Design newsletters were created and distributed to over 3,000 local building industry professionals.

**TABLE 4.1
SUMMARY OF COSTS:
NEW CONSTRUCTION PROGRAM AREA**

Natural Gas

	2004	
	PGC	PGC
	Budgeted	Recorded
Residential	\$1,930,000	\$1,963,991
Nonresidential	\$2,234,000	\$2,675,494
Other		
Total	\$4,164,000	\$4,639,485

**TABLE 4.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
NEW CONSTRUCTION PROGRAM AREA**

Annual and Lifecycle Energy Reductions, Electric, MWH

	2004 Recorded	2004 Life Cycle Recorded
Residential	2,277	40,985
Nonresidential	10,678	160,171
Total	12,955	201,156

Demand Reductions, Electric, MW

	2004 Recorded
Residential	3.13
Nonresidential	2.29
Total	5.42

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2004 Recorded	2004 Life Cycle Recorded
Residential	208	3,751
Nonresidential	136	2,045
Total	345	5,796

**TABLE 4.3
SUMMARY OF COST-EFFECTIVENESS:
NEW CONSTRUCTION PROGRAM AREA**

	2004			
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ϕ /(kWh) ¹	Levelized Cost ϕ /(Therm) ¹
Residential	1.47	2.44	3.18	21.78
Nonresidential	2.97	3.11	2.40	16.53

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

TABLE 4.4
SUMMARY OF COST-EFFECTIVENESS:
NEW CONSTRUCTION PROGRAM AREA

Net Benefits, \$MILL

	2004 Recorded
Residential	\$ 1.70
Nonresidential	\$ 5.39
Total	\$ 7.09

Crosscutting Program Area Accomplishments

Information

Energy Efficiency Education and Training Program

Program Description:

The Statewide Energy Efficiency Education and Training Program is offered in the service territories of Pacific Gas & Electric (PG&E), Southern California Edison (SCE), San Diego Gas and Electric (SDG&E), and Southern California Gas Company (SoCalGas). Overall, the program promotes energy efficiency to a variety of customer segments through energy centers (physical and virtual) and other informational programs. The objective is to: 1) disseminate information about energy-efficient technology and practices to utility customers to help them reduce energy usage, lower their bills, reduce operation and maintenance costs, and improve their productivity; and, 2) provide services to a variety of market actors, architects, engineers, distributors, and contractors who use information and tools to design more efficient buildings or processes and to conduct energy efficiency retrofits and renovations.

2004 Results and Achievements:

SoCalGas delivered 184 seminars/workshops during 2004 and is on target for reaching its 2004-2005 goal. Several of the 2004 seminars/workshops were joint curricula offered by all of the IOUs.

SoCalGas planned to target 40 energy efficiency seminar/workshops to HTR customers during the year. One hundred twenty-six of the 184 seminars/workshops were provided for the HTR markets.

Emerging Technologies Program

Program Description:

Southern California Gas Company's (SoCalGas) Statewide Emerging Technologies (ET) program is an information-only program that seeks to accelerate the commercial introduction of energy-efficient technologies, applications, and analytical tools that are not widely adopted in California. There is a daunting array of market hurdles any new energy-efficient product must overcome to gain sufficient acceptance in a competitive market to survive. Chief among them are performance uncertainties, information/search costs, hassle and transaction costs, and organizational practices or customs. The typical product life cycle, during the initial marketing efforts, products accepted by "innovators" may fail to gain wider acceptance with more risk adverse customers, and the product's adoption rate may fall-off into "the chasm." The intent of SoCalGas' ET program is to help identify and characterize hurdles specific to each technology, explore tactics to reduce them and accelerate a product's market acceptance through a variety of approaches, but mainly by reducing the performance uncertainties associated with them and related applications. SoCalGas' ET program attempts to connect manufacturers of new and improved products, controls, and processes claiming energy efficient performance with customers who are willing to risk applying them to their enterprises. The utility seeks to develop

enough information from the demonstration and showcasing during each project to gain insights about benefits and costs, as well as likelihood of market success.

2004 Results and Achievements:

SoCalGas initiated eight ET application assessments during 2004 that included.

- CHP (combined heat and power) system evaluation including engines and microturbines providing electric power, compressed air, refrigeration, heat and chilled water for multiple uses.
- Boiler controls for multiple boiler arrays.
- FIR (forced internal recirculation) ultra low emitting boiler and process heater burner demonstrations
- Thermal-solar water heating system assessment
- Assessment of alternatives to PERC (perchloro-ethylene) based professional garment care (known as 'dry cleaning') with water-based, organic solvent based, CO₂-based and other systems.

SoCalGas ET staff continues to work to identify and initiate additional assessment projects moving into 2005 in the following emerging technologies areas:

- Advanced engine controls for pollution control and efficiency improvements,
- New 'lean burn' engines demonstrating 40% shaft efficiency,
- New prime movers coming to market such as stirling engines, and fuel cells
- Additional low NO_x, high efficiency boiler burner alternatives,
- Opportunities to study new software and sensors to accomplish continuous building energy monitoring and diagnostics,
- Advanced water heating and distribution systems for homes
- Technologies related to "Zero Energy" new homes
- "Cool Roof" products

The ETCC functioned extraordinarily well as intended to help the CEC begin to bridge the chasm to the market in several emerging products. Face-to-face meetings were held quarterly.

Codes & Standards Advocacy Program

Program Description:

The Statewide Codes and Standards (C&S) program is an information-only program that advocates upgrades and enhancements in energy efficiency standards and codes. Program activities are conducted over long-term code upgrade cycles. For example, building code cycles may require four years of continuous support. Codes and Standards Enhancement (CASE) studies for energy efficiency improvements are performed for promising design practices and technologies and are presented to standards and code-setting bodies. Since many stakeholders

who typically oppose improvements to building and appliance standards participate in public workshops and hearings, the Statewide Codes and Standards program provides expert testimony to promote standards that approach best practice in energy efficiency. Additionally, the program supports implementation of energy efficiency standards through strategic initiatives or training. The program targets all market segments.

2004 Results and Achievements:

SoCalGas participated in a number of various workshops, meetings, code adoptions and CASE studies in 2004. Workshops included 2005 Title 24 Building Efficiency Standards and AB 549. CEC Business Meetings were attended on a regular basis in addition to meetings on residential and non-residential building standards. SoCalGas prepared and reported three CASE studies in 2004

TABLE 5.1
SUMMARY OF COSTS:
CROSSCUTTING PROGRAM AREA

Natural Gas

	2004	
	PGC	PGC
	Budgeted	Recorded
Information	\$2,694,657	\$2,290,764
EMS		
EEI		
SPCs		
Rebates		
Loans		
Other		
Upstream		
Information		
Financial Assistance		
Total	\$2,694,657	\$2,290,764

**TABLE 5.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
CROSSCUTTING PROGRAM AREA**

Annual and Lifecycle Energy Reductions, Electric, MWH

	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPCs	N/A	N/A
Rebates	N/A	N/A
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	N/A	N/A

Demand Reductions, Electric, MW

	2004 Annual Recorded
Information	N/A
EMS	N/A
EEI	
SPCs	N/A
Rebates	N/A
Loans	N/A
Other	
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	N/A

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2004 Annual Recorded	2004 Life Cycle Recorded
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPCs	N/A	N/A
Rebates	N/A	N/A
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	N/A	N/A

**TABLE 5.3
SUMMARY OF COST-EFFECTIVENESS:
CROSSCUTTING PROGRAM AREA**

Benefit-Cost Ratios	2004 Recorded		
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ϕ (/kWh) ¹
Information	N/A	N/A	N/A
EMS			
EEI			
SPCs	N/A	N/A	N/A
Rebates	N/A	N/A	N/A
Loans	N/A	N/A	N/A
Other	N/A	N/A	N/A
Upstream Programs			
Information	N/A	N/A	N/A
Financial Assistance	N/A	N/A	N/A

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

**TABLE 5.4
SUMMARY OF COST-EFFECTIVENESS:
CROSSCUTTING PROGRAM AREA**

Net Benefits, \$MILL

	2004 Recorded
Information	N/A
EMS	
EEI	N/A
SPCs	N/A
Rebates	
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	N/A

Market Assessment & Evaluation and Regulatory Oversight

The primary purposes and contents of the Market Assessment & Evaluation (MA&E) section are to: (1) record costs (previous calendar year and current calendar year) associated with MA&E activities; and, (2) highlight the status of various market assessment and evaluation studies. These studies are used to assess program performance in comparison to annual program goals, to measure the status and or changes in the energy efficiency industry and/or energy efficiency products, and to measure other effects of identified programs. Most of the studies are funded from the MA&E budget, but the final category of studies—evaluation, measurement and verification (EM&V) studies of utility local programs—is funded from the individual program budgets. The costs for these studies are recorded with program costs.

PY2002, PY2003, PY2004-2005 MA&E Studies

The studies that were worked on during 2004 were begun and funded in 2002, 2003, and 2004-2005. The completed studies can be downloaded from the CALMAC website at www.calmac.org.

The utilities filed market assessment and evaluation plans with their 2004-5 program plan filings in September 2003. The CPUC approved a final budget and list of studies for MA&E in D.04-02-059 in February 2004, and the utilities filed revised and more detailed study plans on March 17, 2004. The CPUC decided that it would not approve the program plans at that point, but at the point when the selected evaluation consultant for each study provided a detailed research plan. The projects, status, and the lead organization for the 2004-2005 statewide MA&E studies are shown in the following tables. Brief descriptions of these studies and of all earlier studies worked on during 2004 follow the tables.

Overarching Studies

Lead	2004-5 Project	2004 Year-end Status
PG&E	CALMAC Website, Workshops and Meetings	Ongoing
SCE	Evaluation Framework Supplementary Work	Project planning
PG&E	Energy Efficiency Potential Study	Study planning
CEC/SCE	Industrial Energy Use Survey	Study planning
SDG&E	Residential Energy Efficiency Onsite Survey	Underway
SCE	Database for Energy Efficiency Resources	Underway
PG&E	Measure Cost Study	Underway
PG&E	Best Practices Database	Study planning
SCE	Market Share Tracking Study	Underway
SCE	Nonresidential New Construction Technology Trends	Study planning

Lead	2004-5 Project	2004 Year-end Status
CEC	Retrofit Upgrade Opportunities Study	Underway
PG&E	Demand Response/Energy Efficiency Interaction Study	Underway

Evaluation, Measurement & Verification for 2004-5 Statewide Energy Efficiency Programs

Residential Retrofit Programs

PG&E	Single-Family Rebates and Lighting Programs	Study planning
SDG&E	Multi-Family Rebates Program	Underway
SCE	Home Energy Efficiency Surveys	RFP Issued
SCE	Refrigerator Recycling Program	Study planning

Nonresidential Retrofit Programs

SCE	Standard Performance Contracting Program	Study planning
PG&E	Express Efficiency/Upstream Motors & HVAC Programs	Study planning
PG&E	Nonresidential On-Site Audits Program	Study planning
PG&E	Building Operator Certification Program	Study planning

New Construction Programs

SCE	Savings By Design Building Efficiency Assessment	Study planning
SCE	Savings By Design Market & Program Tracking	Underway
PG&E	Residential New Construction Program	Underway

Cross-Cutting Statewide Programs

SCE	Education & Training Services	Study planning
SCE	Emerging Technologies	Study planning
SCE	Codes & Standards Advocacy	Study planning

Overarching Studies, Statewide Program EM&V Studies, and EM&V Studies of Utility Local Programs

SDG&E, SCE, and PG&E each manage some of the various statewide Market Assessment and Evaluation studies. These studies can be broken down into two subcategories, Overarching Studies and Utility Statewide Program EM&V Studies EM&V studies of utility local programs

form a third category of utility-managed studies. They are funded from program rather than MA&E budgets and are described in the third section below.

Overarching Studies

CALMAC WEBSITE MAINTENANCE AND WORKSHOPS

The goal of the 2003, 2004 and 2005 funding for the CALMAC website was to maintain and enhance its current capabilities to supply more valuable information on CALMAC activities and PGC-funded project reports to the industry via the Internet. Project objectives include: (1) keep Web site information current; (2) maintain upload and listserv systems; (3) identify Web site issues and repair software to keep site operational; and (4) identify and implement, as requested by Website Committee, enhancements to the design, structure and operation of the CAMLAC Web site.

PY2003 MASTER CONTRACT FOR COORDINATION

The master contract for coordination is a 2002-funded project that involved monitoring, providing advice, and reviewing all of the EM&V studies of 2002 and 2003 local energy efficiency programs. Only one activity remained to be completed during 2004-5: completion of a summary study, or meta-evaluation, of all the 2002-2003 EM&V studies. During 2004, the project focused on reviewing and summarizing the statewide EM&V studies. A draft report on statewide programs was completed, except for the final step of providing a post-program, study-based cost-effectiveness analysis. This is scheduled to be completed in first quarter 2005. During 2004, the project gathered local program evaluations in preparation for producing a comprehensive report covering both the statewide and local programs. The final study will summarize the evaluation methodologies used, assess strengths and weaknesses, and provide a study-based assessment of program and portfolio cost-effectiveness.

PY2004-2005 EVALUATION FRAMEWORK SUPPLEMENTARY WORK

The start of this project was deferred into 2005 to allow the work to be done to complement the Commission's work on the development of evaluation protocols. The final scope will be determined in consultation with Energy Division staff.

PY2004-2005 DATABASE FOR ENERGY EFFICIENCY RESOURCES (DEER)

The 2004-05 enhancements to the DEER are continuation from the first phase of updates that were initiated in 2002/03. The 2004-05 DEER project schedule and content of work accomplished through first quarter of 2005 were dictated by the need to have the new data needed for 2006-08 program planning. By the end of first quarter of 2005, updates to the unit energy savings and cost estimates for non-weather sensitive measures were completed. The updates to weather sensitive measure savings and cost data continue to be made available on a prioritized list basis and are scheduled to be completed in August, 2005. All savings estimates are now being expressed at two levels, if applicable: energy savings when changing from an existing measure to a new high-efficiency measure, and energy savings created by the choice of a new high-efficiency measure versus a standard code compliant efficiency new measure. Similarly, the cost data are available as both the incremental cost and installed cost. Another

important aspect of the DEER update has been to build a searchable web-based data for ease of access and use of the DEER. The web accessibility of the data has been completed and once the data is fully updated it can be directly accessed from a designated webpage on the CPUC website.

PY2004-2005 NONRESIDENTIAL NEW CONSTRUCTION TECHNOLOGY TRENDS STUDY

The initial study plan was developed, but further work on this small study was deferred to 2005. The focus of the study is to identify the frequency with which various technologies and systems are being used to meet or exceed Title 24 building standards efficiency requirements. The data it will provide will support 2006 program implementation.

PY2003 STATEWIDE ENERGY SAVINGS POTENTIAL STUDY

The project will be conducted to ensure that policymakers and program planners have up-to-date, state-of-the-art information on the available cost-effective energy efficiency potential for energy efficient goods and services in California. The project will be conducted as one or more separate studies. Results from these studies will facilitate policymakers and program planners in designing the most efficient and effective energy efficiency programs and program portfolios for the state. The purposes of this work are to: 1) extend existing research on energy efficiency as a cost-effective resource in an integrated portfolio; 2) prepare action plans highlighting the implications of these studies for program designers and implementers for capturing the forecast savings; 3) continue enhancement and updating of existing studies in the energy efficiency potential series; and 4) develop energy efficiency potential estimates for emerging technologies to compliment the existing studies which are focused on the retrofit market. This research will assist the California Public Utilities Commission, other policymakers and program implementers make informed decisions on program planning, design and implementation throughout the state.

Collect secondary data to conduct the market potential studies, analyze the data to provide market potential results for different sectors, develop emerging technologies forecasts, prepare action plans, and assess cost-effectiveness issues related to the overall program portfolio and/or its constituent parts. Hold public workshops as appropriate to obtain public input and disseminate results.

1) Updated market potential studies for each sector, including an overarching summary study; 2) inclusion of emerging technologies in the energy efficiency potential models and studies; 3) action plans for program planners and implementers; and 4) updated analyses and reports pertinent to portfolio planning and risk mitigation.

PY2003 NEW CONSTRUCTION SATURATION AND POTENTIAL

The proposed study aims to provide additional information on cost-effective energy savings for the following new construction markets:

1. Single-Family New Construction;
2. Multifamily Low Rise New Construction;
3. Multifamily High Rise New Construction;

4. Commercial New Construction; and
5. Industrial New Construction.

The Statewide New Construction programs are designed to encourage single family, multifamily, commercial and industrial builders to construct buildings that reduce energy usage through a combination of financial incentives, design assistance and education. The programs are performance based and no specific measures or equipment are required for participation or qualification. Project objectives include:

- Determine market potential analysis for a comprehensive list of technologies for all five new construction markets.
- Analyze the interactions of codes and standards on new construction markets
- Determine which technologies have the greatest potential for cost-effective energy savings.

PY2004-2005 STATEWIDE MARKET SHARE TRACKING STUDY

Market data for total sales of selected equipment and the portion of those that were high-efficiency measures were gathered for the latter half of 2003 and the first half of 2004. The equipment covered includes clothes washers, dishwashers, refrigerators, room air conditioners, central air conditioners, heating equipment, and light bulbs. The following reports analyzing the data and showing the market share trends over time were completed during the year: the California Residential Efficiency Market Share Tracking—Appliances 2002, which tracks the average efficiencies and sales of high-efficiency equipment; the 2003 California Lamp Report, which tracks sales penetration of compact fluorescent lamps (CFLs); and California Residential Efficiency Market Share Tracking—HVAC 2003, which summarizes the average efficiencies and market shares of high-efficiency heating, ventilating, and air conditioning equipment. The 2003 Appliances report was received in early 2005.

PY2003 BEST PRACTICES STUDY FOR ENERGY EFFICIENCY PROGRAMS

The 2003 Study built upon the 2002 Best Practices Study's planning and analysis efforts. The 2003 Study:

- Expanded the 2002 data collection and documentation of practices and lesson-learned in the residential, nonresidential and new construction program design sectors;
- Expanded the usability of the best practices database that was planned for in the 2002 study. This included the development of the information technology structure to launch the Best-Practices Database and Web page that will be the most useful as a resource and tool for users of the data and information; and
- Explored what was the best tool to develop and disseminate the Best Practices information, e.g., upload a searchable, relational database including the benchmarking results and program profiles that will incorporate case study write-ups, etc.

The Best Practices Website was launched in 2004 at www.eebestpractices.com

2004-2005 CALIFORNIA STATEWIDE RESIDENTIAL LIGHTING AND APPLIANCE SATURATION AND EFFICIENCY STUDY

This study will serve as an update to the 1999-2000 California Statewide Residential Lighting and Appliance Saturation and Efficiency Study. The 1999-2000 study was undertaken to collect baseline efficiency data on the saturation of lighting and major appliances in the residential sector in the state of California. Since that study, there's been a tremendous allocation of energy efficiency funding to the residential sector in the form of technology rebates, information programs and advertisement/public awareness campaigns. To assess the success of these efforts and to guide public policy and program planning, this study will be conducted as a follow-up study to the widely used and accepted 1999-2000 study. The 1999-2000 study was conducted previous to California's Energy Crisis. Shortly after the study was complete the state of California was exposed to power outages, utility rate increases, and general consumer uncertainty. As a result of these unpredicted market forces, there was a great emphasis put on energy conservation and energy efficiency through public awareness campaigns and programs. This study will be a key update to the effectiveness of those programs and campaigns that were designed to change consumer purchasing practices (e.g., compact fluorescent versus incandescent) and behavior (e.g., thermostat set points) related to energy conservation.

This study will provide program planners with the data and tools necessary to understand residential appliance saturation by fuel type and efficiency, a level of detail not provided by any other California statewide study. Major household equipment and appliances will be the focus of the study, including heating and cooling equipment, water heating equipment, refrigerators, freezers, dishwashers, cooking equipment, clothes washers and dryers. The study will also assess saturation of lighting technologies used in the residential sector by gathering data on lamp type and fixture types for each room in the home.

Data collected for the study will be done via on-site surveys for a representative sample of single family and multifamily homes (excluding master metered dwellings). Household demographics similar to the previous study will be collected to enable data summarization by key sub-groups of the population. While a report of the key findings will be prepared at the statewide and IOU service level, a web-based database tool will enable program planners the ability to conduct their own "what-if" analysis on the lighting and appliance efficiency data.

Utility Statewide Program EM&V Studies

PY2003 and PY2004-5 SINGLE-FAMILY ENERGY EFFICIENCY REBATES PROGRAM

The Single Family Home Energy Efficiency Rebates program is a statewide program administered by the four California investor-owned utilities that provides rebates on various home improvement products including windows, insulation, heating, ventilation and cooling equipment, appliances, and residential pool equipment. The 2003 evaluation is building upon the evaluation of the 2002 program and addressing program changes from 2002 that include:

- Changes in rebate levels and program measure mix such as the addition of programmable thermostats instant rebates at the point-of purchase (POP) and residential pool pumps;
- Collecting and tracking ongoing program efforts to improve program delivery during 2003 implementation; and

- Enhancements on longitudinal study given lessons learned from the California Energy Commission's Customer Behavior Study and the Customer Behavior and Attitude component of the 2002 Single-Family Study.

The 2003 Study has the following objectives:

- Assess the program's efforts to provide helpful information, services, financing and prescriptive rebates to help move the market to install energy efficient measures in addition to verifying long-term peak demand and energy savings goals of the program;
- Assess the efficacy of POP instant rebates as a delivery strategy for key program measures;
- Verify achieved levels of energy and peak demand savings; and
- Provide ongoing feedback and corrective guidance regarding program implementation.

Initial planning for the 2004-5 evaluation is completed and an RFP is expected in second quarter 2005.

PY2003 MULTIFAMILY ENERGY EFFICIENCY REBATE PROGRAM

The statewide PY2003 Multi-Family Energy Efficient Rebate Program is in its second year and will therefore be able to build upon the evaluation of the PY2002 program. Program changes from 2002 that will be included in the 2003 evaluation include increases and/or decreases in rebate levels and the addition and/or deletion of certain measures. Additionally, the PY2003 Program incorporated a reservation system to assist in the control and systematic distribution of program funding.

The 2003 EM&V Study for the Multi-Family Energy Efficient Rebate Program that will be complete in early 2005 has the following:

- Verification of the number of measures installed in program year 2003
- Verification of the achievements in the Hard-to-Reach markets
- Measure customer behavior and response for both the HTR and non-HTR customers
- Analysis of the program efficiency
- Determined the *ex post* energy savings for the measures in the program

PY2004-2005 MULTIFAMILY ENERGY EFFICIENCY REBATE PROGRAM

The California Statewide Multifamily Rebate Program was launched in 2002 to address the unique needs facing the multi-family sector. This market was served prior to 2002 by the Residential Contractor Program, which typically focused on single-family homes. Thus, the 2002 program was unique in its design tailored to the barriers faced by the multi-family sector, primarily the split-incentive barrier. The program theory, as described in the program plans, is that financial incentives, along with program marketing and education, will be used to help multifamily property owners and managers overcome the split incentive barrier. Although these owners and managers are responsible for facility improvements, they usually do not pay energy bills for the tenant spaces and therefore have little incentive to install more expensive energy efficient measures in these spaces. The rebates help reduce and some cases totally eliminate

these higher first costs for energy-efficient equipment. The program also helps to encourage the participation of multifamily property owners and managers by offering rebates for energy efficient measures installed in common areas. The program hopes that program momentum and market penetration will likely increase at a faster rate as multifamily property owners become more familiar and comfortable with energy-efficient measures and learn the long-term benefits of energy efficiency.

The 2004-2005 program is offered statewide in the service territories of PG&E, SCE, SDG&E and SCG. The program promotes energy savings in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. Property owners (and property managers, as authorized agents for property owners) of existing residential multi-family complexes with five or more dwelling units may qualify for rebates for installing a variety of energy efficiency measures. These include:

- Apartment improvement measures (e.g., interior and exterior hardwired fixtures, ceiling fans, compact fluorescent lights (CFLs), clothes washers, and dishwashers)
- Common-area improvement measures (e.g., exit signs, occupancy sensors, photocells, high-performance dual-paned windows)
- Mechanical improvement measures
- High-efficiency heating and cooling equipment.

The electric measures, such as lamps, fixtures and appliances, have made up most of the savings attributed to the program. Gas measures have been much more challenging to sell to both contractors and property managers.

For 2004, modifications to the program included the addition and/or deletion of certain measures, modified rebate levels, and general program process improvements. The primary reason for these changes is to increase overall customer participation by removing barriers to energy efficiency product installations.

This study will assess the performance of the 2004-2005 California Statewide Multifamily Rebate Program in terms of accomplished program goals and effectiveness of program processes. Key EM&V objectives include:

- Measurement and verification of energy and peak demand savings through development of ex post savings and verification of measure installations
- Process evaluation to assess overall levels of performance and success of the program processes
- Market assessment of response to program interventions

PY2003 and PY2004-5 STATEWIDE HOME ENERGY EFFICIENCY SURVEY PROGRAM

The Statewide Home Energy Efficiency Survey (HEES) Program involves the use of two energy survey types (mail-in and on-line) to increase homeowner awareness of energy efficiency opportunities in order to achieve energy and cost savings. The goals of offering and marketing different types of energy surveys are to insure customer equity (providing opportunity for an energy survey to any utility customer who might benefit) and to recognize that customers have

unique sets of needs that may make one type of survey more appealing or feasible than another. Recently, there has been an interest in moving toward offering a greater number of on-line surveys because of the cost efficiencies inherent to using this format. Limited customer information pertaining to the on-line survey has been collected in terms of satisfaction with the survey, the extent and ease of use, and the effectiveness of this survey type in terms of providing energy efficiency recommendations. Accordingly, it is essential to gather this information. In contrast, previous evaluations have yielded a significant amount of information about the mail-in survey format including adoption rates of energy efficiency recommendations, estimated savings that result from implementing these recommendations, customer satisfaction and use among different customer groups.

Accordingly, this evaluation study entails an assessment of the on-line survey to obtain the necessary customer information needed to evaluate the effectiveness of this survey type, the current formats used to offer the on-line survey, and the resultant implications for evaluability, ease of use, and quality of energy efficiency information provided to customers. The information obtained in this evaluation can then be used in conjunction with information gathered from previous evaluations of the Program (particularly the mail-in survey) to provide an assessment of the different options for offering energy efficiency surveys to varied customer groups.

The design for the 2004-5 study was developed and the Request for Proposals was issued in November 2004, with the contract awarded in January 2005. The final research plan has been reviewed and approved by the CPUC Energy Division staff and their consultants. It will include a rigorous impact evaluation as well as a process evaluation that will focus on recommendations for increasing program effectiveness.

SCE PY2002, 2003 AND 2004-2005 RESIDENTIAL APPLIANCE RECYCLING PROGRAM EVALUATIONS

The evaluation of the 2002 program was completed in February 2004. It developed new estimates of gross and net energy savings for the program and conducted a process evaluation. The impact evaluation work updated estimates of full year energy usage of recycled refrigerator and stand-alone freezer and estimates of free ridership and part-year use – the two components of the net-to-gross (NTG) factor for appliance recycling. This was done using a regression analysis of metered data collected through the Department of Energy (DOE) protocol methodology for unit energy consumption and implementing a rigorous set of NTG questions for program participants and non-participants. The study results are summarized in the Annotated Bibliography.

The 2003 statewide appliance recycling program evaluation was able to build upon the evaluation of the 2002 program, and it was completed in December 2004. Its results are also summarized in the Annotated Bibliography. The 2003 evaluation objectives included verification of program goal achievement, estimating the market potential for the program, and estimating the degradation in refrigerator performance. The study also included comparative short-term metering of a small sample of refrigerators and freezers by two methodologies: on site and DOE protocol laboratory conditions. Metering of additional sample is included in the 2004-5 study, and with the combined sample, a comparative analysis will be undertaken in the 2004-05 study.

Studies in California to date have used different metering and modeling methodologies to arrive at savings estimates for the program. Short-term metering of samples of picked-up appliances has been used to measure consumption of the program appliances. Both laboratory metering and on-site metering are intended to mimic “as operated” conditions. While the laboratory metering uses controlled settings as specified by DOE protocols, the on-site metering tries to measure individual, highly varying in-situ operating conditions. Both types of metering methodologies have inherent limitations. Hence, careful and explicit monitoring and simulation protocols are needed.

The 2004-5 study plan was developed during 2004. The dual metering portion of the 2004-5 study was initiated in fall 2004. The remainder of the study will begin in 2005. The 2004-05 study will use the paired data collection series to identify sources of non-comparability between on site and lab metering in order to reduce the uncertainty in validity surrounding the DOE protocol metered data and its use in determining the full year energy usage of a recycled unit. The impact analyses will use this information and apply other adjustment factors such as the net-to gross ratio and part-use factors. The study will do a process evaluation that will focus on the changes in program design and implementation activities from previous years. Specifically, program quality assurance, control and monitoring mechanisms will be evaluated to determine the effectiveness and reliability of the new age and size requirement rules. Finally, market assessment will be conducted to analyze the workings of the secondary market that can inform the design, operation and areas of high potential for the RARP program.

PY2002, PY2003, AND PY2004-5 NONRESIDENTIAL STANDARD PERFORMANCE CONTRACT PROGRAM

The Nonresidential Standard Performance Contract (SPC) program offers rebates for large energy efficiency retrofit projects. Rebate payments are based on estimated energy savings achieved, with different rebate levels for savings from different energy end uses. Projects may be proposed either by energy efficiency services providers or customers. The studies of this program verify what energy savings were achieved. They also provide process evaluations to assess the efficiency and effectiveness of program operations and procedures and to make recommendations for program improvements.

Both the 2002 and 2003 program evaluations were in progress during 2004.

The evaluation of the PY2003 NSPC Program has the following objectives:

- Verify the reported energy savings results of the programs, including verification that equipment was installed as reported and a review of the energy savings estimates for a sample of projects and for the program as a whole;
- Determine whether the PY2003 program was successfully implemented as designed, and whether program changes have had the desired effects on the operation of and participant satisfaction with the program;
- Examine key features of the program for their impact on the program; and
- Recommend any needed program modifications to program planners.

The evaluation of the PY2002 NSPC Program has similar objectives, plus it included an investigation of “unsuccessful” SPC projects that were started but never finished. Hardware

installations under the PY2002 program were delayed; in some cases, projects were granted extensions of up to a year beyond the program deadline. Consequently, the impact evaluation was delayed for over a year, and it should be completed around the same time as the study of the 2003 SPC program, in 2005.

Initial planning for the 2004-5 program evaluation is completed and an RFP is expected in second quarter 2005.

PY2003 EXPRESS EFFICIENCY PROGRAM

The Express Efficiency program is a statewide program that provides financial incentives to small and medium sized nonresidential customers for installing specific proven energy efficiency measures including lighting; heating, ventilation and air conditioning (HVAC); refrigeration; agriculture; gas; LED lighting technology; and motor retrofit measures. The primary objective of the Express Efficiency program is to help small and medium businesses achieve long-term annual energy savings and demand reductions through energy efficient retrofits. The program is limited to small and medium customers with an emphasis on the hard-to-reach sector.

The 2003 evaluation contrasts participation rates with those of 2002 to analyze the restrictive impact of the aggregation rule on customer participation. This rule excluded customers whose aggregated demand across all of their accounts exceeded 500 kW. The rule was redefined for 2003. The 2003 evaluation will also analyze customer adoption of new program measures and their energy savings estimates.

The study will include 1) analysis of 2003 program accomplishments; 2) review of energy and demand savings estimates; 3) comparisons between program characteristics in 2002 versus 2003 that may result in differences in effectiveness of program design, delivery and implementation; 4) an assessment of program targeting and customer satisfaction with special emphasis on statewide coordination and HTR outreach; 5) an analysis of incentive levels and options; and 6) sample on-site verifications of installed measures.

PY2004-05 STATEWIDE EXPRESS EFFICIENCY M&E STUDY

The 2004-5 evaluation will include 1) verification of program accomplishments, including on-site verification on a sampling basis; 2) review of energy and demand savings estimates; 3) ex post impact analysis for measures determined to need updated energy and demand savings estimates; 4) process evaluation, including an assessment of program targeting, customer satisfaction, and differences in participation rates from earlier years; and 4) an analysis of incentive levels and options. The study will review the reporting of energy and demand savings to ensure that Program accomplishments are being reported properly. An assessment of the verification and inspection process will be undertaken to ensure sampling validity and overall appropriateness of the approach of the Study.

PY2003 and PY2004-2005 NONRESIDENTIAL RETROFIT ENERGY AUDITS PROGRAM

In 2004, the utilities' EM&V efforts for the statewide nonresidential energy audits program will expand upon the efforts to evaluate the effectiveness of program implementation and to estimate energy savings for the 2003 program. IOUs will use results and lessons learned in 2002 evaluations to inform study designs and work plans for 2003 efforts.

In 2003, the Nonresidential Energy Audits Program will offer five distinct audit options to customers (telephone, mail-in, CD, Web-based and on-site). The program will basically have the same elements as in 2002.

Audits are an information program that can move customers to take energy efficiency actions. However, it may take some time before customers take action. Given the waning impact of the energy crisis of 2000-2001, the IOUs want to continue to examine the ongoing impact audits have over time on customers' behaviors, attitudes and adoption of EEMs. Therefore, the IOUs will conduct surveys for both 2003 audit participants and past participants, to determine how and when audits result in customer adoption of energy efficiency, and better determine the frequency necessary for auditing customer facilities, as well as gathering data from similar nonparticipating customers to contrast the adoption of energy efficiency between the two groups. Identifying these actions and how customers tap into other energy efficiency programs allows for continuous enhancement of integration among programs.

The 2004 EM&V Study for the Statewide Nonresidential Energy Audits Program will have the following objectives:

- Document energy efficiency actions taken by audit program participants over time compared to actions taken by non-participants;
- Document participant satisfaction with the various audit options and marketing strategies;
- Assess current and pilot delivery vehicles and marketing mechanisms to ensure ongoing improvement of program delivery; and
- Estimate energy and/or peak load savings accruing from participation in the audit program over time.

The 2004-5 study design has been developed and the RFP should be issued in early 2005.

PY2003 and PY2004-5 BUILDING OPERATOR CERTIFICATION AND TRAINING PROGRAM

In 2004, the utilities' Evaluation, Measurement and Verification (EM&V) efforts for the statewide non-residential Energy Efficiency Training and Certification for Building Operators (Building Operator Certification and Training) program will complete evaluation of the effectiveness of program implementation for the 2003 program. The study descriptions below provide the focus and types of evaluations in support of future program plans.

Building operator certification and training programs educate operators of large and medium commercial buildings, including public buildings, on short-and long-term peak demand and energy savings strategies for their buildings. After participating in training activities, individual building operators are certified in efficient building operation. The program is implemented in a uniform statewide fashion. Participants complete the course curriculum in approximately seven months. Participants who pass the course are certified. Building operators learn to get the most out of their systems by improving their analytical and practical skills on the job. The training includes equipment operations, the latest methods of building operation and maintenance and how to incorporate energy efficiency opportunities. The program remains mostly unchanged from PY 2002, with minor modifications to training content.

The 2003 EM&V Study for the Energy Efficiency Training and Certification for Building Operators (Building Operators Certification and Training Program) has the following objectives:

- Examine participants satisfaction with program process and content of training;
- Gather participant and non-participant recommendations for enhancements to program process and content;
- Understand how to better market the program to non-participants; and
- Document all participant post-program energy efficiency adoption actions.

In addition to 2003, the 2004/05 study will evaluate current program performance and effectiveness at achieving program objectives as well as provide feedback and guidance that will be used to improve future program design and implementation. The Study will conduct surveys to document participant and participant employer satisfaction with the Program and barriers to participation experienced by those who did not participate. An optional task would be to document any actions participants take as a result of participation in the Program and to estimate the energy and/or peak load savings achieved as a direct result. An RFP for this study will be issued in second quarter 2005.

PY2003 and PY2004-5 EMERGING TECHNOLOGIES PROGRAM

The Statewide Emerging Technologies Program (ETP) is an information-only program that seeks to accelerate the introduction of energy efficient technologies, applications, and analytical tools that are not widely adopted in California. The program primarily targets nonresidential customers and is composed of two parts: 1) demonstration and information transfer, and 2) the Emerging Technologies Coordinating Council (ETCC).

The demonstration and information transfer portion of the program focuses on near-commercial and commercial energy-efficient applications with low market penetration. The objective of the demonstration projects, which are conducted either at customer sites or in controlled environments, is to provide design, performance, and verification of novel energy efficient systems, helping to reduce the market barriers to their wider acceptance. The objective of the information transfer efforts, which are customized to targeted markets, is to disseminate project results and information about promoted technologies. A variety of means are used to disseminate results including: detailed project reports, design documentation, professional and industry forums, technical and non-technical publications, trade journals and shows, site visits and tours, internet web pages, workshops, seminars, conferences, and mainstream energy efficiency programs.

The ETCC is a statewide information exchange and coordination effort between Pacific Gas & Electric Company, San Diego Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and the California Energy Commission's Public Interest Research Program.

Since some program activities such as showcases and disseminating information are carried out or have impacts that are realized over multiple years, the effective program period is longer than one year. Therefore, to adequately evaluate the extent to which program objectives have been achieved, the evaluation strategy must follow the same time frame as the effective program period. Given that 2002 was the first year the program was operated at the statewide level and

many of the demonstration projects were in the earliest stages of development, it was not possible to measure baseline indicators of awareness amongst the target audience in the PY2002 evaluation. Instead, that evaluation focused on assessing the program dissemination and information transfer efforts of the program. Recommendations were provided to allow for mid-course corrections in 2003 that would improve the information dissemination efforts for the 2003 program. As a follow up to that study, the PY2003 evaluation study will evaluate the effectiveness of different information dissemination efforts that were employed as a result of the recommendations from the PY2002 evaluation and, where possible, conduct a limited number of in-depth interviews with current program participants to investigate the progress of the projects, awareness of promoted technologies amongst the target audience, and assess satisfaction with and obtain feedback regarding the program process. Subsequent evaluations will be able to use these baseline indicators to evaluate market effects resulting from the program by measuring changes in awareness amongst the target audience that result from ETP activities and the adoption and use of promoted technologies. The study objectives listed below reflect this evaluation strategy.

Initial planning for the 2004-5 evaluation was done, but development of the final scope of work was deferred until the completion of the 2003 evaluation, expected in early 2005.

PY2003 and PY2004-5 NONRESIDENTIAL NEW CONSTRUCTION BUILDING EFFICIENCY ASSESSMENT (BEA) STUDY

This study will build on the BEA Studies from PY2000-2002 and will use a similar reporting format. The Statewide BEA is currently in its third round of data collection and reporting. The first round covered Savings By Design program activity from mid-1999 (program roll-out) to 2001. The second study covered 2002, and the current study covers program activity in 2003.

Savings By Design program tracking information is available from the utility partners implementing the program. Additional information will be collected for a sample of program participants as well as comparable non-participants using on site surveys, and these data will be analyzed using DOE-2 simulations.

This on-going study quantifies the whole-building and end-use energy savings and efficiencies of both participant and non-participant buildings.

The approach to developing these data has been used for evaluating statewide commercial new construction since 1999 and the results can be referenced back to previous data to develop on-going trends. The results provide timely feedback to program managers and policymakers and should facilitate incremental improvements to program process and operations. The results will also identify changes in design practices as a result of program operation. This project tracks program participant attitudes and responses to the program, including information on program design, the application process, the design assistance services provided by the programs, the timing of program events relative to project events, etc.

The 2003 BEA Study will produce gross and net program impacts. The net-to-gross analysis will attempt to estimate the portion of the savings that can be directly credited to the program. The results of the gross and net analysis will be discussed in an interim report. The final report will combine the various interim reports and other intermediate deliverables required in the Study, incorporating reviewers' comments on the earlier reports, and rewriting as necessary to

provide continuity and final conclusions. For continuity, the final report will have the same structure as the PY2000-2002 reports. The final report is expected in second quarter 2005.

The on-site surveys collect detailed building operation and equipment characteristics used to develop DOE-2 models to estimate energy and demand use and savings. The on-site survey data is entered into the existing BEA building characteristic Access database. The on-site survey data will be used to develop "as-built" DOE-2 simulation models. The results of the DOE-2 simulations will be extracted from the output reports and compiled in the existing BEA Access database. This database will be published on the CALMAC web site as a resource to program planners and other researchers.

The initial study plan for the 2004-5 study has been developed. The study advisory group decided that the next step was to complete a white paper on alternative approaches to net-to-gross analysis, to be completed in early 2005. The findings of the white paper would be used in the design of the request for proposals for the evaluation of buildings completed during 2004 and 2005.

PY2003 and PY2004-5 NONRESIDENTIAL NEW CONSTRUCTION MARKET CHARACTERIZATION AND PROGRAM ACTIVITY TRACKING (MCPAT) STUDY

The MCPAT Study is now in its fourth round of data collection and reporting. The first round covered nonresidential new construction (NRNC) market activity in 2000 and 2001, the second covered 2002, the third (completed during 2004) covers 2003 and early 2004, and the study that was initiated in fall 2004 will cover 2004 and 2005. This study gathers F.W. Dodge data on nonresidential new construction projects and Savings By Design program data to monitor patterns in construction and program activity. This on-going project provides bi-annual reports of statewide NRNC market and program activity. Tracking the changing characteristics of the NRNC market over time provides information for refining program design and for assessing program accomplishments. Program and market characteristics, by building type, are reported at the utility level, the county level and the statewide level. This data will be tracked on an on-going basis, and developed into standardized reports to allow for assessment of the NRNC market over time.

The success of the study is important because evaluation of energy efficiency initiatives requires knowledge of baseline market conditions, and changes relative to that specific baseline over time. The value of this activity will increase over time as time-series data accumulates. Continued and consistent tracking of market characteristics and program activity is important for analyzing program penetration and identifying long and short-term trends in the NRNC market.

TECHNICAL SUPPORT FOR THE 2003-2005 NRNC PROGRAM AREA

As part of its NRNC MA&E Program Area duties, Southern California Edison (SCE) contracts with a consultant to provide technical expertise for the management of NRNC MA&E studies. This work includes RFP development, proposal review, and review of contractor work and deliverables, as well as planning and participation in the statewide NRNC program and MA&E activities. It is necessary for the thoughtful and responsible administration of the MA&E activity.

PY2003-2005 CALIFORNIA ENERGY STAR® NEW HOMES PROGRAM

In 2004 and 2005, the utilities' Evaluation, Measurement and Verification (EM&V) efforts for the statewide California ENERGY STAR® New Homes Program will expand upon the 2003 EM&V effort to evaluate the effectiveness of program implementation and to estimate energy savings for the 2003 program. This study will use results and lessons learned in 2003 evaluations to inform study designs and work plans for 2004. This study also will evaluate the 2003 program refinements. These refinements include changes in rebate levels and increased design and inspection assistance to multifamily builders.

The California ENERGY STAR® New Homes Program is designed to encourage single-family and multifamily (including rental apartments, condominiums and town homes) builders to construct units that reduce energy usage through a combination of financial incentives, design assistance and education. Due to the long-term nature of new construction, these incentives will be available to participants that meet the Programs' requirements and can be verified by December 2005. The Programs are performance based and no specific measures or equipment are required for participation or qualification.

The PY 2003 Program has the same basic program requirement and builder incentives to encourage builders to exceed the new construction energy efficiency codes by 15 percent as the PY 2002 Program. However, the PY 2003 program has either eliminated or reduced incentives to encourage builders to exceed Title 24 by 20 percent. To encourage increased participation by multifamily builders, the PY 2003 program offers a design assistance incentive and help with inspections. The study will:

- Document energy savings and compare energy savings estimates for the PY 2003 program with the energy savings estimates from the PY 2002 program;
- Determine if there have been any changes in the building characteristics of program participants between the PY 2002 and PY 2003 programs;
- Investigate builders' perceptions of the California ENERGY STAR® New Homes Program;
- Evaluate the effectiveness of program modifications made in PY 2003; and
- Recommend additional program modifications if warranted.

PY2003 and PY2004-5 EDUCATION AND TRAINING SERVICES PROGRAM

The Statewide Education, Training, and Services Program is offered in the service territories of Pacific Gas & Electric Company (PG&E), San Diego Gas and Electric Company (SDG&E), Southern California Edison Company (SCE), and Southern California Gas Company (SCG). Three of the four utilities, PG&E, SCE, and SCG, have physical energy centers, while SDG&E offers energy efficiency classes to customers using other facilities and non-utility sites.

The educational and informational efforts of the energy centers (physical and virtual) promote energy efficiency to a broad spectrum of market actors including consumers, midstream actors such as design, engineering, and contract communities, and upstream market actors. The centers also support other Public Goods Charge programs by distributing incentive and financing program promotional materials, and providing field support, seminars, displays, equipment demonstrations, and face-to-face contact with customers in a variety of venues, which include trade-shows and community meetings. The centers collect, transfer, research, evaluate,

demonstrate, and showcase energy efficiency concepts, technologies, and products for manufacturers, businesses, researchers, educational institutions, and the general public. The centers are a physical “one-stop-shop” or single-source contact for the customer and other market actors, who thereby gain access to an abundance of energy efficiency resources.

The evaluation studies entail a needs assessment to determine how best the energy centers can improve current services and expand their reach to serve a larger market. Specifically, the PY2003 study is completing a customer segmentation analysis of each energy center’s primary target population(s) (e.g., commercial and industrial customers, residential customers, or midstream/upstream market actors), exploring barriers to participation in energy center activities (such as distance and time), and developing recommendations for improving the promotion and targeting of existing services as well as new programs and services that focus on the needs and barriers not currently or effectively addressed by the energy centers.

An assessment of customer (market actor) needs and participation and of barriers to participation in energy center activities will enable program managers and planners to improve program course offerings and services. To the extent that the results of this assessment impact the program’s ability to overcome barriers to the adoption and implementation of energy efficient technologies and practices, the evaluation will, ultimately, lead to greater achievement of program objectives and an improvement in future program performance.

To prepare for 2006 program needs, SCE added a small case study project to the 2003 evaluation that will document the energy savings achieved by participants in a small group of SCE Customer Technology Application Center courses. The full evaluation report and the case study report are expected to be completed in second quarter 2005.

The basic design for the PY2004-5 study was developed in 2004, building on areas already covered by previous evaluations. The design was completed and the Request for Proposals was issued in March 2005.

PY2003 and PY2004-5 CODES AND STANDARDS ADVOCACY STUDIES

The statewide Codes and Standards Program supports upgrades and enhancements in energy efficiency standards and codes, develops protocols for high-efficiency processes not subject to code, and provides training for code enforcement officials. Codes and Standards Enhancement (CASE) studies for energy efficiency improvements are performed for promising design practices and technologies and are presented to standards and code-setting bodies. PG&E, SCE, SDG&E, and SoCalGas have developed CASE initiatives on various cost effective building and appliance energy efficiency measures. A summary report was completed for each CASE study active during 2003. The utility program goals were for the utilities, collectively, to report on no fewer than 23 CASE studies (new and existing) in 2003.

The 2002 study summarized the efforts at improving energy code enforcement and development at both the state and the local level. The study draws on the utilities’ individual program reporting on CASE initiatives and develops a consolidated view of the codes and standards efforts statewide.

The 2003 add-on study objectives were to:

- Verify that the CASE initiatives were completed and delivered into the Title 24 revision process.

- Document the CASE initiative process for future evaluation efforts.
- Recommend benchmarking procedures for future CASE initiative evaluations.

The evaluation of the 2003 program was completed in 2004. Development of the plan for the 2004-5 evaluation is scheduled during the second quarter of 2005.

Utility Specific 2002 & 2003 Local Program MA&E Studies

At the recommendation of the EM&V Master Contractor and under direction from the CPUC's Energy Division, SoCalGas combined

- 3 local SDG&E program evaluations (Energy Code Training, Residential Hard-to-Reach Lighting Turn-in, and the In-Home Audit Programs) with 2 local program evaluations (Nonresidential Financial Incentives and Diverse Market Outreach Programs) from Southern California Gas Company for both PY02 and PY03.

The studies are completed and can be downloaded from the CALMAC website at www.calmac.org.

Utility Specific 2004 & 2005 Local Program MA&E Studies

SoCalGas has contracted evaluations underway for its 2004-5 local programs:

2004-2005 SOCALGAS NONRESIDENTIAL FINANCIAL INCENTIVES PROGRAM

The Nonresidential Financial Incentives program (NRFIP) is a 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 through three program elements. The "Purchase-Apply-Receive Rebate" (PARR) provides a list of approved products eligible for rebates. The "Nonresidential Equipment Replacement" (NRER) provides incentives for "kind-for-kind" replacement of old, inefficient commercial or industrial end-use gas-fired technology with higher efficiency alternatives. The "Nonresidential Energy Conservation" (NREC) incentive element provides qualified customers with a financial incentive to implement comprehensive energy saving commercial building envelope or industrial process modernizations.

The Evaluation, Measurement and Verification (EM&V) Study for this program therefore, will have the following objectives: 1) Verify the number of measures installed and calculate estimates of energy savings and demand reduction; 2) Analyze the success in implementing the program as designed; and 3) Determine customers' satisfaction with the programs and the degree to which the programs influenced their energy-efficiency actions. This plan will comply with the Evaluation, Measurement & Verification Requirements identified in the CPUC Energy Efficiency Policy Manual, Version 2, August 2003.

Regulatory Oversight

Regulatory Compliance and Reporting

Regulatory Compliance and Reporting is designed to capture activities that are undertaken to meet regulatory reporting oversight, and other obligations that are not included in Market

Assessment & Evaluation activities. It consists of those activities needed to verify, collect, and report descriptive and technical information related to the achievements and scope of all authorized energy efficiency programs. Examples are advice letter filings, annual energy efficiency reports, filings for performance incentives, and other energy efficiency proceedings including attendance at Energy Division (ED) meetings, workshop participation, testimony, hearings, and data requests and responses.

ED Oversight Costs

Oversight costs include SoCalGas' allocation for the Energy Division (ED) expenditures and Commission-managed studies. In 2004, SoCalGas paid \$355,120 for the ED's expenditures.

**TABLE 6.1
MARKET ASSESSMENT & EVALUATION BUDGET (MA&E)
(Gas)**

Study / Project (costs in \$000's)	2-Year Statewide Budget	Annualized Statewide Budget	Annualized SCG Recorded
UTILITY STATEWIDE PROGRAM EM&V			
Residential Retrofit			
Single Family Rebates	174	87	87
Multi-Family Rebates	76	38	38
Residential Audits	54	27	27
Appliance Recycling	0	0	0
Nonresidential Retrofit			
Standard Performance Ct.	0	0	0
Express Efficiency	147	74	74
Nonresidential Audits	122	61	61
Bldg. Operator Cert.	24	12	12
New Construction			
Energy Star Homes	112	56	56
Nonres. New Construction	181	91	91
Cross-Cutting			
Education & Training	100	50	50
Emerging Tech. Demo.	32	16	16
Codes & Standards	30	15	15
Subtotal	1,051	526	526
CPUC ENERGY DIVISION OVERARCHING STUDIES			
CALMAC and Website	23	12	12
Organizations/Conferences	38	19	19
Evaluation Framework Rev.	11	5	5
Industrial Energy Use Surv.	162	81	81
Res.EE Onsite Survey	49	24	24
Mkt Share Tracking Study	49	24	24
NRNC Tech Trends	9	4	4
EE Potential Updates	51	26	26
2004-5 Summary Study	16	8	8
DEER Enhancements	51	26	26
Retrofit Upgrade Opps.	46	23	23
Best Practices	46	23	23
DR/EE Interaction-ACEEE	5	3	3
CALMAC Study Reserve	15	8	8
Subtotal	570	285	285
CPUC ENERGY DIVISION OPERATING COSTS			
Special Projects	132	66	66
Energy Division Staffing	65	32	32
Subtotal	197	99	99
OTHER EM&V STUDIES			
Subtotal			
STATEWIDE MA&E TOTAL			
	1,818	909	909

7. Shareholder Performance Incentives

Shareholder Performance Incentives

This section is not applicable for the 2004 Energy Efficiency Program Year.

IOU Partnership Program Accomplishments

The SoCalGas partnership programs included the IOU/UC/CSU Partnership, South Bay Cities Energy Efficiency Center, Bakersfield/Kern Energy Watch, LA County/SCE/SCG Partnership, The Energy Coalition, and the Ventura County Regional Energy Efficiency Center and Comprehensive Public Sector Program.

The IOU/UC/CSU Partnership program is designed to provide energy efficiency retrofits at campus facilities; retro and continuous commissioning at campus facilities; and energy efficiency training and best practices development for UC/CSU facility managers. UC/CSU campus projects in the SoCalGas service area included pool covers and HVAC and facility optimization upgrades. UC/CSU training and education events included New Construction workshops, Building Retro/Continuous-Commissioning training workshops, building retrofit workshops, Best Practices into campus operating processes and procedures, and a Sustainability Conference.

The South Bay Energy Efficiency Resource Center (SBEERC) is a partnership with the South Bay Cities Council of Governments (SBCCOG), Southern California Edison (SCE) and Southern California Gas Co. (SCG). This partnership formed an Energy Efficiency Resource Center, which will serve the region's constituents as the central clearinghouse for energy efficiency information and resources. In 2004, activities included opening the Energy Efficiency Resource Center, launching and maintaining a website, member city distribution of energy efficiency information and co-sponsoring events, and handling community inquiries.

The Bakersfield/Kern Energy Watch Partnership program partners are Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), Southern California Gas Company (SoCalGas), the City of Bakersfield (City), the County of Kern (County), and Staples/Hutchinson and Associates, Inc. (Staples/Hutchinson). The goal is to reduce energy use by providing energy efficiency information and direct installation of energy efficient equipment to the City and County's local community. In 2004, the Bakersfield Energy Watch program made great progress outreaching to residential and small commercial customers throughout the Kern county area. This program was promoted through various marketing efforts in the PG&E, SCE and SoCalGas service territories.

The LA County Partnership program (County of Los Angeles, Southern California Edison Company, and Southern California Gas) implements energy efficiency projects in existing County facilities and leverages the County's existing energy management infrastructure. The County's energy management organization maintains relationships with all 38 County departments, other County affiliated agencies (including the Office of Education, Public Housing, Metropolitan Transit Authority, Office of Small Business), and other local governments. In 2004, the LA County Partnership was comprised of various components. These components included Retro-Commissioning, Retrofit, Public Agency Feasibility Study and Technology Transfer Element, and Public Housing, Multi Family Metering Element.

The Energy Coalition Community Energy Partnership partners include Southern California Edison, Southern California Gas, The Energy Coalition, and ten southern California cities representing their constituents as participants. The program aims to involve the entire community to raise awareness and installation of energy efficiency. The Energy Coalition Community Energy Partnership is on target to achieve the two-year program goals. Program

elements include the following: PEAK Students, PEAK Households, PEAK School Districts, Municipal Energy Actions, Mobile Home Tune-Ups, Rental Apartment Tune-Ups, Owner-Occupied Apartment Tune-Ups, and Small Business Tune-Ups.

The Ventura County Regional Energy Alliance (VCREA) partners with Southern California Edison (SCE) and the Southern California Gas Company to build on the VCREA progress to date to further develop its core capabilities, to complete the development of its Energy Resource Center capability, and to implement a targeted Public Sector Program for public agencies throughout the Ventura County region. In 2004, VCREA worked to improve energy efficiency information to residential customers, and small commercial customers. Activities included opening the VCREA Energy Resource Center, member city distribution of energy efficiency information and co-sponsoring events, handling community inquiries and attending community events.

**TABLE 8.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
IOU Partnership Programs**

Annual Energy Reductions, Electric, MWH

	2004 Recorded Annual	2004 Recorded Lifecycle
UC/CSU - Statewide Partnership	0	0
Energy Coalition ("Twelve Cities Project")	0	0
Ventura REA ¹	0	0
South Bay Cities Council of Governments	0	0
Bakersfield/Kern Energy Watch Partnership	0	0
LA County ¹	0	0
Total IOU Partnership Programs	0	0

Demand Reductions, Electric, MW

	2004 Recorded Annual
UC/CSU - Statewide Partnership	0
Energy Coalition ("Twelve Cities Project")	0
Ventura REA ¹	0
South Bay Cities Council of Governments	0
Bakersfield/Kern Energy Watch Partnership	0
LA County ¹	0
Total IOU Partnership Programs	0

Annual Energy Reductions, Natural Gas, Therms, 000's

	2004 Recorded Annual	2004 Recorded Lifecycle
UC/CSU - Statewide Partnership	149	743
Energy Coalition ("Twelve Cities Project")	1	7
Ventura REA ¹	0	0
South Bay Cities Council of Governments ²	0	0
Bakersfield/Kern Energy Watch Partnership ²	0	0
LA County ¹	0	0
Total IOU Partnership Programs	150	750

¹ Projects are expected to be completed in 2005. Energy savings and cost-effectiveness will be reported in the 2006 AEAP. Therefore, there are no savings to report and no Technical Appendix 8.3 or 8.4 Tables for these programs.

² This is an information only program.

**TABLE 8.3
SUMMARY OF COST-EFFECTIVENESS:
IOU Partnership Programs**

Benefit-Cost Ratios

	2004 Recorded			
	Program Administration Cost Test	Total Resource Cost Test	Levelized Cost ϕ /(kWh) ¹	Levelized Cost ϕ /(Therm) ¹
UC/CSU - Statewide Partnership	1.56	0.76	0.00	60.98
Energy Coalition ("Twelve Cities Project")	0.38	0.38	0.00	122.49
Ventura REA ²	0.00	0.00	0.00	0.00
South Bay Cities Council of Governments ³	0.00	0.00	0.00	0.00
Bakersfield/Kern Energy Watch Partnership ³	0.00	0.00	0.00	0.00
LA County ²	0.00	0.00	0.00	0.00

¹ Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

² Projects are expected to be completed in 2005. Energy savings and cost-effectiveness will be reported in the 2006 AEAP. Therefore, there are no savings to report and no Technical Appendix 8.3 or 8.4 Tables for these programs.

³ This is an information only program.

TABLE 8.4
SUMMARY OF COST-EFFECTIVENESS:
IOU Partnership Programs

Net Benefits, \$MILL

	2004 Recorded
UC/CSU - Statewide Partnership	\$ (0.09)
Energy Coalition ("Twelve Cities Project")	\$ (0.00)
Ventura REA ¹	\$ (0.01)
South Bay Cities Council of Governments ²	\$ (0.01)
Bakersfield/Kern Energy Watch Partnership ²	\$ (0.00)
LA County ¹	\$ (0.02)
Total	\$ (0.14)

¹ Projects are expected to be completed in 2005. Energy savings and cost-effectiveness will be reported in the 2006 AEAP. Therefore, there are no savings to report and no Technical Appendix 8.3 or 8.4 Tables for these programs.

² This is an information only program.

Non-IOU Program Accomplishments

Nonresidential Fenestration Certification Initiative (NFCI)

Program Sponsor: Cal State University, Chico

Program Number: PG&E 1227-04; SCE 1496-04; SCG 1497-04; SDG&E 1498-04

This is a two-year (2004-2005) information only codes and standards support project designed to facilitate and encourage conformance with the California Energy Commission (CEC) emergency Title 24 standards (of 2001 and 2005) through a comprehensive program of outreach, tailored trainings, and precision technical assistance efforts. Recent changes in Title 24 specify that site-built fenestration units in large commercial buildings (over 10,000 sq. ft) be certified and be National Fenestration Rating Council (NFRC) labeled. The purpose of this program is to bridge the current information gap that exists by identifying key actors in the nonresidential fenestration industry and in code enforcement agencies and provide them with meaningful information, training and technical assistance.

Agricultural Pumping Efficiency

Program Sponsor: Center for Irrigation Technology, California State University at Fresno

Program Number: SCE 1434-04, SCG 1428-04, PG&E 1418-04

This is an incentive-based program that been run for many years by the program implementer under the auspices of a number of program administrators. This program provides technical support and financial assistance to encourage the agricultural industry to adopt more energy efficient pumping systems, maintenance and operation. Incentives will be provided for equipment testing, repair and retrofitting.

The rebate is based on an estimate of the first year expected kWh savings at the rate of \$.10/kwh. Rebate amounts will vary depending on the annual energy use of the pumping plant and in some cases, the actual improvement in pump efficiency. The current average rebate for the currently operating program is \$3,336. This represents about 26% of the average project cost.

This is the continuation of a successful PY2002 and 2003 program. It is the only statewide comprehensive agricultural energy efficiency program of this nature offered this year. Other authorized programs target small organic farmers in PG&E territory, dairy farmers, and pump testing while this program targets agricultural pump efficiency. California State University's, Fresno Foundation has run this program successfully for a number of years.

Comprehensive Hard-to-Reach Mobile Home Program

Program Sponsor: American Synergy Corporation

Program Number: SCE 1275-04, SCG 1276-04

This is a continuation of the program funded in 2002-2003. This comprehensive program provides education and no cost installation of the following measures to hard-to-reach residential customers in mobile homes: (a) air conditioning tune-ups; (b) compact fluorescent lamps (CFLs) and hard wired CFL fixtures; (c) low flow showerheads, aerators, and water heater temperature

setback; (d) set back thermostats; (e) water heater timers; and (f) enhanced duct sealing. The measures are estimated to provide sustainable energy savings from eight (8) to twenty (20) years.

Chinese Language Efficiency Outreach (CLEO)

Program Sponsor: Global Energy Services, Inc. (GES)

Program Number: SCE 1366-04, PG&E 1494-04, SCG 1495-04

This is an informational program, targeting the 'Hard-To-Reach' Chinese residential and non-residential consumers. The program elements consist of but not limited to, the following:

- (1) Professionally produced 10-minute television drama with energy efficiency message as backdrop;
- (2) Radio and newspaper campaign;
- (3) Toll-free hotline number for energy efficiency audits and provide program and rebate information;
- (4) In-language targeted energy efficiency workshops providing low and no cost energy efficiency information, State, utility, and 3rd party energy efficiency programs
- (5) Participation in community events to create a community energy efficiency presence.
- (6) Dedicated Chinese language energy efficiency website.
- (7) Coordination with local schools to produce energy efficiency drama to be presented in community events.

Mobile Energy Clinic

Program Sponsor: ADM Associates, Inc.

Program Number: SDG&E 1105-04, SCE 1106-04, SCG 1487-04

This is a direct install program targeted at owners/operators of small commercial businesses occupying buildings of less than 5,000 square feet of floor area, with focus on strip malls, small convenience stores, laundromats and non-chain restaurants. It is modeled on the 2002-2003 PGC-funded program operating in SCE and SoCalGas service territories. It focuses on improving energy efficiency for small HTR businesses by (1) implementing no-cost/low-cost measures and (2) providing diagnostics of energy-using equipment. ADM also tests the performance of HVAC equipment and checks that lighting systems and other energy-using equipment (e.g. water heaters, compressors and process equipment) are being properly used. Owners/managers will be given a checklist of energy efficiency actions that they can take and are provided assistance in locating financing for such actions.

Pre-rinse Spray Head Installation Program for the Food Service Industry

Program Sponsor: California Urban Water Conservation Council

Program Number: PG&E 1198-04, SoCalGas 1200-04

This is a continuation of a program that was approved by the Commission for the 2002-2003 program years. It is a direct-install incentive-based program replaces high water use pre-rinse

spray valves with more efficient models at food service facilities: restaurants, cafeterias, institutional kitchens and food preparation companies. There will be no cost to the participants and water utilities throughout the state will contribute a portion of the funds for program implementation. This program targets hard-to-reach customer in both urban and rural settings.

Residential Duct Services

Program Sponsor: Energy Analysis Technologies (EAT)

Program Number: SCE 1311-04, SCG 1327-04

The Energy Analysis Technologies (EAT) Residential Duct Services Program (RDS) offers incentives to consumers in inland areas of the SCE and SoCalGas service territories for duct sealing, as well as basic and advanced HVAC tune-ups. The program's primary objective involves having residential and small commercial customers make repairs to their HVAC systems, which they would not otherwise make due to lack of information, cost concerns, or lack of access to appropriately skilled contractors. The program uses monetary incentives to encourage contractors and their customers to make repairs that will create significant savings on customer energy usage. RDS concentrates on the most cost-effective building vintages and climate zones for measure implementation. Customers who participate in the RDS will receive, as an added benefit, a low flow showerhead and a three pack of compact fluorescent light bulbs.

This program is a continuation of a successful 2002-2003 program effort. EAT assembled a duct services contractor infrastructure for its 2002-2003 RDS program and will leverage these resources in continuing to offer these services in 2004-2005.

Designed for Comfort, Efficient Affordable Housing (EAH)

Program Sponsor: Heschong Mahone Group, Inc

Program Number: PG&E 1146-04, SCE 1147-04, SCG 1148-04, SDG&E 1149-04

This is a statewide, local government program that will target housing authorities and the existing residential affordable housing building stock. The proposed program is based on the current CPUC-funded third-party program called "Efficient Affordable Housing," 0255-02. Heschong Mahone has proposed a number of design and implementation changes based upon their experience with the current program. The primary target of the energy efficiency direct incentives is affordable-qualified buildings, including those with at least 10% occupancy by Section 8 housing voucher tenants, Section 202-funded (and other HUD-financed) apartment buildings, and projects previously constructed or rehabilitated using Tax Credit and Bond financing. The targeted participants will have the following characteristics: multifamily buildings, renters, and a large percentage of the projects and housing authorities will be in rural areas. As a new requirement for this year's program, only projects within the jurisdictions of housing authorities that have adopted or are intending to adopt a second tier utility allowance schedule will be allowed to participate.

Gas Only Multi-Family Program - South

Program Sponsor: SESCO, Inc.

Program Number: 1338-04

This is a hardware program that will provide gas energy savings assistance for the hard-to-reach multifamily (MF) market category of those customers of Southern California Gas Company (SoCalGas) which are not located within the service area of an IOU electric company. The Gas-Only Multifamily Program will provide for comprehensive residential energy efficiency renovations and retrofits by offering cash incentives and services to apartment tenants and owner/operators for the installation of all energy efficiency measures that SoCalGas has determined in its recent filings to be cost-effective under its evaluation of this market. To assure that the program primarily benefits the tenants, property owners will be required to install all cost-effective gas savings “tenant” measures within the dwellings in order to receive any “common area” incentives.

**TABLE 9.1
SUMMARY OF COSTS:
Non-IOU Programs**

	2004	
	Budgeted ¹	Recorded ¹
Non-IOU Programs		
Nonresidential Fenestration Certification Initiative (NFCI)	\$ 46,243	\$ 4,123
Agricultural Pumping Efficiency Program - SCG	\$ 167,620	\$ 23,249
Mobile Home HTR	\$ 767,415	\$ 491,815
CLEO	\$ 70,921	\$ 64,000
Mobile Energy Clinic	\$ 492,230	\$ 238,755
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC	\$ 1,127,081	\$ 250,989
Residential Duct Services Program	\$ 364,491	\$ 61,220
Designed for Comfort: Efficient Affordable Housing	\$ 128,947	\$ 51,122
SESCO, Inc.	\$ 1,236,322	\$ -
Total Non-IOU Programs	\$ 4,401,269	\$ 1,185,273

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

TABLE 9.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
Non-IOU Programs

Annual Energy Reductions, Electric, MWH		
	2004 Recorded Annual¹	2004 Recorded Lifecycle¹
Nonresidential Fenestration Certification Initiative (NFCI)	-	-
Agricultural Pumping Efficiency Program - SCG	-	-
Mobile Home HTR	-	-
CLEO	-	-
Mobile Energy Clinic	760	6,084
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC	-	-
Residential Duct Services Program	128	2,195
Designed for Comfort: Efficient Affordable Housing	7	58
Gas Only Multi-Family Program - South	-	-
Total Non-IOU Programs	896	8,337

Demand Reductions, Electric, MW	
	2004 Recorded Annual¹
Nonresidential Fenestration Certification Initiative (NFCI)	-
Agricultural Pumping Efficiency Program - SCG	-
Mobile Home HTR	0
CLEO	-
Mobile Energy Clinic	0.15
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC	-
Residential Duct Services Program	0.15
Designed for Comfort: Efficient Affordable Housing	0.00
Gas Only Multi-Family Program - South	-
Total Non-IOU Programs	0.30

Annual Energy Reductions, Natural Gas, Therms, 000's		
	2004 Recorded Annual¹	2004 Recorded Lifecycle¹
Nonresidential Fenestration Certification Initiative (NFCI)	-	-
Agricultural Pumping Efficiency Program - SCG	2	25
Mobile Home HTR	222	3,483
CLEO	-	-
Mobile Energy Clinic	10	78
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC	815	4,074
Residential Duct Services Program	8	148
Designed for Comfort: Efficient Affordable Housing	1	17
Gas Only Multi-Family Program - South	-	-
Total Non-IOU Programs	1,057	7,824

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

TABLE 9.3
SUMMARY OF COST-EFFECTIVENESS:
Non-IOU Programs

Benefit-Cost Ratios

	2004			
	Program Administration Cost Test ¹	Total Resource Cost Test ¹	Recorded Levelized Cost ¢/(kWh) ¹	Levelized Cost ¢/(Therm) ¹
Nonresidential Fenestration Certification Initiative (NFCi)	0.00	0.00	0.00	-
Agricultural Pumping Efficiency Program - SCG	0.34	0.29	0.29	6.73
Mobile Home HTR	2.17	7.92	7.92	3.68
CLEO	0.00	0.00	0.00	-
Mobile Energy Clinic	1.46	(2.29)	(2.29)	(1.17)
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC	6.49	(5.75)	(5.75)	(1.14)
Residential Duct Services Program	2.24	(2.12)	(2.12)	(20.40)
Designed for Comfort: Efficient Affordable Housing	0.16	(0.13)	(0.13)	(81.27)
Gas Only Multi-Family Program - South	0.00	0.00	0.00	-

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

**TABLE 9.4
SUMMARY OF COST-EFFECTIVENESS:
Non-IOU Programs**

Net Benefits, \$MILL

	2004 Recorded ¹
Nonresidential Fenestration Certification Initiative (NFCI) \$	(0.00)
Agricultural Pumping Efficiency Program - SCG \$	(0.02)
Mobile Home HTR \$	0.93
CLEO \$	(0.06)
Mobile Energy Clinic \$	0.50
Pre-rinse Spray Head Installation Program for the Food Service Industry - PHASE 2 - SCGC \$	1.91
Residential Duct Services Program \$	0.20
Designed for Comfort: Efficient Affordable Housing \$	0.07
Gas Only Multi-Family Program - South \$	-
Total	\$ 3.53

¹ All data are from the December 2004 Monthly Report workbooks filed by the Non-IOU Program Implementers.

2004 ENERGY EFFICIENCY PROGRAMS—TECHNICAL APPENDIX

EXECUTIVE SUMMARY

This Technical Appendix provides additional supporting documentation for SoCalGas's "Annual Summary of Energy Efficiency Programs," dated May 2005, which reviews the progress of activities during 2004. SoCalGas is reporting these results using the Energy Efficiency Programs Reporting Requirements Manual 2, draft dated January 2005, as agreed to by the utilities, Office of Ratepayer Advocates and the Energy Division of the California Public Utilities Commission.

SoCalGas's 2004 Energy Efficiency Program plans were filed on September 23, 2003. The Commission issued D.03-04-055 approving the utilities' 2004 statewide energy efficiency programs and budgets with modifications to program design, budgets and program performance

All incremental measure costs, energy savings, and measure lives are documented in SoCalGas's September 23, 2003 Request for Approval of 2004 - 2005 Energy Efficiency

Table TA 1.1
 Avoided Costs

PGC Funded Program Year 2004-2005 Avoided Costs (Cumulative and Discounted)

Year	Electric \$/MWh	Gas \$/Therm
2004	66.190	0.430
2005	128.797	0.837
2006	182.840	1.239
2007	234.738	1.626
2008	284.334	1.999
2009	331.834	2.357
2010	377.305	2.701
2011	420.736	2.990
2012	462.498	3.268
2013	502.707	3.534
2014	541.427	3.786
2015	578.791	4.031
2016	614.831	4.269
2017	649.669	4.496
2018	683.363	4.717
2019	715.979	4.930
2020	747.414	5.135
2021	777.862	5.331
2022	807.788	5.516
2023	836.249	5.699

**TABLE TA 2.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (RESIDENTIAL)
NATURAL GAS**

PROGRAM	UTILITY COSTS							Total	IMC
	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total		
	Actual	Committed	Actual	Committed					
Information									
Home Energy Efficiency Survey	\$ -	\$ -	\$ 234,379	\$ -	\$ -	\$ -	\$ -	\$ 234,379	\$ -
Total Information	\$ -	\$ -	\$ 234,379	\$ -	\$ -	\$ -	\$ -	\$ 234,379	\$ -
EMS									
Home Energy Efficiency Survey	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total EMS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
EEl									
SPC									
Rebates									
Multifamily Rebates Program	\$ 1,435,659	\$ -	\$ 227,249	\$ -	\$ -	\$ -	\$ -	\$ 1,662,908	\$ 2,281,986
Single Family Energy Efficiency Rebates Program	\$ 3,167,942	\$ -	\$ 912,162	\$ -	\$ -	\$ -	\$ -	\$ 4,080,104	\$ 7,264,206
Total EEl	\$ 4,603,601	\$ -	\$ 1,139,411	\$ -	\$ -	\$ -	\$ -	\$ 5,743,012	\$ 9,546,192
Upstream Programs									
Financial Assistance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Upstream	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Residential	\$ 4,603,601	\$ -	\$ 1,373,790	\$ -	\$ -	\$ -	\$ -	\$ 5,977,391	\$ 9,546,192

**TABLE TA 2.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
RESIDENTIAL NATURAL GAS**

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
Information					
Home Energy Efficiency Survey	\$ 18,890	\$209,039	\$ -	\$ 6,451	\$ 234,379
Total Information	\$ 18,890	\$209,039	\$ -	\$ 6,451	\$ 234,379
EMS					
	\$ -	\$ -	\$ -	\$ -	\$ -
Total EMS	\$ -	\$ -	\$ -	\$ -	\$ -
EEl					
SPC	\$ -	\$ -	\$ -	\$ -	\$ -
Rebates					
Multifamily Rebates Program	\$ 126,615	\$ 55,330	\$ -	\$ 45,305	\$ 227,249
Single Family Energy Efficiency Rebates Program	\$ 456,227	\$333,414	\$ -	\$ 122,521	\$ 912,162
Loans					
Total EEl	\$ 582,842	\$388,744	\$ -	\$ 167,825	\$1,139,411
Upstream Programs					
Financial Assistance	\$ -	\$ -	\$ -	\$ -	\$ -
Total Upstream	\$ -	\$ -	\$ -	\$ -	\$ -
Total Residential	\$ 601,731	\$597,782	\$ -	\$ 174,276	\$1,373,790

Table TA 2.3
 Market Effects: Residential Projected Annual Program Energy Reductions
 Statewide Single Family Rebates
 Program Year: 2004

Year	HVAC			Lighting			Misc		
	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2004	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2005	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2006	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2007	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2008	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2009	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2010	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2011	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2012	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2013	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2014	1,004	3,280,322	1,541,368				0	1,327,524	798,792
2015	1,004	1,010,131	300,026				0	0	16,835
2016	1,004	1,010,131	300,026				0	0	16,835
2017	1,004	1,010,131	300,026				0	0	16,835
2018	1,004	1,010,131	300,026				0	0	16,835
2019	1,004	1,010,131	300,026				0	0	16,835
2020	1,004	1,010,131	300,026				0	0	16,835
2021	1,004	1,010,131	300,026				0	0	16,835
2022	1,004	1,010,131	300,026				0	0	16,835
2023	1,004	1,010,131	300,026				0	0	16,835
SUM (Lifecycle)	1,004	45,174,728	19,655,284				0	13,275,240	8,072,095

Table TA 2.3
 Market Effects: Residential Projected Annual Program Energy Reductions
 Statewide Multifamily Rebates
 Program Year: 2004

Year	HVAC			Lighting			Misc		
	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2004	99	7,099,259	617,138				0	1,873	282,103
2005	99	7,099,259	617,138				0	1,873	282,103
2006	99	7,099,259	617,138				0	1,873	282,103
2007	99	7,099,259	617,138				0	1,873	282,103
2008	99	7,099,259	617,138				0	1,873	282,103
2009	99	7,099,259	617,138				0	1,873	282,103
2010	99	7,099,259	617,138				0	1,873	282,103
2011	99	7,099,259	617,138				0	1,873	282,103
2012	99	7,099,259	617,138				0	1,873	282,103
2013	99	7,099,259	617,138				0	1,873	282,103
2014	99	7,099,259	617,138				0	1,873	282,103
2015	99	7,099,259	617,138				0	0	270,729
2016	99	69,175	5,826				0	0	270,729
2017	99	69,175	5,826				0	0	270,729
2018	99	69,175	5,826				0	0	270,729
2019	99	69,175	5,826				0	0	71,350
2020	99	69,175	5,826				0	0	71,350
2021	99	69,175	5,826				0	0	71,350
2022	99	69,175	5,826				0	0	71,350
2023	99	69,175	5,826				0	0	71,350
SUM (Lifecycle)	99	85,744,507	7,452,258				0	18,733	4,531,429

Table TA 2.4
 Measure Detail: Residential Program Area
 Statewide Single Family Rebates
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBn).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs			Total Resource Benefits (Lifecycle)			Levelized Costs ⁽³⁾	
			Administrative Cost ⁽¹⁾	Incremental Measure Cost ⁽²⁾		kWh	Therms	Useful Life	Cents per kWh	Cents per Therm
HVAC	50000-Programmable Thermostat	13,449	\$378,035.37	\$780,042.00		1,093,883	4,182,201	11	0.51	3.54
HVAC	50002-Central Gas Furnace >= 90% AFUE	914	\$158,865	\$625,176		611,531	150,683	20	0.00	57.46
HVAC	50004-Attic Insulation	1,753,541	\$833	\$76,771		140,227	904,443	20	0.01	0.03
HVAC	50005-Wall Insulation	726,096	\$805	\$653,486		241,600	466,611	20	0.01	0.07
Misc	50001-Gas Storage Water Heater (EF>= 0.62)	1,295	\$2,587	\$71,225		1,178,406	70,671	15	0.65	38.30
Misc	50010-Energy Star Labeled Dishwasher	11,553	\$70,917	\$1,068,900		98,256	522,647	10	1.23	4.56
Misc	50011-Clothes Washer Tier I	6,108	\$99,086	\$1,068,900		194,021	466,290	10	0.74	8.62
Misc	50012-Clothes Washer Tier II	10,051	\$151,033	\$2,010,200		1,222,000	1,222,000	10	0.74	5.24

Table TA 2.4
 Measure Detail: Residential Program Area
 Statewide Multifamily Rebates
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBn).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)			Levelized Costs ⁽³⁾	
			Administrative Cost ⁽¹⁾	Incremental Measure Cost ⁽²⁾	kWh	Therms	Useful Life	Cents per kWh	Cents per Therm
HVAC	51000-Programmable Thermostat	18,413	\$3,273.91	\$1,067,954.00	3,621,421	2,192,863	12	0.00	0.03
HVAC	51002-Central Gas Furnace >= 90% AFUE	2	877	11,060	-	169	20	0.00	2,055.91
HVAC	51004-Attic Insulation	35,707	23	17,854	51,431	29,030	20	0.00	0.02
HVAC	51005-Wall Insulation	905	5	815	51	350	20	0.11	0.74
Misc	51001-Natural Gas Storage Water Heater (EF>= 0.62)	59	609	3,245	-	3,467	15	-	9.85
Misc	51007-Low-Flow Showerhead	83	392	766	-	3,136	15	-	6.57
Misc	51008-Central System Natural Gas Water Heater	128	11,186	512,000	-	138,093	15	-	5.65
Misc	51009-Central System Gas Boiler: Water Heating Only	85	39,440	345,100	-	323,341	20	-	7.30
Misc	51010-Central System Gas Boiler: Space and Water	4	99,915	16,240	-	38,547	20	-	146.39
Misc	51014-Energy Star Dishwasher	114	607	11,628	-	5,995	10	-	5.80
Misc	51015-Gas Wtr Htr and/or Boiler Controller (< 20 units)	15	24,112	22,500	-	34,864	15	-	37.75
Misc	51016-Energy Star Coin-Op Clothes Washer (In Common)	61	4,948	10,675	644	25,526	10	1.37	9.60
Misc	51018-Gas Wtr Htr and/or Boiler Controller Digital	174	39,171	261,000	-	657,365	15	-	3.18
Misc	51019-Tier I Clothes Washer (In Coin-Op Laundry Area)	2	1,066	350	32	153	10	46.82	329.20
Misc	51020-Tier II Clothes Washer (In Coin-Op Laundry Area)	4	1,625	800	77	486	10	22.59	158.79

**TABLE TA 3.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (NONRESIDENTIAL)
NATURAL GAS**

PROGRAM	UTILITY COSTS									
	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total	IMC		
	Actual	Committed	Actual	Committed						
Information										
Building Operator Certification Program	\$ -	\$ -	\$ 76,803	\$ -	\$ -	\$ -	\$ 76,803	\$ -	\$ -	\$ -
Total Information	\$ -	\$ -	\$ 76,803	\$ -	\$ -	\$ -	\$ 76,803	\$ -	\$ -	\$ -
EMS										
Large										
Small/ Medium Energy Audit Program	\$ -	\$ -	\$ 655,407	\$ -	\$ -	\$ -	\$ 655,407	\$ -	\$ -	\$ -
Total EMS	\$ -	\$ -	\$ 655,407	\$ -	\$ -	\$ -	\$ 655,407	\$ -	\$ -	\$ -
EEI										
Customized Rebates Large	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Small/Medium	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prescriptive Rebates Large	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Small Express Efficiency Program Non-Residential Financial Incentives	\$ 1,644,791	\$ -	\$ 1,328,744	\$ -	\$ -	\$ -	\$ 2,973,535	\$ 2,111,947	\$ -	\$ 2,111,947
	\$ 1,076,575	\$ -	\$ 982,971	\$ -	\$ -	\$ -	\$ 2,059,545	\$ 2,753,040	\$ -	\$ 2,753,040
EEI										
SPCs Large	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Small	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total EEI	\$ 2,721,365	\$ -	\$ 2,311,715	\$ -	\$ -	\$ -	\$ 5,033,080	\$ 4,864,986	\$ -	\$ 4,864,986
Upstream Programs Financial Assistance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Upstream	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Nonresidential	\$ 2,721,365	\$ -	\$ 3,043,924	\$ -	\$ -	\$ -	\$ 5,765,290	\$ 4,864,986	\$ -	\$ 4,864,986

**TABLE TA 3.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
NONRESIDENTIAL NATURAL GAS**

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
Information					
Building Operator Certification Program	\$ 53,092	\$ 21,596	\$ -	\$ 2,114	\$ 76,803
Total Information	\$ 53,092	\$ 21,596	\$ -	\$ 2,114	\$ 76,803
EMS					
Large					
Small/ Medium Energy Audit Program	\$ 306,507	\$ 330,861	\$ -	\$ 18,039	\$ 655,407
Total EMS	\$ 306,507	\$ 330,861	\$ -	\$ 18,039	\$ 655,407
EEI					
Customized Rebates					
Large	\$ -	\$ -	\$ -	\$ -	\$ -
Small/Medium	\$ -	\$ -	\$ -	\$ -	\$ -
Prescriptive Rebates					
Large	\$ -	\$ -	\$ -	\$ -	\$ -
Small					
Express Efficiency Program	\$1,051,702	\$ 189,017	\$ -	\$ 88,025	\$1,328,744
Non-Residential Financial Incentives	\$ 790,831	\$ 142,851	\$ -	\$ 49,289	\$ 982,971
SPCs	\$ -	\$ -	\$ -	\$ -	\$ -
Total EEI	\$1,842,532	\$ 331,868	\$ -	\$137,315	\$2,311,715
Upstream Programs					
Financial Assistance	\$ -	\$ -	\$ -	\$ -	\$ -
Total Upstream	\$ -	\$ -	\$ -	\$ -	\$ -
Total Nonresidential	\$2,202,132	\$ 684,325	\$ -	\$157,467	\$3,043,924

Table TA 3.3
 Market Effects: Nonresidential Projected Annual Program Energy Reductions
 Statewide Express Efficiency-Rebates
 Program Year: 2004

Year	Average Load Impacts Per Unit (Gross)					
	HVAC		Lighting		Misc	
	kW	kWh	Therms	kW	kWh	Therms
2004	0	1,199,109	4,015,365	0	0	1,281,844
2005	0	1,199,109	4,015,365	0	0	1,281,844
2006	0	1,199,109	4,015,365	0	0	1,281,844
2007	0	1,199,109	4,015,365	0	0	1,281,844
2008	0	1,199,109	4,015,365	0	0	1,255,849
2009	0	1,199,109	4,015,365	0	0	462,488
2010	0	1,199,109	4,015,365	0	0	462,488
2011	0	1,199,109	4,015,365	0	0	462,488
2012	0	1,199,109	4,015,365	0	0	462,488
2013	0	1,199,109	4,015,365	0	0	462,488
2014	0	1,199,109	4,015,365	0	0	83,239
2015	0	1,199,109	4,015,365	0	0	83,239
2016	0	1,199,109	4,015,365	0	0	83,239
2017	0	1,199,109	4,015,365	0	0	77,442
2018	0	1,199,109	4,015,365	0	0	77,442
2019	0	1,199,109	4,015,365	0	0	
2020	0	1,199,109	4,015,365	0	0	
2021	0	1,199,109	4,015,365	0	0	
2022	0	1,199,109	4,015,365	0	0	
2023	0	1,199,109	4,015,365	0	0	
SUM (Lifecycle)	0	13,190,199	44,169,015	0	0	9,100,265

Table TA 3.3
 Market Effects: Nonresidential Projected Annual Program Energy Reductions
 Local Nonresidential Financial Incentives
 Program Year: 2004

Year	Average Load Impacts Per Unit (Gross)					
	HVAC		Lighting		Misc	
	kW	kWh	Therms	kW	kWh	Therms
2004						3,466,484
2005						3,466,484
2006						3,466,484
2007						3,466,484
2008						3,466,484
2009						3,466,484
2010						3,466,484
2011						3,466,484
2012						3,466,484
2013						3,415,538
2014						3,415,538
2015						3,415,538
2016						2,879,798
2017						2,879,798
2018						2,879,798
2019						2,540,700
2020						2,540,700
2021						2,540,700
2022						2,540,700
2023						2,540,700
SUM (Lifecycle)	0	0	0	0	0	62,787,862

Table TA 3.4
 Measure Detail: Residential Program Area
 Statewide Express Efficiency-Rebates
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RbN).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)		Levelized Costs ⁽³⁾		
			Administrative Cost ⁽¹⁾	Incremental Measure Cost ⁽²⁾	kWh	Therms	Useful Life	Cents per kWh	Cents per Therm
HVAC	53021-Programmable Thermostat	3,667	\$ 1,170,352	\$ 212,686	623,230	14,592,158	11	0.54	3.80
Misc	53000-CML H-axis Clothes Washer	2,547	\$ 142,500	\$ 1,036,629	-	1,286,762	10	-	5.45
Misc	53001-Greenhouse Heat Curtain	2,034,261	\$ 211	\$ 996,788	-	1,522,341	5	-	0.01
Misc	53010-Tank Insulation	963	\$ 6,959	\$ 3,919	-	23,757	13	-	14.76
Misc	53011-Pipe Insulation	123	\$ 2,158	\$ 540	-	941	13	-	118.16
Misc	53012-Storage Water Heaters (LRG > 75 MBTUH)	12,503	\$ 2,095	\$ 51,125	-	92,847	15	-	1.16
Misc	53013-Storage Water Heaters (SML <= 75 MBTUH)	672	\$ 843	\$ 1,808	-	2,008	15	-	21.65
Misc	53014-Instantaneous Water Heaters (>= 200 MBTUH)	16,270	\$ 1,801	\$ (21,476)	-	103,876	15	-	0.89
Misc	53015-Instantaneous Water Heaters (< 200 MBTUH)	23,649	\$ 1,801	\$ (183,753)	-	150,988	15	-	0.61
Misc	53022-Infrared Film for Greenhouses	456,040	\$ 25	\$ 13,681	-	40,576	4	-	0.03

Table TA 3.4
 Measure Detail: Residential Program Area
 Local Nonresidential Financial Incentives
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBn).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Administrative Cost ⁽¹⁾	Total Resource Costs Incremental Measure Cost ⁽²⁾	Total Resource Benefits (Lifecycle)	Useful Life	Levelized Costs ⁽³⁾ Cents per kWh	Cents per Therm
Misc	55000-PARR Convection Oven	19,217 \$	34,296 \$	188,836 \$	334,318	12		5.11
Misc	55001-PARR Under-fired broiler	23,825 \$	44,330 \$	61,642 \$	535,759	12		4.12
Misc	55002-PARR Griddle	9,899 \$	35,464 \$	64,435 \$	177,360	12		9.97
Misc	55003-PARR Rotating Rack Oven	7,016 \$	90,806 \$	71,111 \$	323,178	12		14.00
Misc	55005-PARR Fryer - High Effic. Unit	11,640 \$	46,366 \$	109,181 \$	273,775	12		8.44
Misc	55006-PARR Fryer - Unit with Electr. Ignition	3,388 \$	17,392 \$	12,159 \$	29,890	12		29.00
Misc	55007-PARR Furnace Replacement	179,341 \$	11,235 \$	102,511 \$	817,637	20		0.75
Misc	55009-NRER Oven Replacement	299,889 \$	11,235 \$	316,149 \$	1,367,257	20		0.45
Misc	55010-NREC Heat Recovery	54,297 \$	11,235 \$	50,094 \$	247,547	20		2.46
Misc	55011-NRER Misc. Process Equip. Replacement	1,456,794 \$	11,235 \$	560,283 \$	6,641,699	20		0.09
Misc	55012-NREC Equip. Modernization	550,373 \$	11,235 \$	405,075 \$	2,509,217	20		0.24
Misc	55013-NRER Engine Rebuild/Replacement	302,334 \$	9,298 \$	413,684 \$	1,140,815	15		0.42
Misc	55014-NRER Pump Rebuild/Replacement	36,764 \$	9,298 \$	60,050 \$	138,724	15		3.45
Misc	55015-PARR Combination Oven	1,314 \$	93,124 \$	30,436 \$	62,072	12		74.79
Misc	55016-PARR Deck Oven	1,384 \$	28,765 \$	12,611 \$	20,195	12		71.01
Misc	55017-PARR Over-Fired Charbroiler	1,748 \$	74,829 \$	21,869 \$	66,351	12		56.21
Misc	55018-PARR Cheesemelter	805 \$	87,049 \$	6,743 \$	35,547	12		122.06
Misc	55019-PARR Salamander	893 \$	62,785 \$	6,744 \$	28,441	12		110.04
Misc	55020-PARR Steam Kettle	3,345 \$	122,897 \$	70,820 \$	208,532	12		29.38
Misc	55021-PARR Braising Pan	990 \$	42,339 \$	14,389 \$	21,262	12		99.27
Misc	55022-PARR Cabinet Steamer	1,868 \$	45,051 \$	17,524 \$	42,621	12		52.69
Misc	55025-PARR Conveyor Oven	6,510 \$	32,465 \$	104,681 \$	107,208	9		14.74
Misc	55026-PARR Rotisserie Oven	2,325 \$	50,243 \$	50,011 \$	59,256	9		41.28

TA 4. New Construction Program
Area

TABLE TA 4.1

PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (NEW CONSTRUCTION)
NATURAL GAS

PROGRAM	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total	IMC
	Actual	Committed	Actual	Committed				
Res New Construction California Energy Star New Homes Program	\$ 900	\$ 1,289,024	\$ 674,067	\$ -	\$ -	\$ -	\$ 1,963,991	\$ -
Total Residential	\$ 900	\$ 1,289,024	\$ 674,067	\$ -	\$ -	\$ -	\$ 1,963,991	\$ -
Nonresidential New Construction Savings by Design Program	\$ 119,482	\$ 1,712,455	\$ 843,558	\$ -	\$ -	\$ -	\$ 2,675,494	\$ 2,084,842
Total Nonresidential	\$ 119,482	\$ 1,712,455	\$ 843,558	\$ -	\$ -	\$ -	\$ 2,675,494	\$ 2,084,842
Other								
Total Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total New Construction	\$ 120,382	\$ 3,001,479	\$ 1,517,624	\$ -	\$ -	\$ -	\$ 4,639,485	\$ 2,084,842

**TABLE TA 4.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS (NEW CONSTRUCTION)
NATURAL GAS**

PROGRAM	Administrative Cost Elements				Total
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	
Res New Construction California Energy Star New Homes Program	\$ 450,455	\$ 171,052	\$ -	\$ 52,559	\$ 674,067
Total Residential	\$ 450,455	\$ 171,052	\$ -	\$ 52,559	\$ 674,067
Nonresidential New Construction Savings by Design Program	\$ 398,436	\$ 388,317	\$ -	\$ 56,805	\$ 843,558
Total NonResidential	\$ 398,436	\$ 388,317	\$ -	\$ 56,805	\$ 843,558
Other	\$ -	\$ -	\$ -	\$ -	\$ -
Total Other	\$ -	\$ -	\$ -	\$ -	\$ -
Total New Construction	\$ 848,891	\$ 559,370	\$ -	\$ 109,364	\$ 1,517,624

Table TA 4.3
 Market Effects: New Construction Projected Annual Program Energy Reductions
 Statewide Res New Construction Energy Star Program--Single Family and Multifamily
 Program Year: 2004

Year	Average Load Impacts Per Unit (Gross)					
	HVAC		Lighting		Misc	
	kW	kWh	Therms	kW	kWh	Therms
2004	3,917	2,846,181	260,487			
2005	3,917	2,846,181	260,487			
2006	3,917	2,846,181	260,487			
2007	3,917	2,846,181	260,487			
2008	3,917	2,846,181	260,487			
2009	3,917	2,846,181	260,487			
2010	3,917	2,846,181	260,487			
2011	3,917	2,846,181	260,487			
2012	3,917	2,846,181	260,487			
2013	3,917	2,846,181	260,487			
2014	3,917	2,846,181	260,487			
2015	3,917	2,846,181	260,487			
2016	3,917	2,846,181	260,487			
2017	3,917	2,846,181	260,487			
2018	3,917	2,846,181	260,487			
2019	3,917	2,846,181	260,487			
2020	3,917	2,846,181	260,487			
2021	3,917	2,846,181	260,487			
2022	3,917	2,846,181	260,487			
2023	3,917	2,846,181	260,487			
SUM (Lifecycle)	3,917	51,231,258	4,688,770	0	0	0

Table TA 4.3
 Market Effects: New Construction Projected Annual Program Energy Reductions
 Statewide Nonres New Construction Savings by Design
 Program Year: 2004

Year	HVAC			Lighting			Misc		
	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2004	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2005	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2006	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2007	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2008	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2009	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2010	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2011	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2012	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2013	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2014	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2015	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2016	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2017	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2018	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2019	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2020	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2021	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2022	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
2023	2,444	10,994,701	149,927	248	872,863	0	100	1,154,453	16,301
SUM (Lifecycle)	2,444	164,920,515	2,248,905	248	13,092,945	0	100	17,316,795	244,515

Table TA 4.4
 Measure Detail: Residential Program Area
 Local Nonresidential Financial Incentives
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBN).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual - Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)		Levelized Costs ⁽³⁾		
			Administrative Cost (1)	Incremental Measure Cost ⁽²⁾	kWh	Therms	Cents per kWh	Cents per Therm	
HVAC	52006-Single Family Inland 15% Above AB970	427	\$ 406,594	\$ 286,628	214,976	35,690	18	12.60	86.34
HVAC	52007-Multifamily 15% Above AB970	6,814	\$ 267,473	\$ 347,514	1,556,259	1,075,152	18	0.79	5.40

Table TA 4.4
 Measure Detail: Residential Program Area
 Local Nonresidential Financial Incentives
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RbN).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)		Levelized Costs ⁽³⁾	
			Administrative Cost (1)	Incremental Measure Cost ⁽²⁾	kWh	Therms	Useful Life	Cents per kWh
HVAC	54002-HVAC (per kWh)	961,429	\$ 40,549	\$ 201,899	538,771	-	15	0.56
HVAC	54007-Space Heat/Boiler (per Therm)	1,511	\$ 40,549	\$ -	847	-	15	366.77
HVAC	54009-Whole Bldg (per kWh)	10,031,768	\$ 40,549	\$ 1,003,177	5,621,681	-	15	0.05
HVAC	54010-Whole Bldg (per Therm)	149,927	\$ 279,859	\$ 445,283	-	579,872	15	24.82
Light	54001-Day Lighting (per kWh)	39,003	\$ 40,549	\$ 5,850	21,857	-	15	13.82
Light	54003-Lighting (per kWh)	833,860	\$ 40,549	\$ 133,418	467,285	-	15	0.65
Misc	54004-Misc (per kWh)	1,154,424	\$ 40,549	\$ 253,973	646,925	-	15	0.47
Misc	54005-Misc (per Therm)	16,301	\$ 279,859	\$ 41,242	-	63,047	15	228.25
Misc	54006-Service Hot Water (per Therm)	29	\$ 40,549	\$ -	16	-	15	18,589.07

**TABLE TA 5.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (CROSSCUTTING)
NATURAL GAS**

PROGRAM	Program Incentives (Recorded)			Admin		Shareholder Inc	Other	Total	IMC
	Actual	Committed	Committed	Admin					
				Actual	Committed				
Information									
Codes & Standards Program	\$ -	\$ -	\$ -	\$ 119,360	\$ -	\$ -	\$ -	\$ 119,360	\$ -
Education and Training Services	\$ -	\$ -	\$ -	\$ 1,729,745	\$ -	\$ -	\$ -	\$ 1,729,745	\$ -
Emerging Technologies Program	\$ -	\$ 51,835	\$ 51,835	\$ 389,824	\$ -	\$ -	\$ -	\$ 441,659	\$ -
Total Information	\$ -	\$ 51,835	\$ 51,835	\$ 2,238,929	\$ -	\$ -	\$ -	\$ 2,290,764	\$ -
Crosscutting EMS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Crosscutting EEI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Upstream MT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Upstream MT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Crosscutting	\$ -	\$ 51,835	\$ 51,835	\$ 2,238,929	\$ -	\$ -	\$ -	\$ 2,290,764	\$ -

**TABLE TA 5.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS (CROSSCUTTING)
NATURAL GAS**

PROGRAM	Administrative Cost Elements					Total
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated		
Information Codes & Standards Program	\$ 13,025	\$ 103,050	\$ -	\$ 3,285		\$ 119,360
Education and Training Services	\$ 1,080,318	\$ 601,820	\$ -	\$ 47,607		\$ 1,729,745
Emerging Technologies Program	\$ 256,718	\$ 122,377	\$ -	\$ 10,729		\$ 389,824
Total Information	\$ 1,093,343	\$ 704,870	\$ -	\$ 50,892		\$ 1,849,105
Crosscutting EMS	\$ -	\$ -	\$ -	\$ -		\$ -
Crosscutting EEI	\$ -	\$ -	\$ -	\$ -		\$ -
Upstream MT	\$ -	\$ -	\$ -	\$ -		\$ -
Total Upstream MT	\$ -	\$ -	\$ -	\$ -		\$ -
Total Crosscutting	\$ 1,093,343	\$ 704,870	\$ -	\$ 50,892		\$ 1,849,105

MA & E AND REGULATORY OVERSIGHT

Not applicable

**TABLE 7.1
COST OF PERFORMANCE INCENTIVES**

Gas			
	2004		2005
	Budgeted	Claimed	Budgeted
Residential Program Area	NA	NA	NA
Nonresidential Program Area	NA	NA	NA
New Construction	NA	NA	NA
Crosscutting	NA	NA	NA
General/Other	NA	NA	NA
Total1	NA	NA	NA

**TABLE TA 8.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS
IOU PARTNERSHIP PROGRAMS
GAS**

PROGRAM	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total	IMC
	Actual	Committed	Actual	Committed				
IOU Partnership Programs	\$ -	\$ -	\$ 996	\$ -	\$ -	\$ -	\$ 996	\$ -
Bakersfield/Kern Energy Watch Partnership	\$ -	\$ -	\$ 7,344	\$ -	\$ -	\$ -	\$ 7,344	\$ -
Energy Coalition ("Twelve Cities Project")	\$ -	\$ -	\$ 17,216	\$ -	\$ -	\$ -	\$ 17,216	\$ -
LA County	\$ -	\$ -	\$ 10,112	\$ -	\$ -	\$ -	\$ 10,112	\$ -
South Bay Cities Council of Governments	\$ -	\$ -	\$ 190,573	\$ -	\$ -	\$ -	\$ 190,573	\$ 248,700
UC/CSU - Statewide Partnership	\$ -	\$ -	\$ 9,584	\$ -	\$ -	\$ -	\$ 9,584	\$ -
Ventura REA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total IOU Partnership Programs	\$ -	\$ -	\$ 235,826	\$ -	\$ -	\$ -	\$ 235,826	\$ 248,700

**TABLE TA 8.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
IOU PARTNERSHIP PROGRAMS
GAS**

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
IOU Partnership Programs					
Bakersfield/Kern Energy Watch Partnership	\$ 281	\$ 716	\$ -	\$ -	\$996
Energy Coalition ("Twelve Cities Project")	\$ 6,995	\$ 349	\$ -	\$ -	\$7,344
LA County	\$ 14,547	\$ 2,669	\$ -	\$ -	\$17,216
South Bay Cities Council of Governments	\$ 9,298	\$ 815	\$ -	\$ -	\$10,112
UC/CSU - Statewide Partnership	\$ 48,358	\$ 142,215	\$ -	\$ -	\$190,573
Ventura REA	\$ 9,154	\$ 430	\$ -	\$ -	\$9,584
Total IOU Partnership Programs	\$ 88,633	\$ 147,193	\$ -	\$ -	\$ 235,826

Table TA 8.3
 Market Effects: Residential Projected Annual Program Energy Reductions
 UC-CSU Partnership
 Program Year: 2004

Year	HVAC		Lighting		MISC	
	kW	kWh	kW	kWh	kW	kWh
2004						
2005						
2006						
2007						
2008						
2009						
2010						
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						
SUM (Lifecycle)	0	0	0	0	0	928,255

Table TA 8.3
 Market Effects: Residential Projected Annual Program Energy Reductions
 Energy Coalition Partnership
 Program Year: 2004

Year	HVAC		Lighting		MISC	
	kW	Therms	kW	Therms	kW	Therms
2004				1,742		
2005				1,742		
2006				1,742		
2007				1,742		
2008				1,742		
2009				1,742		
2010						
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						
SUM (Lifecycle)	0	0	0	8,712	0	0

Table TA 8.4
 Measure Detail: Residential Program Area
 UC-CSU Partnership
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBn).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)		Levelized Costs ⁽³⁾	
			Administrative Cost ⁽¹⁾	Incremental Measure Cost ⁽²⁾	kWh	Therms	Cents per kWh	Cents per Therm
Misc	5-Project 1 - Pool Covers	1	\$ 137,614	\$ 133,700	-	214,367	-	58.82
Misc	6-Project 2 - Pool Covers	1	\$ 52,959	\$ 115,000	-	82,496	-	94.67

Table TA 8.4
 Measure Detail: Residential Program Area
 Energy Coalition Partnership
 Program Year: 2004

- (1) Administrative Cost: To be allocated to each end use by Resource Benefits net (RBn).
 (2) Incremental Measure Cost: Per definition in Appendix A of the Reporting Requirements Manual 2.
 (3) Levelized Cost: Per unit of the total cost of the resource (see California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002).

End Use	Measure Description	Recorded Qty	Total Resource Costs		Total Resource Benefits (Lifecycle)		Levelized Costs ⁽³⁾	
			Administrative Cost ⁽¹⁾	Incremental Measure Cost ⁽²⁾	kWh	Therms	Cents per kWh	Cents per Therm
Light	7-23-watt Compact Fluorescents	2,178	\$ 7,344	\$ -	-	2,786	5	122.49

**TABLE TA 9.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
UTILITY ADMINISTRATION OF NON-IOU PROGRAMS
GAS**

PROGRAM	Administrative Cost Elements					Total
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated		
CA UWCC - (Calif. Urban Water Conservation Council)	\$ 3,579	-	\$ -	-	\$ -	\$ 3,579
Energy Analysis Technologies	\$ 1,180	-	\$ -	-	\$ -	\$ 1,180
Heschong Mahone Group, Inc.	\$ 3,674	-	\$ -	-	\$ -	\$ 3,674
SESCO, Inc.	-	-	\$ -	-	\$ -	-
ADM	-	-	\$ -	-	\$ -	-
ASC	-	-	\$ -	-	\$ -	-
CSU Chico	-	-	\$ -	-	\$ -	-
CSU Fresno	-	-	\$ -	-	\$ -	-
GES (Global Energy Services)	-	-	\$ -	-	\$ -	-
SESCO, Inc.	-	-	\$ -	-	\$ -	-
Total Non-IOU Programs	\$ 8,433	\$ -	\$ -	\$ -	\$ -	\$ 8,433

