

**California Solar Initiative Thermal Program**  
**Quarterly Progress Report**  
**(April 1, 2011 – June 30, 2011)**

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## Table of Contents

1. Executive Summary .....	1
1.1. Introduction.....	1
1.2. Key Report Highlights .....	1
2. Introduction.....	1
2.1. Program Background .....	1
2.2. Program Goals .....	2
2.3. Program Budget.....	3
2.4. Incentive Structure .....	4
2.5. Program Eligibility.....	5
3. Program Expenditures .....	6
4. Program Progress .....	8
4.1 Applications Received, Installation Costs and Incentives Paid.....	8
4.2 Turnaround Times .....	11
5. Market Facilitation .....	14
5.1 Agency Selection Process and Progress .....	14
5.2 Public Workshop Planning.....	15
5.3 CALSEIA Outreach.....	15
5.4 Western Energy Management Congress.....	15
5.5 Mandatory CSI-Thermal Workshops .....	15
5.6 PA-Specific Marketing Efforts.....	16
5.6.1 California Center for Sustainable Energy.....	16
5.6.2 Pacific Gas & Electric .....	19
5.6.3 Southern California Edison Company.....	22
5.6.4 Southern California Gas Company.....	23
6. Conclusions.....	24

## List of Tables

Table 1: Incentive Allocation per PA for Natural Gas-Displacing Systems .....	4
Table 2: Maximum Incentive Allocation per PA for Electric-Displacing SWH Systems .....	4
Table 3: Total Natural Gas Budget Allocation per Incentive Step .....	5
Table 4: Electric-Displacing System Incentive Steps.....	5
Table 5: CSI-Thermal Expenditures by PA.....	7
Table 6: CSI-Thermal Expenditures by PA (Natural Gas) .....	7
Table 7: CSI-Thermal Expenditures by PA (Electric) .....	8
Table 8: Summary Data: CSI-Thermal Single-Family Applications by Status (Natural Gas).....	9
Table 9: Average Cost per Single-Family Project (Natural Gas).....	9
Table 10: Summary Data: CSI-Thermal Single-Family Applications by Status (Electric).....	9
Table 11: Average Cost per Single-Family Project (Electric).....	9
Table 12: Summary Data: Multi-family/Commercial (Gas) .....	10
Table 13: Average Cost per Multi-family/Commercial Project (Gas) .....	10
Table 14: Summary Data: Multi-family/Commercial (Electric) .....	11
Table 15: Average Cost per Multi-family/Commercial Project (Electric) .....	11
Table 16: Multi-family/Commercial Application Processing Times by Program Administrator between "Reservation Application Review" and "Reservation Application Approved" Stages.....	12
Table 17: Application Processing Times by Program Administrator between "Incentive Application Review" and "Incentive Application Approved" Stages.....	13
Table 18: Budget Contributions for Two-Year Statewide Market Facilitation Campaign .....	14
Table 19: Mandatory CSI-Thermal Training Workshops Held by Program Administrator .....	16

# 1. Executive Summary

## 1.1. Introduction

Pacific Gas and Electric Company (PG&E), on behalf of the California Solar Initiative Thermal (CSI-Thermal) Program Administrators (PAs)<sup>1</sup>, submits this Quarter 2, 2011 Progress Report for the CSI-Thermal Program, in compliance with California Public Utilities Commission (CPUC or Commission) Decision (D.) 10-01-022, which requires the PAs to submit quarterly progress reports to the CPUC Energy Division.<sup>2</sup>

This report provides an overall qualitative and quantitative review of the CSI-Thermal Program from April 1, 2011 through June 30, 2011. The report has been divided into several sections covering topics such as program budget, eligibility requirements, incentive structure, program expenditures and market facilitation activities. This report highlights the progress and achievements met to ensure the successful administration of the CSI-Thermal Program.

## 1.2. Key Report Highlights

The CSI-Thermal Program surpassed the one year launch date of the single-family residential program during this Quarter 2, 2011 reporting period.

With one year of administration experience, the PAs have been focusing on reducing barriers to program participation while ensuring effective use of ratepayer funds. Activities include ongoing discussions on expanding the program, database enhancements, and selecting a vendor to create a statewide marketing campaign. With guidance from the Energy Division (ED) and input from the solar thermal industry, the PAs continue to deliver a program that features a streamlined application process with clear and concise program guidelines.

With \$1,253,573<sup>3</sup> in statewide incentives paid program to date as of June 30, 2011, the CSI-Thermal Program continues to gain interest through consumer awareness, industry outreach, and increased local marketing efforts.

# 2. Introduction

## 2.1. Program Background

In January 2007, the CPUC launched the CSI, a \$2.16 billion ratepayer-funded incentive program with a goal of installing 1,940 megawatts (MW) of new solar generation and creating a

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<sup>1</sup> CSI-Thermal PAs are PG&E, Southern California Edison Company (SCE), California Center for Sustainable Energy (CCSE), and Southern California Gas Company (SCG).

<sup>2</sup> D.10-10-022, Ordering Paragraph No. 13 and Appendix A.

<sup>3</sup> Includes all completed projects

sustainable solar industry by 2016.<sup>4</sup> State law allows up to \$100.8 million of CSI funds to be used for incentives for solar thermal technologies that displace electricity usage, but the CPUC deferred allowing solar water heating (SWH) technologies to be eligible for CSI until after a pilot program for SWH was conducted in San Diego Gas & Electric Company (SDG&E) service territory. Starting in July 2007, CCSE administered a \$2.59 million pilot program for SWH incentives in the SDG&E service territory. In D.08-06-029, the Commission made minor modifications to the pilot to allow it to run until December 31, 2009, or until the budget was exhausted, whichever occurred first.

In 2007, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 1470 (Huffman, 2007)<sup>5</sup> authorizing the CPUC to create a \$250 million incentive program to promote the installation of 200,000 SWH systems on homes and businesses that displace the use of natural gas by 2017. AB 1470 required the CPUC to evaluate data from the SWH Pilot Program and determine whether a SWH program was "cost effective for ratepayers and in the public interest" before designing and implementing an incentive program for gas customers.

On January 21, 2010, the CPUC established the CSI-Thermal Program<sup>6</sup> allocating funds for both natural gas and electric-displacing SWH and other solar thermal technologies, in the service territories of California's major investor-owned utilities. The CPUC established the incentive structure, the program administration details, and other key CSI-Thermal Program rules. The CPUC designated PG&E, SCG, SCE, and CCSE for the SDG&E service territory as the PAs for the CSI-Thermal Program. The PAs launched the single-family residential program in May of 2010 and the commercial/multi-family program in October of 2010.

## 2.2. Program Goals

The CSI-Thermal Program is designed to significantly increase the adoption rate of SWH technologies in the California marketplace. The program strategy and design principles will address the barriers to growth, namely installation costs, lack of public knowledge about SWH, permitting costs and requirements, and a potential shortage of experienced installers. As laid out in D.10-01-022, the primary goals of the CSI-Thermal Program include the following:

- Significantly increase the size of the SWH market in California by increasing the adoption rate of SWH technologies, including:
  - Achieving the installation of natural gas-displacing systems that displace 585 million therms (equivalent to 200,000 single-family residential systems) over the 25-year life of the systems;
  - Achieving the installation of electric-displacing SWH systems that displace 275.7 million kilowatt hours (kWh) per year (equivalent to 100,800 single-family residential systems); and

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<sup>4</sup> Public Utilities Code § 2851, enacted by Senate Bill (SB) 1 (Murray), Chapter 132, Statutes of 2006

<sup>5</sup> Public Utilities Code § 2860-2867

<sup>6</sup> D.10-01-022

- Achieving an expansion of the market for other solar thermal technologies that displace natural gas and electricity use, in addition to SWH.
- Support reductions in the cost of SWH systems of at least 16 percent through a program that increases market size and encourages cost reductions through market efficiency and innovation;
- Engage in market facilitation activities to reduce market barriers to SWH adoption, such as high permitting costs, lack of access to information, and lack of trained installers; and
- Increase consumer confidence and understanding of SWH technology and its benefits.

### 2.3. Program Budget

The total incentive budget (excluding administrative, marketing, and measurement and evaluation budget allocations) for the CSI-Thermal Program is approximately \$280.8 million over the life of the program. Of this total, \$180 million is allocated to natural gas-displacing SWH systems (not including low-income incentives<sup>7</sup>), as authorized by AB 1470, and up to \$100.8 million may be used to fund electric-displacing systems subject to overall CSI budget availability, as authorized by Senate Bill (SB) 1. Incentive dollars for natural gas-displacing systems will be allocated between two customer classes, single-family residential and multi-family/commercial, as follows:

- 40 percent of the total incentive budget is reserved for single-family residential customer SWH systems; and
- 60 percent of the total incentive budget is reserved for multi-family/commercial SWH systems. Funds may be moved from the multi-family/commercial budget to the single-family residential budget, but not vice versa.

The incentive budget is split proportionately among the PAs based on the percentages the investor-owned utilities use to collect the Public Goods Charge from customers in their respective service territories.

Table 1 below displays the incentive allocation percentage and budget amount by PA for the natural gas-displacing SWH systems. Table 2 below displays the incentive allocation percentage and budget amount by PA for the electric-displacing SWH systems.

The incentive budget for the natural gas-displacing portion of CSI-Thermal Program will operate until all funds available from the program's incentive budget have been allocated or until

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<sup>7</sup> D.10-01-022 sets aside \$25 million for low-income customers. However, to implement the CSI-Thermal Program in early 2010, the Commission decided to address the detailed comments by parties on the design of a low-income CSI-Thermal Program in a separate decision.

January 1, 2018, whichever occurs first. The incentive budget for the electric-displacing portion of the program is available until the budget caps have been reached, the CSI General Market Program budget has been exhausted, or January 1, 2017, whichever occurs first.

**Table 1: Incentive Allocation per PA for Natural Gas-Displacing Systems**

PA	Budget Allocation	Total Incentive Budget (in millions)
PG&E	39.0%	\$70.2
CCSE	10.0%	\$18.0
SCG	51.0%	\$91.8
<b>Total</b>	<b>100.0%</b>	<b>\$180.0</b>

**Table 2: Maximum Incentive Allocation per PA for Electric-Displacing SWH Systems**

PA	Budget Allocation	Maximum Incentive Budget (in millions)
PG&E	43.7%	\$44.0
CCSE	10.3%	\$10.4
SCE	46.0%	\$46.4
<b>Total</b>	<b>100.0%</b>	<b>\$100.8</b>

#### 2.4. Incentive Structure

One of the primary goals of the CSI-Thermal Program is to lower the cost of SWH technology for the System Owner through incentives. Incentive rates will decline over the life of the program in four steps to facilitate market transformation.

Natural gas-displacing incentives will decline from step to step when the total incentive amount reserved in incentives is equal to the budget allocation for the given step in each service territory. If a PA receives applications accounting for more dollars than what is left in the budget allocation for a given step, a lottery may determine which projects receive the higher incentive level. Table 3 below displays the dollar amount per therm in each step and the total program budget allocation per step.

**Table 3: Total Natural Gas Budget Allocation per Incentive Step**

Step	Incentive per therm displaced	Total Program Budget Allocation (in millions)
1	\$12.82	\$50
2	\$10.26	\$45
3	\$7.69	\$45
4	\$4.70	\$40

As incentives decline under the natural gas-displacing program, a corresponding step reduction occurs in the electric-displacing incentive structure. Table 4 below shows the electric rates at each of the four steps. Electric-displacing SWH installations will count against the MW trigger in Step 10 of the General Market CSI Program. If the Step 10 budget is insufficient, the PAs may use funds from Step 9.

**Table 4: Electric-Displacing System Incentive Steps**

Step Level	Electric-Displacing Incentive (\$/kWh)
1	0.37
2	0.30
3	0.22
4	0.14

Incentive step changes will move independently in each program territory<sup>8</sup> and for each customer class. Incentives will be paid on a first come, first serve basis. The most current information on incentive step status per customer class is posted on [www.csithermal.com/tracker](http://www.csithermal.com/tracker).

## 2.5. Program Eligibility

Eligibility for the CSI-Thermal Program is described in detail in the CSI-Thermal Handbook.<sup>9</sup> A few key eligibility requirements are highlighted below:

- Customer site must be within the service territories of SCG (for natural gas only), PG&E, SCE (for electric only), or SDG&E.

<sup>8</sup> SCE incentive step changes will correspond with SCG gas incentive step changes for each customer class.

<sup>9</sup> The CSI-Thermal Handbook is located at [http://gosolarcalifornia.org/documents/CSI-Thermal\\_Handbook.pdf](http://gosolarcalifornia.org/documents/CSI-Thermal_Handbook.pdf)

- Single-family residential SWH systems must have a Solar Rating and Certification Corporation (SRCC) OG-300 System Certification.
- Solar collectors used in multi-family/commercial water heating shall have SRCC OG-100 Collector Certification.
- All components must be new and unused (with exceptions). All systems must have freeze and stagnation protection.
- For single-family projects, all Domestic Hot Water (DHW) end-uses are eligible.<sup>10</sup>
- For multi-family/commercial projects, SWH applications must directly consume the solar-heated potable water, as opposed to using the solar-heated water as a medium to carry heat for some other end-use. In multi-family/commercial applications, DHW and commercial end-uses are eligible for CSI-Thermal Program incentives.<sup>11</sup>
- Rebates are available for qualifying systems that were installed after July 15, 2009.
- SWH contractor or self-installer must complete a one-day mandatory training offered by the PAs.

### 3. Program Expenditures

From program inception through June 30, 2011, CSI-Thermal Program expenditures totaled \$4,278,680. Table 5 below illustrates the detailed expenditures by PA since program inception followed by a breakdown of expenses specific to the natural gas and electric-displacing programs for the reporting period in Tables 6 and 7.

Expenses during this reporting period reflect program administration activities, including application processing, continued enhancement of a statewide online database, mandatory contractor and self-installer training, local marketing efforts, activities related to potential program expansion, and administrative staffing support.

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<sup>10</sup> DHW is defined as water used, in any type of building, for domestic purposes, principally drinking, food preparation, sanitation and personal hygiene (but not including space heating, space cooling, or swimming pool heating).

<sup>11</sup> Examples of eligible DHW end uses include: apartment buildings with central DHW systems, convalescent homes, hotels and motels, military bachelor quarters, school dormitories with central DHW systems and prisons. Examples of eligible commercial end uses include: commercial laundries, laundromats, restaurants, food processors, agricultural processes and car washes.

**Table 5: CSI-Thermal Expenditures by PA**

<b>Natural Gas and Electric CSI-Thermal Program Expenditure Data January 1, 2010 to June 30, 2011</b>					
<b>Expenditure Type</b>	<b>CCSE</b>	<b>PG&amp;E</b>	<b>SCE</b>	<b>SCG</b>	<b>Total</b>
<b>Administration</b>	\$556,062	\$1,167,321	\$224,992	\$411,462	<b>\$2,359,837</b>
<b>Market Facilitation</b>	\$356,811	\$195,362	\$18,294	\$92,260	<b>\$662,727</b>
<b>Measurement &amp; Evaluation</b>	\$0	\$2,543	\$0	\$0	<b>\$2,543</b>
<b>Incentives Paid</b>	\$304,551	\$871,835	\$5,022	\$72,165	<b>\$1,253,573</b>
<b>Total</b>	<b>\$1,217,425</b>	<b>\$2,237,061</b>	<b>\$248,308</b>	<b>\$575,887</b>	<b>\$4,278,680</b>

**Table 6: CSI-Thermal Expenditures by PA (Natural Gas)**

<b>Natural Gas April 1, 2011 – June 30, 2011</b>				
<b>Expenditure Type</b>	<b>CCSE</b>	<b>PG&amp;E</b>	<b>SCG</b>	<b>Total</b>
<b>Administration</b>	\$76,072	\$93,100	\$101,552	<b>\$270,724</b>
<b>Market Facilitation</b>	\$26,024	\$50,896	\$29,593	<b>\$106,513</b>
<b>Measurement &amp; Evaluation</b>	\$0	\$0	\$0	<b>\$0</b>
<b>Incentives Paid</b>	\$117,512	\$297,320	\$52,132	<b>\$466,964</b>
<b>Total</b>	<b>\$219,608</b>	<b>\$441,316</b>	<b>\$183,277</b>	<b>\$844,201</b>

**Table 7: CSI-Thermal Expenditures by PA (Electric)**

<b>Electric April 1, 2011 – June 30, 2011</b>				
<b>Expenditure Type</b>	<b>CCSE</b>	<b>PG&amp;E</b>	<b>SCE</b>	<b>Total</b>
<b>Administration</b>	\$26,727	\$17,350	\$59,049	<b>\$103,126</b>
<b>Market Facilitation</b>	\$8,645	\$12,792	\$4,333	<b>\$ 25,770</b>
<b>Measurement &amp; Evaluation</b>	\$0	\$0	\$0	<b>\$0</b>
<b>Incentives Paid</b>	\$35,800	\$7,513	\$1,167	<b>\$ 44,480</b>
<b>Total</b>	<b>\$71,172</b>	<b>\$37,655</b>	<b>\$64,549</b>	<b>\$173,376</b>

#### **4. Program Progress**

The PAs spent much of Q2 2011 analyzing various methods for enhancement to the application submittal process and the multi-family/commercial incentive calculator. Items such as the addition of new collector technologies and unforeseen system configurations presented some application submittal challenges, however, the PAs were able to address and come up with appropriate solutions. There was also a considerable amount of time spent discussing options for program expansion.

##### **4.1 Applications Received, Installation Costs and Incentives Paid**

The CSI-Thermal Program began accepting applications for single-family systems and multi-family/commercial systems on May 1, 2010 and October 8, 2010, respectively. Since then, the PAs have seen improvements in the completeness of applications that are submitted. Tables 8, 10, 12 and 14 represent the amount of applications received by each PA in Q2, as well as the corresponding incentives and systems capacity for those applications. Tables 9, 11, 13 and 15 show the average costs of systems for completed projects by PA and customer class since program inception.

**Table 8: Summary Data: CSI-Thermal Single-Family Applications by Status (Natural Gas)**

	CCSE	PG&E	SCG	Total
	Q2	Q2	Q2	
<b>APPLICATIONS RECEIVED</b>				
<b>Application (Number)</b>	6	10	8	<b>24</b>
<b>Incentives (\$)</b>	\$8,759	\$15,886	\$12,448	<b>\$37,093</b>
<b>Capacity (First Year Expected Energy Displaced in therms)</b>	741	1,429	1,050	<b>3,220</b>

Legend: Applications Received = All applications that moved to "Application Review" status during the reporting period

**Table 9: Average Cost per Single-Family Project (Natural Gas)**

	CCSE	PG&E	SCG	Overall Average
<b>Average Project Cost per Single-Family Project</b>	\$7,220	\$10,455	\$7,810	<b>\$8,495</b>
<b>Average Project Cost per Unit of First Year Energy Displaced (\$/therm)*</b>	\$65.62	\$75.00	\$58.07	<b>\$66.23</b>

\*Since program inception

**Table 10: Summary Data: CSI-Thermal Single-Family Applications by Status (Electric)**

	CCSE	PG&E	SCE	Total
	Q2	Q2	Q2	
<b>APPLICATIONS RECEIVED</b>				
<b>Applications (Number)</b>	4	6	2	<b>12</b>
<b>Incentives (\$)</b>	\$3,945	\$5,055	\$2,341	<b>\$11,341</b>
<b>Capacity (First Year Expected Energy Displaced in kWh)</b>	2,796	14,715	7,149	<b>24,660</b>

Legend: Applications Received = All applications that moved to "Application Review" status during the reporting period

**Table 11: Average Cost per Single-Family Project (Electric)**

	CCSE	PG&E	SCE	Overall Average
<b>Average Project Cost per Single-Family Project*</b>	\$7,039	\$7,441	\$7,797	<b>\$7,426</b>
<b>Average Project Cost per Unit of First Year Energy Displaced (\$/kWh)*</b>	\$2.47	\$2.84	\$2.60	<b>\$2.64</b>

\*Since program inception

**Table 12: Summary Data: Multi-family/Commercial (Gas)**

	CCSE	PG&E	SCG	Total
	Q2	Q2	Q2	
<b>APPLICATIONS RECEIVED</b>				
Application (Number)	5	18	9	32
Incentives (\$)	\$349,705	\$389,470	\$210,768	\$949,943
Capacity (First Year Expected Energy Displaced in therms)	27,278	31,186	16,648	75,112
<b>UNDER REVIEW Incentive Claims</b>				
Application (Number)	3	17	1	21
Incentives (\$)	\$213,812	\$323,645	\$25,627	\$563,084
Capacity (First Year Expected Energy Displaced in therms)	16,678	25,325	1,987	43,990

Applications Received = All applications that moved to "RR Application Review" status during the reporting period  
 Under Review Incentive Claims = All applications that moved to "ICF Application Review" status during the reporting period

**Table 13: Average Cost per Multi-family/Commercial Project (Gas)**

	CCSE	PG&E	SCE	Total
Average Project Cost per Multi-family/commercial Project (\$)*	\$181,781	\$46,600	\$58,500	\$286,881
Average Project Cost per Unit of First Year Energy Displaced (\$/therm)	\$52.66	\$41.01	29.44	\$123.11

\*Average Project Cost per Multi-family/commercial Project for all completed projects since program inception

**Table 14: Summary Data: Multi-family/Commercial (Electric)**

	CCSE	PG&E	SCE	Total
	Q2	Q2	Q2	
<b>APPLICATIONS RECEIVED</b>				
Application (Number)	n/a	n/a	1	1
Incentives (\$)	n/a	n/a	\$653	\$653
Capacity (First Year Expected Energy Displaced in kWh)	n/a	n/a	1,765	1,765
<b>UNDER REVIEW Incentive Claims</b>				
Application (Number)	n/a	n/a	1	1
Incentives (\$)	n/a	n/a	\$653	\$653
Capacity (First Year Expected Energy Displaced in kWh)	n/a	n/a	1,765	1,765

Applications Received = All applications that moved to "RR Application Review" status during the reporting period  
 Under Review Incentive Claims = All applications that moved to "ICF Application Review" status during the reporting period

**Table 15: Average Cost per Multi-family/Commercial Project (Electric)**

	CCSE	PG&E	SCE	Total
Average Project Cost per Multi-family/commercial Project (\$)*	n/a	n/a	\$7,630	\$7,630
Average Project Cost per Unit of First Year Energy Displaced (\$/kWh)	n/a	n/a	\$4.32	\$4.32

\*Average Project Cost per Multi-family/commercial Project for all completed projects since program inception

#### 4.2 Turnaround Times

The PAs strive to process reservation requests and incentive claim requests in 30 days or less for both single-family residential and multi-family/commercial applications to ensure that projects are moved forward as quickly as possible. Table 16 below shows the most recent application processing times between "Reservation Application Review" and "Reservation Application Approved" stages for 2- or 3-step applications. This metric represents the amount of time it took to reserve incentives for a multi-family/commercial project. Table 17 illustrates the application processing times between "Incentive Application Review" and "Incentive Application Approved" stages. The time period being measured in the processing times tables includes both PA

application processing time and time that the host customer takes to respond to requests for more information or application corrections.

Applications that take the PA more than 60 days to receive a reservation typically have outstanding issues that require resolution or input from the Applicant and/or customer.

Problems encountered from these applications include, but are not limited to:

- Incorrect project site addresses
- Missing signatures
- Missing or incomplete documentation
- Slow customer/ Applicant responsiveness

**Table 16: Multi-family/Commercial Application Processing Times by Program Administrator between "Reservation Application Review" and "Reservation Application Approved" Stages**

	30 Days or Less	60 Days or Less	Greater than 60 days
	Q2	Q2	Q2
<b>Multi-family/Commercial</b>			
<b>CCSE</b>	0%	100%	0%
<b>PG&amp;E</b>	100%	100%	0%
<b>SCE</b>	0%	100%	0%
<b>SCG</b>	88%	100%	0%

**Table 17: Application Processing Times by Program Administrator between "Incentive Application Review" and "Incentive Application Approved" Stages**

	30 Days or Less	60 Days or Less	Greater than 60 days
	Q2	Q2	Q2
<b>Residential with Inspections</b>			
CCSE	100%	0%	0%
PG&E	20%	100%	0%
SCE	0%	50%	50%
SCG	19%	44%	56%
<b>Residential without Inspections</b>			
CCSE	100%	100%	0%
PG&E	100%	100%	0%
SCE	n/a	n/a	n/a
SCG	100%	100%	0%
<b>Multi-family/Commercial with Inspections</b>			
CCSE	100%	100%	0%
PG&E	0%	100%	0%
SCE	100%	100%	0%
SCG	100%	100%	0%
<b>Multi-family/Commercial without Inspections</b>			
CCSE	n/a	n/a	n/a
PG&E	94%	100%	0%
SCE	n/a	n/a	n/a
SCG	n/a	n/a	n/a

## 5. Market Facilitation

During the past several months, the four PA Marketing and Outreach (M&O) representatives have been working diligently on several key statewide initiatives. Each marketing activity is outlined in the following sections along with individual local efforts.

### 5.1 Agency Selection Process and Progress

In response to the Request for Proposal that was released by SCG in March for the \$4.5 million two-year statewide CSI-Thermal awareness campaign, three agencies submitted proposals by the deadline of April 28, 2011. Of the three proposals, two were complete and eligible for further consideration. The proposals were reviewed and scored by the M&O representatives of the four PAs and both agencies were invited to make a presentation to provide further information on their approach to the campaign.

The agencies made their presentations to the four PA M&O representatives in Los Angeles on May 24, 2011. The presentations were scored by the M&O PA representatives with consensus and SCG awarded the contract to Fraser Communications on Friday, June 3, 2011. SCG worked with the M&O representatives of the other three PAs to define a comprehensive Scope of Work which was finalized on Monday, June 6, 2011.

Fraser Communications was sent the terms of the SCG contract and they accepted on Monday, June 20, 2011. On Monday, June 27, 2011, the SCG M&O representative met with Fraser Communications' staff to review the Scope of Work and begin the process of preparing the Statewide Marketing Facilitation Plan for presentation at the Public Workshop held on August 3, 2011.

The total two-year campaign management contract of up to \$4.5 million will be all inclusive of development, implementation, administrative and incidental costs. Table 18, below, notes the co-funding contribution by each PA. The percentage contributions are consistent with the market facilitation budget allocation set forth in the CSI-Thermal decision.

**Table 18: Budget Contributions for Two-Year Statewide Market Facilitation Campaign**

Budget Allocation by PA		
PA	% Allocation	Cost Share
SCG	40.8%	\$1,836,000
PG&E	39.9%	\$1,795,500
CCSE	10.1%	\$454,500
SCE	9.2%	\$414,000
<b>Total</b>	<b>100%</b>	<b>\$4,500,000</b>

## **5.2 Public Workshop Planning**

On Tuesday, June 21, 2011, the M&O representatives of the four PAs participated in a conference call with ED staff to plan the CPUC Public Workshop at which the Statewide Marketing Facilitation Plan and the Local Marketing Facilitation Plans would be presented for input and comment prior to the filing of the official Advice Letters for the Plans. Wednesday, August 3, 2011 was chosen as the date of the workshop to be held at the CPUC offices in San Francisco, with the Advice Letters due approximately on Wednesday, August 31, 2011. ED staff requested that the materials for the Public Workshop be sent to them by Monday, August 1, 2011 for their review prior to the Workshop.

During the M&O section of the monthly CSI-Thermal Program Managers' conference call, on Wednesday, June 29, 2011, ED staff and the M&O representatives discussed the Public Workshop in greater detail including location, timeframe, and the ground rules for an informal staff workshop that would present marketing plans with tactics and timetables for the campaign.

## **5.3 CALSEIA Outreach**

On Thursday, June 30, 2011, SCG Program Management and M&O staff reached out to representatives of the California Solar Energy Industries Association (CALSEIA) to gather input, perspectives, and suggestions for the Statewide Marketing Campaign. Attendees included the Acting Executive Director, two Board members, and three general members. The group was asked to provide suggestions for trade periodicals and events, customer periodicals and events that they would recommend for inclusion in the M&O approach. CALSEIA members were also encouraged to supply the PAs with case studies and success stories for press outreach opportunities.

## **5.4 Western Energy Management Congress**

On June 15-16, 2011, the CSI-Thermal Program participated in the California Solar Initiative booth arranged for by SCG at the Western Energy Management Congress held at the Long Beach Convention Center. Representatives from CCSE, SCE, and SCG were on hand to discuss the CSI-Thermal Program with interested parties, and the CSI-Thermal Fact Sheet was distributed.

## **5.5 Mandatory CSI-Thermal Workshops**

Contractors and self-installers are required to attend a designated no-cost CSI-Thermal Program training workshop. The PAs conducted training courses in their respective service territories. The workshops are publicized on each PA website as well as GoSolarCA. As part of the statewide

effort, the PAs coordinated this activity and developed an one-day Contractor and Self-installer Workshop curriculum for the training workshop.

The CSI-Thermal Program training workshop is intended to familiarize Applicants (contractors and self-installers) with program rules and requirements. The workshop provides an overview of the CSI-Thermal Program Handbook, application process, program requirements, technical requirements, and additional related resources. Upon completion of this mandatory CSI-Thermal Program training workshop and meeting other requirements, Applicants receive a unique alphanumeric key that allows them to register on the web-based, online statewide application database and be eligible to apply for CSI-Thermal Program incentives in any PA territory.

Table 19 shows the number of workshops held in each service territory for Q2 2011 and the number of attendees. As of August 5, 2011, there are 334 licensed eligible solar contractors statewide, which is approximately 40 additional contractors who are participating in the program compared to the previous CSI-Thermal quarterly progress report

**Table 19: Mandatory CSI-Thermal Training Workshops Held by Program Administrator**

	Q2 2011	
PA	Number of Workshops	Number of Attendees
PG&E	3	170
CCSE	7	96
SCE	2	37
SCG	1	20
<b>Total</b>	<b>13</b>	<b>323</b>

## 5.6 PA-Specific Marketing Efforts

In addition to statewide marketing activities, each PA completed territory-specific or local marketing to address the needs of their customer base.

### 5.6.1 California Center for Sustainable Energy

#### Training and Education

In Q2 2011, CCSE conducted two Homeowners workshops and three Contractor and Self-installer trainings. A total of 30 homeowners and 32 contractors were trained on SWH technology and its benefits at these workshops.

In May, CCSE began a new workshop called “Skip’s Tips.” This advanced solar water heating workshop is focused on industry professionals who are interested in technical discussions with CCSE’s Energy Engineer, Skip Fralick. The goal of this workshop is to provide detailed technical information targeting a more sophisticated segment of the solar water heating industry. The workshops are held monthly, each focusing on a different topic –such as glycol systems, collector types, coding and system sizing. Skip also invites guest speakers to offer an expert viewpoint on each topic of the workshop. The first “Skip’s Tips” workshop was attended by 14 participants and discussed the general topic of solar water heating systems. The second workshop in June 2011 was attended by 20 participants and discussed the topic of glycol systems.

In April, CCSE partnered with National Solar Trainers to offer a free solar water heating training workshop. The four-day workshop consisted of information on the fundamentals of solar water heating systems, hands-on installation labs, and marketing and sales essentials. In addition to covering the costs of the workshop, CCSE provided various materials to the attendees, including Solar Thermal Training Handbooks which outline installation practices, system design, and solar thermal sales techniques. Furthermore, CCSE built a 12’x16’ roof to simulate real-world situations for the hands-on portion of the installation laboratory. This hands-on laboratory included the mounting of solar collectors on the mock roof, connecting piping to a solar-water-heating tank, fundamentals and troubleshooting of a controller system, and a demonstration of a functional drainback system. The course ended with a solar thermal exam to outline the knowledge level gained by the attendees; 16 of 20 students received passing grades. The workshop was attended by 20 professionals with backgrounds related to renewable energy and green building. Evaluations of the training by the attendees proved the workshop was very positive with the average overall grade of the course being 9.2 out of 10.

Also in April, CCSE showed the solar water heating movie “A Road Not Taken” which documents the Carter White House’s use of solar water heating technology in the 1970s and the subsequent removal of the panels by the Reagan administration. The movie was attended by 60 participants. An open discussion on the documentary and solar thermal market followed the movie showing.

In June, CCSE held its third Department of Energy-funded “Train the Trainer” event at Rio Hondo Community College in Whittier, California. The workshop was attended by 19 faculty members of community colleges and regional outreach programs. The event trained faculty members how to implement and teach a solar thermal course, including topics such as the fundamentals of solar water heating systems, installation procedures, and instruction techniques. The intention of the training is to assist teaching faculty in establishing training programs at their schools to develop the solar-water-heating marketplace. In addition, CCSE developed Rio Hondo’s solar thermal lab by purchasing over \$25,000 of training equipment through the Department of Energy grant.

### Solar Thermal Homeowner Workshop Promotion

The ongoing workshop trainings both for homeowners and contractors were promoted in the quarterly workshop calendar, the monthly California Solar Initiative Newsletter, and on the CCSE website workshop calendar. SWH homeowners workshops were posted on a total of 27 free online community calendars: Voice of San Diego, signonsandiego.com, delmartimes.net, carlsbad.org/Events-Calendar, ramonasentinel.com, sdchamber.org, sandiegoreader.com, mylocalnews.com, pomeradonews.com, sandiegomagazine.com, bizsandiego.com, sdres.org, sdnews.com, coronadonewsca.com, lajollalight.com, sandiegomagazine.com, thecoastnews.com, ranchosfnews.com, goldenhillcdc.org, lajollavillageneighbors.com, ramonasentinel.com, eventful.com, yelp.com, visittheplace.com, sdcitybeat.com, kpbs.org, andsdhortsoc.org.

### Program Promotion

CCSE promoted the CSI-Thermal Program through additional marketing channels such as:

- Energy Connection Newsletter (monthly)
- National Solar Trainer Contractor flyer emailed to select distribution list (April event)
- SWH Train the Trainer Event Flyer (June event)
- CCSE Annual Report
- Solar Thermal Library Resource Flyer
- Promotional Tote Bags at Homeowners and Contractors workshops
- Women in Construction Coalition
- City of Palo Alto Utilities Solar Water Heating Program

### Bundled Outreach

In May, CCSE moderated two sessions of the ACEEE Hot Water Forum in Berkeley, California. The first session topic was “Solar Water Heating Market Transformation” and examined several solar water heater incentive programs throughout the United States, including the CSI-Thermal Program. Three speakers discussed the effects the various solar thermal programs are having on the market, what strategies have been most successful, and some of the key challenges.

The second session topic was “Solar Thermal Emerging Technologies” and showcased three innovative, large-scale solar thermal technologies from leading thermal manufacturers. Manufacturers discussed their unique system designs as well as economic potential of large-scale system installations.

Also in May, CCSE spoke at the Women in Construction Forum in San Diego, detailing the growth of the solar water heating industry, the benefits the CSI-Thermal Program provides for workforce development opportunities, as well as job and training opportunities available to women in the construction field.

In June, CCSE spoke at the monthly SDG&E Lunch and Learn series “Local Governments and Solar.” This workshop outlined the benefits of solar technologies and rebate programs available to local governments. The workshop was attended by over 30 stakeholders in local

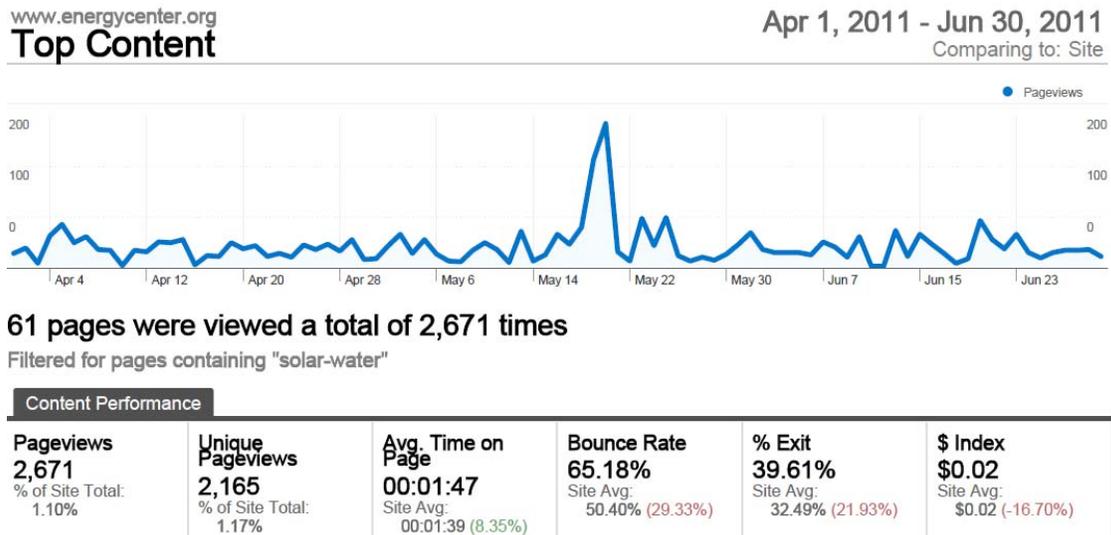
governments and helped educate these individuals on the benefits of solar water heating and the rebate programs available.

[Interactive Outreach/ Web Development](#)

CCSE’s website has several pages dedicated to CSI-Thermal Program specific information: <http://www.energycenter.org/swh>. This landing page contains links to CSI-Thermal FAQs, as well as information on how to apply for an incentive, upcoming workshops, program documents, resources for installers, solar thermal vendors, webinars and latest news on SWH. This information is updated frequently to maintain current information.

Website Highlights:

- CCSE updated the CSI-Thermal main webpage to include a case study and testimonial of a local San Diego resident who participated in the CSI-Thermal Program.
- CCSE updated the CSI-Thermal main webpage with information of the solar water heating documentary “A Road Not Taken”. This documentary is now offered as a DVD in circulation at the Energy Resource Library located at CCSE.
- Throughout Q2 2011, CCSE attracted over 2100 visitors to the pages referring to “solar water.”



5.6.2 Pacific Gas & Electric

[CSI-Thermal Workshop](#)

PG&E continues to offer monthly CSI-Thermal Program Workshops for contractors and self-installers. This workshop is required for anyone looking to become an eligible installer within

the CSI-Thermal Program. During the Q2 2011 period, PG&E conducted four total workshops in San Francisco and San Jose.

The workshops continue to be vital in conveying program requirements. As a result, contractors are better prepared to submit CSI-Thermal Program paperwork.

### Solar Water Heating Informational Courses

In addition to the CSI-Thermal Program Contractor and Self-Installer Workshop, PG&E offers introductory SWH courses at various locations throughout the service territory. These courses are intended to provide SWH technology and market information to individuals looking to get into the business or looking to have a system installed on their property. Many of the classes are offered on Saturdays so that attendees do not have to take time off from their jobs to attend.

### Online Updates and Training Courses

PG&E conducted three different SWH online-based courses in Q2 2011:

- **CSI-Thermal Program Overview and Updates:** This course is intended to provide a general overview of the CSI-Thermal Program. Because the program has changed since its inception, this class also provides specific updates to industry members who have already participated in the CSI-Thermal Program Contractor and Self-Installer Workshop.
- **Solar Water Heating Basics:** This course provides an overview of SWH technologies to individuals looking to gain high level information.
- **Guide to Completing your CSI Thermal Application (using the database and avoiding common mistakes):** This course provides a demonstration of how to successfully submit a CSI-Thermal Incentive Application.

Online courses have proven to be an efficient way to deliver content to PG&E customers. These two courses will continue to be a staple in the portfolio of PG&E solar classes.

### Practical Winery and Vineyard Journal

In April 2011, Practical Winery and Vineyard Journal published a feature article on sustainable business. The article highlighted Solar Water Heating as a cost effective solution for wineries to help reduce energy costs. It focused on the practical application of the technology at both the Kunde Family Estate and Williams Selyem Estate Winery vineyards and what influenced their decisions to install Solar Water Heating. In addition to discussing the benefits of Solar Water Heating in general for the wine industry, the article also discussed the CSI-Thermal rebates administered by PG&E and the benefits of tax credits and provided links for readers. Click-on <http://www.practicalwinery.com/spring2011/solar1.htm> to access the article.

## Earth Day Event

On April 22 and 23, 2011, PG&E set up tables at five Bay Area Sears' and Lowe's locations to interact with customers and help them understand how energy efficiency and participation in other PG&E programs can benefit the environment.

As part of the featured signage under 'What You Can Do for the Environment,' placement for a Solar Water Heating callout was secured. The messaging encouraged customers to 'Consider going solar by installing Solar Water Heating or Photovoltaic'.

Because these events were 'green,' paper hand-outs were not offered to customers but the timing and placement of these events offered a great opportunity to get in front of customers and plant the seeds of consideration of SWH in conjunction with energy efficiency messaging.

## Marketing Surveys

In Q2 2011, PG&E engaged in two consumer research projects designed to help optimize customer adoption of SWH. Both surveys are part of larger in-market efforts and will have a pre-and-post component when completed.

The first was an online survey delivered to visitors of the solar pages on PGE.com. The objective of this survey was to understand and help enhance the user experience with solar and renewable pages on PGE.com. The survey was launched in Q2 but results will not be collected until early Q3. At that time, results of the pre-survey will help to inform further web optimization to ensure the best customer experience. A post survey will also be placed on the website for a comparative study.

The second survey was conducted in mid-June. Customers of PG&E in four key cities were surveyed by phone. These cities represent areas where marketing efforts will be targeted to later this year based on likelihood of customers in these areas to engage with SWH as well as existing contractor proximity to those locations.

The intent of the study was to determine customers' baseline awareness of SWH which will help to inform messaging hierarchy of marketing materials and will set the benchmark for measurement of marketing effectiveness in the months to come. Once the first marketing campaign has been completed, customers in these cities will be resurveyed.

## Web Updates

PG&E began an extensive overhaul of its existing solar pages in Q2 2011. The objective of the website upgrades is to provide customers who visit more information on all distributed generation technologies (Solar, Solar Water Heating, Wind, Fuel Cell) as well as the benefits and resources available to customers throughout the investigation and installation process. The new site will launch in early Q3 with Solar Water Heating's prominence and accessibility far surpassing its current state.

## Sonoma County Energy Efficiency & Climate Protection Workshop

On June 8<sup>th</sup>, PG&E co-sponsored the Sonoma County Energy Efficiency & Climate Protection Workshop. Geared toward large business customers in the wine industry, the featured topic of the day was carbon emissions and helping businesses to discover ways they can reduce their costs and carbon footprints. One of the featured speakers at this event was SunWater Solar, presenting on solar water heating and its benefits to this customer segment. Over 35 customers attended this event.

### **5.6.3 Southern California Edison Company**

#### Training and Education

SCE partners with SCG to offer monthly CSI-Thermal Program Contractor and Self-Installer Training in the service territory. For this reporting period, SCE held two classes at the SCE training facility with 37 participants in attendance.

Additionally, SCE continues to leverage existing solar trainings such as CSI Homeowner Solar Class (HSC), CSI Contractor Solar Class and CSI Commercial Solar Workshops to promote the CSI-Thermal Program. The CSI-Thermal program is promoted in these trainings to provide exposure to the program to two key audiences – homeowners and solar contractors.

#### Bundled Outreach

SCE promoted the CSI-Thermal Program at several events that provided further program exposure and outreach. Program information and fact sheets were distributed at each of these events:

- Earth Day, Santa Barbara, April 16-17, 2011
- Boys and Girls Club of Pomona Valley, April 21, 2011
- Los Angeles Times Festival of Books, April 30 – May 1, 2011
- Asian Pacific American Heritage, May 6, 2011
- Irwindale Chamber of Commerce Alternative Energy, May 11, 2011
- West Cost Energy Management Congress, June 15-16, 2011
- Dwell on Design, June 24-26, 2011

SCE also incorporated the CSI-Thermal program into the solar fair events that are held throughout its service territory. Solar Fairs are non-technical, easy-to-understand free sessions that educate customers about the California Solar Initiative, available rebates and how to “go solar.”

## 5.6.4 Southern California Gas Company

### Training and Education

In an effort to increase adoption of solar water heating systems and increase the number of trained installers, SCG continued its collaboration with SCE and Alternative Energy Systems Consulting (AESC) to provide mandatory contractor and self-installer training courses. To ensure overlapping SCG and SCE service territories were covered by both utilities, training courses alternated every other month between SCE and SCG training facilities. SCG's course was offered at its Energy Resource Center in Downey, California. SCG hosted one workshop with 20 attendees during Q2.

### Communications Advisor

A full-time staff Communications Advisor was hired in April, 2011, to manage the Local Market Facilitation Plan for SCG and the Statewide Market Facilitation Campaign, functioning as the liaison to the advertising agency hired by SCG.

### Media Events, Public Forums and Workshops

#### Energy-Efficiency Expo

SWH was included in the SCG booth at its Energy Efficiency Expo held at its Energy Resource Center in Downey on Tuesday, May 10, 2011. Representatives were on hand to explain the CSI-Thermal program to attendees and the CSI-Thermal Fact Sheet was distributed. Hundreds of SCG business customers participated in the Expo at which they learned about SCG's various Energy-Efficiency programs.

#### Display Booth

SWH was included in the newest SCG display booth to be used at major trade shows and events that was completed in June 2011. SWH technology is prominently featured as one of the four main program themes of the booth which includes racks to hold collateral materials for programs such as the CSI-Thermal program.

#### Pop-up Banner Display

A pop-up banner display for Solar Water Heating was created for use in smaller-scale community events and outreach opportunities in June, 2011. The pop-up banner succeeds in focusing attention on SWH which leads to visitor questions and opportunities to distribute the CSI-Thermal Fact Sheet.

#### TreePeople Green City Fair

Solar Water Heating was a prominent part of the SCG booth at this inaugural community environmental education event held by TreePeople, one of Los Angeles' leading eco-organizations, on Saturday, June 4, 2011. The eye-catching pop-up banner display was effectively used to generate interest and the CSI-Thermal Fact Sheet was distributed.

#### West Coast Energy Management Congress

SCG unveiled its new major display booth featuring Solar Water Heating at the West Coast Energy Management Congress held at the Long Beach Convention Center on

Wednesday, June 15, and Thursday, June 16, 2011. Representatives were on hand to explain the CSI-Thermal program to attendees and the CSI-Thermal Fact Sheet was distributed.

### Website Development

As part of the revamp of its company website, SCG developed a simplified URL for its dedicated CSI-Thermal page: <http://www.socalgas.com/solar>, to provide a direct link to the page that makes it easier to promote and easier for customers to remember where to go on the website for information on the program.

### Customer Contact Center

SCG continued to provide fact sheets and information updates to its Customer Contact Center, 1-800-GAS-2000, in an effort to answer and address SWH questions and program inquiries. Interested participants are also provided information and links to the SCG CSI-Thermal Program webpage in an effort to direct and address the callers' questions. SCG continued to actively monitor its [swh@socalgas.com](mailto:swh@socalgas.com) email account for solar water-heating inquiries.

### Account Executive Collaboration

SCG continues to hold meetings and provide updates to its Account Executives to educate staff on the CSI-Thermal Program. Discussions focus on addressing specific hot water loads for residential and large commercial applications.

## **6. Conclusions**

One year of program administration has provided the PAs the experience needed to effectively manage the CSI-Thermal Program. The PAs also recognize that sustained effort is needed to expand the solar water heating market and reduce the market barriers which the statewide marketing campaign is aimed to address. While application volume has been somewhat low, the PAs are encouraged that the upcoming release of the statewide marketing plans will assist in increasing consumer awareness and program participation.

In addition, the PAs continue to work with the solar thermal industry to explore approaches for program enhancement and expansion.