

**Joint Utility  
Low Income Energy Efficiency Program,  
2005 Costs and Bill Savings  
Report**

**Final Report**

**Report Date:**

April 26, 2006

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## **Table of Contents**

	<u>Page</u>
1 Executive Summary .....	1
2 Introduction.....	2
2.1 Background to the Bill Savings Method.....	4
2.2 Costs.....	4
2.3 Bill Savings.....	5
2.3.1 Energy Savings Sources.....	5
2.3.2 Life Cycle Bill Savings – General Formula.....	6
2.3.3 Specifics of Calculations and Variables .....	7
2.4 Consistency with AEAP .....	11
3 Analysis of Program Cost and Bill Saving Results .....	13
3.1 Data Presented in this Report.....	13
3.2 Overall Results by Program Year and Utility .....	14
3.2.1 Year-to-Year Differences by Utility .....	16
3.2.2 Year-to-Year Differences Across Service Area.....	19
3.3 Overall Comment on Bill Savings Comparisons .....	22
4 Detailed Tables .....	23
4.1 Program Costs.....	23
4.2 Detailed Life Cycle Bill Savings .....	36
Appendix A – Implementation Rates.....	67
Appendix B – Program Cost Percents .....	71
Appendix C – Memo on Public Workshops .....	74
Appendix D – Typical Non-Energy Benefits.....	90

## **Table of Exhibits**

	<u>Page</u>
Exhibit 1.1 Summary of Bill Savings to Cost Ratios by Service Area.....	1
Exhibit 1.2 Summary of Average Per Home Life Cycle Bill Savings by Service Area.....	1
Exhibit 2.1 Past Bill Savings Reports .....	3
Exhibit 2.2 Energy Sources by Program Year .....	6
Exhibit 2.3 Estimation of Bill Savings .....	7
Exhibit 2.4 Energy Rates Used for Bill Savings Calculations.....	8
Exhibit 2.5 Updated EULs.....	9
Exhibit 2.6 EULs Used in Bill Savings Calculations .....	10
Exhibit 3.1 Summary of Reported Cost Elements by Utility.....	13
Exhibit 3.2 Results Summary by Utility .....	15
Exhibit 3.3 Results Summary Across Utility .....	16
Exhibit 3.4 Number of Homes Treated by Year by Utility.....	17
Exhibit 3.5 Percent Difference between PY2005 and PY2004 .....	17
Exhibit 3.6 Average Number of Installed Refrigerators per Treated Home.....	18
Exhibit 3.7 Change in Measure Installation Rates and Per Home Life Cycle Bill Savings, by Utility 2004 to 2005 .....	19
Exhibit 3.8 Analysis by Service Area, Combined SCE and SoCalGas .....	19
Exhibit 3.9 Graph of Bill Savings to Cost Ratio by Service Area.....	20
Exhibit 3.10 Graph of Bill Savings per Home by Service Area .....	20
Exhibit 3.11 Bill Savings to Cost Ratio with Modified Energy Rates.....	21
Exhibit 3.12 Per Home Savings with Modified Energy and Refrigerator Implementation Rates	22
Exhibit 4.1 PG&E Table TA 7.2 – Program Year 2003 .....	24
Exhibit 4.2 PG&E Table TA 7.2 – Program Year 2004 .....	25
Exhibit 4.3 PG&E Table TA 7.2 – Program Year 2005 .....	26
Exhibit 4.4 SCE Table TA 7.2 – Program Year 2003 .....	27
Exhibit 4.5 SCE Table TA 7.2 – Program Year 2004 .....	28
Exhibit 4.6 SCE Table TA 7.2 – Program Year 2005 .....	29
Exhibit 4.7 SDG&E Table TA 7.2 – Program Year 2003 .....	30
Exhibit 4.8 SDG&E Table TA 7.2 – Program Year 2004 .....	31
Exhibit 4.9 SDG&E Table TA 7.2 – Program Year 2005 .....	32
Exhibit 4.10 SoCalGas Table TA 7.2 – Program Year 2003.....	33

Exhibit 4.11 SoCalGas Table TA 7.2 – Program Year 2004.....	34
Exhibit 4.12 SoCalGas Table TA 7.2 – Program Year 2005.....	35
Exhibit 4.13 PG&E Life Cycle Bill Savings– Program Year 2003.....	37
Exhibit 4.14 PG&E Life Cycle Bill Savings– Program Year 2004.....	40
Exhibit 4.15 PG&E Life Cycle Bill Savings– Program Year 2005.....	43
Exhibit 4.16 SCE Life Cycle Bill Savings– Program Year 2003 .....	46
Exhibit 4.17 SCE Life Cycle Bill Savings– Program Year 2004 .....	48
Exhibit 4.18 SCE Life Cycle Bill Savings– Program Year 2005 .....	51
Exhibit 4.19 SDG&E Life Cycle Bill Savings– Program Year 2003 .....	53
Exhibit 4.20 SDG&E Life Cycle Bill Savings– Program Year 2004.....	56
Exhibit 4.21 SDG&E Life Cycle Bill Savings– Program Year 2005.....	59
Exhibit 4.22 SoCalGas Life Cycle Bill Savings– Program Year 2003.....	61
Exhibit 4.23 SoCalGas Life Cycle Bill Savings– Program Year 2004.....	63
Exhibit 4.24 SoCalGas Life Cycle Bill Savings– Program Year 2005.....	65

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# 1 EXECUTIVE SUMMARY

This report presents the results of applying the accepted methodology for determining costs and bill savings estimates of the Low Income Energy Efficiency (LIEE) program in compliance with Decision (D) 01-12-020, Ordering Paragraph 4. The method used is consistent with cost-effectiveness methods and calculations used in the Annual Earnings Assessment Proceedings (AEAP) and has been used and accepted in five prior cost and bill savings reports. This report presents bill savings and costs for the utilities' Program Year (PY) 2003, PY2004, and PY2005 LIEE programs.

The results of this study are summarized in Exhibits 1.1 and 1.2. In order to compare average customer bill savings across the state, it is useful to compare the total service by service area. For the final analysis purposes of this document, the SoCalGas and SCE programs were assessed as a single entity since they serve roughly the same customers.

## Exhibit 1.1

### Summary of Bill Savings to Cost Ratios by Service Area

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	0.47	0.59	0.52	0.87	0.33
2004	0.49	0.67	0.47	0.95	0.24
2005	0.54	0.68	0.55	0.94	0.23

## Exhibit 1.2

### Summary of Average Per Home Life Cycle Bill Savings by Service Area

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	\$ 519	\$ 485	\$ 680	\$ 481	\$ 199
2004	\$ 522	\$ 645	\$ 554	\$ 413	\$ 141
2005	\$ 623	\$ 788	\$ 757	\$ 591	\$ 166

The following general comments can be made concerning these summary values:

- **PY2003** reasons for cross-utility variations are the refrigerator installation rate and energy rates.
- **PY2004** energy rates played the largest part in the variations among utilities. The significant difference between the bill savings for SoCalGas between PY2003 and PY2004 is due almost entirely to changing the source of the per unit impact values. If the per unit impact values had remained the same between the two years, then the SoCalGas PY 2003 and PY2004 bill saving would have been almost identical.
- **PY2005** similar to PY2003, the variation seen is due to refrigerator installation rates and energy rates.

Overall, for PY2005, the analysis showed that the PY2005 LIEE program delivered comparable savings to program participants statewide.

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## 2 INTRODUCTION

In compliance with Decision (D.) 01-12-020, Ordering Paragraph 4, this report presents an analysis of the estimated costs and bill savings for the Low Income Energy Efficiency (LIEE) program using the methodology developed pursuant to an order from the California Public Utilities Commission (Commission) under D. 00-07-020, Ordering Paragraph 7. Those methods were reported in a report titled “Joint Utility Low Income Energy Efficiency Program Costs and Bill Savings Standardization Report” dated February 1, 2001, and filed with the Commission February 1, 2001, then re-filed on March 12, 2001 as a revised report dated March 5, 2001.

The proposed methodology and the results of the analysis provided in the 2001 Bill Savings Report were adopted for future use under D.01-12-020 dated December 11, 2001. Annual reports have occurred since that time as shown in Exhibit 2.1.

### Exhibit 2.1 Past Bill Savings Reports

<b>Report Name*</b>	<b>Report Date</b>	<b>Program Years (PY) Covered in Report</b>	<b>Report Name in this Document</b>
<i>Joint Utility Low Income Energy Efficiency Program Costs and Bill Savings Standardization Report</i>	March 5, 2001	PY1997 PY1998 PY1999 First Half of PY2000	2001 Bill Savings Report
<i>Joint Utility Low Income Energy Efficiency Program 2001 Costs and Bill Savings Standardization Report</i>	May 31, 2002	PY1999 PY2000 PY2001	2002 Bill Savings Report
<i>Joint Utility Low Income Energy Efficiency Program 2002 Costs and Bill Savings Standardization Report</i>	April 23, 2003	PY2000 PY2001 PY2002	2003 Bill Savings Report
<i>Joint Utility Low Income Energy Efficiency Program 2003 Costs and Bill Savings Standardization Report</i>	April 9, 2004	PY2001 PY2002 PY2003	2004 Bill Savings Report
<i>Joint Utility Low Income Energy Efficiency Program 2004 Costs and Bill Savings Report</i>	April 20, 2005	PY2002 PY2003 PY2004	2005 Bill Savings Report

\*All reports are available online at [www.CALMAC.org](http://www.CALMAC.org). Use the searchable database feature to find the specific report.

This report is the sixth annual such report on the LIEE Bill Savings and covers PY2003, PY2004, and PY2005.

In order to maintain consistency between program years and to follow the methodology created in the 2001 Bill Savings Report, the results presented here do not incorporate any of the non-energy benefits of low income programs.<sup>1</sup>

## ***2.1 Background to the Bill Savings Method***

In mid-2000, the Administrative Law Judge (ALJ) handed down a final opinion on the Program Year 2000 Low Income Assistance Programs (D.00-07-020, dated July 6, 2000). The opinion stated "...our inquiry is limited by the lack of consistent data on program bill savings, expenditures and cost-effectiveness calculations, with which to evaluate the relevant performance of the utilities' LIEE programs."<sup>2</sup> The utilities were directed as follows:

"7. With input from interested parties and the LIAB, the utilities shall jointly develop standardized methods for producing bill savings and expenditures for LIEE programs on an overall program and per unit basis, by utility. The methods used to produce this information shall be consistent with the methodologies used to evaluate energy efficiency costs and savings in the Annual Earnings and Assessment Proceedings (AEAP). The utilities shall coordinate with Energy Division on all aspects of methodology design and implementation.

The utilities shall file a joint report no later than February 1, 2001, presenting the proposed standardized methods and explain how the methods are consistent with cost-effectiveness methods and calculations utilized in the AEAP. In this report, the utilities shall apply the proposed methods to calculate bill savings and expenditures for their PY1997, PY1998, and PY1999 LIEE programs, or explain why a study of a particular program year would be duplicative of what has already been done in the AEAP. In that event, the results of the AEAP study shall be presented. All assumptions and work papers shall be presented. To the extent that data has been compiled for PY2000 programs, the report shall provide bill savings and expenditure calculations for that PY (or portion thereof) as well."<sup>3</sup>

The report ordered by D.00-07-020 was filed on time with errata filed on March 12, 2001. Full details of the methodology used for the ordered report and this subsequent report are provided in the 2001 Bill Savings Report. However, highlights are presented next for clarity.

## ***2.2 Costs***

Throughout this document, the term "cost" is used in lieu of the term "expenditure". This is done because cost is deemed to be the net amount actually paid for goods or services. Expenditure, on the other hand, represents the amount spent, which can be different than the amount paid for the product or service if any portion is reimbursed or recompensed in any way. Costs can be synonymous with expenditure if there is no reimbursement. To reduce confusion, the term cost is

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<sup>1</sup> Low income program cost effectiveness tests often incorporate the non-energy benefits in the calculation: A list of the non-energy benefits typically considered by PG&E is presented Appendix D. The Bill Savings analysis is not a cost effectiveness test, and as such has never incorporated these values in its estimates.

<sup>2</sup> Page 70, Decision 00-07-020 July 6, 2000.

<sup>3</sup> Page 147, Decision 00-07-020 July 6, 2000.

used throughout. In addition, costs only refer to LIEE costs unless otherwise specifically stated. This distinction has been stated and used consistently in all of the LIEE bill savings reports to date.

The 2001 Bill Savings Report made a concerted effort to refine, for LIEE purposes, the cost definitions established in Table TA7.2 of the Reporting Requirements Manual (RRM).

Costs for the LIEE programs are parsed in several ways in Table TA 7.2. There are 18 cost variables along the left side of the table, and each variable is divided into columns for labor, non-labor, and contract costs. These are summed into a fourth column, total cost, for each variable.

Each utility used these common definitions to fill in the costs in Table TA 7.2 for each year being studied. Since the implementation costs cannot be readily allocated by fuel type, the Cost and Bill Savings Standardization Group (consisting of representatives from PG&E, Southern California Edison Company, San Diego Gas and Electric Company, Southern California Gas Company, Energy Division and the Office of Ratepayer Advocates) decided that each utility would prepare a single Table TA 7.2 for each year, covering all costs independent of fuel type.

It is necessary to acknowledge that utility accounting systems are complex and unique. Attempts are made to match costs across utilities, as allowed by the existing accounting systems, and to provide information on where and how reported costs differ.

## **2.3 Bill Savings**

### **2.3.1 Energy Savings Sources**

The bill savings in this report are the estimated lifecycle net present value saved by the average dwelling due to the measures installed under the LIEE programs. Historically, the first year impacts, which go into the life cycle savings estimates, have been determined from measurement and evaluation impact studies performed after the program was fielded. These studies have generally followed the *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs* (Protocols)<sup>4</sup> and are filed in the AEAP. The LIEE programs were evaluated as per Protocol Tables 8A and 8B (Residential Direct Assistance Program) in 1995-6<sup>5</sup>. The 2000 and 2001 impact evaluations described below appear to have also followed the Protocols to the degree that they were still applicable.

The PY2003 measures used different sources of per-unit energy savings than the other two years as shown in Exhibit 2.2.

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<sup>4</sup> D.93-05-063 and revised by subsequent CPUC decisions.

<sup>5</sup> For PG&E, SCE, and SDG&E, this evaluation was required only in 1995 (per Protocol Table 8A) and for SoCalGas it was required in 1996 (Per Protocol Table 8B).

## Exhibit 2.2

### Energy Sources by Program Year

Program Year	Energy Impact Source #1	Energy Impact Source #2
PY2003	<i>Impact Evaluation of the 2000 Statewide Low Income Energy Efficiency (LIEE) Program.</i> XENERGY Inc. and Business Economic Analysis & Research. April 2, 2002.	<i>LIEE Measure Cost Effectiveness Preliminary Report.</i> LIEE Standardization Team. September 23, 2002
PY2004 and PY2005	<i>Impact Evaluation of the 2001 Statewide Low Income Energy Efficiency (LIEE) Program.</i> KEMA-XENERGY Inc. and Business Economic Analysis & Research. April 8, 2003.	<i>LIEE Measure Cost Effectiveness Final Report.</i> LIEE Standardization Team. June 2, 2003.

The analysis underlying the *LIEE Measure Cost Effectiveness Final Report* used estimates of impact from the *Impact Evaluation of the 2001 LIEE Program*. Similarly, the preliminary report was an earlier analysis based on the *Impact Evaluation of the 2000 LIEE Program*. As such, if the appendix of the Energy Impact Source #1 did not have a per-unit impact value, the per-unit impact value was obtained from Energy Impact Source #2.

Different from previous years, the PY2005 SoCalGas bill savings did not include any electric savings accrued by SCE that are attributable to the weatherization measures installed under the SoCalGas LIEE program.

### 2.3.2 Life Cycle Bill Savings – General Formula

Three of the variables that go into any lifecycle bill savings are:

- Residential electrical rate
- Residential therm rate
- Discount rate

The general algorithm used for estimating bill savings is presented in Exhibit 2.3.

## Exhibit 2.3

### Estimation of Bill Savings<sup>6</sup>

$$\text{Life Cycle Bill Savings} = \sum_{m=1}^M \left[ \sum_{r=1}^2 \sum_{Y=1}^{EUL_m} \text{Impact}_m * \text{Number}_m * \text{average energy rate}_{Y,r} * \frac{1}{(1 + \text{DiscountRate})^{Y-1}} \right]$$

where:

- r = fuel type (gas or electric)
- Y = Year, starting with implementation program year
- m = measure type
- energy rate<sub>Y,r</sub> = energy rate (\$ per kWh<sup>7</sup> or therm) for fuel r in year Y
- Impact<sub>m</sub> = measure m gross<sup>8</sup> impact per year (kWh or therm)
- Number<sub>m</sub> = number of measure type m installed
- EUL<sub>m</sub> = effective useful life (years) of measure type m

### 2.3.3 Specifics of Calculations and Variables

#### *Inflation and Discount Rates*

The discount rate was chosen to be consistent with the ALJ Bytof ruling, dated October 25, 2000, in Application (A.) 99-09-049, et. al. The use of this particular value was checked at the beginning of 2006 to see if the ruling had changed.<sup>9</sup> As of the writing of this report, there had been a change that was used for the PY2006-2008 programs. Because the discount rate had not changed for the 2005 program, and because of how savings were forecast, no change in discount rate was made for this report.

The inflation rate of 3 percent was used to develop the discount rate.<sup>10</sup> The following specific values were identified as appropriate for these calculations:

- The inflation rate used was 3 percent.
- The discount rate was 8.15 percent.

#### *Development of Energy Rate Escalation*

Exhibit 2.3 above is the general model for estimating the lifecycle bill savings. Originally, the Cost and Bill Savings Standardization Group thought that one of the best ways to estimate the energy rate escalation was to use values that had already been filed. As a result, the group

<sup>6</sup> It should be noted that this equation, as presented in the PY2005 report, is less generalized than prior years, but more accurately represents the analysis performed in the study. In prior years the equation included a summation across costing periods, which is an accurate depiction of the generalized life cycle cost calculation, but which had no particular relevance to the calculations as done in any of the joint bill savings studies.

<sup>7</sup> Energy rate escalated by 3% each year.

<sup>8</sup> These are defined as gross savings because they are bill savings.

<sup>9</sup> D. 05-04-051, from the bottom of page 24 and the top of page 25. Mike Wan of PG&E informed the team that the adopted value for the discount rate is 7.49% at the time of writing this report. A search of the CPUC website conducted on 03/30/06 was unable to identify any posting. It would be expected that the change in discount rate would be applied to future bill savings analyses.

<sup>10</sup> Conversations with Mike Wan of PG&E.

investigated modeling energy rate escalation after the avoided cost escalation in A.99-09-049 for the Energy Efficiency Programs. However, this model was discarded after much discussion in 2001 about the validity of a model that dramatically decreased rates at a time when rates were increasing. Since the aim of this method was to create bill savings that were comparable between utilities, a constant 3 percent escalation rate was adopted. The 3 percent value was chosen because it is roughly equal to the annual inflation rate.

### ***Estimation of the Average Annual Energy Rates***

The average annual energy rates used by each utility are highly dependent upon the information available in the accounting systems of the individual utility. SDG&E and SoCalGas computed average prices (total revenue minus customer charge divided by total kWh or therms) for all LIEE participants with a complete year of use. SCE, after removing master metered accounts, calculated the average \$/kWh based on the LIEE customer rate schedule and tier level. PG&E calculated the average \$/kWh and \$/therm based on rate schedule (i.e., CARE versus Non-CARE).

Energy rates used by each utility are shown in Exhibit 2.4.

### **Exhibit 2.4**

#### **Energy Rates Used for Bill Savings Calculations**

Year	PG&E		SCE	SDG&E		SoCalGas	
	\$/kWh	\$/Therm	\$/kWh	\$/kWh	\$/Therm	\$/kWh	\$/Therm
2003	0.0992	0.7721	0.1118	0.1380	0.8560	0.1118	0.6970
2004	0.0975	0.8138	0.1016	0.1119	0.8399	0.1016	0.8160
2005	0.0956	1.0310	0.1016	0.1380	0.9870	0.1016	0.9490
All years afterwards	Previous Year * (1+Escalation Rate)						

As shown in Exhibit 2.4, the methodology used in this report escalates the most current energy rate to forecast rates for all years beyond the most current year. The effect of this is that when temporary up- or down-swings in the actual rates occur, the method will estimate falsely low or high life cycle bill savings for future years. However, while there may be dramatic differences between two years, the subsequent year provides a self-correction to this swing.

### ***Effective Useful Life Agreements***

In order to compute life cycle savings, it is necessary to know the average life of the measures installed. In September of 2000, all utilities compared the historic Effective Useful Lives (EULs) being used for LIEE measures, compared these measure lives to the values developed by CALMAC, and, where possible, agreed on common EULs for common measures.

The EULs were revisited during last year's report to determine if the California Energy Commission Database for Energy Efficient Resources (DEER) values should be substituted for the values used to date. Based on that investigation, the decision was made to use

the same EUL used for the previous Bill Savings Reports.<sup>11</sup> However, subsequent to last year's report, a new report was published called *Revised / Updated EULs Based on Retention and Persistence Studies Results*, July 2005<sup>12</sup>. This report was reviewed to determine if any changes should occur in the EULs being used in this analysis. There were five measures in the July 2005 report that coincided with the measures under investigation for bill savings. These are shown in Exhibit 2.5. The revised EULs from the July 2005 report were adopted as the values to be used in the analysis, where applicable. The overall list of EULs used in the 2005 analysis is presented in Exhibit 2.6, along with the source of the EUL.

**Exhibit 2.5**  
**Updated EULs**

<b>Measure</b>	<b>Previous Bill Savings EUL</b>	<b>Revised EUL from July 2005 report</b>
Central Air Conditioners	18	18
Evaporative Coolers	15	15
High Efficiency Furnace	22	18
CFL Fixture, Residential	20	16
Refrigerators	15	18

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<sup>11</sup> Full write up in *Joint Utility Low Income Energy Efficiency Program, 2004 Costs and Bill Savings Report*, April 20, 2005, pages 8-9

<sup>12</sup> This report is available on the DEER Database site and can be downloaded directly from <http://eega.cpuc.ca.gov/deer/downloads/NewEULEstimates7-14-05.doc>

## Exhibit 2.6

### EULs Used in Bill Savings Calculations

Measure	EUL Used	
	Year	Source
Air Conditioner - Central	18	1
Air Conditioner - Room	15	1
Attic Access Weatherstripping	5	2
Attic Insulation (Ceiling Insulation)	25	1
Attic Venting	25	3
Building Envelope Repair	10	5
Caulking	5	5
Compact Fluorescent Hard Wired Porch Lights <sup>++</sup>	16 ; 5.3	8 ; 6
Compact Fluorescent Lights	8	6
Door Threshold	5	5
Door Weatherstripping	5	5
Duct Sealing and Testing	25	1
Energy Education	1	1
Evaporative Cooler (Permanent)	15	4
Evaporative Cooler (Portable)	7	1
Evaporative Cooler Covers (for Permanent)	3	4
Evaporative Cooler Maintenance	4	5
Faucet Aerators	5	4
Furnace Filters	5	2
Furnace Repair (Gas)	10	5
Furnace Replacement (Gas)	18	8
Low Flow Showerhead	10	1
Outlet Gaskets	15	4
Refrigerator Replacement	18	8
Set-back Thermostats	12	1
Water Heater Blanket	5	4
Water Heater Pipe Wrap	15	1
Water Heater Replacement	13	1
Weatherstripping	5	5
Whole House Fans	20	7

#### Source

- 1 CALMAC Workshop Report on PY 2001 Energy Efficiency Programs
- 2 Assumed to have the same EUL as Caulking or Weatherstripping.
- 3 Assumed to have the same EUL as attic insulation
- 4 DSM Measure Life Project, September 23, 1993 (adjusted and non-adjusted)
- 5 Engineering Estimate
- 6 LIEE Measure Cost Effectiveness Preliminary Report. September, 2002.
- 7 July 2001.
- 8 Revised / Updated EULs Based on Retention and Persistence Studies Results. July 8, 2005

<sup>++</sup> The measure tracked here for SCE is one where CFLs in porch lights are installed. The EUL has been appropriately lowered in this case.



## **2.4 Consistency with AEAP**

Throughout the process of creating a program costs and bill savings standardization methodology, every effort was made to keep that methodology consistent with the protocols and practices adopted for the AEAP. The methodology is consistent because:

- The report uses the same project cost tables as proposed by the RRM, with slight modifications and refined definitions for each of the variables in the table.
- The modeling methodology is mathematically the same for the AEAP and this report. However, instead of estimating avoided costs, this methodology estimates life cycle bill savings.
- The discount rate and escalation factors are consistent with those used in the AEAP.
- The lifecycle bill savings used Effective Useful Life values consistent with those used in the AEAP.
- Most of the impacts used are from Protocol-compliant M&E studies that are part of the AEAP.

This completes the summary of the methodology used for computing cost and bill savings. Readers wishing a more complete description of the methodology are referred to the 2001 Bill Savings Report.<sup>13</sup> The next section discusses the analysis of program cost and bill savings data for PY2003 through PY2005.

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<sup>13</sup> This report is downloadable from the [www.CALMAC.org](http://www.CALMAC.org) searchable database. The direct link to the report [http://www.calmac.org/publications/Bill\\_Savings\\_Final\\_Report\\_revised\\_3-12-01.pdf](http://www.calmac.org/publications/Bill_Savings_Final_Report_revised_3-12-01.pdf).

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### 3 ANALYSIS OF PROGRAM COST AND BILL SAVING RESULTS

This section presents an analysis of how the program variables affect the reported bill savings and costs.

#### 3.1 Data Presented in this Report

As discussed in Section 2.2, costs were broken down into the 18 subcategories, and the labor, non-labor and contract elements defined in Table TA 7.2 of the RRM (this table has subsequently been renamed TA 2, but is referred to as TA 7.2 throughout this report). Because each utility's accounting system is different, it was not possible for all utilities to break out the costs in identical fashion. Exhibit 3.1 presents a summary of where each utility reported costs across the three years of analysis covered in this report. (Only 16 cost categories are shown in Exhibit 3.1 because the other two cost categories are not relevant to the utilities.) It should be noted that the current cost breakouts are more uniform than those recorded in the previous Bill Savings report. This is attributed to the ongoing standardization efforts for this program. Exhibit 3.1, in combination with the detailed cost tables and their footnotes presented in Exhibit 4.2 to Exhibit 4.10, creates a comprehensive picture of the cost breakdown supplied by each utility.

#### Exhibit 3.1

#### Summary of Reported Cost Elements by Utility

	Costs Recorded by Cost Element											
	PG&E			SCE			SDG&E			SoCalGas		
Energy Efficiency	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Gas Appliances	X	X	X				X	X	X	X	X	X
Electric Appliances	X	X	X	X	X	X	X	X	X			
Weatherization Measures	X	X	X	X	X	X	X	X	X	X	X	X
Outreach & Assessment	X	X	X	X	X	X				X	X	X
In Home Energy Education	X	X	X	X	X	X	X	X	X	X	X	X
Education Workshops	X						X	X	X			X
Pilots	X	X	X	X					X	X		
Training Center	X	X	X							X	X	X
Inspections	X	X	X	X	X	X	X	X	X	X	X	X
Advertising							X	X	X	X	X	X
M&E Studies	X	X	X	X	X	X		X	X	X	X	X
Regulatory Compliance	X	X	X	X	X	X	X	X	X	X	X	X
Other Administration	X	X	X		X	X		X	X		X	X
Indirect Costs	X	X	X	X	X	X		X			X	
<b>Oversight Costs</b>												
LIAB PY2002				X								
CPUC Energy Division	X	X	X	X	X	X	X	X	X	X	X	X

Based on the bill savings methodology, the following values were calculated for each utility for each of the three years being assessed:

- program costs,
- life cycle bill savings,
- bill savings to cost ratio, and
- per home average life cycle bill savings.

PY2003 and PY2004 were completely analyzed and reported in the 2005 Bill Savings Report. They are not discussed further in this report.

One might expect that the PY2003 and PY2004 bill savings values in this report should be identical to the values presented in the 2005 Bill Savings Report. However, the methodology for the life cycle bill savings uses actual energy rate data as they become available. Therefore, while the PY2005 energy rates were projected rates for the analysis performed for the 2005 Bill Savings Report, the actual rates were known and used for the analysis in this report. This caused the PY2003 and PY2004 results to change between reports. These changes are reflected in the detailed tables in Section 4.2

### ***3.2 Overall Results by Program Year and Utility***

Decision 01-12-020, Ordering Paragraph 4, requires the utilities to present a standardized set of tables summarizing the results both by utility and across utilities. The overall analysis results are summarized below by utility in Exhibit 3.2 and across utilities in Exhibit 3.3. These results, and discussion of the factors that explain variations, are addressed in the sections that follow these exhibits. Also, as was done in previous reports, the results are then summarized by “utility service area”.

### Exhibit 3.2 Results Summary by Utility

#### PG&E Summary

Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 52,520,409	\$ 24,527,278	0.47	\$ 519
2004	\$ 51,826,340	\$ 25,355,922	0.49	\$ 522
2005	\$ 64,676,874	\$ 35,125,172	0.54	\$ 623

#### SCE Summary

Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 18,664,182	\$ 16,210,842	0.87	\$ 481
2004	\$ 16,264,898	\$ 15,417,722	0.95	\$ 413
2005	\$ 22,896,323	\$ 21,525,767	0.94	\$ 591

#### SDG&E Summary

Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 12,865,219	\$ 7,617,205	0.59	\$ 485
2004	\$ 14,405,365	\$ 9,607,052	0.67	\$ 645
2005	\$ 12,970,508	\$ 8,864,286	0.68	\$ 788

#### SoCalGas Summary

Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 33,998,942	\$ 11,388,701	0.33	\$ 199
2004	\$ 32,595,808	\$ 7,730,493	0.24	\$ 141
2005	\$ 28,834,253	\$ 6,737,194	0.23	\$ 166

### Exhibit 3.3 Results Summary Across Utility

#### *Program Costs*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 52,520,409	\$ 18,664,182	\$ 12,865,219	\$ 33,998,942
2004	\$ 51,826,340	\$ 16,264,898	\$ 14,405,365	\$ 32,595,808
2005	\$ 64,676,874	\$ 22,896,323	\$ 12,970,508	\$ 28,834,253

#### *Life Cycle Bill Savings*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 24,527,278	\$ 16,210,842	\$ 7,617,205	\$ 11,388,701
2004	\$ 25,355,922	\$ 15,417,722	\$ 9,607,052	\$ 7,730,493
2005	\$ 35,125,172	\$ 21,525,767	\$ 8,864,286	\$ 6,737,194

#### *Bill Savings to Cost Ratio*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	0.47	0.87	0.59	0.33
2004	0.49	0.95	0.67	0.24
2005	0.54	0.94	0.68	0.23

#### *Per Home Life Cycle Bill Savings*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 519	\$ 481	\$ 485	\$ 199
2004	\$ 522	\$ 413	\$ 645	\$ 141
2005	\$ 623	\$ 591	\$ 788	\$ 166

While the presentation of values by and across utilities allow for some insight into the results of the program, a more detailed analysis and discussion of the various values identifies some of the reasons for apparent variations. A discussion of the year-to-year differences for each utility will be presented first, followed by an analysis and discussion of the differences seen across utilities.

#### 3.2.1 Year-to-Year Differences by Utility

From 1997 to 2005, the LIEE program has treated 1.3 million homes in California (based on the homes treated in the Bill Savings Reports). The number of homes treated in each of the three years covered in this report (Exhibit 3.4) helps explain some of the values in Exhibit 3.2 and Exhibit 3.3.

### Exhibit 3.4

#### Number of Homes Treated by Year by Utility

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	47,271	33,732	15,706	57,179
2004	48,546	37,348	14,897	54,677
2005	56,388	36,420	11,254	40,523

Exhibit 3.4 illustrates that SCE has a slight decrease in the number of homes treated in 2005 compared to the prior year, while PG&E increased the number of homes treated by 16 percent in 2005. SDG&E and SoCalGas both show a decrease of approximately 25 percent from 2004 to 2005 in the number of homes treated. If the number of homes treated changed, there tended to be a similar directional change in the program costs and life cycle bill savings. (See Exhibit 3.5) The one exception to this was SCE, which had a large increase in program costs while treating slightly fewer homes than last year. However, as shown, each utility ended up with an increase in life cycle bill savings that was comparable to the percent increase in program costs.

### Exhibit 3.5

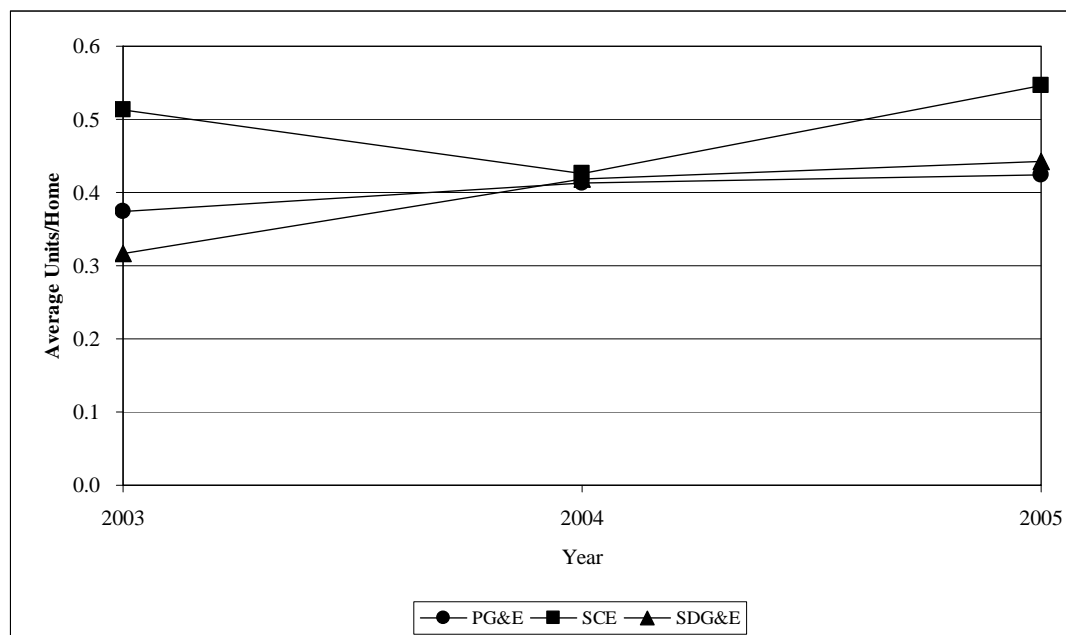
#### Percent Difference between PY2005 and PY2004

Topic	PG&E	SDG&E	SCE	SoCalGas
Program Costs	25%	-10%	41%	-12%
Homes Treated	16%	-24%	-2%	-26%
Life Cycle Bill Savings	39%	-8%	40%	-13%

Historically, one of the biggest reasons for differences in bill savings across the years for the three electric utilities has been the variation in the number of installed refrigerators. Exhibit 3.6 presents the average per home installation rate for refrigerators, by utility, from 2003 through 2005.

### Exhibit 3.6

#### Average Number of Installed Refrigerators per Treated Home



Large variation in savings from year to year has often been due to the combination of significant fluctuations in the number of refrigerators installed, the large per-refrigerator impact and long life of the measure. However, for PY2005, two of the three service areas had very similar refrigerator implementation rates from the previous year, indicating that this was not the sole reason for differences in the PY2005 bill savings per home.

The three year longer EUL for the refrigerators most likely increased the estimated lifecycle bill savings for all homes. Additionally, analysis of the implementation rates of the various measures showed that, in 2005, all the utilities increased the rate at which water heating measures and CFLs were installed. Since these measures provide slightly more savings than weatherization measures and often have a long life in the home, it was hypothesized that the per home bill savings increased for all treated homes in 2005. To test the level of influence that the EUL and implementation rates played, the EUL and four measures (refrigerators, CFLs, showerheads, and furnace repair/replace) were modified to reflect the same EUL and implementation rates as shown in PY2004. Once these items were modified, the PY2005 per home life cycle bill savings were within twelve percent of the value from PY2004, which supported the previous assumptions.



### Exhibit 3.7

#### Change in Measure Installation Rates and Per Home Life Cycle Bill Savings, by Utility 2004 to 2005

Item	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
Original	\$ 623	\$ 788	\$ 757	\$ 591	\$ 166
Modified EUL	\$ 581	\$ 726	\$ 703	\$ 534	\$ 169
Modified EUL and Measures*	\$ 542	\$ 685	\$ 588	\$ 430	\$ 158
Difference in Modified EUL and Measures from PY2004	4%	6%	6%	4%	12%

\*Measures modified were: refrigerators, CFLs, showerheads, and furnace repair/replace

### 3.2.2 Year-to-Year Differences Across Service Area

This section analyzes trends between the utility service areas, by year. In order to compare average customer bill savings across the state, it is useful to compare the total service by service area. For the purposes of this document, the SCE and SoCalGas programs were assessed as a single entity since they serve roughly the same customers.<sup>14</sup> Exhibit 3.8 presents the overall bill savings to cost ratios and per home life cycle bill savings values for each of the three “service areas”, along with the individual values for SCE and SoCalGas, for 2003 through 2005.

### Exhibit 3.8

#### Analysis by Service Area, Combined SCE and SoCalGas

##### *Bill Savings to Cost Ratio*

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	0.47	0.59	0.52	0.87	0.33
2004	0.49	0.67	0.47	0.95	0.24
2005	0.54	0.68	0.55	0.94	0.23

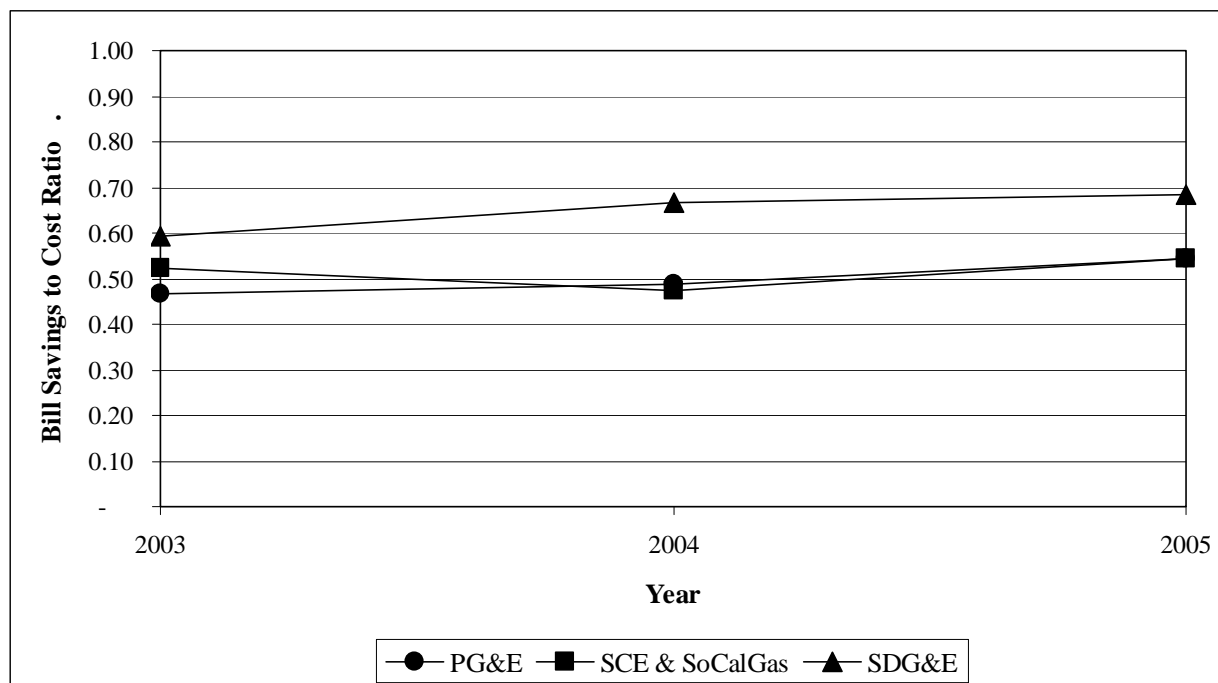
##### *Per Home Life Cycle Bill Savings*

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	\$ 519	\$ 485	\$ 680	\$ 481	\$ 199
2004	\$ 522	\$ 645	\$ 554	\$ 413	\$ 141
2005	\$ 623	\$ 788	\$ 757	\$ 591	\$ 166

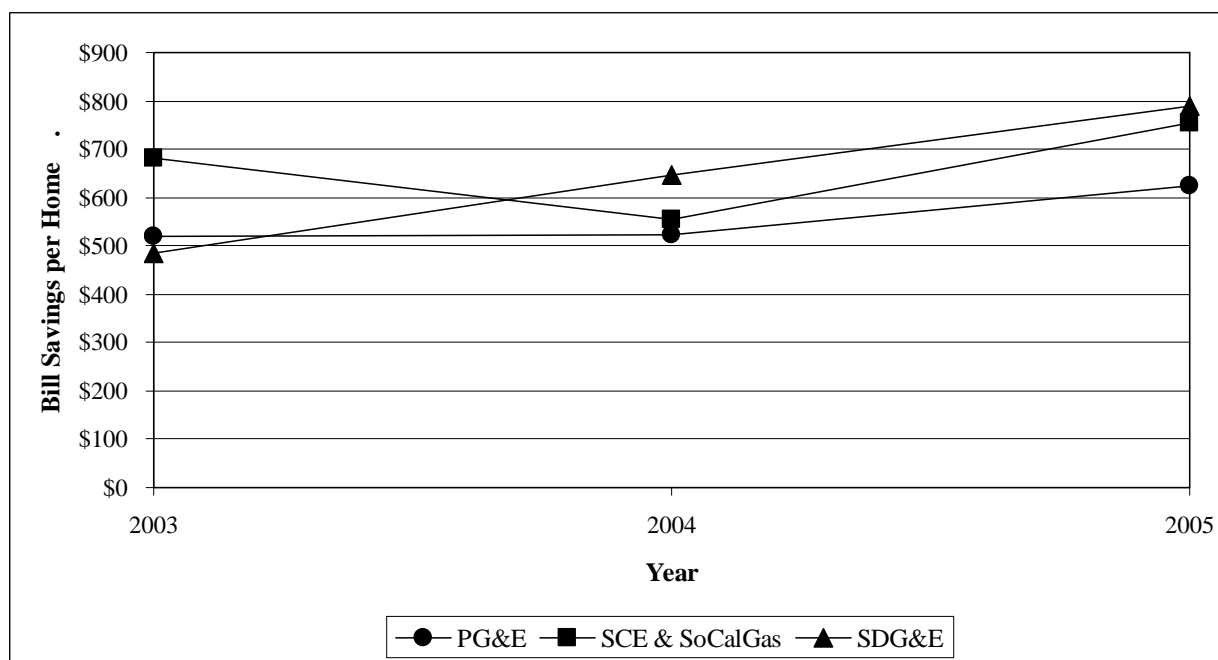
Exhibit 3.9 and Exhibit 3.10 present plots of the values shown in Exhibit 3.8.

<sup>14</sup> This is the same assessment protocol as was followed in the previous Bill Savings Reports.

**Exhibit 3.9**  
**Graph of Bill Savings to Cost Ratio by Service Area**



**Exhibit 3.10**  
**Graph of Bill Savings per Home by Service Area**



In an attempt to identify the reasons for the differences shown above between the service areas in 2005, the costs and benefits were examined in detail. Because PY2003 and PY 2004 were fully

analyzed in the 2005 Bill Savings Report, no other comment on the differences between the utilities is presented here for those years.

### ***Utility Rates***

Exhibit 3.9 and Exhibit 3.10 indicate that the spread in bill savings to cost ratio among the utilities was slightly less than in PY2003 or PY2004. A comparison of the effect of the different energy rates was performed to determine how much of the variation was due to differences in rates.

The energy rates were modified by averaging them across utilities and using this modified rate to calculate a modified bill savings to cost ratio for PY2005. As shown in Exhibit 3.11, the differences in the bill savings to cost ratios were due mainly to rate differences since normalizing this rate brought the bill savings to cost ratio values for all utilities within three percent of each other.

### **Exhibit 3.11**

#### **Bill Savings to Cost Ratio with Modified Energy Rates**

	<b>PG&amp;E</b>	<b>SCE/SoCalGas</b>	<b>SDG&amp;E</b>
Original Bill Savings to Cost Ratio	0.54	0.55	0.68
Actual PY2005 Energy Rate	0.0956 kWh 1.0310 Therm	0.1016 kWh 0.9490 Therm	0.140 kWh 0.990 Therm
Assumed Modified Energy Rate	0.1117 kWh 0.9890 Therm		
Modified Bill Savings to Cost Ratio	<b>0.61</b>	<b>0.60</b>	<b>0.58</b>

### ***Bill Savings Per Home Differences***

The effects of using the average utility rates were tested. As expected, the per home savings for SDG&E was reduced and the PG&E and SCE/SoCalGas savings were increased. If the refrigerator implementation rate for SCE was reduced to be similar to PG&E and SDG&E, the per home savings was reduced to a value similar to PG&E. The differences between the per home savings by utility can be explained by energy rates for SDG&E and refrigerator implementation rates for SCE. (See values in Exhibit 3.12.)

### Exhibit 3.12

#### Per Home Savings with Modified Energy and Refrigerator Implementation Rates

Topic	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
Original	\$ 623	\$ 788	\$ 757	\$ 591	\$ 166
Modified Energy Rates (All)	\$ 696	\$ 665	\$ 827	\$ 654	\$ 173
Modified Refrigerator Rate (SCE)	\$ 623	\$ 788	\$ 653	\$ 487	\$ 166
Modified Energy Rate (All) and Refrigerator Rate (SCE)	\$ 696	\$ 665	\$ 660	\$ 487	\$ 173

### 3.3 Overall Comment on Bill Savings Comparisons

Previous bill savings reports showed that primary factors controlling per home bill savings were the per-unit cost of energy (i.e., utility rates) and installation rates of the measures. In PY2005, these two factors continued to be the driving force between the differences seen. Once taken into account, per home savings were within six percent of each other across the three “service areas”. In short, this analysis shows that the PY2005 LIEE program delivered comparable savings to program participants statewide.

## **4 DETAILED TABLES**

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This section presents the program costs as broken down in RRM Table TA 7.2 and the life cycle bill savings by measure type, by utility.

### ***4.1 Program Costs***

This section contains the detailed program costs for each utility and each program year.

**Exhibit 4.1**  
**PG&E Table TA 7.2 – Program Year 2003**

	Costs Recorded by Cost Element - 2003			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ -	\$ 45,865	\$ 3,509,010	\$ 3,554,875
Electric Appliances <sup>6</sup>	\$ -	\$ 220,863	\$ 15,464,689	\$ 15,685,552
Weatherization Measures	\$ -	\$ 198,233	\$ 13,970,482	\$ 14,168,715
Outreach & Assessment	\$ -	\$ 35,988	\$ 2,078,668	\$ 2,114,656
In Home Energy Education	\$ -	\$ 21,982	\$ 1,935,435	\$ 1,957,417
Education Workshops	\$ 522	\$ 601	\$ -	\$ 1,124
<i>Energy Efficiency TOTAL</i>	\$ 522	\$ 523,531	\$ 36,958,285	\$ 37,482,338
<b>Pilots</b>				
Leveraging Pilot	\$ -	\$ 920	\$ 68,709	\$ 69,629
Phase 4 Pilot	\$ 1,818	\$ 3,411	\$ 31,171	\$ 36,401
<i>Total Pilots</i>	\$ 1,818	\$ 4,332	\$ 99,880	\$ 106,030
Training Center	\$ 59,653	\$ 93,157	\$ 47,059	\$ 199,869
Inspections	\$ 1,646,212	\$ 1,771,858	\$ 100,107	\$ 3,518,177
Advertising	\$ -	\$ -	\$ 0	\$ -
M&E Studies <sup>1</sup>	\$ 12,167	\$ 2,204	\$ 405,859	\$ 420,230
Regulatory Compliance <sup>2</sup>	\$ 203,619	\$ 206,469	\$ 8,511	\$ 418,600
Other Administration <sup>3</sup>	\$ 810,199	\$ 1,167,366	\$ 4,844,188	\$ 6,821,753
Indirect Costs <sup>4</sup>	\$ 3,507,391	\$ -	\$ -	\$ 3,507,391
<b>Oversight Costs</b>				
LIOB Expense	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ -	\$ 46,021	\$ 46,021
<i>Total Oversight Costs</i>	\$ -	\$ -	\$ 46,021	\$ 46,021
<b>Total Costs<sup>5</sup></b>	<b>\$ 6,241,583</b>	<b>\$ 3,768,917</b>	<b>\$ 42,509,909</b>	<b>\$ 52,520,409</b>

Notes:

- <sup>1</sup> M&E studies include: Bill Savings, and Cost Effectiveness Testing, Phase 4 Study.
- <sup>2</sup> Regulatory Compliance includes LIEE Standardization, RRM Working Group Report, EPO, Leveraging Report, and Monthly CPUC Reports.
- <sup>3</sup> Includes PG&E's program management and prime contractor's management.
- <sup>4</sup> Indirect costs include Combustable Appliances Safety Testing, which is not part of the LIEE budget.
- <sup>5</sup> Total costs include CAS Testing, which is not part of the LIEE budget.

**Exhibit 4.2**

**PG&E Table TA 7.2 – Program Year 2004**

	Costs Recorded by Cost Element - 2004			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ -	\$ 10,916	\$ 1,963,918	\$ 1,974,834
Electric Appliances <sup>6</sup>	\$ -	\$ 66,743	\$ 16,599,118	\$ 16,665,861
Weatherization Measures	\$ -	\$ 20,863	\$ 10,251,193	\$ 10,272,056
Outreach & Assessment	\$ -	\$ 30,584	\$ 3,042,146	\$ 3,072,730
In Home Energy Education	\$ -	\$ 31,288	\$ 3,067,252	\$ 3,098,540
Education Workshops	\$ -	\$ -	\$ -	\$ -
<b>Energy Efficiency TOTAL</b>	\$ -	\$ 160,393	\$ 34,923,627	\$ 35,084,020
<b>Pilots</b>				
Leveraging Pilot	\$ -	\$ -	\$ 185,332	\$ 185,332
LIHEAP Leveraging	\$ -	\$ 6,563	\$ 336,270	\$ 342,833
<b>Total Pilots</b>	\$ -	\$ 6,563	\$ 521,602	\$ 528,165
Training Center	\$ 112,414	\$ 120,814	\$ 98,070	\$ 331,298
Inspections	\$ 1,922,141	\$ 1,084,826	\$ 80,703	\$ 3,087,670
Advertising	\$ -	\$ -	\$ -	\$ -
M&E Studies <sup>1</sup>	\$ -	\$ 0	\$ 201,258	\$ 201,258
Regulatory Compliance <sup>2</sup>	\$ 214,947	\$ 85,602	\$ 7,830	\$ 308,380
Other Administration <sup>3</sup>	\$ 1,093,705	\$ 1,210,199	\$ 8,098,968	\$ 10,402,873
Indirect Costs <sup>4</sup>	\$ -	\$ 1,858,439	\$ -	\$ 1,858,439
<b>Oversight Costs</b>				
LIOB Expense	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ -	\$ 24,237	\$ 24,237
<b>Total Oversight Costs</b>	\$ -	\$ -	\$ 24,237	\$ 24,237
<b>Total Costs<sup>5</sup></b>	<b>\$ 3,343,208</b>	<b>\$ 4,526,836</b>	<b>\$ 43,956,296</b>	<b>\$ 51,826,340</b>

Notes:

<sup>1</sup> M&E studies include: Bill Savings, 2001 Program Evaluation, Standardization Phase 4, and 2002 Impact Evaluation

<sup>2</sup> Regulatory Compliance includes LIEE Standardization, RRM Working Group and all CPUC Reports.

<sup>3</sup> Includes PG&E's program management and prime contractor's management.

<sup>4</sup> Indirect costs include NGAT, which is not part of the LIEE budget.

<sup>5</sup> Total costs include NGAT, which is not part of the LIEE budget.

**Exhibit 4.3**  
**PG&E Table TA 7.2 – Program Year 2005**

	Costs Recorded by Cost Element - 2005 <sup>1</sup>			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ -	\$ 24,534	\$ 3,733,674	\$ 3,758,208
Electric Appliances <sup>6</sup>	\$ 26	\$ 133,647	\$ 25,067,231	\$ 25,200,904
Weatherization Measures	\$ -	\$ 73,536	\$ 14,688,870	\$ 14,762,406
Outreach & Assessment	\$ -	\$ 22,083	\$ 4,390,450	\$ 4,412,533
In Home Energy Education	\$ -	\$ 23,223	\$ 4,627,625	\$ 4,650,848
Education Workshops	\$ -	\$ -	\$ -	\$ -
<i>Energy Efficiency TOTAL</i>	\$ 26	\$ 277,023	\$ 52,507,850	\$ 52,784,899
<b>Pilots</b>				
Leveraging Pilot	\$ 230	\$ 3,745	\$ 788,709	\$ 792,684
LIHEAP Leveraging	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ 230	\$ 3,745	\$ 788,709	\$ 792,684
Training Center	\$ 93,482	\$ 98,626	\$ 104,673	\$ 296,781
Inspections	\$ 1,616,767	\$ 931,814	\$ 53,414	\$ 2,601,995
Advertising	\$ -	\$ -	\$ -	\$ -
M&E Studies <sup>2</sup>	\$ 102	\$ (3,484)	\$ 100,582	\$ 97,200
Regulatory Compliance <sup>3</sup>	\$ 170,983	\$ 80,208	\$ 8,544	\$ 259,735
Other Administration <sup>4</sup>	\$ 922,273	\$ 802,506	\$ 4,262,604	\$ 5,987,383
Indirect Costs <sup>5</sup>	\$ -	\$ 1,810,697	\$ -	\$ 1,810,697
<b>Oversight Costs</b>				
LIOB Expense	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ 45,500	\$ -	\$ 45,500
<i>Total Oversight Costs</i>	\$ -	\$ 45,500	\$ -	\$ 45,500
<b>Total Costs<sup>6</sup></b>	<b>\$ 2,803,863</b>	<b>\$ 4,046,635</b>	<b>\$ 57,826,376</b>	<b>\$ 64,676,874</b>

Notes:

<sup>1</sup> The 2005 expenditures include all PY 2005 low income energy efficiency program costs booked in December 31, 2005 and costs associated with PY 2005 installations paid in January and February of 2006. These costs are unaudited and do not reconcile to any reports submitted to the CPUC.

<sup>2</sup> M&E studies include: Bill Savings, 2001 Program Evaluation, Standardization Phase 4, and 2002 Impact Evaluation

<sup>3</sup> Regulatory Compliance includes LIEE Standardization, RRM Working Group and all CPUC Reports.

<sup>4</sup> Includes PG&E's program management and prime contractor's management costs.

<sup>5</sup> Indirect costs include NGAT, which is not recovered in the LIEE balancing account.

<sup>6</sup> Total costs include NGAT, which is not part of the LIEE budget.



**Exhibit 4.4**

**SCE Table TA 7.2 – Program Year 2003**

	Costs Recorded by Cost Element - 2003 <sup>[1]</sup>			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
- Gas Appliances	\$ -	\$ -	\$ -	\$ -
- Electric Appliances	\$ 845,025	\$ 325,055	\$ 14,446,027	\$ 15,616,106
- Weatherization	\$ 73,772	\$ 713,139	\$ 232,593	\$ 1,019,505
- Outreach & Assessment <sup>[2]</sup>	\$ -	\$ -	\$ 925,689	\$ 925,689
- In Home Energy Education	\$ 20	\$ -	\$ 244,765	\$ 244,785
- Education Workshop	\$ -	\$ -	\$ -	\$ -
<b>Energy Efficiency TOTAL</b>	\$ 918,817	\$ 1,038,194	\$ 15,849,075	\$ 17,806,086
<b>Pilots</b>				
- Pilot (A)				\$ -
- Pilot (Cool Center)		\$ 226	\$ 150,314	\$ 150,541
<b>Total Pilots</b>				\$ 150,541
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ -	\$ -	\$ 105,160	\$ 105,160
Advertising	\$ -	\$ -	\$ -	\$ -
M&E Studies	\$ 165,453	\$ -	\$ -	\$ 165,453
Regulatory Compliance	\$ 63,126	\$ -	\$ -	\$ 63,126
Other Administration	\$ -	\$ -	\$ -	\$ -
Indirect Costs	\$ 260,305	\$ -	\$ -	\$ 260,305
<b>Oversight Costs</b>				
- LIAB Start-up	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2001	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2002	\$ -	\$ 20,839	\$ -	\$ 20,839
CPUC Energy Division	\$ -	\$ 92,673	\$ -	\$ 92,673
<b>Total Oversight Costs</b>	\$ -	\$ 113,512	\$ -	\$ 113,512
<b>Total Costs</b>	<b>\$ 1,407,700</b>	<b>\$ 1,151,932</b>	<b>\$ 16,104,549</b>	<b>\$ 18,664,182</b>

[1] - PGC & SBX expenses

[2] - Part of Electric Appliance and WX expenses in Rapid Deployment report

**Exhibit 4.5**

**SCE Table TA 7.2 – Program Year 2004**

	Costs Recorded by Cost Element - 2004			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
- Gas Appliances	\$ -	\$ -	\$ -	\$ -
- Electric Appliances	\$ -	\$ -	\$ 12,467,946	\$ 12,467,946
- Weatherization	\$ -	\$ -	\$ 22,225	\$ 22,225
- Outreach & Assessment	\$ -	\$ -	\$ 1,409,106	\$ 1,409,106
- In Home Energy Education	\$ -	\$ -	\$ 206,943	\$ 206,943
- Education Workshop	\$ -	\$ -	\$ -	\$ -
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 14,106,220	\$ 14,106,220
<b>Pilots</b>				
- Pilot (A)	\$ -	\$ -	\$ -	\$ -
- Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ -	\$ -	\$ 173,070	\$ 173,070
Advertising	\$ -	\$ -	\$ -	\$ -
M&E Studies	\$ 300,661	\$ -	\$ -	\$ 300,661
Regulatory Compliance	\$ 67,529	\$ -	\$ -	\$ 67,529
Other Administration	\$ 1,020,821	\$ 296,486	\$ -	\$ 1,317,308
Indirect Costs	\$ 267,233	\$ -	\$ -	\$ 267,233
<b>Oversight Costs</b>				
- LIAB Start-up	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2001	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2002	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ 32,877	\$ -	\$ 32,877
<i>Total Oversight Costs</i>	\$ -	\$ 32,877	\$ -	\$ 32,877
<b>Total Costs</b>	<b>\$ 1,656,244</b>	<b>\$ 329,363</b>	<b>\$ 14,279,290</b>	<b>\$ 16,264,898</b>

**Exhibit 4.6**

**SCE Table TA 7.2 – Program Year 2005**

	Costs Recorded by Cost Element - 2005			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
- Gas Appliances	\$ -	\$ -	\$ -	\$ -
- Electric Appliances	\$ -	\$ -	\$ 17,693,102	\$ 17,693,102
- Weatherization	\$ -	\$ -	\$ 204,725	\$ 204,725
- Outreach & Assessment	\$ -	\$ -	\$ 1,742,046	\$ 1,742,046
- In Home Energy Education	\$ -	\$ -	\$ 660,838	\$ 660,838
- Education Workshop	\$ -	\$ -	\$ -	\$ -
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 20,300,710	\$ 20,300,710
<b>Pilots</b>				
- Pilot (A)	\$ -	\$ -	\$ -	\$ -
- Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ -	\$ -	\$ 154,183	\$ 154,183
Advertising	\$ -	\$ -	\$ -	\$ -
M&E Studies	\$ 17,899	\$ -	\$ -	\$ 17,899
Regulatory Compliance	\$ 53,432	\$ -	\$ -	\$ 53,432
Other Administration	\$ 1,625,901	\$ 427,962	\$ -	\$ 2,053,863
Indirect Costs	\$ 275,886	\$ -	\$ -	\$ 275,886
<b>Oversight Costs</b>				
- LIAB Start-up	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2001	\$ -	\$ -	\$ -	\$ -
- LIAB PY 2002	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ 40,350	\$ -	\$ 40,350
<i>Total Oversight Costs</i>	\$ -	\$ 40,350	\$ -	\$ 40,350
<b>Total Costs</b>	\$ 1,973,118	\$ 468,311	\$ 20,454,893	\$ 22,896,323

**Exhibit 4.7**

**SDG&E Table TA 7.2 – Program Year 2003**

	Costs Recorded by Cost Element - 2003			
	Labor	Non-Labor	Contract	TOTAL
<b>Energy Efficiency</b>				
- Gas Appliances	\$ 853	\$ 5,244	\$ 703,253	\$ 709,349
- Electric Appliances	\$ -	\$ 26,844	\$ 3,968,607	\$ 3,995,452
- Weatherization Measures	\$ 202,149	\$ 256,503	\$ 4,751,340	\$ 5,209,992
- Outreach and Marketing	\$ -	\$ -	\$ -	\$ -
- In Home Energy Education	\$ 88,087	\$ 227,109	\$ 951,102	\$ 1,266,298
- Education Workshops	\$ 79,364	\$ 63,656	\$ 204,532	\$ 347,552
<i>Energy Efficiency TOTAL</i>	\$ 370,452	\$ 579,356	\$ 10,578,835	\$ 11,528,643
<b>Pilots</b>				
- Pilot (A)	\$ -	\$ -	\$ -	\$ -
- Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ 138,327	\$ 143,195	\$ 354,548	\$ 636,071
Advertising	\$ 961	\$ 17,608	\$ 388,997	\$ 407,566
M&E Studies	\$ -	\$ -	\$ -	\$ -
Regulatory Compliance	\$ 108,779	\$ 118,795	\$ 44,993	\$ 272,568
Other Administration	\$ -	\$ -	\$ -	\$ -
Indirect Costs	\$ -	\$ -	\$ -	\$ -
<b>Oversight Costs</b>				
- LIAB Start-Up	\$ -	\$ -	\$ -	\$ -
- LIAB PY Past Year	\$ -	\$ -	\$ -	\$ -
- LIAB PY Present Year	\$ -	\$ -	\$ -	\$ -
- CPUC Energy Division	\$ -	\$ 20,372.10	\$ -	\$ 20,372
<i>Total Oversight Costs</i>	\$ -	\$ 20,372	\$ -	\$ 20,372
<b>Total Costs</b>	<b>\$ 618,520</b>	<b>\$ 879,326</b>	<b>\$ 11,367,373</b>	<b>\$ 12,865,219</b>

**Exhibit 4.8**

**SDG&E Table TA 7.2 – Program Year 2004**

	Costs Recorded by Cost Element - 2004			
	Labor	Non-Labor	Contract	TOTAL
<b>Energy Efficiency</b>				
- Gas Appliances	Labor	Non-Labor	\$ 1,178,453	\$ 1,178,453
- Electric Appliances	\$ -	\$ -	\$ 5,021,091	\$ 5,021,091
- Weatherization Measures	\$ -	\$ -	\$ 4,214,964	\$ 4,214,964
- Outreach and Marketing	\$ -	\$ -	\$ -	\$ -
- In Home Energy Education	\$ -	\$ -	\$ 1,412,499	\$ 1,412,499
- Education Workshops	\$ -	\$ -	\$ 64,361	\$ 64,361
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 11,891,368	\$ 11,891,368
<b>Pilots</b>				
- Pilot (A)	\$ -	\$ -	\$ -	\$ -
- Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ 95,455	\$ 15,422	\$ 731	\$ 111,609
Advertising	\$ -	\$ 13,073	\$ 591,645	\$ 604,718
M&E Studies	\$ -	\$ 1,658	\$ 43,557	\$ 45,215
Regulatory Compliance	\$ 113,006	\$ (278,101)	\$ 337,812	\$ 172,717
Other Administration	\$ 736,906	\$ 77,233	\$ 121,263	\$ 935,403
Indirect Costs	\$ -	\$ 627,431	\$ -	\$ 627,431
<b>Oversight Costs</b>				
- LIAB Start-Up	\$ -	\$ -	\$ -	\$ -
- LIAB PY Past Year	\$ -	\$ -	\$ -	\$ -
- LIAB PY Present Year	\$ -	\$ -	\$ -	\$ -
- CPUC Energy Division	\$ -	\$ 12,473.32	\$ 4,430.97	\$ 16,904
<i>Total Oversight Costs</i>	\$ -	\$ 12,473	\$ 4,431	\$ 16,904
<i>Total Costs</i>	\$ 945,368	\$ 469,189	\$ 12,990,808	\$ 14,405,365

**Exhibit 4.9**

**SDG&E Table TA 7.2 – Program Year 2005**

	Costs Recorded by Cost Element - 2005			
		Non-Labor	Contract	TOTAL
<b>Energy Efficiency</b>				
- Gas Appliances	\$ -	\$ -	\$ 1,189,792	\$ 1,189,792
- Electric Appliances	\$ -	\$ -	\$ 4,446,484	\$ 4,446,484
- Weatherization Measures	\$ -	\$ -	\$ 3,636,948	\$ 3,636,948
- Outreach and Marketing	\$ -	\$ -	\$ -	\$ -
- In Home Energy Education	\$ -	\$ -	\$ 1,460,140	\$ 1,460,140
- Education Workshops	\$ -	\$ -	\$ 85,858	\$ 85,858
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 10,819,222	\$ 10,819,222
<b>Pilots</b>				
- Pilot (A)	\$ -	\$ 711	\$ -	\$ 711
- Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ 711	\$ -	\$ 711
Training Center	\$ -	\$ -	\$ -	\$ -
Inspections	\$ 88,758	\$ 6,272	\$ -	\$ 95,030
Advertising	\$ -	\$ 449,393	\$ -	\$ 449,393
M&E Studies	\$ 11,448	\$ 36,103	\$ -	\$ 47,552
Regulatory Compliance	\$ 192,262	\$ 80,647	\$ -	\$ 272,909
Other Administration	\$ 1,180,603	\$ 86,364	\$ -	\$ 1,266,967
Indirect Costs	\$ -	\$ -	\$ -	\$ -
<b>Oversight Costs</b>				
- LIAB Start-Up	\$ -	\$ -	\$ -	\$ -
- LIAB PY Past Year	\$ -	\$ -	\$ -	\$ -
- LIAB PY Present Year	\$ -	\$ -	\$ -	\$ -
- CPUC Energy Division	\$ -	\$ 18,724.80	\$ -	\$ 18,725
<i>Total Oversight Costs</i>	\$ -	\$ 18,725	\$ -	\$ 18,725
<b>Total Costs</b>	<b>\$ 1,473,071</b>	<b>\$ 678,214</b>	<b>\$ 10,819,222</b>	<b>\$ 12,970,508</b>

**Exhibit 4.10**

**SoCalGas Table TA 7.2 – Program Year 2003**

	Costs Recorded by Cost Element - 2003			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ 610,806	\$ -	\$ 8,997,394	\$ 9,608,199
Electric Appliances	\$ -	\$ -	\$ -	\$ -
Weatherization Measures	\$ 1,155,380	\$ -	\$ 17,019,174	\$ 18,174,554
Outreach & Assessment	\$ 201,426	\$ -	\$ 2,967,080	\$ 3,168,506
In Home Energy Education	\$ 81,201	\$ -	\$ 1,196,114	\$ 1,277,314
Education Workshops	\$ -	\$ -	\$ -	\$ -
<i>Energy Efficiency TOTAL</i>	\$ 2,048,813	\$ -	\$ 30,179,762	\$ 32,228,574
<b>Pilots</b>				
Pilot (NGAT Appliances)	\$ 1,933	\$ -	\$ 28,473	\$ 30,406
Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ 1,933	\$ -	\$ 28,473	\$ 30,406
Administration	\$ -	\$ -	\$ -	\$ -
Training Center	\$ 780	\$ -	\$ 11,485	\$ 12,265
Inspections	\$ 79,316	\$ -	\$ 1,168,358	\$ 1,247,674
Advertising	\$ 22,760	\$ -	\$ 335,261	\$ 358,021
M&E Studies	\$ 4,465	\$ -	\$ 65,765	\$ 70,230
Regulatory Compliance	\$ 1,897	\$ -	\$ 27,941	\$ 29,838
Other Administration	\$ -	\$ -	\$ -	\$ -
Indirect Costs			\$ -	\$ -
<b>Oversight Costs</b>				
LIOB Expenses				\$ -
CPUC Energy Division			\$ 21,932.96	\$ 21,933
<i>Total Oversight Costs</i>				\$ 21,933
<b>Total Program Costs</b>	<b>\$ 2,159,963</b>	<b>\$ -</b>	<b>\$ 31,838,979</b>	<b>\$ 33,998,942</b>

Notes:

SoCalGas SAP Accounting System records costs by Labor and Contract only.

In-Home Energy Education & EE Workshops shown as combined total.

**Exhibit 4.11**

**SoCalGas Table TA 7.2 – Program Year 2004**

	Costs Recorded by Cost Element - 2004			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ -	\$ -	\$ 6,470,197	\$ 6,470,197
Electric Appliances	\$ -	\$ -	\$ -	\$ -
Weatherization Measures	\$ -	\$ -	\$ 17,416,318	\$ 17,416,318
Outreach & Assessment	\$ -	\$ -	\$ 3,374,540	\$ 3,374,540
In Home Energy Education	\$ -	\$ -	\$ 1,095,303	\$ 1,095,303
Education Workshops	\$ -	\$ -	\$ -	\$ -
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 28,356,359	\$ 28,356,359
<b>Pilots</b>				
Pilot (A)	\$ -	\$ -	\$ -	\$ -
Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Administration	\$ -	\$ -	\$ -	\$ -
Training Center	\$ 237,427	\$ 15,043	\$ -	\$ 252,471
Inspections	\$ -	\$ -	\$ 1,431,224	\$ 1,431,224
Advertising	\$ -	\$ 149,236	\$ 198,400	\$ 347,637
M&E Studies	\$ -	\$ -	\$ 169,375	\$ 169,375
Regulatory Compliance	\$ 83,394	\$ 9,020	\$ 2,119	\$ 94,534
Other Administration	\$ 1,282,301	\$ 74,517	\$ 34,654	\$ 1,391,472
Indirect Costs	\$ -	\$ 524,780	\$ -	\$ 524,780
<b>Oversight Costs</b>				
LIOB Expenses	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ 27,959	\$ -	\$ 27,959
<i>Total Oversight Costs</i>		\$ 27,959		\$ 27,959
<i>Total Program Costs</i>	\$ 1,603,122	\$ 800,555	\$ 30,192,131	\$ 32,595,808



**Exhibit 4.12**

**SoCalGas Table TA 7.2 – Program Year 2005**

	Costs Recorded by Cost Element - 2005			
	Labor	Non-Labor	Contract	Total
<b>Energy Efficiency</b>				
Gas Appliances	\$ -	\$ -	\$ 4,956,494	\$ 4,956,494
Electric Appliances	\$ -	\$ -	\$ -	\$ -
Weatherization Measures	\$ -	\$ -	\$ 16,086,491	\$ 16,086,491
Outreach & Assessment	\$ -	\$ -	\$ 2,915,671	\$ 2,915,671
In Home Energy Education	\$ -	\$ -	\$ 206,724	\$ 206,724
Education Workshops	\$ -	\$ -	\$ 356,202	\$ 356,202
<i>Energy Efficiency TOTAL</i>	\$ -	\$ -	\$ 24,521,581	\$ 24,521,581
<b>Pilots</b>				
Pilot (A)	\$ -	\$ -	\$ -	\$ -
Pilot (B)	\$ -	\$ -	\$ -	\$ -
<i>Total Pilots</i>	\$ -	\$ -	\$ -	\$ -
Administration	\$ -	\$ -	\$ -	\$ -
Training Center	\$ 129,929	\$ 6,095	\$ -	\$ 136,024
Inspections	\$ -	\$ -	\$ 1,528,642	\$ 1,528,642
Advertising	\$ -	\$ 331,321	\$ -	\$ 331,321
M&E Studies	\$ -	\$ 57,326	\$ -	\$ 57,326
Regulatory Compliance	\$ 165,923	\$ 90,508	\$ -	\$ 256,431
Other Administration	\$ 1,741,595	\$ 230,467	\$ -	\$ 1,972,062
Indirect Costs	\$ -	\$ -	\$ -	\$ -
<b>Oversight Costs</b>				
LIOB Expenses	\$ -	\$ -	\$ -	\$ -
CPUC Energy Division	\$ -	\$ 30,866	\$ -	\$ 30,866
<i>Total Oversight Costs</i>		\$ 30,866		\$ 30,866
<i>Total Program Costs</i>	\$ 2,037,447	\$ 746,583	\$ 26,050,223	\$ 28,834,253

## ***4.2 Detailed Life Cycle Bill Savings***

This section contains the detailed life cycle bill savings for each utility and each program year. The values are for a 3 percent escalation rate. The PY2003 and PY2004 tables do not match the life cycle bill savings shown in the tables within the body of the report. Following practices of the previous reports, these tables are based on the energy rate of that particular year and have not been updated to reflect subsequent rates.

**Exhibit 4.13**

**PG&E Life Cycle Bill Savings– Program Year 2003**

Measure Description	Number Installed	Per Measure Impact		EUL	Total Measure Life Cycle Bill Savings
		kWh	Therms	Years	\$
Energy Efficiency Measures					
Attic Access Weatherstripping - MF (Electric)	100	0.91	0.00	5	\$ 41
Attic Access Weatherstripping - MF (Gas)	1,984	0.27	0.40	5	\$ 2,558
Attic Access Weatherstripping - SF (Electric)	579	2.59	0.00	5	\$ 676
Attic Access Weatherstripping - SF (Gas)	9,578	0.67	0.67	5	\$ 21,628
Attic Insulation - MF (Electric)	48	78.35	0.00	25	\$ 5,520
Attic Insulation - MF (Gas)	487	20.85	18.82	25	\$ 102,009
Attic Insulation - SF (Electric)	159	118.54	0.00	25	\$ 27,665
Attic Insulation - SF (Gas)	2,979	25.75	35.11	25	\$ 1,106,619
Building Envelope Repair - MH (Electric)	173	38.75	0.00	10	\$ 5,391
Building Envelope Repair - MH (Gas)	1,792	9.52	8.55	10	\$ 93,497
Building Envelope Repair - MF (Electric)	1,076	22.80	0.00	10	\$ 19,729
Building Envelope Repair - MF (Gas)	6,489	6.38	4.48	10	\$ 184,661
Building Envelope Repair - SF (Electric)	917	38.05	0.00	10	\$ 28,059
Building Envelope Repair - SF (Gas)	14,060	8.05	8.33	10	\$ 700,848
Caulking - MH (Electric)	201	11.63	0.00	5	\$ 1,054
Caulking - MH (Gas)	2,294	3.27	2.87	5	\$ 22,603
Caulking - MF (Electric)	1,914	6.59	0.00	5	\$ 5,687
Caulking - MF (Gas)	7,200	1.71	1.48	5	\$ 36,661
Caulking - SF (Electric)	1,006	11.43	0.00	5	\$ 5,185
Caulking - SF (Gas)	14,045	2.75	2.81	5	\$ 132,635
Compact Fluorescent Hard Wire Porch Lights MF	1,783	41.70	0.00	20	\$ 96,498
Compact Fluorescent Hard Wire Porch Lights MH/SF	6,767	37.10	0.00	20	\$ 325,838
Compact Fluorescent Lamp - MF	78,250	27.80	0.00	8	\$ 1,464,248
Compact Fluorescent Lamp - MH/SF	114,686	24.80	0.00	8	\$ 1,914,466
Door Weatherstripping - MH (Electric)	190	8.56	0.00	5	\$ 733
Door Weatherstripping - MH (Gas)	2,180	4.75	2.18	5	\$ 18,543
Door Weatherstripping - MF (Electric)	996	5.99	0.00	5	\$ 2,690
Door Weatherstripping - MF (Gas)	6,710	1.61	1.08	5	\$ 26,028

Measure Description	Number Installed	Per Measure Impact		EUL	Total Measure Life Cycle Bill Savings
		kWh	Therms		\$
Door Weatherstripping - SF (Electric)	1,001	8.67	0.00	5	\$ 3,913
Door Weatherstripping - SF (Gas)	14,333	4.25	2.14	5	\$ 117,013
Evaporative Cooler Covers MF (Electric)	23	20.57	0.00	3	\$ 134
Evaporative Cooler Covers MF (Gas)	594	0.00	3.32	3	\$ 3,621
Evaporative Cooler Covers MH/SF (Electric)	228	28.00	0.00	3	\$ 1,811
Evaporative Cooler Covers MH/SF (Gas)	3,690	0.00	5.98	3	\$ 40,521
Evaporative Coolers MF (Portable)	1,526	379.97	0.00	7	\$ 349,420
Evaporative Coolers MH/SF (Portable)	2,389	357.04	0.00	7	\$ 514,016
Faucet Aerators MF (Electric)	1,822	41.20	0.00	5	\$ 33,847
Faucet Aerators MF (Gas)	9,315	0.00	0.90	5	\$ 24,475
Faucet Aerators MH/SF (Electric)	1,250	48.40	0.00	5	\$ 27,279
Faucet Aerators MH/SF (Gas)	18,608	0.00	1.40	5	\$ 76,055
Furnace Filters - MH (Electric)	135	14.61	0.00	5	\$ 889
Furnace Filters - MH (Gas)	3,708	0.00	2.23	5	\$ 24,140
Furnace Filters - MF (Electric)	125	23.72	0.00	5	\$ 1,337
Furnace Filters - MF (Gas)	1,834	0.00	4.76	5	\$ 25,486
Furnace Filters - SF (Electric)	303	19.32	0.00	5	\$ 2,640
Furnace Filters - SF (Gas)	7,918	0.00	4.36	5	\$ 100,786
Furnace Repair MF (Gas)	7	0.00	18.90	10	\$ 689
Furnace Repair MH/SF (Gas)	688	0.00	38.30	10	\$ 137,203
Furnace Replacement MF (Gas)	9	0.00	73.00	22	\$ 5,832
Furnace Replacement MH/SF (Gas)	229	0.00	151.10	22	\$ 307,127
Low Flow Showerhead MF (Electric)	1,345	203.30	0.00	10	\$ 219,893
Low Flow Showerhead MF (Gas)	8,011	0.00	6.10	10	\$ 254,445
Low Flow Showerhead MH/SF (Electric)	932	239.20	0.00	10	\$ 179,279
Low Flow Showerhead MH/SF (Gas)	14,773	0.00	9.10	10	\$ 699,984
Outlet/Switch Gaskets MF (Electric)	1,902	5.49	0.00	15	\$ 11,288
Outlet/Switch Gaskets MF (Gas)	7,105	-0.07	0.24	15	\$ 11,397
Outlet/Switch Gaskets MH/SF (Electric)	1,198	8.03	0.00	15	\$ 10,399
Outlet/Switch Gaskets MH/SF (Gas)	16,153	0.05	0.34	15	\$ 39,313
Refrigerator Replacement	17,695	644.70	0.00	15	\$ 12,331,853
Water Heater Blanket - MF (Electric)	116	163.00	0.00	5	\$ 8,525
Water Heater Blanket - MF (Gas)	1,712	0.00	4.90	5	\$ 24,491

Measure Description	Number Installed	Per Measure Impact		EUL	Total Measure Life Cycle Bill Savings
		kWh	Therms		\$
Water Heater Blanket - MH/SF (Electric)	303	191.80	0.00	5	\$ 26,204
Water Heater Blanket - MH/SF (Gas)	5,068	0.00	7.30	5	\$ 108,008
Water Heater Pipe Wrap- MF (Electric)	94	115.30	0.00	15	\$ 11,716
Water Heater Pipe Wrap- MF (Gas)	210	0.00	1.80	15	\$ 2,646
Water Heater Pipe Wrap- MH/SF (Electric)	463	135.60	0.00	15	\$ 67,867
Water Heater Pipe Wrap- MH/SF (Gas)	384	0.00	2.70	15	\$ 7,257
<i>Sub-total for Energy Efficiency Measures</i>					\$ 22,164,568
<b>Rapid Deployment Measures</b>					
Air Conditioning Replacement - Central - MF	6	563.50	0.00	18	\$ 4,116
Air Conditioning Replacement - Central - MH/SF	267	725.72	0.00	18	\$ 235,894
Air Conditioning Replacement - Room - MF	57	210.00	0.00	15	\$ 12,939
Air Conditioning Replacement - Room - MH/SF	249	300.96	0.00	15	\$ 81,008
Duct Sealing and Testing -MF (Electric)	9	60.60	0.00	25	\$ 801
Duct Sealing and Testing -MF (Gas)	680	21.52	4.23	25	\$ 48,816
Duct Sealing and Testing - MH/SF (Electric)	87	65.59	0.00	25	\$ 8,376
Duct Sealing and Testing - MH/SF (Gas)	5,287	25.76	8.68	25	\$ 636,044
Set-back Thermostats MF (Electric)	15	73.50	0.00	12	\$ 1,018
Set-back Thermostats MF (Gas)	823	11.37	8.70	12	\$ 51,431
Set-back Thermostats MH/SF (Electric)	51	103.95	0.00	12	\$ 4,894
Set-back Thermostats MH/SF (Gas)	2,988	18.10	18.18	12	\$ 374,583
Evaporative Cooler Maintenance MF	25	67.63	0.00	4	\$ 624
Evaporative Cooler Maintenance MH/SF	491	79.91	0.00	4	\$ 14,489
Whole House Fans SF	244	111.78	0.00	20	\$ 35,399
Water heater Replacement MF (Gas)	7	0.00	18.10	13	\$ 803
Water heater Replacement MH/SF (Gas)	313	0.00	21.60	13	\$ 42,824
Water heater Replacement MF (Electric)	2	117.80	0.00	13	\$ 230
Water heater Replacement MH/SF (Electric)	119	117.80	0.00	13	\$ 13,714
<i>Sub-total for Rapid Deployment Measures</i>					\$ 1,568,003
<b>Total Bill Savings for All Measures in Program Year</b>					\$ 23,732,571

**Total Number of Homes Served by the Program during Program Year**

47,271

**Life Cycle Bill Savings Per Home**

\$ 502.05

**Exhibit 4.14**

**PG&E Life Cycle Bill Savings– Program Year 2004**

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	SH	AC	GH	SH	AC	Therms	Years	\$
<b>Energy Efficiency Measures</b>								
Attic Insulation MF	17	13	127	297.4	135.5	39.5	25	\$ 70,251
Attic Insulation SF	101	548	2,888	303.3	159.5	44.3	25	\$ 1,710,513
Caulking MF	3,288	853	7,493	11.5	1.7	1.5	5	\$ 58,120
Caulking MH	182	968	3,118	13.1	1.6	1.8	5	\$ 22,936
Caulking SF	1,092	3,741	16,874	19.1	5.0	3.8	5	\$ 253,564
Central AC MH	0	4	0	0.0	459.4	0.0	18	\$ 2,199
Central AC SF	0	11	0	0.0	390.8	0.0	18	\$ 5,144
CFL MF	0	12,908	0	0.0	65.6	0.0	8	\$ 560,232
CFL MH	0	5,136	0	0.0	65.6	0.0	8	\$ 222,912
CFL SF	0	24,656	0	0.0	94.8	0.0	8	\$ 1,546,450
Evap Cooler MF	0	42	0	0.0	519.6	0.0	7	\$ 12,928
Evap Cooler MH	0	182	0	0.0	319.6	0.0	7	\$ 34,453
Evap Cooler SF	0	1,707	0	0.0	379.5	0.0	7	\$ 383,664
Evap Cooler Cover MF	6	128	122	6.3	0.0	0.9	3	\$ 264
Evap Cooler Cover MH	41	663	590	6.7	0.0	1.0	3	\$ 1,410
Evap Cooler Cover SF	79	2,087	1,988	8.7	0.0	3.2	3	\$ 14,923
Faucet Aerator MF	0	1,473	9,742	0.0	26.5	2.6	5	\$ 111,009
Faucet Aerator MH	0	218	3,619	0.0	26.5	2.6	5	\$ 37,372
Faucet Aerator SF	0	1,052	19,128	0.0	43.4	3.6	5	\$ 274,996
Furnace Repair MH	0	0	102	0.0	0.0	41.1	10	\$ 27,644
Furnace Repair SF	0	0	409	0.0	0.0	39.8	10	\$ 107,432
Furnace Replace MH	0	0	24	0.0	0.0	70.1	22	\$ 18,935
Furnace Replace SF	0	0	91	0.0	0.0	68.1	22	\$ 69,678

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	SH	AC	GH	SH	AC	Therms	Years	\$
Gaskets MF	3,123	855	7,391	5.5	-0.2	0.2	15	\$ 33,869
Gaskets MH	177	956	3,053	8.0	0.1	0.3	15	\$ 10,831
Gaskets SF	1,084	3,754	16,802	8.0	0.1	0.3	15	\$ 60,351
Minor Home Repair MF	2,185	702	5,794	33.4	11.0	3.8	10	\$ 208,756
Minor Home Repair MH	155	850	2,639	33.6	9.1	4.2	10	\$ 82,954
Minor Home Repair SF	997	3,622	16,216	47.8	14.7	8.3	10	\$ 971,020
Porchlight CFL SF	0	6,998	0	0.0	35.6	0.0	20	\$ 317,816
Refrigerator MF	0	4,976	0	0.0	662.0	0.0	15	\$ 3,500,105
Refrigerator MH	0	2,660	0	0.0	661.6	0.0	15	\$ 1,869,966
Refrigerator SF	0	12,456	0	0.0	771.1	0.0	15	\$ 10,204,852
Room AC MF	0	206	0	0.0	188.1	0.0	15	\$ 41,176
Room AC MH	0	82	0	0.0	196.6	0.0	15	\$ 17,126
Room AC SF	0	451	0	0.0	213.5	0.0	15	\$ 102,286
Showerheads MF	0	1,159	8,126	0.0	66.6	7.2	10	\$ 447,070
Showerheads MH	0	168	2,650	0.0	66.6	7.2	10	\$ 134,742
Showerheads SF	0	759	15,921	0.0	108.7	8.2	10	\$ 926,654
Water Heater MH	0	0	12	0.0	0.0	21.6	13	\$ 2,081
Water Heater SF	0	0	40	0.0	0.0	21.6	13	\$ 6,935
Water Heater Blanket MF	0	68	626	0.0	88.5	9.2	5	\$ 23,974
Water Heater Blanket MH	0	20	555	0.0	88.5	9.2	5	\$ 19,675
Water Heater Blanket SF	0	185	4,664	0.0	145.3	11.3	5	\$ 206,897
Water Heater Pipe Wrap MF	0	94	32	0.0	35.4	3.6	15	\$ 4,557
Water Heater Pipe Wrap MH	0	30	24	0.0	35.4	3.6	15	\$ 1,895
Water Heater Pipe Wrap SF	0	250	243	0.0	58.1	4.6	15	\$ 25,348
Weatherstripping Attic Access MF	182	88	754	2.1	0.2	0.6	5	\$ 1,926

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	SH	AC	GH	SH	AC	Therms	Years	\$
Weatherstripping Attic Access SF	428	2,573	9,154	4.1	1.1	0.9	5	\$ 32,940
Weatherstripping Door MF	1,740	850	6,615	16.1	1.6	1.7	5	\$ 55,149
Weatherstripping Door MH	160	888	2,931	15.7	1.2	2.0	5	\$ 23,764
Weatherstripping Door SF	1,061	3,758	16,861	14.9	3.9	2.9	5	\$ 193,161
<b>Total Bill Savings for All Measures in Program Year</b>								<b>\$ 25,074,904</b>

**Total Number of Homes Served by the Program during Program Year**

48,549

**Life Cycle Bill Savings Per Home**

\$ 516.49



**Exhibit 4.15**

**PG&E Life Cycle Bill Savings– Program Year 2005**

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact (therms)	EUL	Total Measure Life Cycle Bill Savings
	ESH / EWH	AC	GSH / GWH	ESH / EWH	AC	GSH / GWH	Years	\$
<b>Energy Efficiency Measures</b>								
AIR CONDITIONER - CENTRAL MF	0	1	1	0.0	340.6	0.0	18	\$ 400
AIR CONDITIONER - CENTRAL SF	0	36	35	0.0	315.5	0.0	18	\$ 13,324
AIR CONDITIONER - ROOM MF	0	344	322	0.0	187.6	0.0	15	\$ 67,221
AIR CONDITIONER - ROOM MH	0	74	53	0.0	226.2	0.0	15	\$ 17,433
AIR CONDITIONER - ROOM SF	0	618	498	0.0	228.6	0.0	15	\$ 147,171
FURNACE REPAIR MH	0	92	104	0.0	0.0	39.0	10	\$ 33,874
FURNACE REPAIR SF	0	695	837	0.0	0.0	39.5	10	\$ 276,400
FURNACE REPLACE MF	0	1	2	0.0	0.0	54.8	18	\$ 1,387
FURNACE REPLACE MH	0	9	15	0.0	0.0	55.2	18	\$ 10,483
FURNACE REPLACE SF	0	165	296	0.0	0.0	61.6	18	\$ 230,729
PERMANENT AND PORTABLE EVAP COOLER MF	0	62	58	0.0	550.8	0.0	7	\$ 19,828
PERMANENT AND PORTABLE EVAP COOLER MH	0	103	74	0.0	346.5	0.0	7	\$ 20,723
PERMANENT AND PORTABLE EVAP COOLER	0	1,343	912	0.0	387.7	0.0	7	\$ 302,325
REFRIGERATORS MF	0	5,689	0	0.0	665.1	0.0	18	\$ 4,438,272
REFRIGERATORS MH	0	2,967	0	0.0	665.1	0.0	18	\$ 2,314,704
REFRIGERATORS SF	0	16,055	0	0.0	794.8	0.0	18	\$ 14,967,841
WATER HEATER REPLACE - GAS MH	0	0	12	0	0	22	13	\$ 2,636
WATER HEATER REPLACE - GAS SF	0	0	65	0	0	22	13	\$ 14,278
ATTIC ACCESS WEATHERSTRIPPING MF	155	104	1,045	2	0	1	5	\$ 3,214
ATTIC ACCESS WEATHERSTRIPPING SF	700	2,975	10,466	4	1	1	5	\$ 46,923
ATTIC INSULATION MF	4	23	66	310	161	35	25	\$ 42,373

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact (therms)	EUL	Total Measure Life Cycle Bill Savings
	ESH / EWH	AC	GSH / GWH	ESH / EWH	AC	GSH / GWH	Years	\$
ATTIC INSULATION SF	168	650	2,862	302	154	43	25	\$ 2,093,306
CAULKING MF	3,079	956	8,449	12	2	1	5	\$ 69,750
CAULKING MH	490	1,298	3,341	13	2	2	5	\$ 32,062
CAULKING SF	2,007	4,648	20,511	19	5	4	5	\$ 381,189
CFL HARD WIRED PORCH LIGHTS SF	0	10,365	0	0	36	0	16	\$ 401,283
CFL'S MF	0	14,304	0	0	66	0	8	\$ 608,558
CFL'S MH	0	5,236	0	0	66	0	8	\$ 222,763
CFL'S SF	0	33,244	0	0	95	0	8	\$ 2,043,911
DOOR WEATHERSTRIPPING MF	2,449	938	7,631	16	2	2	5	\$ 75,112
DOOR WEATHERSTRIPPING MH	466	1,240	3,174	16	1	2	5	\$ 33,774
DOOR WEATHERSTRIPPING SF	1,975	4,661	20,450	15	4	3	5	\$ 289,726
EVAPORATIVE COOLER COVER MF	21	0	180	6	0	1	3	\$ 431
EVAPORATIVE COOLER COVER MH	132	0	802	7	0	1	3	\$ 2,360
EVAPORATIVE COOLER COVER SF	199	0	2,532	9	0	3	3	\$ 24,026
FAUCET AERATORS MF	1,099	0	11,850	27	0	2	5	\$ 147,467
FAUCET AERATORS MH	452	0	3,942	27	0	2	5	\$ 50,889
FAUCET AERATORS SF	1,662	0	27,386	43	0	4	5	\$ 488,865
MINOR HOME REPAIR MF	2,439	950	8,012	34	12	4	10	\$ 308,825
MINOR HOME REPAIR MH	457	1,301	3,247	33	10	4	10	\$ 131,738
MINOR HOME REPAIR SF	1,981	5,145	21,968	47	14	8	10	\$ 1,634,726
SHOWERHEADS MF	876	0	10,463	66	0	7	10	\$ 632,835
SHOWERHEADS MH	347	0	2,950	65	0	7	10	\$ 186,960
SHOWERHEADS SF	1,332	0	23,911	107	0	8	10	\$ 1,733,127
UTILITY GASKETS MF	3,054	838	8,389	6	0	0	15	\$ 38,220
UTILITY GASKETS MH	470	1,261	3,258	8	0	0	15	\$ 15,897
UTILITY GASKETS SF	1,972	4,624	20,290	8	0	0	15	\$ 93,650
WATER HEATER BLANKET MF	157	0	787	89	0	9	5	\$ 39,799

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact (therms)	EUL	Total Measure Life Cycle Bill Savings
	ESH / EWH	AC	GSH / GWH	ESH / EWH	AC	GSH / GWH	Years	\$
WATER HEATER BLANKET MH	29	0	511	85	0	9	5	\$ 21,643
WATER HEATER BLANKET SF	247	0	5,506	142	0	11	5	\$ 305,613
WATER HTR PIPE WRAP-PIPE INSULATI MF	194	0	24	35	0	4	15	\$ 8,124
WATER HTR PIPE WRAP-PIPE INSULATI MH	85	0	22	35	0	3	15	\$ 3,983
WATER HTR PIPE WRAP-PIPE INSULATI SF	458	0	106	58	0	5	15	\$ 33,021
<b>Total Bill Savings for All Measures in Program Year</b>								<b>\$ 35,125,172</b>

Total Number of Homes Served by the Program during Calendar Year

56,388

Life Cycle Bill Savings Per Home

\$ 622.92

**Exhibit 4.16**

**SCE Life Cycle Bill Savings– Program Year 2003**

Measure Description	Number Installed	Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
		SH	AC	(Yrs)	(\$)
Energy Efficiency Measures					
Attic Access Weatherstripping <sup>1</sup>	-	0	0	5	\$ -
Attic Insulation MF	-	34.4	-	25	\$
Attic Insulation MH/SF	-	50.1	-	25	\$ -
Attic Ventilation <sup>2</sup>	-	-	0	25	\$ -
Caulking - MF	180	4.3	5.12	5	\$ 526
Caulking - MH/SF	1	6.6	4.1	5	\$ 4
Compact Fluorescents (indoor) MF	15,033	21.6	0	8	\$ 246,365
Compact Fluorescents (indoor) MH/SF	34,936	21.2	0	8	\$ 561,938
Compact Fluorescents (outdoor) MF	3,829	32.4	0	5.3	\$ 63,052
Compact Fluorescents (outdoor) MH/SF	11,769	31.9	0	5.3	\$ 190,808
Cover Plate/Gaskets - MF	772	3.4	-0.05	15	\$ 3,166
Cover Plate/Gaskets - MH/SF	3	5.6	0.18	15	\$ 21
Duct Repair <sup>2</sup>	1	0.0	0.0	25	\$ -
Evaporative Cooler Installation - MF	57	0.0	263.3	15	\$ 18,283
Evaporative Cooler Installation - MH/SF	768	0.0	398.5	15	\$ 372,863
Evaporative Cooler/AC Covers MF	1	14.1	0.0	3	\$ 5
Evaporative Cooler/AC Covers MH/SF	-	19.3	0.0	3	\$ -
Faucet Aerators - MF	1,442	41.2	0.0	5	\$ 30,195
Faucet Aerators - MH/SF	2	48.4	0.0	5	\$ 49
Low Flow Showerhead - MF	872	203.3	0.0	10	\$ 160,694
Low Flow Showerhead - MH/SF	2	239.2	0.0	10	\$ 434
Minor Home Repairs - MF	864	14.6	9.4	10	\$ 18,765
Minor Home Repairs - MH/SF	3	21.6	9.0	10	\$ 83
Refrigerator Replacement - MF	4,735	695.4	0.0	15	\$ 4,012,073
Refrigerator Replacement - MH/SF	12,591	711.6	0.0	15	\$ 10,917,176
Water Heater Blanket - MF	149	163.0	0.0	5	\$ 12,344
Water Heater Blanket - SF	-	191.8	0.0	5	\$ -
Water Heater Pipe Wrap <sup>3</sup>	4	0.0	0.0	15	\$ -
Weatherstripping - MF	878	3.8	2.9	5	\$ 2,047

Measure Description	Number Installed	Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
		SH	AC	(Yrs)	(\$)
Weatherstripping - MH/SF	3	4.8	2.00	5	\$ 8
<i>Sub-total for Energy Efficiency Measures</i>					\$ 16,610,897
<b>Rapid Deployment Measures</b>					
Air Conditioner Replacement - Central - MF	450	0	1330.8	18	\$ 821,787
Air Conditioner Replacement - Central - MH/SF	866	0	615.6	18	\$ 731,555
Air Conditioner Replacement - Room - MF	2	0	217.0	15	\$ 529
Air Conditioner Replacement - Room - MH/SF	18	0	278.7	15	\$ 6,112
Evaporative Cooler Maintenance - MH	5	0	35.0	4	\$ 73
Evaporative Cooler Maintenance - MF/SF	173	0	78.6	4	\$ 5,659
Duct Testing & Sealing - MF	450	31.7	124.6	25	\$ 116,346
Duct Testing & Sealing - MH/SF	500	56.7	76.7	25	\$ 110,316
Set-back Thermostats - MF	449	31.8	124.9	12	\$ 73,186
Set-back Thermostats - MH/SF	584	59.2	83.8	12	\$ 86,921
Water Heater Replacement - MF	136	117.8	0	13	\$ 17,666
Water Heater Replacement - SF	1	117.8	0	13	\$ 130
<i>Sub-total for Rapid Deployment Measures</i>					\$ 1,970,280
<b>Total Bill Savings for All Measures In Program Year</b>					<b>\$ 18,581,176</b>

**Total Number of Homes Served by the Program during Program Year** 33,732

**Life Cycle Bill Savings Per Home** \$ 550.85

1. This measure have impacts included in the weatherstripping measure. No specific per-measure impact claimed.
2. These measures have impacts included in the minor home repair measure. No specific per-measure impact claimed.
3. Zero savings are claimed for this measure.

**Exhibit 4.17**

**SCE Life Cycle Bill Savings– Program Year 2004**

Measure Description	Number Installed		Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
	SH	AC	SH	AC	(Yrs)	(\$)
<b>Energy Efficiency Measures</b>						
Attic Insulation MF	-	-	-	-	25	\$ -
Attic Insulation SF	1	1	266	515	25	\$ 1,174
Caulking MF	23	7	7	1	5	\$ 80
Caulking MH	4	3	11	2	5	\$ 24
Caulking SF	21	8	10	2	5	\$ 105
Central AC MF	-	17	-	56	18	\$ 1,188
Central AC MH	-	123	-	416	18	\$ 63,726
Central AC SF	-	317	-	251	18	\$ 99,117
CFL (Indoor) MF	-	21,754	-	16	8	\$ 245,880
CFL (Indoor) MH	-	8,009	-	16	8	\$ 90,524
CFL (Indoor) SF	-	83,459	-	24	8	\$ 1,363,206
CFL (Outdoor) MF	-	710	-	16	8	\$ 8,025
CFL (Outdoor) MH	-	156	-	16	8	\$ 1,763
CFL (Outdoor) SF	-	1,809	-	24	8	\$ 29,548
Duct Sealing MF	5	5	0	18	25	\$ 134
Duct Sealing SF	52	52	11	7	25	\$ 1,419
Evaporative Cooler Cover MF	44	-	9	-	3	\$ 114
Evaporative Cooler Cover SF	2	-	11	-	3	\$ 7
Evaporative Cooler Installation MF	-	23	-	84	15	\$ 2,130
Evaporative Cooler Installation MH	-	190	-	371	15	\$ 77,969
Evaporative Cooler Installation SF	-	1,254	-	311	15	\$ 431,749
Evaporative Cooler Maintenance MF	-	61	-	63	4	\$ 1,444
Evaporative Cooler Maintenance MH	-	87	-	60	4	\$ 1,963
Evaporative Cooler Maintenance SF	-	129	-	47	4	\$ 2,268
Faucet Aerator MF	-	85	-	27	5	\$ 1,040
Faucet Aerator MH	-	6	-	27	5	\$ 73
Faucet Aerator SF	-	42	-	43	5	\$ 842
Low Flow Showerhead MF	-	57	-	67	10	\$ 3,126
Low Flow Showerhead MH	-	2	-	67	10	\$ 110

Measure Description	Number Installed		Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
	SH	AC	SH	AC	(Yrs)	(\$)
Low Flow Showerhead SF	-	36	-	109	10	\$ 3,222
Minor Home Repair MF	26	14	25	10	10	\$ 649
Minor Home Repair SF	19	6	31	12	10	\$ 542
Porch light Fixture MF	-	12	-	24	5.3	\$ 134
Porch light Fixture MH	-	12	-	24	5.3	\$ 134
Porch light Fixture SF	-	183	-	36	5.3	\$ 3,008
Programmable Thermostat MF	13	13	3	3	12	\$ 81
Programmable Thermostat MH	119	119	4	5	12	\$ 1,065
Programmable Thermostat SF	245	245	6	7	12	\$ 2,861
Refrigerator Replacement MF	-	3,254	-	665	15	\$ 2,395,405
Refrigerator Replacement MH	-	1,431	-	665	15	\$ 1,053,419
Refrigerator Replacement SF	-	11,234	-	795	15	\$ 9,882,500
Room AC MF	-	16	-	133	15	\$ 2,360
Room AC MH	-	50	-	338	15	\$ 18,691
Room AC SF	-	136	-	206	15	\$ 30,954
Switch Plate Gasket MF	82	82	3	(0)	15	\$ 302
Switch Plate Gasket MH	5	5	6	0	15	\$ 32
Switch Plate Gasket SF	45	45	6	0	15	\$ 289
Water Heater Blanket MF	-	6	-	89	5	\$ 245
Water Heater Blanket MH	-	1	-	89	5	\$ 41
Water Heater Blanket SF	-	11	-	145	5	\$ 738
Water Heater Pipe Wrap MF	-	-	-	35	15	\$ -
Water Heater Pipe Wrap MH	-	-	-	35	15	\$ -
Water Heater Pipe Wrap SF	-	5	-	58	15	\$ 322
Water Heater Replacement MF	-	2	-	118	13	\$ 236
Water Heater Replacement MH	-	8	-	193	13	\$ 1,548
Water Heater Replacement SF	-	12	-	193	13	\$ 2,323
Weatherstripping MF	88	59	15	2	5	\$ 679
Weatherstripping MH	6	5	12	3	5	\$ 41
Weatherstripping SF	50	26	19	6	5	\$ 510
<b>Total Bill Savings for All Measures In Program Year</b>						<b>\$ 15,831,079</b>

Measure Description	Number Installed		Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
	SH	AC	SH	AC	(Yrs)	(\$)

**Total Number of Homes Served by the Program during Program Year** 37,348

**Life Cycle Bill Savings Per Home** \$ 423.88



**Exhibit 4.18**

**SCE Life Cycle Bill Savings– Program Year 2005**

Measure Description	Number Installed		Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
	SH	AC	SH	AC	(Yrs)	(\$)
<b>Energy Efficiency Measures</b>						
Attic Access Weatherstripping MF	1	-	1.1	-	5	\$ 1
Attic Access Weatherstripping SF	2	-	3.6	-	5	\$ 3
Attic Insulation MF	1	-	149.9	-	25	\$ 225
Attic Insulation SF	3	3	237.5	302.0	25	\$ 2,433
Caulking MF	64	10	7.6	0.9	5	\$ 230
Caulking MH	-	-	-	-	5	\$ -
Caulking SF	18	3	10.6	1.9	5	\$ 90
CFL (Indoor) MF	-	34,203	-	16.4	8	\$ 386,660
CFL (Indoor) MH	-	8,319	-	16.4	8	\$ 94,045
CFL (Indoor) SF	-	74,554	-	23.7	8	\$ 1,217,982
CFL (Outdoor) MF	-	6,829	-	16.4	5	\$ 51,714
CFL (Outdoor) MH	-	2,062	-	16.4	5	\$ 15,615
CFL (Outdoor) SF	-	20,672	-	23.7	5	\$ 226,224
Evaporative Cooler Cover MF	56	2	6.7	-	3	\$ 109
Evaporative Cooler Cover SF	9	2	10.0	-	3	\$ 26
Evaporative Cooler Installation MF	-	27	-	91.0	15	\$ 2,721
Evaporative Cooler Installation MH	-	280	-	379.6	15	\$ 117,667
Evaporative Cooler Installation SF	-	2,264	-	297.1	15	\$ 744,536
Evaporative Cooler Maintenance MF	-	-	-	-	4	\$ -
Evaporative Cooler Maintenance MH	-	4	-	35.6	4	\$ 54
Evaporative Cooler Maintenance SF	-	2	-	37.9	4	\$ 29
Faucet Aerator MF	-	853	-	26.5	5	\$ 10,438
Faucet Aerator MH	-	7	-	26.5	5	\$ 86
Faucet Aerator SF	-	53	-	43.4	5	\$ 1,062
Low Flow Showerhead MF	-	696	-	66.6	10	\$ 38,174
Low Flow Showerhead MH	-	5	-	66.6	10	\$ 274
Low Flow Showerhead SF	-	64	-	108.7	10	\$ 5,729

Measure Description	Number Installed		Per Measure Electric Impact (kWh)		EUL	Total Measure Life Cycle Bill Savings
	SH	AC	SH	AC		
Minor Home Repair MF	514	63	21.3	6.6	10	\$ 9,368
Minor Home Repair MH	3	-	30.3	-	10	\$ 75
Minor Home Repair SF	43	3	33.3	9.5	10	\$ 1,201
Porchlight Fixture MF	-	5	-	24.2	16	\$ 140
Porchlight Fixture MH	-	2	-	24.2	16	\$ 56
Porchlight Fixture SF	-	216	-	35.6	16	\$ 8,888
Refrigerator Replacement MF	-	5,769	-	665.1	18	\$ 4,783,652
Refrigerator Replacement MH	-	1,703	-	665.1	18	\$ 1,412,127
Refrigerator Replacement SF	-	12,433	-	794.8	18	\$ 12,319,863
Room AC MF	-	23	-	130.8	15	\$ 3,331
Room AC MH	-	46	-	326.9	15	\$ 16,649
Room AC SF	-	132	-	256.2	15	\$ 37,430
Switch Plate Gasket MF	792	308	3.4	(0.1)	15	\$ 2,946
Switch Plate Gasket MH	6	2	5.6	0.2	15	\$ 38
Switch Plate Gasket SF	66	9	5.6	0.2	15	\$ 412
Water Heater Blanket MF	-	150	-	88.5	5	\$ 6,130
Water Heater Blanket MH	-	3	-	88.5	5	\$ 123
Water Heater Blanket SF	-	29	-	145.3	5	\$ 1,946
Water Heater Pipe Wrap MF	-	6	-	35.4	15	\$ 235
Water Heater Pipe Wrap MH	-	-	-	-	15	\$ -
Water Heater Pipe Wrap SF	-	9	-	58.1	15	\$ 579
Weatherstripping MF	627	88	12.4	1.1	5	\$ 3,646
Weatherstripping MH	8	4	14.3	3.4	5	\$ 59
Weatherstripping SF	75	12	20.9	3.7	5	\$ 745
<b>Total Bill Savings for All Measures In Program Year</b>						<b>\$ 21,525,767</b>

**Total Number of Homes Served by the Program during Program Year**

36,420

**Life Cycle Bill Savings Per Home**

\$ 591.04

**Exhibit 4.19**

**SDG&E Life Cycle Bill Savings– Program Year 2003**

Measure Description	Number Installed	Per Measure Electric Impact	Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
		(kWh)	(Therms)	(years)	(\$)
<b>Energy Efficiency Measures</b>					
Attic Ventilation*	66	0.00	0.00	25	\$ -
Auto Sweep*	32	0.00	0.00	5	\$ -
Caulking - MF (Electric)	804	6.00	0.00	5	\$ 3,026
Caulking - MF (Gas)	4,557	2.30	2.00	5	\$ 42,041
Caulking - MH/SF (Electric)	828	7.80	0.00	5	\$ 4,050
Caulking - MH/SF (Gas)	4,694	2.70	2.50	5	\$ 53,616
Ceiling Insulation MF (Electric)	2	34.40	0.00	25	\$ 126
Ceiling Insulation MF (Gas)	10	0.00	11.00	25	\$ 1,421
Ceiling Insulation MH/SF (Electric)	51	93.60	0.00	25	\$ 9,777
Ceiling Insulation MH/SF (Gas)	290	43.50	16.90	25	\$ 87,801
Compact Fluorescents MF	16,559	27.80	0.00	8	\$ 431,118
Compact Fluorescents SF	15,827	24.80	0.00	8	\$ 367,593
Cover Plate/Gaskets MF (Electric)	697	2.94	0.00	15	\$ 3,081
Cover Plate/Gaskets MF (Gas)	3,948	-0.10	0.13	15	\$ 4,195
Cover Plate/Gaskets MH/SF (Electric)	669	5.73	0.00	15	\$ 5,762
Cover Plate/Gaskets MH/SF (Gas)	3,788	0.40	0.23	15	\$ 10,408
Door Replacement*	2,797	0	0	10	\$ -
Door Threshold*	4,065	0	0	5	\$ -
Duct Register Sealing*	500	0	0	5	\$ -
Evaporative Cooler Covers SF (Electric)	8	15.17	0.00	3	\$ 49
Evaporative Cooler Covers SF (Gas)	47	0.00	3.65	3	\$ 418
Evaporative Cooler Replacement SF	4	246.35	0.00	15	\$ 1,482
Porch lights MF	225	41.70	0.00	20	\$ 16,943
Porch lights SF	803	37.10	0.00	20	\$ 53,796
Faucet Aerators MF (Gas)	4,967	0.00	0.90	5	\$ 17,395
Faucet Aerators MF (Electric)	877	41.20	0.00	5	\$ 22,667
Faucet Aerators MH/SF (Gas)	4,682	0.00	1.40	5	\$ 25,507
Faucet Aerators MH/SF (Electric)	826	48.40	0.00	5	\$ 25,080

Measure Description	Number Installed	Per Measure Electric Impact	Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
		(kWh)	(Therms)	(years)	(\$)
Furnace repair - Gas MF	398	0.00	16.00	10	\$ 44,196
Furnace repair - Gas MH/SF	664	0.00	23.00	10	\$ 105,992
Furnace Replacement - Gas MF	1	0.00	0.00	22	\$ -
Furnace Replacement - Gas SF	283	0.00	84.30	22	\$ 282,249
Glass Replacement*	1,423	0.00	0.00	10	\$ -
Jamb Replacement*	160	0.00	0.00	5	\$ -
New Central Return*	87	0.00	0.00	18	\$ -
Low Flow Showerhead MF (Electric)	878	203.30	0.00	10	\$ 199,637
Low Flow Showerhead MF (Gas)	4,973	0.00	6.10	10	\$ 210,551
Low Flow Showerhead SF (Electric)	807	239.20	0.00	10	\$ 215,862
Low Flow Showerhead SF (Gas)	4,571	0.00	9.10	10	\$ 288,689
Minor Home Repairs MF (Electric)	359	19.90	0.00	10	\$ 7,996
Minor Home Repairs MF (Gas)	2,035	7.00	3.80	10	\$ 69,604
Minor Home Repairs SF (Electric)	600	26.10	0.00	10	\$ 17,535
Minor Home Repairs SF (Gas)	3,403	8.10	5.50	10	\$ 160,718
Refrigerators	4,948	644.70	0.00	15	\$ 4,797,763
Refrigerators (Co Pay)	12	644.70	0.00	15	\$ 11,636
Water Heater Blanket MF (Electric)	28	163.00	0.00	5	\$ 2,822
Water Heater Blanket MF (Gas)	156	0.00	4.90	5	\$ 2,982
Water Heater Blanket MH/SF (Electric)	147	191.80	0.00	5	\$ 17,742
Water Heater Blanket MH/SF (Gas)	836	0.00	7.30	5	\$ 23,735
Water Heater Pipe Wrap MF (Electric)	8	115.30	0.00	15	\$ 1,301
Water Heater Pipe Wrap MF (Gas)	43	0.00	1.80	15	\$ 714
Water Heater Pipe Wrap MH/SF (Electric)	47	135.60	0.00	15	\$ 9,606
Water Heater Pipe Wrap MH/SF (Gas)	267	0.00	2.70	15	\$ 6,723
Weatherstripping MF (Electric)	846	6.10	0.00	5	\$ 3,239
Weatherstripping MF (Gas)	4,797	2.40	2.00	5	\$ 44,552
Weatherstripping MH/SF (Electric)	823	8.00	0.00	5	\$ 4,132
Weatherstripping MH/SF (Gas)	4,666	2.80	2.70	5	\$ 57,216
<i>Sub-total for Energy Efficiency Measures</i>					<i>\$ 7,774,543</i>
<b>Rapid Deployment Measures</b>					

Measure Description	Number Installed	Per Measure Electric Impact	Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
		(kWh)	(Therms)	(years)	(\$)
Air Conditioner Replacement - Central MF	0	828.28	0.00	18	\$ -
Air Conditioner Replacement - Central MH/SF	101	292.85	0.00	18	\$ 50,100
Air Conditioner Replacement - Room MF	82	130.16	0.00	15	\$ 16,053
Air Conditioner Replacement - Room MH/SF	8	426.40	0.00	15	\$ 5,130
Duct Sealing & Testing MF (Electric)	0	116.60	0.00	25	\$ 71
Duct Sealing & Testing MF (Gas)	2	47.98	6.24	25	\$ 301
Duct Sealing & Testing MH/SF (Electric)	33	87.15	0.00	25	\$ 5,793
Duct Sealing & Testing MH/SF (Gas)	184	27.39	11.54	25	\$ 37,281
Evaporative Cooler Maintenance SF	86	76.43	0.00	4	\$ 3,377
Set back Thermostat MF (Electric)	0	116.60	0.00	12	\$ -
Set back Thermostat MF (Gas)	0	77.55	6.78	12	\$ -
Set back Thermostat SF (Electric)	0	149.88	0.00	12	\$ -
Set back Thermostat SF (Gas)	0	95.48	15.00	12	\$ -
Water Heater Replacement MF (Gas)	5	0.00	18.10	13	\$ 764
Water Heater Replacement MH/SF (Gas)	334	0.00	21.60	13	\$ 60,911
Whole House Fans SF	0	63.00	0.00	20	\$ -
<i>Sub-total for Rapid Deployment Measures</i>					<i>\$ 179,781</i>
<b>Total Bill Savings for All Measures in Program Year</b>					<b>\$ 7,954,325</b>
<b>Total Number of Homes Served by the Program during Program Year</b>					15,706
<b>Life Cycle Bill Savings Per Home</b>					<b>\$ 506.45</b>
*SDG&E has no studies supporting savings for this measure. No impacts taken during this year.					

**Exhibit 4.20**

**SDG&E Life Cycle Bill Savings– Program Year 2004**

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	Elec SH	AC	Gas SH	Elec SH	AC	(Therms)	(years)	(\$)
<b>Energy Efficiency Measures</b>								
Air Conditioner Replacement (Room AC) MF	0	2	0	0.0	77.8	0.0	15	\$ 190
Air Conditioner Replacement (Room AC) MH	0	2	0	0.0	291.8	0.0	15	\$ 712
Air Conditioner Replacement (Room AC) SF	0	4	0	0.0	97.1	0.0	15	\$ 474
Attic insulation MF	1	4	8	189.9	53.8	22.0	25	\$ 2,465
Attic insulation SF	63	168	358	149.7	45.2	26.3	25	\$ 132,402
Caulking MF	693	1,848	3,928	7.1	1.0	2.0	5	\$ 31,329
Caulking MH	48	128	271	7.3	1.0	4.5	5	\$ 4,800
Caulking SF	830	2,213	4,702	10.3	2.4	4.7	5	\$ 88,454
CFL (including porch lights) MF	0	22,496	0	0.0	16.4	0.0	8	\$ 280,235
CFL (including porch lights) MH	0	1,987	0	0.0	16.4	0.0	8	\$ 24,752
CFL (including porch lights) SF	0	32,029	0	0.0	23.7	0.0	8	\$ 576,588
COPAY Refrigerators MF	0	20	0	0.0	665.1	0.0	15	\$ 16,227
Duct register Sealing MH*	34	90	191	13.4	7.3	1.8	5	\$ 1,680
Duct register Sealing SF*	0	1	2	13.4	7.3	1.8	5	\$ 15
Energy Education	0	0	14,892	0.0	0.0	0.0	0	\$ -
Evaporative Cooler Covers MF	0	0	0	0.0	0.0	0.0	3	\$ -
Evaporative Cooler Covers MH	5	0	26	3.8	0.0	6.8	3	\$ 440
Evaporative Cooler Covers SF	0	0	0	0.0	0.0	0.0	3	\$ -
Faucet Aerators MF	737	0	4,174	26.5	0.0	2.6	5	\$ 42,412

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	Elec SH	AC	Gas SH	Elec SH	AC	(Therms)	(years)	(\$)
Faucet Aerators MH	51	0	291	26.5	0.0	2.6	5	\$ 2,954
Faucet Aerators SF	862	0	4,883	43.4	0.0	3.6	5	\$ 68,698
Low Flow Showerhead MF	735	0	4,165	66.6	0.0	7.2	10	\$ 209,006
Low Flow Showerhead MH	50	0	284	66.6	0.0	7.2	10	\$ 14,247
Low Flow Showerhead SF	897	0	5,082	108.7	0.0	8.2	10	\$ 290,450
Minor Home Repairs MF	287	766	1,627	17.9	5.6	3.6	10	\$ 44,494
Minor Home Repairs MH	31	82	173	18.6	5.8	4.9	10	\$ 6,371
Minor Home Repairs SF	640	1,706	3,624	25.6	7.3	7.0	10	\$ 188,942
Permanent Evaporative Coolers MF	0	0	0	0.0	0.0	0.0	15	\$ -
Permanent Evaporative Coolers MH	0	34	0	0.0	526.1	0.0	15	\$ 21,821
Permanent Evaporative Coolers SF	0	9	0	0.0	535.3	0.0	15	\$ 5,877
Porch lights (fixture replacement or CFBs) MF	0	110	0	0.0	24.2	0.0	5	\$ 1,354
Porch lights (fixture replacement or CFBs) MH	0	55	0	0.0	24.2	0.0	5	\$ 677
Porch lights (fixture replacement or CFBs) SF	0	710	0	0.0	35.6	0.0	5	\$ 12,861
Refrigerators MF	0	2,091	0	0.0	665.1	0.0	15	\$ 1,696,483
Refrigerators MH	0	432	0	0.0	665.1	0.0	15	\$ 350,493
Refrigerators SF	0	3,704	0	0.0	794.8	0.0	15	\$ 3,591,182
Repair MF	0	0	139	0.0	0.0	26.3	10	\$ 24,850
Repair MH	0	0	34	0.0	0.0	26.1	10	\$ 6,051
Repair SF	0	0	809	0.0	0.0	25.0	10	\$ 137,906
Replacement MF	0	0	0	0.0	0.0	0.0	22	\$ -
Replacement MH	0	0	65	0.0	0.0	39.9	22	\$ 30,137
Replacement SF	0	0	295	0.0	0.0	37.9	22	\$ 129,898

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	Elec SH	AC	Gas SH	Elec SH	AC	(Therms)	(years)	(\$)
Water Heater Blanket MF	28	0	158	88.5	0.0	9.2	5	\$ 5,684
Water Heater Blanket MH	8	0	43	88.5	0.0	9.2	5	\$ 1,528
Water Heater Blanket SF	155	0	880	145.3	0.0	11.3	5	\$ 38,848
Water Heater Pipe Wrap MF	4	0	24	35.4	0.0	3.6	15	\$ 803
Water Heater Pipe Wrap MH	5	0	29	35.4	0.0	3.6	15	\$ 975
Water Heater Pipe Wrap SF	26	0	145	58.1	0.0	4.6	15	\$ 6,264
Water Heater Replacement MF	0	0	0	0.0	0.0	0.0	13	\$ -
Water Heater Replacement MH	0	0	2	0.0	0.0	19.0	13	\$ 315
Water Heater Replacement SF	0	0	3	0.0	0.0	19.0	13	\$ 472
Weatherstripping MF	742	1,979	4,206	10.8	1.0	2.7	5	\$ 45,462
Weatherstripping MH	33	87	185	11.2	1.0	5.1	5	\$ 3,734
Weatherstripping SF	862	2,298	4,883	10.3	2.4	4.7	5	\$ 93,410
<b>Total Bill Savings for All Measures in Program Year</b>								<b>\$ 8,235,420</b>

**Total Number of Homes Served by the Program during Program Year**

14,897

**Life Cycle Bill Savings Per Home**

\$ 552.82

\*SDG&E has no studies supporting savings for this measure. No impacts taken during this year.



**Exhibit 4.21**

**SDG&E Life Cycle Bill Savings– Program Year 2005**

Measure Description	Number Installed			Per Measure Electric Impact (kWh)		Per Measure Gas Impact	EUL	Total Measure Life Cycle Bill Savings
	Elec SH	AC	Gas SH	Elec SH	AC	(Therms)	(years)	(\$)
<b>Energy Efficiency Measures</b>								
Attic Insulation MF	0	0	2	168.2	36.9	20.5	25	\$ 551
Attic Insulation SF	35	14	369	149.9	45.0	26.1	25	\$ 139,930
Caulking MF	545	218	1,862	6.9	0.9	2.1	5	\$ 17,989
Caulking	18	7	219	7.2	1.0	4.3	5	\$ 4,130
Caulking	568	227	4,658	10.2	2.4	4.6	5	\$ 96,187
CFL MF	0	16,909	0	0.0	16.4	0.0	8	\$ 259,704
CFL MH	0	1,508	0	0.0	16.4	0.0	8	\$ 23,161
CFL SF	0	27,529	0	0.0	23.7	0.0	8	\$ 611,020
Evaporative Cooler Cover MF	0	1	1	1.3	0.0	2.5	3	\$ 6
Evaporative Cooler Cover MH	1	17	16	3.8	0.0	6.5	3	\$ 291
Evaporative Cooler Cover SF	0	0	0	0.0	0.0	0.0	3	\$ -
Evaporative Cooler Installation MF	0	0	0	0.0	0.0	0.0	15	\$ -
Evaporative Cooler Installation MH	0	7	0	0.0	535.3	0.0	15	\$ 5,635
Evaporative Cooler Installation SF	0	2	0	0.0	379.4	0.0	15	\$ 1,141
Faucet Aerators	0	356	3,026	0.0	0.0	2.6	5	\$ 34,498
Faucet Aerators	0	22	247	0.0	0.0	2.6	5	\$ 2,810
Faucet Aerators	0	487	5,190	0.0	0.0	3.6	5	\$ 81,924
Furnace Repair	0	0	182	0.0	0.0	25.5	10	\$ 36,150
Furnace Repair MH	0	0	12	0.0	0.0	28.0	10	\$ 2,622
Furnace Repair SF	0	0	648	0.0	0.0	25.1	10	\$ 126,600
Furnace Replacement MF	0	0	2	0.0	0.0	12.9	18	\$ 304
Furnace Replacement MH	0	0	38	0.0	0.0	40.4	18	\$ 18,115
Furnace Replacement SF	0	0	271	0.0	0.0	37.6	18	\$ 120,037
Low Flow Showerhead MF	0	355	3,004	0.0	0.0	7.2	10	\$ 168,644
Low Flow Showerhead MH	0	446	2,646	0.0	0.0	7.2	10	\$ 148,546

*Low Income Energy Efficiency Program Costs and Bill Savings 2006 Report*

Low Flow Showerhead SF	0	86	2,903	0.0	0.0	8.2	10	\$ 185,598
Minor Home Repair MF	223	89	959	17.6	5.4	3.4	10	\$ 27,118
Minor Home Repair MH	10	4	100	18.8	5.7	5.0	10	\$ 3,975
Minor Home Repair SF	379	152	3,502	25.5	7.4	7.0	10	\$ 194,037
Porch Light MF	0	44	0	0.0	24.2	0.0	16	\$ 668
Porch Light MH	0	6	0	0.0	24.2	0.0	16	\$ 91
Porch Light SF	0	1,065	0	0.0	35.6	0.0	16	\$ 23,785
Refrigerator MF	0	1,481	0	0.0	665.1	0.0	18	\$ 1,668,436
Refrigerator MH	0	253	0	0.0	665.1	0.0	18	\$ 285,020
Refrigerator SF	0	3,241	0	0.0	794.8	0.0	18	\$ 4,363,193
Room AC MF	0	0	0	0.0	0.0	0.0	15	\$ -
Room AC MH	0	2	0	0.0	291.8	0.0	15	\$ 878
Room AC SF	0	0	0	0.0	0.0	0.0	15	\$ -
Water Heater Blanket MF	0	18	136	0.0	0.0	9.2	5	\$ 5,494
Water Heater Blanket MH	0	3	44	0.0	0.0	9.2	5	\$ 1,781
Water Heater Blanket SF	0	101	1,170	0.0	0.0	11.3	5	\$ 57,958
Water Heater Pipe Wrap MF	0	6	47	0.0	0.0	3.6	15	\$ 1,783
Water Heater Pipe Wrap MH	0	1	19	0.0	0.0	3.6	15	\$ 709
Water Heater Pipe Wrap SF	0	20	283	0.0	0.0	4.6	15	\$ 13,611
Water Heater Replacement MF	0	0	0	0.0	0.0	0.0	13	\$ -
Water Heater Replacement MH	0	0	1	0.0	0.0	19.0	13	\$ 180
Water Heater Replacement SF	0	0	0	0.0	0.0	0.0	13	\$ -
Weatherstripping MF	659	263	1,956	10.5	0.9	2.8	5	\$ 24,936
Weatherstripping MH	13	5	150	11.3	0.9	5.1	5	\$ 3,369
Weatherstripping SF	577	231	4,835	10.2	2.4	4.7	5	\$ 101,668
<b>Total Bill Savings for All Measures in Program Year</b>								<b>\$ 8,864,286</b>

**Total Number of Homes Served by the Program during Program Year**

11,254

**Life Cycle Bill Savings Per Home**

\$ 787.66

**Exhibit 4.22**

**SoCalGas Life Cycle Bill Savings– Program Year 2003**

Measure Description	Number Installed	Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL (Yrs)	Total Measure Life Cycle Bill Savings (\$)
<b>Energy Efficiency Measures</b>					
Attic Insulation - SF	1,619	0.0	18.7	25	\$ 312,293
Attic Insulation - MF	573	0.0	9.6	25	\$ 56,741
Caulking - SF	1,007	0.0	1.5	5	\$ 4,786
Caulking - MF	637	0.0	0.7	5	\$ 1,413
Evaporative Cooler/Air Cond. Covers - SF	1,735	0.0	8.1	3	\$ 28,010
Evaporative Cooler/Air Cond. Covers - MF	590	0.0	4.1	3	\$ 4,821
Faucet Aerators - SF	21,788	0.0	1.4	5	\$ 96,654
Faucet Aerators - MF	23,046	0.0	0.9	5	\$ 65,723
Furnace Repair - Gas	546	0.0	24.4	10	\$ 75,290
Furnace Replacement - Gas	4,252	0.0	110.1	22	\$ 4,509,998
Low Flow Showerhead - SF	20,961	0.0	9.1	10	\$ 1,077,976
Low Flow Showerhead - MF	22,236	0.0	6.1	10	\$ 766,553
Minor Home Repairs - SF	20,365	0.0	4.4	10	\$ 506,399
Minor Home Repairs - MF	21,917	0.0	2.2	10	\$ 272,496
Miscellaneous Measures (Weatherization - Electric)	47,673	17.4	0.0	5	\$ 422,073
Switch/Outlet Gasket - SF	20,594	0.0	0.2	15	\$ 35,983
Switch/Outlet Gasket - MF	20,771	0.0	0.2	15	\$ 23,669
Water Heater Blanket - SF	3,390	0.0	7.3	5	\$ 78,415
Water Heater Blanket - MF	1,602	0.0	4.9	5	\$ 24,873
Water Heater Pipe Wrap - SF	414	0.0	2.7	15	\$ 8,492
Water Heater Pipe Wrap - MF	74	0.0	1.8	15	\$ 1,012
Door Weatherstripping - SF	22,461	0.0	1.4	5	\$ 99,640
Door Weatherstripping - MF	23,721	0.0	0.7	5	\$ 52,615
<i>Sub-total for Energy Efficiency Measures</i>					\$ 8,525,922
<b>Rapid Deployment Measures</b>					
Duct Sealing and Repair - MF	562	0.0	7.1	25	\$ 40,927
Duct Sealing and Repair - SF	431	0.0	11.3	25	\$ 50,371

Measure Description	Number Installed	Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL (Yrs)	Total Measure Life Cycle Bill Savings (\$)
Water Heater Replacement - Gas - SF	3,581	0.0	21.6	13	\$ 531,777
Water Heater Replacement - Gas - MF	1,127	0.0	18.1	13	\$ 140,241
<i>Sub-total for Rapid Deployment Measures</i>					\$ 763,316
<b>Total Bill Savings for All Measures in Program Year</b>					<b>\$ 9,289,239</b>

**Total Number of Homes Served by the Program during Program Year** 57,179

**Life Cycle Bill Savings Per Home** \$ 162.46

**Exhibit 4.23**

**SoCalGas Life Cycle Bill Savings– Program Year 2004**

Measure Description	Number Installed		Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL	Total Measure Life Cycle Bill Savings (\$)
	AC	Gas Heat				
<b>Energy Efficiency Measures</b>						
Attic Insulation MF	-	543	0.0	17.0	25	\$ 111,381
Attic Insulation SF	-	1,441	0.0	24.4	25	\$ 425,229
Caulking MF	307	768	1.0	0.9	5	\$ 2,649
Caulking MH	88	221	2.6	0.9	5	\$ 849
Caulking SF	398	996	2.5	2.3	5	\$ 9,060
Cover Plate / Gaskets MF	-	17,853	0.0	0.2	15	\$ 23,816
Cover Plate / Gaskets MH	-	2,294	0.0	0.2	15	\$ 4,896
Cover Plate / Gaskets SF	-	18,070	0.0	0.2	15	\$ 38,568
Door Weatherstripping MF	8,611	21,527	1.0	1.1	5	\$ 90,212
Door Weatherstripping MH	893	2,232	1.8	1.3	5	\$ 11,907
Door Weatherstripping SF	8,632	21,579	2.6	2.6	5	\$ 219,933
Duct Sealing and Repair MF	-	-	0.0	0.0	25	\$ -
Duct Sealing and Repair MH	-	-	0.0	0.0	25	\$ -
Duct Sealing and Repair SF	-	-	0.0	0.0	25	\$ -
Evaporative Cooler/Air Cond. Covers MF	-	2,190	0.0	0.4	3	\$ 2,267
Evaporative Cooler/Air Cond. Covers MH	-	300	0.0	0.9	3	\$ 611
Evaporative Cooler/Air Cond. Covers SF	-	1,343	0.0	2.2	3	\$ 6,970
Faucet Aerators MF	-	21,296	0.0	2.6	5	\$ 205,393
Faucet Aerators MH	-	2,306	0.0	2.6	5	\$ 22,241
Faucet Aerators SF	-	21,147	0.0	3.6	5	\$ 282,401
Furnace Repair MF	-	118	0.0	11.0	10	\$ 8,566
Furnace Repair MH	-	183	0.0	22.1	10	\$ 26,698
Furnace Repair SF	-	3,122	0.0	22.5	10	\$ 465,636
Furnace Replacement MF	-	94	0.0	36.9	22	\$ 39,124

Measure Description	Number Installed		Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL	Total Measure Life Cycle Bill Savings (\$)
	AC	Gas Heat				
Furnace Replacement MH	-	279	0.0	35.1	22	\$ 110,320
Furnace Replacement SF	-	3,362	0.0	36.2	22	\$ 1,371,303
Low Flow Showerhead MF	-	20,609	0.0	7.2	10	\$ 981,711
Low Flow Showerhead MH	-	2,163	0.0	7.2	10	\$ 103,035
Low Flow Showerhead SF	-	20,475	0.0	8.2	10	\$ 1,110,790
Minor Home Repairs MF	7,970	19,926	6.3	1.8	10	\$ 275,374
Minor Home Repairs MH	494	1,236	19.7	2.3	10	\$ 27,027
Minor Home Repairs SF	8,478	21,195	4.5	5.1	10	\$ 747,138
Water Heater Blanket MF	-	1,639	0.0	9.2	5	\$ 55,935
Water Heater Blanket MH	-	207	0.0	9.2	5	\$ 7,064
Water Heater Blanket SF	-	3,763	0.0	11.3	5	\$ 157,735
Water Heater Pipe Wrap MF	-	42	0.0	3.6	15	\$ 1,345
Water Heater Pipe Wrap MH	-	66	0.0	3.6	15	\$ 2,113
Water Heater Pipe Wrap SF	-	131	0.0	4.6	15	\$ 5,359
Water Heater Replacement MF	-	1	0.0	9.5	13	\$ 76
Water Heater Replacement MH	-	6	0.0	19.0	13	\$ 918
Water Heater Replacement SF	-	23	0.0	19.0	13	\$ 3,517
<b>Total Bill Savings for All Measures in Program Year</b>						<b>\$ 6,955,649</b>

**Total Number of Homes Served by the Program during Program Year**

54,677

**Life Cycle Bill Savings Per Home**

\$ 127.21

**Exhibit 4.24**

**SoCalGas Life Cycle Bill Savings– Program Year 2005**

Measure Description	Number Installed		Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL	Total Measure Life Cycle Bill Savings (\$)
	AC	Gas Heat				
<b>Energy Efficiency Measures</b>						
Attic Insulation MF	-	224	0.0	17.5	25	\$ 54,986
Attic Insulation SF	-	1,399	0.0	24.1	25	\$ 473,069
Caulking MF	265	663	0.9	0.8	5	\$ 2,377
Caulking MH	83	207	2.8	0.9	5	\$ 911
Caulking SF	380	950	2.4	2.3	5	\$ 9,700
Evaporative Cooler Cover MF	-	2,368	0.0	0.4	3	\$ 2,629
Evaporative Cooler Cover MH	-	341	0.0	1.1	3	\$ 1,042
Evaporative Cooler Cover SF	-	1,155	0.0	2.2	3	\$ 6,883
Faucet Aerators MF	-	11,577	0.0	2.6	5	\$ 129,855
Faucet Aerators MH	-	2,882	0.0	2.6	5	\$ 32,326
Faucet Aerators SF	-	24,284	0.0	3.6	5	\$ 377,150
Furnace Repair MF	-	44	0.0	11.0	10	\$ 3,739
Furnace Repair MH	-	284	0.0	23.6	10	\$ 51,628
Furnace Repair SF	-	4,659	0.0	22.2	10	\$ 797,364
Furnace Replacement MF	-	10	0.0	36.0	18	\$ 4,190
Furnace Replacement MH	-	107	0.0	39.0	18	\$ 48,616
Furnace Replacement SF	-	1,908	0.0	32.5	18	\$ 722,767
Low Flow Showerhead MF	-	11,285	0.0	7.2	10	\$ 625,179
Low Flow Showerhead MH	-	2,719	0.0	7.2	10	\$ 150,630
Low Flow Showerhead SF	-	23,290	0.0	8.2	10	\$ 1,469,446
Minor Home Repair MF	4,427	11,068	6.6	1.8	10	\$ 176,524
Minor Home Repair MH	501	1,253	21.6	2.4	10	\$ 32,265
Minor Home Repair SF	9,818	24,545	4.5	5.1	10	\$ 992,623
Water Heater Blanket MF	-	540	0.0	9.2	5	\$ 21,432
Water Heater Blanket MH	-	264	0.0	9.2	5	\$ 10,478
Water Heater Blanket SF	-	3,258	0.0	11.3	5	\$ 158,826

Measure Description	Number Installed		Per Measure Electric Impact (kWh)	Per Measure Gas Impact (Therms)	EUL	Total Measure Life Cycle Bill Savings (\$)
	AC	Gas Heat				
Water Heater Pipe Wrap MF	-	59	0.0	3.6	15	\$ 2,197
Water Heater Pipe Wrap MH	-	72	0.0	3.6	15	\$ 2,681
Water Heater Pipe Wrap SF	-	394	0.0	4.6	15	\$ 18,745
Water Heater Replacement MF	-	-	0.0	0.0	13	\$ -
Water Heater Replacement MH	-	1	0.0	19.0	13	\$ 178
Water Heater Replacement SF	-	6	0.0	19.0	13	\$ 1,067
Weatherstripping MF	4,661	11,653	1.0	1.1	5	\$ 57,134
Weatherstripping MH	916	2,290	2.0	1.4	5	\$ 14,349
Weatherstripping SF	9,828	24,569	2.5	2.6	5	\$ 284,208
<b>Total Bill Savings for All Measures in Program Year</b>						<b>\$ 6,737,194</b>

**Total Number of Homes Served by the Program during Program Year**

40,523

**Life Cycle Bill Savings Per Home**

\$ 166.26



## APPENDIX A – IMPLEMENTATION RATES

### PG&E

Measure	2003	2004	2005
<b>Furnaces</b>			
- Repair - Gas	1%	1%	2%
- Replacement - Gas	1%	0%	1%
- Repair - Electric	0%	0%	0%
- Replacement - Electric	0%	0%	0%
<b>Infiltration &amp; Space Conditioning.</b>			
- Cover Plates/Gaskets	56%	77%	66%
- Evaporative Cooler/Air Cond. Covers	10%	12%	7%
- HVAC Air Filter Replacement	30%	0%	0%
- Duct Repair	0%	0%	0%
<b>Weatherization</b>			
- Attic Insulation	8%	8%	6%
- Water Heater Blanket	15%	13%	13%
- Low Flow Showerhead	53%	59%	71%
- Door Weatherstripping	54%	72%	64%
- Caulking	56%	77%	67%
- Minor Home Repairs	52%	68%	68%
- Attic Access Weatherstripping	26%	27%	22%
<b>Water Heater Savings</b>			
- Water Heater Pipe Wrap	2%	1%	2%
- Faucet Aerators	66%	73%	82%
<i>Miscellaneous Measures</i>	0%	0%	0%
<i>Permanent Evaporative Coolers</i>	0%	0%	0%
<i>Portable Evaporative Coolers</i>	8%	4%	3%
<i>Compact Fluorescents (indoor)*</i>	408%	88%	94%
<i>Compact Fluorescents (outdoor)</i>	18%	14%	18%
<i>Refrigerators</i>	37%	41%	44%
<b>Pilots - Rapid Deployment</b>			
- Air Conditioner Replacement - Room	1%	2%	2%
- Air Conditioner Replacement - Central	1%	0%	0%
- Duct Sealing and Repair	13%	0%	0%
- Whole House Fans	1%	0%	0%
- Water Heater Replacement - Gas	1%	0%	0%
- Water Heater Replacement - Electric	0%	0%	0%
- Set-back Thermostats	8%	0%	0%
- Evaporative Cooler Maintenance	1%	0%	0%

\*PY2004 and PY2005 rate is home count \* 4 to obtain # of CFL's comparable to previous years

In PY2004, the way CFL's were counted changed and each household was purported to receive 4 lamps. The numerator moved from being actual lamps to number of households receiving CFL's. An implementation rate that would be comparable to PY2003 for PY2004 is number of lamps at 170,800 lamps across 48,549 households for an

implementation rate of 352 percent. Similarly, for PY2005, the implementation rate is 374 percent when four lamps per house is included in the numerator.

**SCE**

Measure	2003	2004	2005
<b>Furnaces</b>			
- Repair - Gas	0%	0.0%	0.0%
- Replacement - Gas	0%	0.0%	0.0%
- Repair - Electric	0%	0.0%	0.0%
- Replacement - Electric	0%	0.0%	0.0%
<b>Infiltration &amp; Space Conditioning.</b>			
- Cover Plates/Gaskets	2%	0.0%	1.5%
- Evaporative Cooler/Air Cond. Covers	0%	0.1%	0.2%
- HVAC Air Filter Replacement	0%	0.0%	0.0%
- Duct Repair	0%	0.2%	0.0%
<b>Weatherization</b>			
- Attic Insulation	0%	0.0%	0.0%
- Water Heater Blanket	0%	0.0%	0.5%
- Low Flow Showerhead	3%	0.3%	2.1%
- Door Weatherstripping	3%	0.4%	0.0%
- Caulking	1%	0.1%	0.2%
- Minor Home Repairs	3%	0.1%	1.4%
- Attic Access Weatherstripping	0%	0.0%	0.0%
<b>Water Heater Savings</b>			
- Water Heater Pipe Wrap	0%	0.0%	0.0%
- Faucet Aerators	4%	0.4%	2.5%
<i>Miscellaneous Measures</i>	0%	0.0%	0.0%
<i>Permanent Evaporative Coolers</i>	2%	3.9%	7.1%
<i>Portable Evaporative Coolers</i>	0%	0.0%	0.0%
<i>Compact Fluorescents (indoor)</i>	148%	303.2%	321.5%
<i>Compact Fluorescents (outdoor)</i>	46%	7.7%	81.2%
<i>Refrigerators</i>	51%	42.6%	54.7%
<b>Pilots - Rapid Deployment</b>			
- Air Conditioner Replacement - Room	0%	0.5%	0.6%
- Air Conditioner Replacement - Central	4%	1.2%	0.0%
- Duct Sealing and Repair	3%	0.2%	0.0%
- Whole House Fans	0%	0.0%	0.0%
- Water Heater Replacement - Gas	0%	0.0%	0.0%
- Water Heater Replacement - Electric	0%	0.1%	0.0%
- Set-back Thermostats	3%	1.0%	0.0%
- Evaporative Cooler Maintenance	1%	1%	0%

**SDG&E**

Measure	2003	2004	2005
<b>Furnaces</b>			
- Repair - Gas	7%	7%	7%
- Replacement - Gas	2%	2%	3%
- Repair - Electric	0%	0%	0%
- Replacement - Electric	0%	0%	0%
<b>Infiltration &amp; Space Conditioning.</b>			
- Cover Plates/Gaskets	58%	0%	0%
- Evaporative Cooler/Air Cond. Covers	0%	0%	0%
- HVAC Air Filter Replacement	0%	0%	0%
- Duct Repair	0%	0%	0%
<b>Weatherization</b>			
- Attic Insulation	2%	0%	4%
- Water Heater Blanket	7%	9%	13%
- Low Flow Showerhead	71%	75%	84%
- Door Weatherstripping	71%	73%	73%
- Caulking	69%	70%	70%
- Minor Home Repairs	41%	43%	46%
- Attic Access Weatherstripping	0%	0%	0%
<b>Water Heater Savings</b>			
- Water Heater Pipe Wrap	2%	2%	3%
- Faucet Aerators	72%	74%	83%
<i>Miscellaneous Measures</i>	0%	0%	0%
<i>Permanent Evaporative Coolers</i>	0%	0%	0%
<i>Portable Evaporative Coolers</i>	0%	0%	0%
<i>Compact Fluorescents (indoor)</i>	213%	379%	408%
<i>Compact Fluorescents (outdoor)</i>	7%	6%	10%
<i>Refrigerators</i>	32%	42%	44%
<b>Pilots - Rapid Deployment</b>			
- Air Conditioner Replacement - Room	1%	0%	0%
- Air Conditioner Replacement - Central	1%	0%	0%
- Duct Sealing and Repair	1%	0%	0%
- Whole House Fans	0%	0%	0%
- Water Heater Replacement - Gas	2%	0%	0%
- Water Heater Replacement - Electric	0%	0%	0%
- Set-back Thermostats	0%	0%	0%
- Evaporative Cooler Maintenance	1%	0%	0%

SoCalGas

Measure	2003	2004	2005
<b>Furnaces</b>			
- Repair - Gas	1%	6%	12%
- Replacement - Gas	7%	7%	5%
- Repair - Electric	0%	0%	0%
- Replacement - Electric	0%	0%	0%
<b>Infiltration &amp; Space Conditioning.</b>			
- Cover Plates/Gaskets	72%	70%	0%
- Evaporative Cooler/Air Cond. Covers	4%	7%	10%
- HVAC Air Filter Replacement	0%	0%	0%
- Duct Repair	0%	0%	0%
<b>Weatherization</b>			
- Attic Insulation	4%	4%	4%
- Water Heater Blanket	9%	10%	10%
- Low Flow Showerhead	76%	79%	92%
- Door Weatherstripping	81%	83%	95%
- Caulking	3%	4%	4%
- Minor Home Repairs	74%	77%	91%
- Attic Access Weatherstripping	0%	0%	0%
<b>Water Heater Savings</b>	0%	0%	0%
- Water Heater Pipe Wrap	1%	0%	1%
- Faucet Aerators	78%	82%	96%
<i>Miscellaneous Measures</i>	0%	0%	0%
<i>Permanent Evaporative Coolers</i>	0%	0%	0%
<i>Portable Evaporative Coolers</i>	0%	0%	0%
<i>Compact Fluorescents (indoor)</i>	0%	0%	0%
<i>Compact Fluorescents (outdoor)</i>	0%	0%	0%
<i>Refrigerators</i>	0%	0%	0%
<b>Pilots - Rapid Deployment</b>			
- Air Conditioner Replacement - Room	0%	0%	0%
- Air Conditioner Replacement - Central	0%	0%	0%
- Duct Sealing and Repair	2%	0%	0%
- Whole House Fans	0%	0%	0%
- Water Heater Replacement - Gas	8%	0%	0%
- Water Heater Replacement - Electric	0%	0%	0%
- Set-back Thermostats	0%	0%	0%
- Evaporative Cooler Maintenance	0%	0%	0%

## APPENDIX B – PROGRAM COST PERCENTS

### PG&E

<b>Energy Efficiency</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Gas Appliances	6.8%	3.8%	5.8%
Electric Appliances	29.9%	32.2%	39.0%
Weatherization Measures	27.0%	19.8%	22.8%
Outreach & Assessment	4.0%	5.9%	6.8%
In Home Energy Education	3.7%	6.0%	7.2%
Education Workshops	0.0%	0.0%	0.0%
<i>Energy Efficiency TOTAL</i>	71.4%	67.7%	81.6%
<b>Pilots</b>	0.0%	0.0%	0.0%
Attic Venting			
Landlord Rebates			
Phase 4 Pilot	0.1%	0.4%	1.2%
Leveraging Pilot	0.1%	0.7%	0.0%
<i>Total Pilots</i>	0.2%	1.0%	1.2%
Training Center	0.4%	0.6%	0.5%
Inspections	6.7%	6.0%	4.0%
Advertising	0.0%	0.0%	0.0%
M&E Studies	0.8%	0.4%	0.2%
Regulatory Compliance	0.8%	0.6%	0.4%
Other Administration	13.0%	20.1%	9.3%
Indirect Costs	6.7%	3.6%	2.8%
<b>Oversight Costs</b>			
CPUC Energy Division	0.1%	0.0%	0.1%
<i>Total Oversight Costs</i>	0.1%	0.0%	0.1%
<b>Total Costs</b>	100%	100%	100%

**SCE**

<b>Energy Efficiency</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
- Gas Appliances	0.0%	0.0%	0.0%
- Electric Appliances	83.7%	76.7%	77.3%
- Weatherization	5.5%	0.1%	0.9%
- Outreach & Assessment	5.0%	8.7%	7.6%
- In Home Energy Educat	1.3%	1.3%	2.9%
- Education Workshop	0.0%	0.0%	0.0%
<b>Energy Efficiency TOTAL</b>	<b>95.4%</b>	<b>86.7%</b>	<b>88.7%</b>
<b>Pilots</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
- Pilot (A)	0.0%	0.0%	0.0%
- Pilot (B)	0.8%	0.0%	0.0%
<b>Total Pilots</b>	<b>0.8%</b>	<b>0.0%</b>	<b>0.0%</b>
Training Center	0.0%	0.0%	0.0%
Inspections	0.6%	1.1%	0.7%
Advertising	0.0%	0.0%	0.0%
M&E Studies	0.9%	1.8%	0.1%
Regulatory Compliance	0.3%	0.4%	0.2%
Other Administration <sup>1</sup>	0.0%	8.1%	9.0%
Indirect Costs	1.4%	1.6%	1.2%
<b>Oversight Costs</b>			
- LIAB PY2002	0.1%	0.0%	0.0%
CPUC Energy Division	0.5%	0.2%	0.2%
<b>Total Oversight Costs</b>	<b>0.6%</b>	<b>0.2%</b>	<b>0.2%</b>
<b>Total Costs</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**SoCalGas**

<b>Energy Efficiency</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Gas Appliances	28.3%	19.8%	17.2%
Electric Appliances	0.0%	0.0%	0.0%
Weatherization Measures	53.5%	53.4%	55.8%
Outreach & Assessment	9.3%	10.4%	10.1%
In Home Energy	3.8%	3.4%	0.7%
Education Workshops	0.0%	0.0%	1.2%
<b>Energy Efficiency TOTAL</b>	<b>94.8%</b>	<b>87.0%</b>	<b>85.0%</b>
<b>Total Pilots</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>
Training Center	0.0%	0.8%	0.5%
Inspections	3.7%	4.4%	5.3%
Advertising	1.1%	1.1%	1.1%
M&E Studies	0.2%	0.5%	0.2%
Regulatory Compliance	0.1%	0.3%	0.9%
Other Administration	0.0%	4.3%	6.8%
Indirect Costs	0.0%	1.6%	0.0%
<b>Oversight Costs</b>	<b>0.0%</b>	<b>1.6%</b>	<b>0.0%</b>
CPUC Energy Division	0.1%	0.1%	0.1%
<b>Total Oversight Costs</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>
<b>Total Costs</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**SDG&E**

<b>Energy Efficiency</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
- Gas Appliances	5.5%	8.2%	9.2%
- Electric Appliances	31.1%	34.9%	34.3%
- Weatherization Measures	40.5%	29.3%	28.0%
- Outreach Assessment	0.0%	0.0%	0.0%
- In Home Energy Education	0.0%	9.8%	11.3%
- Education Workshops	2.7%	0.4%	0.7%
<i>Energy Efficiency TOTAL</i>	89.6%	82.5%	83.4%
<b>Pilots</b>	0.0%	0.0%	0.0%
- Pilot (A)	0.0%	0.0%	0.0%
- Pilot (B)	0.0%	0.0%	0.0%
<i>Total Pilots</i>	0.0%	0.0%	0.0%
Training Center	0.0%	0.0%	0.0%
Inspections	4.9%	0.8%	0.7%
Advertising	3.2%	4.2%	3.5%
M&E Studies	0.0%	0.3%	0.4%
Regulatory Compliance	2.1%	1.2%	2.1%
Other Administration	0.0%	6.5%	9.8%
Indirect Costs	0.0%	4.4%	0.0%
<b>Oversight Costs</b>			
- CPUC Energy Division	0.2%	0.1%	0.1%
<i>Total Oversight Costs</i>	0.2%	0.1%	0.1%
<b>Total Costs</b>	100%	100%	100%

## **APPENDIX C – MEMO ON PUBLIC WORKSHOPS**

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April 24, 2006

To: Mary O'Drain, Pacific Gas & Electric Co, Chair of Bill Savings Group

From: Tim Caulfield, Equipoise Consulting Incorporated

Re: Documentation of Bill Savings Workshop, April 21, 2006

cc: Bill Savings Group

The Bill Savings group held a publicly noticed workshop (Attachment 1) at the PG&E headquarters on 77 Beale Street, Room 307 from 10:00 AM to 12 noon on April 21, 2006 to present the results of the Program Year (PY) 2005 bill savings and cost report. The presentation made at the workshop is presented in Attachment 2. The list of attendees for the workshop is presented in Attachment 3. A copy of the draft report and paper copies of the presentation were available at the workshop for attendees. Electronic copies of the report and presentation were posted on the Low Income Oversight Board website prior to the workshop, so that telephone participants could follow along.

### **Summary and Comments from the Workshop**

The workshop was attended by 12 people, 8 in person and 4 on the telephone. The presentation went smoothly with many questions and much discussion. The presentation began at 10:05 AM and concluded at 11:45 AM.

The following comments from the workshop discussion justified specific notation.

- Report should list Non Energy Benefits (NEBs), acknowledging that NEBs exist in the low income program, but are NOT incorporated in this study. A footnote would be fine. General discussion indicated that this would help establish that this study is NOT a cost effectiveness study.
- The CPUC/ED would like a several page, high level summary, including tables. It was agreed that this would be done after the report is filed.
- With all the new staff involved, this is a good opportunity to rethink the terms and language in the bill savings study. Use simple terms and straightforward explanations in the summary.
- In addition to the tables already in the report, the next annual report should include a table that shows the first year annual savings.



- **Attachment 1 – Announcement Text**

**Public Workshop Notice –**  
**Joint Utilities 2005 Low Income Energy Efficiency Program Bill Savings Report**

<i>April 21, 2005</i> <i>10 am – 12 pm</i>	<b><u>San Francisco</u></b> <i>Pacific Gas &amp; Electric Company</i> <i>77 Beale Street</i> <i>Room 307</i> <i>San Francisco</i>
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Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas and Electric Company (the Joint Utilities) will hold a public workshop to present and discuss the results of The Joint Utilities 2005 Low Income Energy Efficiency Program Bill Savings Report. Workshop participants will have an opportunity to provide input to the Team before the recommendations are finalized and submitted to the CPUC for approval. The team will consider the public input and revise the draft report as appropriate.

A copy of the Draft Bill Savings Report will be posted on the Low-Income Oversight Board's website at <http://www.liob.org>.

Parties who have questions regarding the workshops may contact Mary O'Drain at 415-973-2317 or [MJO@pge.com](mailto:MJO@pge.com).

**Teleconference Information:** A number is being provided for individuals who wish to call into the workshops. The call-in number for the workshop is: 866-325-0587, Passcode: \*4159732317\*.

## **Attachment 2 – Presentation**

Slide 1

# Bill Savings Public Workshop

Costs and Bill Saving in the Low  
Income Energy Efficiency Programs for  
2003 to 2005

April 21, 2005 - 10:00 AM to Noon  
77 Beale Street  
San Francisco

Slide 2

## Introduction

In 2000, D.00-07-020, Ordering Paragraph 7 ordered the utilities to:

- ...jointly develop standardized methods for producing bill savings and expenditures for the Low Income Energy Efficiency (LIEE) program on an overall program and per unit basis, by utility.
- The methods were developed and the report ordered in D.00-07-020 was filed on time with errata filed on March 12, 2001.
- ALJ subsequently ordered report done annually. Past 5 reports available on [www.CALMAC.org](http://www.CALMAC.org) Searchable Database.

2

Slide 3

## Introduction (cont.)

- This workshop presents the results of applying the accepted methodology for determining costs and bill savings estimates of the LIEE program years 2003 through 2005.
- A report will be filed that is in compliance with Decision (D) 01-12-020, Ordering Paragraph 4 by May 1<sup>st</sup>.

3

Slide 4

## Costs

- Each LIEE implementer is required to separate costs into 16 labor, non-labor, and contract expenditure components.

	Costs Recorded by Cost Element											
	PG&E			SCE			SDG&E			SoCalGas		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
<b>Energy Efficiency</b>												
Gas Appliances	X	X	X				X	X	X	X	X	X
Electric Appliances	X	X	X	X	X	X	X	X	X			
Weatherization Measures	X	X	X	X	X	X	X	X	X	X	X	X
Outreach & Assessment	X	X	X	X	X	X				X	X	X
In Home Energy Education	X	X	X	X	X	X	X	X	X	X	X	X
Education Workshops	X						X	X	X			X
Pilots	X	X	X	X					X	X		
Training Center	X	X	X							X	X	X
Inspections	X	X	X	X	X	X	X	X	X	X	X	X
Advertising							X	X	X	X	X	X
M&E Studies	X	X	X	X	X	X		X	X	X	X	X
Regulatory Compliance	X	X	X	X	X	X	X	X	X	X	X	X
Other Administration	X	X	X			X	X	X	X			X
Indirect Costs	X	X	X	X	X	X		X			X	
<b>Oversight Costs</b>												
LIAB PY2002				X								
CPUC Energy Division	X	X	X	X	X	X	X	X	X	X	X	X

4

Slide 5

### Bill Savings

- Bill savings are the life cycle net present value saved by the average dwelling due to the measures installed under the LIEE programs.
  - Energy savings are determined from engineering analysis or M&E studies performed after the program was fielded.
  - Per-unit energy savings for PY2004 and PY2005 are from the PY2001 LIEE Impact Report and the Final LIEE Measure Cost Effectiveness Report.
  - Per-unit energy savings for PY2003 are from the PY2000 LIEE Impact Report and the Draft LIEE Measure Cost Effectiveness Report.
  - Many Effective Useful Life values for life cycle calculation based on CALMAC values, September, 2000. Substituted EULs from *Revised / Updated EULs Based on Retention and Persistence Studies Results, July 2005* for 3 measures.

5

Slide 6

### EULs from “Revised/Updated” Report

Measure	Previous Bill Savings EUL	Revised EUL from July 2005 report
High Efficiency Furnace	22	18
CFL Fixture, Residential	20	16
Refrigerators	15	18

6

Slide 7

### Bill Savings (cont.)

- The general algorithm for estimating bill savings is:

$$\text{Life Cycle Bill Savings} = \sum_{m=1}^M \left[ \sum_{r=1}^2 \sum_{Y=1}^{EUL_m} \text{Impact}_m * \text{Number}_m * \text{average energy rate}_{Y,r} * \frac{1}{(1 + \text{Discount Rate})^{Y-1}} \right]$$

where:

- r = fuel type (gas or electric)
- Y = Year, starting with implementation program year
- m = measure type
- energy rate<sub>Y,r</sub> = energy rate (\$ per kWh or therm) for fuel r in year Y
- Impact<sub>m</sub> = measure m gross impact per year (kWh or therm)
- Number<sub>m</sub> = number of measure type m installed
- EUL<sub>m</sub> = effective useful life (years) of measure type m

Slide 8

### Energy Rates

Year	PG&E		SCE	SDG&E		SoCalGas	
	\$/kWh	\$/Therm	\$/kWh	\$/kWh	\$/Therm	\$/kWh	\$/Therm
2003	0.0992	0.7721	0.1118	0.1380	0.8560	0.1118	0.6970
2004	0.0975	0.8138	0.1016	0.1119	0.8399	0.1016	0.8160
2005	0.0956	1.0310	0.1016	0.1380	0.9870	0.1016	0.9490
All years afterwards	Previous Year * (1+Escalation Rate)						

Escalation rate for 2005 analysis = 3%

Slide 9

### Analysis of Data

- Analyzed and compared within each utility from PY2004 to PY2005 to explain year to year differences.
- Analyzed and compared across utilities to explain differences seen for PY2005 by “service territory”.
  - PG&E
  - SoCalGas and SCE combined
  - SDG&E

Slide 10

### Results

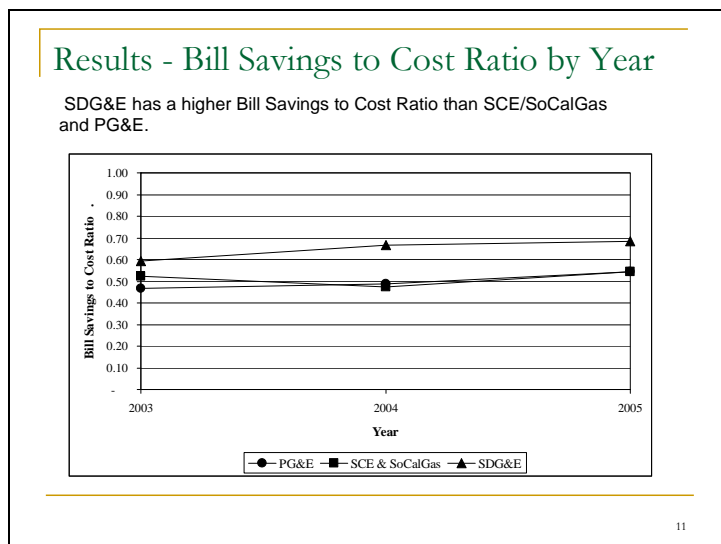
**Summary of Bill Savings to Cost Ratios by Service Area**

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	0.47	0.59	0.52	0.87	0.33
2004	0.49	0.67	0.47	0.95	0.24
2005	0.54	0.69	0.54	0.94	0.23

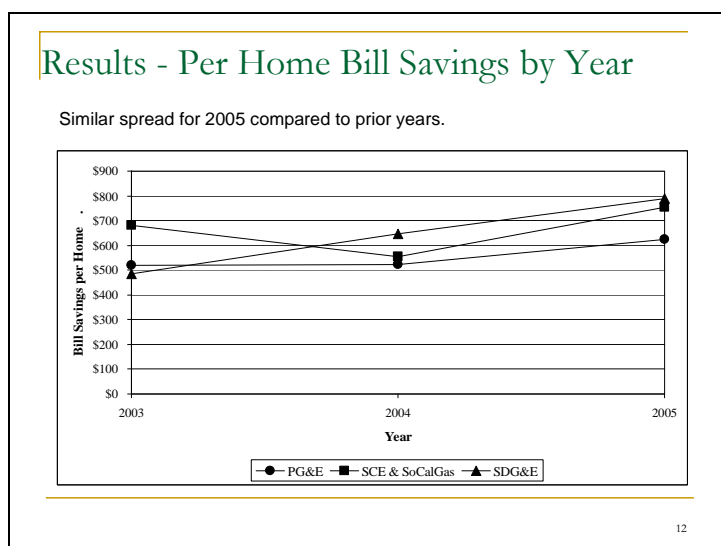
**Summary of Average Per Home Life Cycle Bill Savings by Service Area**

Program Year	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
2003	\$ 519	\$ 485	\$ 680	\$ 481	\$ 199
2004	\$ 522	\$ 645	\$ 554	\$ 413	\$ 141
2005	\$ 623	\$ 788	\$ 755	\$ 591	\$ 164

Slide 11



Slide 12



Slide 13

**Results of Analysis – Year to Year Per Home Bill Savings**

-When EUL changes and changes in measure installation rates for refrigerators, CFLs, showerheads and furnace repair or replacement measures were taken into account, 2004 to 2005 per home bill savings difference for each utility was within 10%.

Item	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
Original	\$ 623	\$ 788	\$ 755	\$ 591	\$ 164
Modified EUL	\$ 581	\$ 726	\$ 701	\$ 534	\$ 167
Modified EUL and Measures*	\$ 542	\$ 685	\$ 586	\$ 430	\$ 156
Difference in Modified EUL and Measures from PY2004	4%	6%	6%	4%	10%

\*Measures modified were: refrigerators, CFLs, showerheads, and furnace repair/replace

13

Slide 14

**Results of Analysis – Across Utility**

**Adjusted 2005 Bill Savings/Cost Ratio**

- When adjusted for energy rates, the 2005 bill savings to cost ratio varies by ~5% across "service territories".

	PG&E	SCE/ SoCalGas	SDG&E
Original Bill Savings to Cost Ratio	0.54	0.54	0.69
Actual PY2005 Energy Rate	0.0956 kWh 1.0310 Therm	0.1016 kWh 0.9490 Therm	0.140 kWh 0.990 Therm
Assumed Modified Energy Rate	0.1117 kWh 0.9890 Therm		
Modified Bill Savings to Cost Ratio	<b>0.61</b>	<b>0.59</b>	<b>0.58</b>

14



Slide 15

### Results of Analysis – Across Utility Adjusted 2005 Per Home Savings

- When adjusted for energy rates and refrigerator installation rates, the 2005 average per home savings vary by ~6% across "service territories".

Topic	PG&E	SDG&E	Combined SCE and SoCalGas	SCE	SoCalGas
Original	\$ 623	\$ 788	\$ 755	\$ 591	\$ 164
Modified Energy Rates	\$ 696	\$ 665	\$ 825	\$ 654	\$ 171
Modified Refrigerator Rate	\$ 623	\$ 788	\$ 651	\$ 487	\$ 164
Modified Energy and Refrigerator Rate	\$ 696	\$ 665	\$ 710	\$ 539	\$ 171

15

Slide 16

### Reasons for Results

- **PY2003** reasons for variations are refrigerator installation rate, refrigerator impact values and energy rates.
- **PY2004** Very little spread in unadjusted values. Energy rate had a marginal effect on bill savings to cost ratio. No other effects.
- **PY2005** similar to PY2003, the variation seen is due to refrigerator installation rates and energy rates.

16

Slide 17

### Conclusions

- Changes in EULs and changes in measure installation rates for four measures accounted for all but ~10% of the 2004 to 2005 per home bill savings difference for each utility.
- Energy rates account for all but ~5% of the variation in the 2005 bill savings to cost ratio across “service territories”.
- Energy rates and refrigerator installation rates accounted for all but ~6% of the variation in the 2005 average per home savings across “service territories”.

17

Slide 18

### Conclusions

- In short, this analysis shows that when variations in energy rates and measure installations rates are accounted for, the PY2005 LIEE program delivered comparable programs and savings to program participants statewide.

18

Slide 19

Supplemental Slides

19

Slide 20

Supplemental Slide 1 - EUL Values Used

Measure	EUL Used	
	Year	Source
Air Conditioner - Central	18	1
Air Conditioner - Room	15	1
Attic Access Weatherstripping	5	2
Attic Insulation (Ceiling Insulation)	25	1
Attic Venting	25	3
Building Envelope Repair	10	5
Caulking	5	5
Compact Fluorescent Hard Wired Porch Lights <sup>1,2</sup>	16 ; 5.3	8 ; 6
Compact Fluorescent Lights	8	6
Door Threshold	5	5
Door Weatherstripping	5	5
Duct Sealing and Testing	25	1
Energy Education	1	1
Evaporative Cooler (Permanent)	15	4
Evaporative Cooler (Portable)	7	1
Evaporative Cooler Covers (for Permanent)	3	4
Evaporative Cooler Maintenance	4	5
Faucet Aerators	5	4
Furnace Filters	5	2
Furnace Repair - (Gas)	10	5
Furnace Replacement (Gas)	18	8
Low Flow Showerhead	10	1
Outlet Gaskets	15	4
Refrigerator Replacement	18	8
Set-back Thermostats	12	1
Water Heater Blanket	5	4
Water Heater Pipe Wrap	15	1
Water Heater Replacement	13	1
Weatherstripping	5	5
Whole House Fans	20	7

Sources

1 CALMAC Workshop Report on FY 2001 Energy Efficiency Programs

2 Assumed to have the same EUL as Caulking or Weatherstripping.

3 Assumed to have the same EUL as attic insulation

4 DSM Measure Life Project, September 23, 1993 (adjusted and non-adjusted)

5 Engineering Estimate

6 LEE Measure Cost Effectiveness Preliminary Report, September, 2002

7 July 2001

8 Revised / Updated EULs Based on Retention and Persistence Studies Results, July 8, 2005

9 The measure tracked here for SCE is one where CFLs in porch lights are installed. The EUL has been appropriately lowered in this case.

20

Slide 21

Supplemental Slide 2 – Year-to-Year Differences by Utility				
Number of Homes Treated by Year by Utility				
Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	47,271	33,732	15,706	57,179
2004	48,546	37,348	14,897	54,677
2005	56,388	36,420	11,254	40,523

Percent Difference between PY2005 and PY2004				
Topic	PG&E	SDG&E	SCE	SoCalGas
Program Costs	25%	-10%	41%	-12%
Homes Treated	16%	-24%	-2%	-26%
Life Cycle Bill Savings	39%	-8%	40%	-14%

21

Slide 22

Supplemental Slide 3 – Results by Utility				
PG&E Summary				
Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 52,520,409	\$ 24,527,278	0.47	\$ 519
2004	\$ 51,826,340	\$ 25,355,922	0.49	\$ 522
2005	\$ 64,676,874	\$ 35,125,310	0.54	\$ 623

SCE Summary				
Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 18,664,182	\$ 16,210,842	0.87	\$ 481
2004	\$ 16,264,898	\$ 15,417,722	0.95	\$ 413
2005	\$ 22,896,323	\$ 21,525,767	0.94	\$ 591

SDG&E Summary				
Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 12,865,219	\$ 7,617,205	0.59	\$ 485
2004	\$ 14,405,365	\$ 9,607,052	0.67	\$ 645
2005	\$ 12,938,084	\$ 8,864,286	0.69	\$ 788

SoCalGas Summary				
Program Year	Program Costs	Life Cycle Bill Savings	Bill Savings / Cost Ratio	Per Home Average Life Cycle Bill Savings
2003	\$ 33,998,912	\$ 11,388,701	0.33	\$ 199
2004	\$ 32,995,808	\$ 7,730,493	0.24	\$ 141
2005	\$ 28,834,253	\$ 6,652,911	0.23	\$ 164

22

Slide 23

Supplemental  
Slide 4 –  
Results Across  
Utility

*Program Costs*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 52,520,409	\$ 18,664,182	\$ 12,865,219	\$ 33,998,942
2004	\$ 51,826,340	\$ 16,264,898	\$ 14,405,365	\$ 32,595,808
2005	\$ 64,676,874	\$ 22,896,323	\$ 12,938,084	\$ 28,834,253

*Life Cycle Bill Savings*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 24,527,278	\$ 16,210,842	\$ 7,617,205	\$ 11,388,701
2004	\$ 25,355,922	\$ 15,417,722	\$ 9,607,052	\$ 7,730,493
2005	\$ 35,125,310	\$ 21,525,767	\$ 8,864,286	\$ 6,652,911

*Bill Savings to Cost Ratio*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	0.47	0.87	0.59	0.33
2004	0.49	0.95	0.67	0.24
2005	0.54	0.94	0.69	0.23

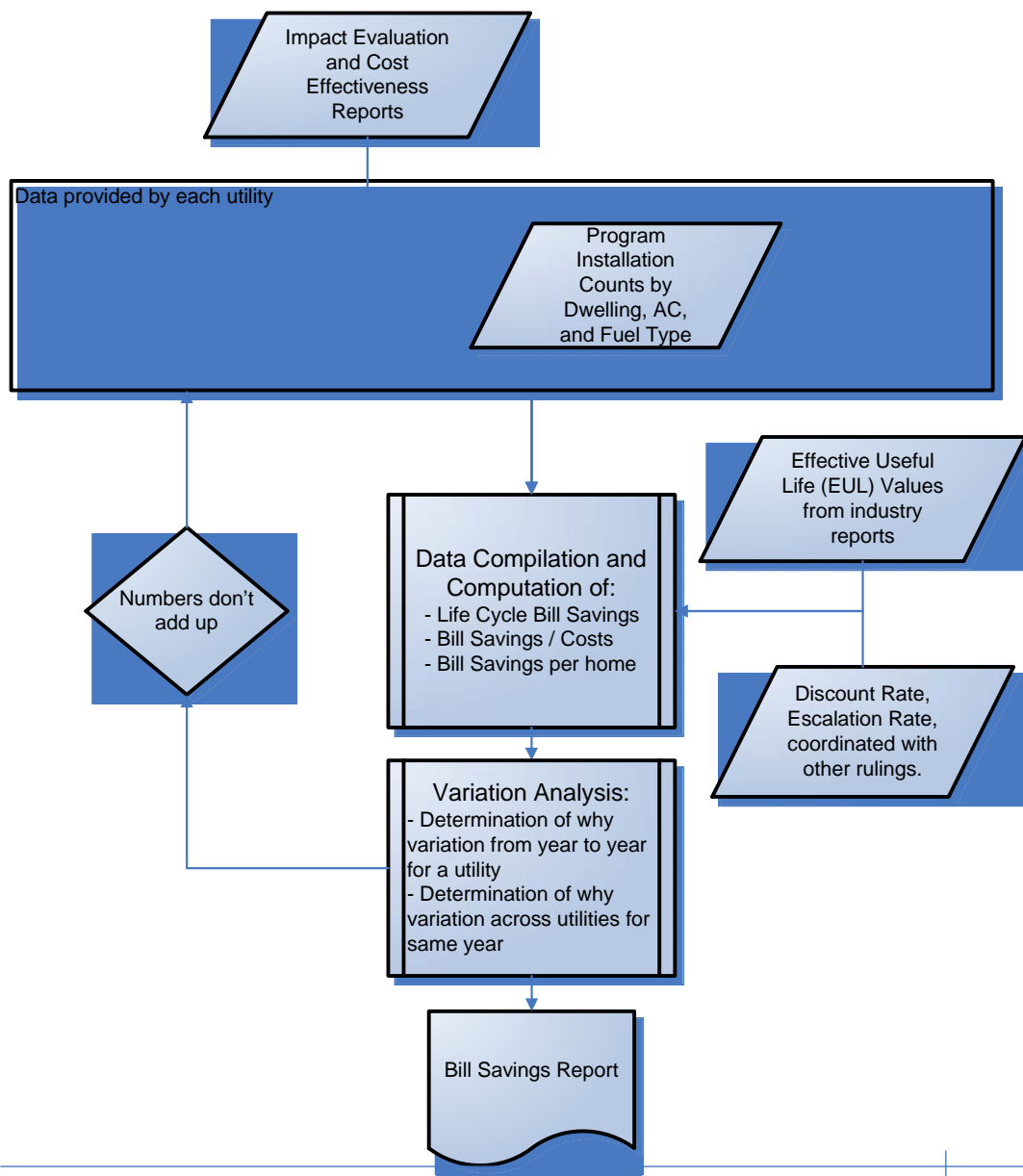
*Per Home Life Cycle Bill Savings*

Program Year	PG&E	SCE	SDG&E	SoCalGas
2003	\$ 519	\$ 481	\$ 485	\$ 199
2004	\$ 522	\$ 413	\$ 645	\$ 141
2005	\$ 623	\$ 591	\$ 788	\$ 164

23

## Flow Chart of Analysis for Bill Savings Report

Friday, April 21, 2006



Page 1

**Attachment 3 – Attendance Sheet**

**PY2005 Bill Savings Public Workshop April 21, 2006, 10 AM**

**77 Beale Street, Rm 307, San Francisco**

<b>Name</b>	<b>Affiliation</b>	<b>Email</b>	<b>Phone</b>
<b>In Person</b>			
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Doug Naaf	PG&E	<a href="mailto:DEN2@PGE.com">DEN2@PGE.com</a>	415-973-9758
Tim Caulfield (presenter)	Equipoise Consulting	Tim@Equipoise Consulting.com	510-414-0056
Kevin McKinley	Sempra Utilities	KMcKinley@ SempraUtilities.com	510-864-8507
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Sarv Randhawa	CPUC/ED	SSR@ <a href="http://CPUC.Ca.gov">CPUC.Ca.gov</a>	415-703-2274
Hazlyn Fortune	CPUC/ED	<a href="mailto:HCF@CPUC.Ca.gov">HCF@CPUC.Ca.gov</a>	415-703-1809
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Steve Loi	Southern California Edison	Steven.Loi@sce.com	626-302-8799
Roberto Del Real	Southern California Edison	<a href="mailto:Roberto.DelReal@SCE.com">Roberto.DelReal@SCE.com</a>	626-302-3515

## **APPENDIX D – TYPICAL NON-ENERGY BENEFITS**

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The following is a list of typical non-energy benefits included in low income cost effectiveness tests by PG&E. It should be noted that not all non-energy benefits are given values in each cost effectiveness model.

### **Utility-Related Benefits: Benefits Valued at Utility Costs and Savings**

- Lower Bad Debt Written Off
- Fewer Shutoffs
- Fewer Reconnects
- Fewer Notices
- Fewer Customer Calls
- Lower Collection Costs
- Reduction in emergency gas service calls
- Utility Health & Safety - Insurance savings only
- Transmission and/or distribution savings (distribution only)
- Utility Rate Subsidy Avoided (CARE) payments

### **Societal / Public Benefits: Benefits Beyond Utility and Participants**

- Economic impact (direct and indirect employment)
- Emissions / Environmental
- Health and Safety Equipment (CO and Other H&S)
- Water and wastewater (avoided)

### **Participants Benefits: Accrued to and Valued at Participant Values and Costs**

- Program rebate (directly from assumptions above)
- Water/sewer savings
- Fewer shutoffs
- Fewer Calls to the utility
- Fewer reconnects
- Property value benefits
- Fewer fires
- Indoor Air quality (CO-related)
- Moving costs / mobility
- Fewer Illnesses and lost days from work/school
- Reduced transactions costs (limited measures)
- Net Household Benefits from Comfort, Noise, net of negatives
- Net Household Benefits from Additional Hardship Benefits