Joint Utility  
Low Income Energy Efficiency Program,  
2004 Costs and Bill Savings   
Report

Draft Final Report

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# 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 have been used and accepted in four prior cost and bill savings reports. This report presents bill savings and costs for the utilities’ Program Year (PY) 2002, PY2003, and PY2004 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 ‑  
Summary of Bill Savings to Cost Ratios by Service Area



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



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

* **PY2002** variations are due to installation rates of refrigerators, the impacts for those refrigerators, and variation in energy rates.
* **PY2003** reasons forvariations are similar to those for PY2002 – refrigerator installation rate, refrigerator impact values 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 were to remain the same between the two years, then the SoCalGas PY 2003 and PY2004 bill saving would also be almost identical.

Overall, for PY2004, the unadjusted estimates show that similar programs are offered statewide. Even without adjustments for variation in energy rates and implementation, the differences in bill savings to cost ratio and per home bill savings across utilities similar. Adjustments for rates decreased the variation for bill savings to cost ratio but had no effect on per home bill savings.

# 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 ‑  
Past Bill Savings Reports

|  |  |  |  |
| --- | --- | --- | --- |
| **Report Name\*** | **Report Date** | **Program Years (PY) Covered in Report** | **Report Name in this Document** |
| *Joint Utility Low Income Energy Efficiency Program Costs and Bill Savings Standardization Report* | March 5, 2001 | PY1997 PY1998 PY1999 First Half of PY2000 | 2001 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2001 Costs and Bill Savings Standardization Report* | May 31, 2002 | PY1999 PY2000 PY2001 | 2002 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2002 Costs and Bill Savings Standardization Report* | April 23, 2003 | PY2000 PY2001 PY2002 | 2003 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2003 Costs and Bill Savings Standardization Report* | April 9, 2004 | PY2001 PY2002 PY2003 | 2004 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 fifth annual such report on the LIEE Bill Savings and covers PY2002, PY2003, and PY2004. The word “standardization” has been removed from the title of this year’s report to avoid confusion with other LIEE standardization efforts.

In order to maintain consistency between program years and to faithfully 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.

## 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.”[[1]](#footnote-1) 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.”[[2]](#footnote-2)

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.

## 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 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 were made to match costs across utilities, as allowed by the existing accounting systems, and to provide information on where and how reported costs differ.

## Bill Savings

### 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)[[3]](#footnote-3) 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[[4]](#footnote-4). The 2000 and 2001 impact evaluations described below appear to have also followed the Protocols to the degree that they are still applicable.

There are different sources of per-unit energy savings for the PY2004 measures versus the other two years as shown in Exhibit 2‑2.

Exhibit ‑  
Energy Sources by Program Year

| **Program Year** | **Energy Impact Source #1** | **Energy Impact Source #2** |
| --- | --- | --- |
| PY2002 and PY2003 | *Impact Evaluation of the 2000 Statewide Low Income Energy Efficiency (LIEE) Program.* XENERGY Inc. and Business Economic Analysis & Research. April 2, 2002. | *LIEE Measure Cost Effectiveness Preliminary Report.* LIEE Standardization Team. September 23, 2002 |
| PY2004 | *Impact Evaluation of the 2001 Statewide Low Income Energy Efficiency (LIEE) Program.* KEMA-XENERGY Inc. and Business Economic Analysis & Research. April 8, 2003. | *LIEE Measure Cost Effectiveness Final Report.* 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*. This was true also of the preliminary report, which based that earlier analysis on the *Impact Evaluation of the 2000 LIEE Program*. As such, if the appendix of the first source did not have a per-unit impact value, the per-unit impact value was obtained from the second source.

SoCalGas bill savings estimates include the electric savings accrued by SCE that are attributable to the weatherization measures installed under the SoCalGas LIEE program. SoCalGas used SCE’s ex-post per unit air conditioning kWh savings for caulking, minor home repairs, and weatherstripping to represent the electric savings from air conditioning measures in gas heated homes.

While the SCE LIEE program also weatherizes homes, they do so only in homes that are all electric (i.e., electric space and water heat). Therefore, there is no potential for therm savings.

### 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 ‑  
Estimation of Bill Savings

where:



r = fuel type (gas or electric)

Y = Year, starting with implementation program year

m = measure type

energy rateY,r = energy rate ($ per kWh[[5]](#footnote-5) or therm) for fuel r in year Y

Impactm = measure m gross[[6]](#footnote-6) impact per year (kWh or therm)

Numberm = number of measure type m installed

EULm = effective useful life[[7]](#footnote-7) (years) of measure type m

CP = Costing period, n = number of costing periods

### 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 2005 to see if the ruling had changed. As of the writing of this report, there had been no change. The inflation rate of 3 percent was used to develop the discount rate.[[8]](#footnote-8) 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 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 ‑  
Energy Rates Used for Bill Savings Calculations



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 down swings occur, the method can potentially estimate falsely high life cycle bill savings for future years. However, while there may be dramatic differences between two years, the subsequent year can provide 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 this reporting period to determine if the California Energy Commission Database for Energy Efficient Resources (DEER) values should be should be substituted for the values used to date. There are two groups of DEER EULs at this point. Non-weather sensitive measure DEER values have been updated as of 2004 while weather sensitive measures continue to use the DEER values from 1996 (although these are currently undergoing revision). The older weather sensitive DEER (DEER 4.0) EULs were not considered appropriate for use in this analysis for two reasons - the EULs in DEER 4.0 are based on 1992 and 1994 information and the measure EULs vary at times between utilities. The EULs values that evolved from the CALMAC coordination effort in 2000 have subsequently been used for program planning and were incorporated into the CPUC Energy Efficiency Manual. The newer non-weather sensitive DEER measures were researched to assess the source of the EULs included. There were seven measures in the new non-weather sensitive DEER that were also included as LIEE measures. The comparison of the overlapping EULs are shown in Exhibit 2‑5.

Exhibit ‑  
EUL Values

|  |  |  |  |
| --- | --- | --- | --- |
| **Measure** | **Bill Savings EUL (yrs)** | **New DEER EUL (yrs)** | **New DEER EUL Source** |
| CFL | 8 | Varied from 4.45 to 8.2 depending on number of hours of operation | “Measure Savings Algorithms and Cost Assumptions: Technical Reference Manual", Efficiency Vermont, Jan. 2003 |
| Faucet Aerator | 5 | 9 | 1995 Integrated Resource Plan by Washington Electric Cooperative |
| Low Flow Showerhead | 10 | 9 | 1995 Integrated Resource Plan by Washington Electric Cooperative |
| Refrigerator Replacement | 15 | 18 | DEER 4.0 |
| Water Heater Pipe Wrap | 15 | 10 | 1995 Integrated Resource Plan by Washington Electric Cooperative |
| Water Heater Replacement | 13 | 15 | DEER 4.0 |
| Water Heater Blanket | 5 | 6 | 1995 Integrated Resource Plan by Washington Electric Cooperative |

Since there is no ability to assign operating hours to the CFL fixtures installed under the LIEE program, the CFL EUL for CFLs from the new DEER cannot be applied. The EUL source for four measures (Faucet Aerator, Low Flow Showerhead, Water Heater Blanket, and Water Heater Pipe Wrap) was considered to be both older than the current EULs source and of inappropriate origin. The last two measures that overlap (Refrigerator Replacement and Water Heater Replacement) are also older than the current measure life and were considered inappropriate.

Based on the investigation into the DEER EULs, the decision was made to use the same EUL used for the previous Bill Savings Reports. The EULs being used in this analysis that are listed in Exhibit 2‑6. .

Exhibit ‑  
EULs Used in Bill Savings Calculations



## 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. The next section discusses the analysis of program cost and bill savings data for PY2002 through PY2004.

# Analysis of Program Cost and Bill Saving Results

This section discusses the program variables that affect the reported bill savings and costs.

## 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 document). 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 on analysis in this report. (only 16 cost categories are shown 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 4‑3 to Exhibit 4‑11, creates a comprehensive picture of the cost breakdown supplied by each utility.

Exhibit 3‑1  
Summary of Reported Cost Elements by Utility



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.

PY2002 and PY2003 were completely analyzed and reported in the 2004 Bill Savings Report. They are not discussed further in this report.

One might expect that the PY2002 and PY2003 bill savings values in this report should be identical to the values presented in the 2004 Bill Savings Report. However, the methodology for the life cycle bill savings uses actual energy rate data as they become available. Therefore, while the PY2004 energy rates were projected rates for the analysis performed for the 2004 Bill Savings Report, the actual rates were known and used for the analysis in this report. This caused the PY2002 and PY2003 results to change between reports. These changes are reflected in the detailed tables in Section 4.2

## 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 ‑  
Results Summary by Utility



Exhibit ‑  
Results Summary Across Utility



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.

### Year-to-Year Differences by Utility

As stated earlier, the PY2002 and PY2003 programs used one source of per-unit impacts to calculate energy savings, while PY2004 used a later source. The change in per-unit impacts for PY2004 makes a year-to-year comparison difficult. The per-unit values used in PY2004 were smaller than previously used for some measures and larger for other measures. In order to determine the impact of the change in per-unit values, the PY2002/2003 per-unit values were applied to the PY2004 installations numbers. The results are shown in Exhibit 3‑4.

Exhibit ‑  
PY2004 Life Cycle Bill Savings per Home with PY2002/2003 Per-Unit Impact Values

|  |  |  |  |
| --- | --- | --- | --- |
| **Utility** | **PY2004 per-unit impact values** | **PY2002/2003 per-unit impact values** | **% Different** |
| PG&E | $ 516.49 | $ 490.31 | 5% |
| SCE | $ 423.88 | $ 412.78 | 3% |
| SDG&E | $ 552.82 | $ 512.94 | 7% |
| SoCalGas | $ 127.21 | $ 173.89 | -37% |

For three out of the four utilities, the life cycle bill savings are 3% to 7% larger with the more recent per-unit values than they would have been with the older per-unit values. SoCalGas is the exception, with a relatively large reduction of 37%. Exhibit 3‑4 indicates that the primary reason for the lower bill savings for SoCalGas in 2004 is the result of changing the per unit impact values from those supplied in the PY2000 LIEE Impact Evaluation to those supplied the PY2001 LIEE Impact Evaluation.

From 1997 to 2004, the LIEE program has treated almost 1.2 million homes in California (based on the homes treated in the Bill Savings Reports). The number of homes treated each year (Exhibit 3‑5) helps explain some of the values in Exhibit 3‑2 and Exhibit 3‑3.

Exhibit ‑  
Number of Homes Treated by Year by Utility



Exhibit 3‑5 illustrates that SCE has showed steady small increase over the three year time frame while and PG&E had a one year increase and has since been similar in 2003 and 2004. SDG&E and SoCalGas have fluctuated by 10% to 15% over the three year period.

Exhibit 3‑2 summarizes the analysis results, by utility, from 2002 through 2004. There were increased program costs continuing into PY2002 across all utilities due to the influx of SBX-5 money that started in the second quarter of 2001.

Detailed explanations are based on line-by-line examination of the data. Readers wishing to review the accuracy of the conclusions presented here may wish to refer to the detailed cost or bill savings exhibits for the appropriate year, which are presented in Section 4.

Historically, one of the biggest reasons for differences across the years for the three electric utilities has been the variation in the number of installed refrigerators, as shown in Exhibit 3‑6. The large variation in savings has been due to the combination of significant fluctuations in units installed and the large per-unit impact and long life of the measure. For PY2004, however, the utilities have almost identical installation rates for refrigerators and the measure does not play a large part in explaining the inter-utility differences for this year.

Exhibit ‑  
Average Number of Installed Refrigerators per Treated Home



### 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 area 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.[[9]](#footnote-9) Exhibit 3‑7 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 2002 through 2004.

Exhibit ‑   
Analysis by Service Area, Combined SCE and SoCalGas



Exhibit 3‑8 and Exhibit 3‑9 present plots of the values shown in Exhibit 3‑7.

Exhibit ‑  
Graph of Bill Savings to Cost Ratio by Service Area



Exhibit ‑  
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 2004, the costs and benefits were examined in detail. Because PY2002 and PY 2003 were fully analyzed in the 2004 Bill Savings Report, no other comment on the differences between the utilities is presented here for those years.

***Utility Rates***

Exhibit 3‑8 and Exhibit 3‑9 indicate that the variation in bill savings to cost ratio among the utilities was slightly more than in PY2003, but had a similar spread to PY2002. 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 PY2004. As shown in Exhibit 3‑10, the bill savings-to-cost ratios were reduced by 30 percent when the averaged rates were applied to all utilities estimates.

Exhibit ‑  
Bill Savings to Cost Ratio with Modified Energy Rates

|  |  |  |  |
| --- | --- | --- | --- |
|  | **PG&E** | **SCE/SoCalGas** | **SDG&E** |
| Bill Savings to Cost Ratio | 0.48 | 0.47 | 0.57 |
| Actual PY2004 Energy Rate | 0.0975 kWh 0.8138 Therm | 0.1016 kWh 0.8160 Therm | 0.119 kWh 0.8399 Therm |
| Assumed Modified Energy Rate | 0.1037 kWh 0.8232 Therm | | |
| Modified Bill Savings to Cost Ratio | **0.51** | **0.47** | **0.54** |

***Discussion of Bill Savings to Cost Ratio Variations***

In PY2004 an effort was made to make the program cost accounting line items more similar than prior years. The utilities moved program costs that had been included in the energy efficiency measures to the “Other Administration” line item. What appears to be a drop in program costs in PY2004 for energy efficiency measures is really just an accounting change.

For PG&E, included in the “Other Admin” costs was $2.2 million dollars worth of unexpected contractor insurance costs that PG&E picked up in PY2004 and subsequently dropped in PY2005. Without the insurance costs, the ratio moves from 0.48 to 0.53.

The bill savings reductions seen by SoCalGas in PY2004 resulting from the change in per-unit impacts caused the reduction in bill savings to cost ratio for the combined service area (i.e., SoCalGas and SCE). If the older per-unit values are applied to SoCalGas, the combined bill savings to cost ratio increases from 0.47 to 0.52.

When the utility rates, per-unit impact changes for SoCalGas, and the one-time “Other Admin” cost are factored in, the three service areas have bill savings to cost ratios that are very similar.

***Bill Savings Per Home Differences***

First, it is important to say that the bill savings per home values that emerged from this year’s analysis, using each utilities actual rates, are within 10 percent of each other (Exhibit 3‑11 below). This level of agreement is similar to the level of agreement achieve in previous bill savings reports after making adjustments for measures and/or rates. So no further analysis was really necessary. The effects of using the average utility rates from Exhibit 2‑4 were tested to see whether they would bring the values even closer. Exhibit 3‑11 shows that it reversed the order of the PG&E and SDG&E bill savings per home, but did not decrease the spread. The percentage contribution of each measure type was reviewed to see if trends could be identified, but no obvious reason for the variation could be found.

**Exhibit 3‑11  
Effect of Average Rate on Bill Savings per home**



## 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 PY2004, the unadjusted numbers evolving from the analysis were within 10% of each other, which is the same as the levels of agreement achieved in prior bill savings assessment after adjustments. Neither the per-unit cost of energy nor the measure installation rates played major rolls in the utility-to-utility variation. The main effect for PY2004 was the change in per-unit impacts seen by SoCalGas resulting from the updated impact study data. In short, this analysis shows that the PY2004 LIEE program delivered comparable savings to program participants statewide.

# Detailed Tables

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

## Program Costs

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

Exhibit ‑  
PG&E Table TA 7.2 – Program Year 2002 Last Updated 3/13/03



Exhibit ‑  
PG&E Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit ‑  
PG&E Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit 4‑4  
SCE Table TA 7.2 – Program Year 2002 Last Updated 3/17/03



Exhibit ‑  
SCE Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit ‑  
SCE Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit ‑  
SDG&E Table TA 7.2 – Program Year 2002 Last Updated 4/9/03



Exhibit ‑  
SDG&E Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



**Exhibit 4‑9  
SDG&E Table TA 7.2 – Program Year 2004 Last Updated 3/28/05**



Exhibit ‑  
SoCalGas Table TA 7.2 – Program Year 2002 Last Updated 3/13/03



Exhibit ‑  
SoCalGas Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit ‑  
SoCalGas Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



## 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.

Exhibit ‑  
PG&E Life Cycle Bill Savings– Program Year 2002 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | SH | AC | Therms | Years | $ |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| Attic Access Weatherstripping - MH (Gas) | 29 | 0.00 | 8.20 | 3.30 | 5 | $ 317 |
| Attic Access Weatherstripping - MF (Electric) | 292 | 6.10 | 4.50 | 0.00 | 5 | $ 1,062 |
| Attic Access Weatherstripping - MF (Gas) | 2,441 | 0.00 | 4.50 | 1.60 | 5 | $ 13,177 |
| Attic Access Weatherstripping - SF (Electric) | 1,096 | 8.50 | 8.20 | 0.00 | 5 | $ 5,955 |
| Attic Access Weatherstripping - SF (Gas) | 9,149 | 0.00 | 8.20 | 3.30 | 5 | $ 99,976 |
| Attic Insulation - MF (Electric) | 63 | 59.00 | 70.20 | 0.00 | 25 | $ 8,056 |
| Attic Insulation - MF (Gas) | 526 | 0.00 | 70.20 | 18.70 | 25 | $ 113,263 |
| Attic Insulation - SF (Electric) | 393 | 81.60 | 110.70 | 0.00 | 25 | $ 72,819 |
| Attic Insulation - SF (Gas) | 3,284 | 0.00 | 110.70 | 34.20 | 25 | $ 1,257,754 |
| Building Envelope Repair - MH (Electric) | 297 | 29.30 | 25.10 | 0.00 | 10 | $ 9,455 |
| Building Envelope Repair - MH (Gas) | 2,481 | 0.00 | 25.10 | 8.80 | 10 | $ 131,347 |
| Building Envelope Repair - MF (Electric) | 1,097 | 20.80 | 14.10 | 0.00 | 10 | $ 23,393 |
| Building Envelope Repair - MF (Gas) | 9,154 | 0.00 | 14.10 | 4.60 | 10 | $ 256,378 |
| Building Envelope Repair - SF (Electric) | 1,695 | 29.30 | 25.10 | 0.00 | 10 | $ 53,905 |
| Building Envelope Repair - SF (Gas) | 14,143 | 0.00 | 25.10 | 8.80 | 10 | $ 748,840 |
| Caulking - MH (Electric) | 388 | 8.50 | 8.20 | 0.00 | 5 | $ 2,108 |
| Caulking - MH (Gas) | 3,239 | 0.00 | 8.20 | 3.30 | 5 | $ 35,394 |
| Caulking - MF (Electric) | 1,414 | 6.00 | 4.50 | 0.00 | 5 | $ 5,071 |
| Caulking - MF (Gas) | 11,798 | 0.00 | 4.50 | 1.60 | 5 | $ 63,699 |
| Caulking - SF (Electric) | 1,687 | 8.50 | 8.20 | 0.00 | 5 | $ 9,165 |
| Caulking - SF (Gas) | 14,082 | 0.00 | 8.20 | 3.30 | 5 | $ 153,882 |
| Compact Fluorescent Hard Wire Porch Lights | 6,665 | 37.10 | 0.00 | 0.00 | 20 | $ 315,561 |
| Compact Fluorescent Lamp - SF | 344,394 | 22.30 | 0.00 | 0.00 | 8 | $ 5,142,577 |
| Door Weatherstripping - MH (Electric) | 365 | 8.50 | 8.20 | 0.00 | 5 | $ 1,985 |
| Door Weatherstripping - MH (Gas) | 3,050 | 0.00 | 8.20 | 3.30 | 5 | $ 33,325 |
| Door Weatherstripping - MF (Electric) | 1,213 | 6.10 | 4.50 | 0.00 | 5 | $ 4,406 |
| Door Weatherstripping - MF (Gas) | 10,122 | 0.00 | 4.50 | 1.60 | 5 | $ 54,649 |
| Door Weatherstripping - SF (Electric) | 1,665 | 8.50 | 8.20 | 0.00 | 5 | $ 9,043 |
| Door Weatherstripping - SF (Gas) | 13,893 | 0.00 | 8.20 | 3.30 | 5 | $ 151,823 |
| Energy Education | 56,698 | 0.00 | 0.00 | 0.00 | 1 | $ - |
| Evaporative Cooler Covers SF (Electric) | 408 | 24.00 | 0.00 | 0.00 | 3 | $ 2,851 |
| Evaporative Cooler Covers SF (Gas) | 3,401 | 0.00 | 0.00 | 7.20 | 3 | $ 43,662 |
| Evaporative Coolers SF (Portable) | 15,968 | 0.00 | 390.59 | 0.00 | 7 | $ 3,749,471 |
| Faucet Aerators SF (Gas) | 36,939 | 0.00 | 0.00 | 1.40 | 5 | $ 146,580 |
| Furnace Filters - MH (Electric) | 310 | 24.16 | 0.00 | 0.00 | 5 | $ 3,398 |
| Furnace Filters - MH (Gas) | 2,586 | 0.00 | 0.00 | 4.92 | 5 | $ 36,064 |
| Furnace Filters - MF (Electric) | 626 | 17.51 | 0.00 | 0.00 | 5 | $ 4,975 |
| Furnace Filters - MF (Gas) | 5,224 | 0.00 | 0.00 | 2.33 | 5 | $ 34,500 |
| Furnace Filters - SF (Electric) | 974 | 18.10 | 0.00 | 0.00 | 5 | $ 8,005 |
| Furnace Filters - SF (Gas) | 8,133 | 0.00 | 0.00 | 4.26 | 5 | $ 98,197 |
| Furnace Repair (Gas) | 632 | 0.00 | 0.00 | 42.90 | 10 | $ 137,061 |
| Furnace Replacement (Gas) | 330 | 0.00 | 0.00 | 147.20 | 22 | $ 418,603 |
| Low Flow Showerhead SF (Gas) | 30,603 | 0.00 | 0.00 | 9.10 | 10 | $ 1,407,816 |
| Outlet/Switch Gaskets SF (Electric) | 3,421 | 7.99 | 0.12 | 0.00 | 15 | $ 29,308 |
| Outlet/Switch Gaskets SF (Gas) | 28,547 | 0.00 | 0.12 | 0.34 | 15 | $ 67,500 |
| Refrigerator Replacement | 24,719 | 644.70 | 0.00 | 0.00 | 15 | $ 16,981,835 |
| Water Heater Blanket - MH (Gas) | 0 | 0.00 | 0.00 | 7.30 | 5 | $ - |
| Water Heater Blanket - MF (Gas) | 0 | 0.00 | 0.00 | 4.90 | 5 | $ - |
| Water Heater Blanket - SF (Gas) | 7,137 | 0.00 | 0.00 | 7.30 | 5 | $ 147,673 |
| Water Heater Pipe Wrap- SF (Gas) | 1,352 | 0.00 | 0.00 | 2.70 | 15 | $ 24,806 |
| *Sub-total for Energy Efficiency Measures* | |  |  |  |  | *$ 32,120,690* |
| **Rapid Deployment Measures** |  |  |  |  |  |  |
| Air Conditioning Replacement - Central - SF | 442 | 0.00 | 611.93 | 0.00 | 18 | $ 324,041 |
| Duct Sealing and Testing -MF (Gas) | 45 | 0.00 | 41.94 | 17.81 | 25 | $ 8,545 |
| Duct Sealing and Testing - MH/SF (Gas) | 244 | 0.00 | 43.80 | 17.74 | 25 | $ 46,454 |
| Set-back Thermostats MF (Electric) | 108 | 58.88 | 37.31 | 0.00 | 12 | $ 7,332 |
| Set-back Thermostats MF (Gas) | 898 | 0.00 | 39.32 | 8.79 | 12 | $ 59,451 |
| Set-back Thermostats MH (Electric) | 109 | 87.57 | 35.88 | 0.00 | 12 | $ 10,210 |
| Set-back Thermostats MH (Gas) | 909 | 0.00 | 52.02 | 18.94 | 12 | $ 118,156 |
| Set-back Thermostats SF (Electric) | 242 | 77.46 | 62.19 | 0.00 | 12 | $ 22,871 |
| Set-back Thermostats SF (Gas) | 2,016 | 0.00 | 43.18 | 18.35 | 12 | $ 248,298 |
| Whole House Fans SF | 99 | 0.00 | 124.16 | 0.00 | 20 | $ 15,687 |
| Evaporative Cooler Maintenance SF | 771 | 0.00 | 73.61 | 0.00 | 4 | $ 21,262 |
| Evaporative Cooler Maintenance MF | 350 | 0.00 | 49.33 | 0.00 | 4 | $ 6,468 |
| Water heater Replacement SF (Gas) | 765 | 0.00 | 0.00 | 21.60 | 13 | $ 101,618 |
| *Sub-total for Rapid Deployment Measures* | |  |  |  |  | *$ 990,395* |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  | $ 33,111,085 |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | | |  | 70,683 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** | |  |  |  |  | $ 468.44 |

Exhibit ‑  
PG&E Life Cycle Bill Savings– Program Year 2003 Last Updated 3/16/04

| **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 |
| 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 |
| 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 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 22,164,568* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| 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 |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 1,568,003* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | $ 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 ‑  
PG&E Life Cycle Bill Savings– Program Year 2004 Last Updated 3/30/05

| **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 | $ |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| 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 |
| 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 |
| 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 |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  |  |  | $ 25,074,904 |
|  |  |  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | | |  |  |  | 48,549 |
|  |  |  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** | |  |  |  |  |  |  | $ 516.49 |

Exhibit ‑  
SCE Life Cycle Bill Savings– Program Year 2002 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Access Weatherstripping1 | - | 0 | 0 | 5 | $ - |
| Attic Insulation MF | - | 34.40 | - | 25 | $ - |
| Attic Insulation MH/SF | - | 50.10 | - | 25 | $ - |
| Attic Ventilation2 | - | 0 | 0 | 25 | $ - |
| Caulking - MF | 1,128 | 4.7 | 2.6 | 5 | $ 3,620 |
| Caulking - MH | 4 | 6.9 | 0 | 5 | $ 14 |
| Compact Fluorescents (indoor) MF | 25,968 | 21.60 | 0 | 8 | $ 418,137 |
| Compact Fluorescents (indoor) MH/SF | 18,491 | 21.20 | 0 | 8 | $ 292,229 |
| Compact Fluorescents (outdoor) MF | 5,655 | 32.40 | 0 | 5.3 | $ 92,029 |
| Compact Fluorescents (outdoor) MH/SF | 5,894 | 31.90 | 0 | 5.3 | $ 94,438 |
| Cover Plate/Gaskets - MF | 1,727 | 3.38 | -0.05 | 15 | $ 6,890 |
| Cover Plate/Gaskets - MH/SF | 234 | 5.62 | 0.18 | 15 | $ 1,600 |
| Duct Repair2 | 1 | 0 | 0 | 25 | $ - |
| Evaporative Cooler Installation - MF | 51 | 0 | 571.17 | 15 | $ 34,717 |
| Evaporative Cooler Installation - MH/SF | 227 | 0 | 426.65 | 15 | $ 115,428 |
| Evaporative Cooler/AC Covers MF | 82 | 14.4 | 0 | 3 | $ 377 |
| Evaporative Cooler/AC Covers MH/SF | 91 | 19.34 | 0 | 3 | $ 562 |
| Faucet Aerators - MF | 1,142 | 41.2 | 0 | 5 | $ 23,632 |
| Faucet Aerators - MH/SF | 475 | 48.4 | 0 | 5 | $ 11,547 |
| Low Flow Showerhead - MF | 1,703 | 203.30 | 0 | 10 | $ 307,754 |
| Low Flow Showerhead - MH/SF | 242 | 239.20 | 0 | 10 | $ 51,455 |
| Minor Home Repairs - MF | 1,624 | 14.80 | 5.10 | 10 | $ 28,727 |
| Minor Home Repairs - MH/SF | 185 | 21.60 | - | 10 | $ 3,552 |
| Miscellaneous4 | 267 | 0 | 0 | 0 | $ - |
| Refrigerator Replacement - MF | 5,053 | 695.4 | 0 | 15 | $ 4,187,901 |
| Refrigerator Replacement - MH/SF | 4,763 | 711.60 | 0 | 15 | $ 4,039,512 |
| Water Heater Blanket - MF | 296 | 163.00 | 0 | 5 | $ 24,234 |
| Water Heater Blanket - SF | 19 | 191.80 | 0 | 5 | $ 1,830 |
| Water Heater Pipe Wrap3 | - | 0 | 0 | 15 | $ - |
| Weatherstripping - MF | 1,763 | 4.20 | 1.70 | 5 | $ 4,698 |
| Weatherstripping - MH/SF | 248 | 6.20 | - | 5 | $ 772 |
| *Sub-total for Energy Efficiency Measures* | |  |  |  | *$ 9,745,657* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Air Conditioner Replacement - Central - MF | 158 | 0 | 1962.4 | 18 | $ 415,826 |
| Air Conditioner Replacement - Central - MH/SF | 92 | 0 | 565.28 | 18 | $ 69,746 |
| Air Conditioner Replacement - Room - MF | 2,602 | 0 | 521.02 | 15 | $ 1,615,750 |
| Evaporative Cooler Maintenance - MH | 538 | 0 | 69.55 | 4 | $ 15,453 |
| Evaporative Cooler Maintenance - MF/SF | 2,165 | 0 | 110.34 | 4 | $ 98,655 |
| Dust Testing & Sealing - MF | 636 | 23.19 | 183.45 | 25 | $ 212,267 |
| Set-back Thermostats | 0 | 0 | 177.76 | 12 | $ - |
| Water Heater Replacement - MF | 266 | 117.8 | 0 | 13 | $ 33,824 |
| *Sub-total for Rapid Deployment Measures* | |  |  |  | *$ 2,461,521* |
| **Total Bill Savings for All Measures In Program Year** | |  |  |  | **$ 12,207,178** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  | 29,685 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 411.22 |
|  |  |  |  |  |  |
| 1. This measures 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. | |  |  |  |  |
| 4. Zero savings are claimed for this measure, which includes sunscreens, shower arm, shower diverter, and other. | | | | | |

Exhibit ‑  
SCE Life Cycle Bill Savings– Program Year 2003 Last Updated 3/30/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Access Weatherstripping1 | - | 0 | 0 | 5 | $ - |
| Attic Insulation MF | - | 34.4 | - | 25 | $ - |
| Attic Insulation MH/SF | - | 50.1 | - | 25 | $ - |
| Attic Ventilation2 | - | - | 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 Repair2 | 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 Wrap3 | 4 | 0.0 | 0.0 | 15 | $ - |
| Weatherstripping - MF | 878 | 3.8 | 2.9 | 5 | $ 2,047 |
| Weatherstripping - MH/SF | 3 | 4.8 | 2.00 | 5 | $ 8 |
| *Sub-total for Energy Efficiency Measures* | |  |  |  | *$ 16,610,897* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| 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 |
| *Sub-total for Rapid Deployment Measures* | |  |  |  | *$ 1,970,280* |
| **Total Bill Savings for All Measures In Program Year** | |  |  |  | **$ 18,581,176** |
|  |  |  |  |  |  |
| **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 ‑  
SCE Life Cycle Bill Savings– Program Year 2004 Last Updated 3/28/05

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- |
|  | **SH** | **AC** | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| 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 |
| 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 |
| **Total Bill Savings for All Measures In Program Year** | |  |  |  |  | **$ 15,831,079** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 37,348 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 423.88 |

Exhibit ‑  
SDG&E Life Cycle Bill Savings– Program Year 2002 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact** | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **(kWh)** | **(Therms)** | **(years)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Ventilation\* | 124 | 0.00 | 0.00 | 25 | $ - |
| Auto Sweep\* | 177 | 0.00 | 0.00 | 5 | $ - |
| Caulking - MF (Electric) | 523 | 6.00 | 0.00 | 5 | $ 1,920 |
| Caulking - MF (Gas) | 2,965 | 2.30 | 2.00 | 5 | $ 25,770 |
| Caulking - MH/SF (Electric) | 583 | 7.80 | 0.00 | 5 | $ 2,781 |
| Caulking - MH/SF (Gas) | 3,303 | 2.70 | 2.50 | 5 | $ 35,534 |
| Ceiling Insulation MF (Electric) | 2 | 34.40 | 0.00 | 25 | $ 137 |
| Ceiling Insulation MF (Gas) | 5 | 0.00 | 11.00 | 25 | $ 669 |
| Ceiling Insulation MH/SF (Electric) | 62 | 93.60 | 0.00 | 25 | $ 11,521 |
| Ceiling Insulation MH/SF (Gas) | 354 | 43.50 | 16.90 | 25 | $ 103,339 |
| Compact Fluorescent Lights MF | 8,579 | 27.80 | 0.00 | 8 | $ 217,452 |
| Compact Fluorescent Lights MH/SF | 14,924 | 24.80 | 0.00 | 8 | $ 337,457 |
| Cover Place / Gaskets MF (Electric) | 405 | 2.94 | 0.00 | 15 | $ 1,742 |
| Cover Place / Gaskets MF (Gas) | 2,296 | -0.10 | 0.13 | 15 | $ 2,327 |
| Cover Place / Gaskets MH/SF (Electric) | 403 | 5.73 | 0.00 | 15 | $ 3,379 |
| Cover Place / Gaskets MH/SF (Gas) | 2,285 | 0.40 | 0.23 | 15 | $ 6,025 |
| Door Replacement\* | 1535 | 0 | 0 | 10 | $ - |
| Door Threshold\* | 2410 | 0 | 0 | 5 | $ - |
| Duct Register Sealing\* | 688 | 0 | 0 | 5 | $ - |
| Evaporative Cooler Cover SF | 135 | 15.17 | 3.65 | 3 | $ 1,894 |
| Evaporative Cooler Replacement SF | 4 | 246.35 | 0.00 | 15 | $ 1,441 |
| Exterior CFL Fixture MF | 115 | 41.70 | 0.00 | 20 | $ 8,419 |
| Exterior CFL Fixture MH/SF | 226 | 37.10 | 0.00 | 20 | $ 14,721 |
| Faucet Aerators MH | 3,237 | 41.20 | 0.90 | 5 | $ 92,176 |
| Faucet Aerators MH/SF | 3,693 | 48.40 | 1.40 | 5 | $ 128,149 |
| Furnace repairs MF | 153 | 0.00 | 16.00 | 10 | $ 16,164 |
| Furnace repairs MH/SF | 406 | 0.00 | 23.00 | 10 | $ 61,657 |
| Furnace Replacement SF | 367 | 0.00 | 84.30 | 22 | $ 351,177 |
| Glass Replacement\* | 959 | 0.00 | 0.00 | 10 | $ - |
| Jamb Replacement\* | 113 | 0.00 | 0.00 | 5 | $ - |
| In Home Energy Education | 10,506 | 0.00 | 0.00 | 1 | $ - |
| Low Flow Showerheads MF (Electric) | 515 | 203.30 | 0.00 | 10 | $ 113,998 |
| Low Flow Showerheads MF (Gas) | 2,921 | 0.00 | 6.10 | 10 | $ 117,649 |
| Low Flow Showerheads MH/SF (Electric) | 618 | 239.20 | 0.00 | 10 | $ 160,954 |
| Low Flow Showerheads MH/SF (Gas) | 3,504 | 0.00 | 9.10 | 10 | $ 210,539 |
| Minor Home Repair Materials MF (Electric) | 163 | 19.90 | 0.00 | 10 | $ 3,536 |
| Minor Home Repair Materials MF (Gas) | 925 | 7.00 | 3.80 | 10 | $ 30,252 |
| Minor Home Repair Materials MH/SF (Electric) | 331 | 26.10 | 0.00 | 10 | $ 9,408 |
| Minor Home Repair Materials MH/SF (Gas) | 1,876 | 8.10 | 5.50 | 10 | $ 84,670 |
| Refrigerator Replacement | 6,488 | 644.70 | 0.00 | 15 | $ 6,118,309 |
| Water Heater Blankets MF (Electric) | 7 | 163.00 | 0.00 | 5 | $ 698 |
| Water Heater Blankets MF (Gas) | 39 | 0.00 | 4.90 | 5 | $ 696 |
| Water Heater Blankets MH/SF (Electric) | 87 | 191.80 | 0.00 | 5 | $ 10,205 |
| Water Heater Blankets MH/SF (Gas) | 494 | 0.00 | 7.30 | 5 | $ 13,136 |
| Water Heater Pipe Wrap MF (Electric) | 2 | 115.30 | 0.00 | 15 | $ 379 |
| Water Heater Pipe Wrap MF (Gas) | 13 | 0.00 | 1.80 | 15 | $ 205 |
| Water Heater Pipe Wrap MH/SF (Electric) | 37 | 135.60 | 0.00 | 15 | $ 7,408 |
| Water Heater Pipe Wrap MH/SF (Gas) | 212 | 0.00 | 2.70 | 15 | $ 5,099 |
| Weather stripping (Electric) - MF | 548 | 6.10 | 0.00 | 5 | $ 2,044 |
| Weather stripping (Gas) - MF | 3,104 | 2.40 | 2.00 | 5 | $ 27,170 |
| Weather stripping (Electric) - SF | 550 | 8.00 | 0.00 | 5 | $ 2,691 |
| Weather stripping (Gas) - SF | 3,114 | 2.80 | 2.70 | 5 | $ 35,959 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 8,380,857* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Air Conditioner Replacement - Central MF | 1 | 828.28 | 0.00 | 18 | $ 1,364 |
| Air Conditioner Replacement - Central SF | 293 | 292.85 | 0.00 | 18 | $ 141,321 |
| Air Conditioner Replacement - Room MF | 310 | 130.16 | 0.00 | 15 | $ 59,020 |
| Air Conditioner Replacement - Room SF | 14 | 426.40 | 0.00 | 15 | $ 8,732 |
| Duct Sealing & Testing MF (Electric) | 1 | 116.60 | 0.00 | 25 | $ 231 |
| Duct Sealing & Testing MF (Gas) | 4 | 47.98 | 6.24 | 25 | $ 685 |
| Duct Sealing & Testing SF (Electric) | 42 | 87.15 | 0.00 | 25 | $ 7,267 |
| Duct Sealing & Testing SF (Gas) | 238 | 27.39 | 11.54 | 25 | $ 46,348 |
| Evap Cooler Maintenance & Repair MH/SF | 14 | 76.43 | 0.00 | 4 | $ 536 |
| Set back Thermostat MF (Electric) | 1 | 116.60 | 0.00 | 12 | $ 146 |
| Set back Thermostat MF (Gas) | 8 | 77.55 | 6.78 | 12 | $ 1,187 |
| Set back Thermostat SF (Electric) | 73 | 149.88 | 0.00 | 12 | $ 13,670 |
| Set back Thermostat SF (Gas) | 414 | 95.48 | 15.00 | 12 | $ 96,576 |
| Water Heater Replacement MF (Gas) | 16 | 0.00 | 18.10 | 13 | $ 2,335 |
| Water Heater Replacement SF (Gas) | 577 | 0.00 | 21.60 | 13 | $ 100,474 |
| Whole House Fans SF | 0 | 63.00 | 0.00 | 20 | $ - |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 479,893* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | **$ 8,860,750** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 14,089 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 628.91 |
| \*SDG&E has no studies supporting savings for this measure. No impacts taken during this year. | | | | | |

Exhibit ‑  
SDG&E Life Cycle Bill Savings– Program Year 2003 Last Updated 3/26/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact** | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **(kWh)** | **(Therms)** | **(years)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| 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 |
| 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 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 7,774,543* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| 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 | $ - |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 179,781* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | **$ 7,954,325** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 15,706 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 506.45 |
| \*SDG&E has no studies supporting savings for this measure. No impacts taken during this year. | | | | | |

Exhibit ‑  
SDG&E Life Cycle Bill Savings– Program Year 2004 Last Updated 3/28/05

| **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)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| 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 |
| 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 |
| 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 |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  |  |  |  | **$ 8,235,420** |
|  |  |  |  |  |  |  |  |  |
| **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 ‑  
SoCalGas Life Cycle Bill Savings– Program Year 2002 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL (Yrs)** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Insulation - SF | 1,362 | 0.0 | 18.7 | 25 | $ 251,359 |
| Attic Insulation - MF | 383 | 0.0 | 9.6 | 25 | $ 36,287 |
| Caulking - SF/MH | 1,571 | 0.0 | 1.5 | 5 | $ 6,906 |
| Caulking - MF | 257 | 0.0 | 0.7 | 5 | $ 527 |
| Evaporative Cooler Cover - SF/MH | 1,445 | 0.0 | 8.1 | 3 | $ 20,945 |
| Evaporative Cooler Cover - MF | 336 | 0.0 | 4.1 | 3 | $ 2,465 |
| Faucet Aerator - SF/MH | 21,113 | 0.0 | 1.4 | 5 | $ 86,629 |
| Faucet Aerator - MF | 18,852 | 0.0 | 0.9 | 5 | $ 49,726 |
| Furnace Repair | 710 | 0.0 | 24.4 | 10 | $ 92,531 |
| Furnace Replacement | 4,386 | 0.0 | 110.1 | 22 | $ 4,446,325 |
| Low Flow Showerhead - SF/MH | 20,454 | 0.0 | 9.1 | 10 | $ 994,166 |
| Low Flow Showerhead - MF | 18,708 | 0.0 | 6.1 | 10 | $ 609,532 |
| Minor Home Repairs - SF/MH | 20,165 | 0.0 | 4.4 | 10 | $ 473,904 |
| Minor Home Repairs - MF | 18,320 | 0.0 | 2.2 | 10 | $ 215,272 |
| Miscellaneous Measures ( Weatherization - Electric) | 42,343 | 9.4 | 0.0 | 5 | $ 203,946 |
| Switch/Outlet Gasket - SF/MH | 20,088 | 0.0 | 0.2 | 15 | $ 33,404 |
| Switch/Outlet Gasket - MF | 15,937 | 0.0 | 0.2 | 15 | $ 17,283 |
| Water Heater Blanket - SF/MH | 2,838 | 0.0 | 7.3 | 5 | $ 60,718 |
| Water Heater Blanket - MF | 1,864 | 0.0 | 4.9 | 5 | $ 26,769 |
| Water Heater Pipe Wrap - SF/MH | 1,271 | 0.0 | 2.7 | 15 | $ 24,811 |
| Water Heater Pipe Wrap - MF | 219 | 0.0 | 1.8 | 15 | $ 2,850 |
| Weatherstripping - SF/MH | 22,252 | 0.0 | 1.4 | 5 | $ 91,302 |
| Weatherstripping - MF | 19,646 | 0.0 | 0.7 | 5 | $ 40,305 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 7,787,960* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Duct Sealing and Testing - MF | 13 | 0.0 | 7.1 | 25 | $ 906 |
| Duct Sealing and Testing - MH/SF | 553 | 0.0 | 11.3 | 25 | $ 61,835 |
| Water Heater Replacement - Gas SF | 2,025 | 0.0 | 21.6 | 13 | $ 285,585 |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 348,325* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | $ 8,136,285 |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 49,464 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 164.49 |

Exhibit ‑  
SoCalGas Life Cycle Bill Savings– Program Year 2003 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL (Yrs)** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- |
| **Energy Efficiency Measures** |  |  |  |  |  |
| 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 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 8,525,922* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| 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 |
| 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 |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 763,316* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | **$ 9,289,239** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 57,179 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 162.46 |

Exhibit ‑  
SoCalGas Life Cycle Bill Savings– Program Year 2004 Last Updated 4/10/05

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- | --- |
| **AC** | **Gas Heat** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| 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 |
| 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 |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  | **$ 6,955,649** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 54,677 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 127.21 |

Appendix A – Implementation Rates



The indoor CFL implementation rate appears greatly reduced in PY2004. However, this is simply a function of the unit changing from the number of lamps to number of households. In PY2004, each household is purported to receive 4 lamps. A comparable implementation rate for PY2004 is number of lamps at 170,800 lamps across 48,549 households for an implementation rate of 352 percent.



|  |  |  |  |
| --- | --- | --- | --- |
| **SoCalGas** |  |  |  |
| **Measure** | **2002** | **2003** | **2004** |
| **Furnaces** |  |  |  |
| - Repair - Gas | 1% | 1% | 6% |
| - Replacement - Gas | 9% | 7% | 7% |
| - Repair - Electric | 0% | 0% | 0% |
| - Replacement - Electric | 0% | 0% | 0% |
| **Infiltration & Space Conditioning.** |  |  |  |
| - Cover Plates/Gaskets | 73% | 72% | 70% |
| - Evaporative Cooler/Air Cond. Covers | 4% | 4% | 7% |
| - HVAC Air Filter Replacement | 0% | 0% | 0% |
| - Duct Repair | 0% | 0% | 0% |
| **Weatherization** |  |  |  |
| - Attic Insulation | 4% | 4% | 4% |
| - Water Heater Blanket | 10% | 9% | 10% |
| - Low Flow Showerhead | 79% | 76% | 79% |
| - Door Weatherstripping | 85% | 81% | 83% |
| - Caulking | 4% | 3% | 4% |
| - Minor Home Repairs | 78% | 74% | 77% |
| - Attic Access Weatherstripping | 0% | 0% | 0% |
| **Water Heater Savings** | 0% | 0% | 0% |
| - Water Heater Pipe Wrap | 3% | 1% | 0% |
| - Faucet Aerators | 81% | 78% | 82% |
| *Miscellaneous Measures* | 0% | 0% | 0% |
| *Permanent Evaporative Coolers* | 0% | 0% | 0% |
| *Portable Evaporative Coolers* | 0% | 0% | 0% |
| *Compact Fluorescents (indoor)* | 0% | 0% | 0% |
| *Compact Fluorescents (outdoor)* | 0% | 0% | 0% |
| *Refrigerators* | 0% | 0% | 0% |
| **Pilots - Rapid Deployment** |  |  |  |
| - Air Conditioner Replacement - Room | 0% | 0% | 0% |
| - Air Conditioner Replacement - Central | 0% | 0% | 0% |
| - Duct Sealing and Repair | 1% | 2% | 0% |
| - Whole House Fans | 0% | 0% | 0% |
| - Water Heater Replacement - Gas | 4% | 8% | 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



1. Page 70, Decision 00-07-020 July 6, 2000. [↑](#footnote-ref-1)
2. Page 147, Decision 00-07-020 July 6, 2000. [↑](#footnote-ref-2)
3. D.93-05-063 and revised by subsequent CPUC decisions. [↑](#footnote-ref-3)
4. 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). [↑](#footnote-ref-4)
5. Energy rate escalated by 3% each year. [↑](#footnote-ref-5)
6. These are defined as gross savings because they are bill savings. [↑](#footnote-ref-6)
7. EUL values are consistent with the October 25, 2000 ALJ ruling and the September 25, 2000 CALMAC Workshop Report. [↑](#footnote-ref-7)
8. Conversations with Mike Wan of PG&E. [↑](#footnote-ref-8)
9. This is the same assessment protocol as was followed in the previous Bill Savings Reports. [↑](#footnote-ref-9)