

**California Solar Initiative Thermal Program**  
**Quarterly Progress Report**  
**(October 1, 2010 – March 31, 2011)**

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Center for  
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# 1. Executive Summary

## 1.1. Introduction

The California Center for Sustainable Energy (CCSE), on behalf of the California Solar Initiative Thermal (CSI-Thermal) Program Administrators (PAs)<sup>1</sup>, submits this 2011 Quarterly 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 October 1, 2010 through March 31, 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.

Because the CSI-Thermal Program is still a relatively new program, and the PAs were still engaged in startup activities during the first and second quarters of the program, this report covers a six-month period per guidance from Energy Division, i.e., this reports Quarter 4 of 2010 and Quarter 1 of 2011. Future quarterly progress reports will cover three-month periods and will be issued roughly four weeks after the end of the quarter.

## 1.2. Key Report Highlights

With every launch of a new incentive program, there is a significant amount of start-up activity that must be completed. This report highlights the achievements and milestones met to ensure the successful launch of the commercial/multifamily portion of the program as well as continued progress of the single-family residential program.

The PAs have focused on delivering a program that meets program goals while ensuring effective use of ratepayer funds. Activities include workshops on expanding the program, adding other thermal technologies, and selecting a vendor to create a statewide marketing campaign. With guidance from the Energy Division and input from the solar water heating industry, the PAs were able to deliver a program that features a streamlined application process with more clarified program guidelines.

On October 8, 2010, the PAs began accepting multifamily and commercial applications in the CSI-Thermal Program. With over \$783,445<sup>3</sup> in statewide incentives paid program to date as of March 31, 2011, and another \$158,132 reserved, the CSI-Thermal Program continued to gain momentum through consumer awareness, successful launch of the commercial/multifamily program and increased local marketing efforts.

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<sup>1</sup> CSI-Thermal PAs are Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), 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

## 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 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 and allowed 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.

### 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;

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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 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
- 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 commercial/multifamily, 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 commercial/multifamily SWH systems. Funds may be moved from the commercial/multifamily 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 displays the incentive allocation percentage and budget amount by PA for the natural gas-displacing SWH systems. Table 2 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 January 1, 2018, whichever occurs first. The incentive budget for the electric-displacing portion of the program is

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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.

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 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)
<b>1</b>	\$12.82	\$50

<b>2</b>	\$10.26	\$45
<b>3</b>	\$7.69	\$45
<b>4</b>	\$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**

<b>Step Level</b>	<b>Electric-Displacing Incentive (\$/kWh)</b>
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.
- Single-family residential SWH systems must have a Solar Rating and Certification Corporation (SRCC) OG-300 System Certification.
- Solar collectors used in multifamily/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>

<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)



- For commercial/multifamily 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 commercial/multifamily 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 must complete a one-day mandatory training offered by the PAs.

### 3. Program Expenditures

From program inception through March 31, 2011, CSI-Thermal Program expenditures total 3,304,985. **Error! Reference source not found.**5, 6 and 7 illustrate the detailed expenditures by PA followed by a breakdown of expenses specific to the natural gas and electric-displacing programs for the reporting period.

Expenses during this reporting period reflect program administration activities, including application processing, continued development of a statewide online database, mandatory contractor and self-installer training, discussions on program expansion, and administrative staffing support. Tables 6 and 7 cover expenditures from October 1, 2010 to March 31, 2011 for gas-only and electric-only.

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

Natural Gas and Electric CSI-Thermal Program Expenditure Data January 1, 2010 to March 31, 2011					
Expenditure Type	CCSE	PG&E	SCE	SCG	Total
<b>Administration</b>	\$453,263	\$1,054,487	\$173,648	\$309,910	<b>\$1,991,308</b>
<b>Market Facilitation</b>	\$322,143	\$136,622	\$6,257	\$62,667	<b>\$527,689</b>
<b>Measurement &amp; Evaluation</b>	\$0	\$2,543	\$0	\$0	<b>\$2,543</b>
<b>Incentives Paid</b>	\$184,506	\$573,616	\$3,855	\$21,468	<b>\$783,445</b>
<b>Total</b>	<b>\$959,911</b>	<b>\$1,767,269</b>	<b>\$183,760</b>	<b>\$394,045</b>	<b>\$3,304,985</b>

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

Natural Gas October 1, 2010 to March 31, 2011							
Expenditure Type	CCSE		PG&E		SCG		Total
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	
Administration	\$71,287	\$87,061	\$297,811	\$241,786	\$89,216	61850	\$849,011
Market Facilitation	\$54,130	\$45,884	\$60,401	\$32,018	\$13,761	\$13,302	\$219,496
Measurement & Evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Incentives Paid	\$7,347	\$120,575	\$86,208	\$412,404	\$0	\$20,033	\$646,567
<b>Total</b>	<b>\$132,763</b>	<b>\$253,521</b>	<b>\$444,420</b>	<b>\$686,208</b>	<b>\$102,977</b>	<b>\$95,185</b>	<b>\$1,715,074</b>

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

Electric October 1, 2010 to March 31, 2011							
Expenditure Type	CCSE		PG&E		SCE		Total
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	
Administration	\$17,822	\$21,765	\$49,247	\$62,910	\$39,365	\$42,682	\$233,791
Market Facilitation	\$13,532	\$11,471	\$10,432	\$944	\$4,146	\$3,276	\$43,801
Measurement & Evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Incentives Paid	\$20,104	\$11,802	\$28,122	\$21,485	\$0	\$2,126	\$83,639
<b>Total</b>	<b>\$51,458</b>	<b>\$45,038</b>	<b>\$87,801</b>	<b>\$85,339</b>	<b>\$43,511</b>	<b>\$48,084</b>	<b>\$361,231</b>

#### 4. Program Progress

With the single-family residential program up and running, the PAs were able to spend time in Q4 2010 and Q1 2011 refining the commercial/multifamily program and discussing potential program expansion.

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

The CSI-Thermal Program began accepting applications for single-family systems and multifamily and commercial systems May 1, 2010 and October 8, 2010, respectively.

The launch of the commercial/multifamily program increased the volume of applications from the previous quarters. This section of the report highlights the volume of applications received, turnaround times, and other applicable program metrics during the reporting period.

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

	CCSE		PG&E		SCG		Total
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	
<b>APPLICATIONS RECEIVED</b>							
<b>Application (Number)</b>	7	6	13	15	8	17	<b>66</b>
<b>Incentives (\$)</b>	\$9,103	\$8,580	\$19,561	\$21,852	\$12,698	\$26,446	<b>\$98,240</b>
<b>Capacity (First Year Expected Energy Displaced in therms)</b>	691	723	1,672	1,920	1,106	2218	<b>8,330</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>	\$7,381	\$9,516	\$7,555	<b>\$8,151</b>
<b>Average Project Cost per Unit of First Year Energy Displaced (\$/Therm)*</b>	\$73.94	\$73.13	\$57.59	<b>\$68.22</b>

\*Since program inception

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

	CCSE		PG&E		SCE		Total
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	
<b>APPLICATIONS RECEIVED</b>							
<b>Applications (Number)</b>	27	6	18	16	0	3	<b>70</b>
<b>Incentives (\$)</b>	\$27,854	\$6,399	\$16,428	\$14,297	\$0	\$3,293	<b>\$68,271</b>
<b>Capacity (First Year Expected Energy Displaced in kWh)</b>	78,097	17,658	47,868	41,961	0	9,057	<b>194,641</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
Average Project Cost per Single-Family Project*	\$7,095	\$7,374	\$6,829	\$7,099
Average Project Cost per Unit of First Year Energy Displaced (\$/kWh)*	\$2.48	\$2.75	\$2.49	\$2.57

\*Since program inception

**Table 12: Summary Data: Commercial/Multifamily (Gas)**

	CCSE		PG&E		SCG		Total
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	
<b>APPLICATIONS RECEIVED</b>							
Application (Number)	4	5	12	45	0	2	68
Incentives (\$)	\$69,471	\$184,044	\$166,472	\$873,443	\$0	\$53,831	\$1,347,261
Capacity (First Year Expected Energy Displaced in therms)	5,419	14,389	13,625	70,202	0	4199	107,834
<b>UNDER REVIEW Incentive Claims</b>							
Application (Number)	0	7	6	27	0	0	40
Incentives (\$)	\$0	\$141,994	\$86,595	\$421,008	\$0	\$0	\$649,597
Capacity (First Year Expected Energy Displaced in therms)	0	11,109	7,194	33,019	0	0	51,322

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 Commercial/Multifamily Project (Gas)**

	CCSE	PG&E	SCG	Total
Average Project Cost per Commercial/Multi-family Project (\$)*	\$79,627	\$41,453	n/a	\$60,540
Average Project Cost per Unit of First Year Energy Displaced (\$/therm)	\$40.26	\$39.20	n/a	\$39.73

\*Average Project Cost per Commercial/Multifamily Project for all completed projects since program inception

Note that during Q4 2010 and Q1 2011, CCSE, PG&E and SCE did not receive any electric-displacing Commercial/Multifamily projects.

The PAs strive to process reservation requests in 30 days or less for both single-family residential and commercial/multifamily applications. Table 14, 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 project. Table 15, below, shows the more recent application processing times between "Incentive Application

Review" and "Incentive Application Approved" stages. This time period includes both PA application processing time and time that the host customer takes to respond to requests for more information or application corrections. Tables 14 and 15 compare processing times from Q4 2010 to Q1 2011.

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 14: Commercial / Multifamily Application Processing Times by Program Administrator between "Reservation Application Review" and "Reservation Application Approved" Stages**

	30 Days or Less		60 Days or Less		90 Days or Less		Greater than 90 days	
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011
<b>Commercial/Multifamily</b>								
CCSE	100%	100%	100%	100%	100%	100%	0%	0%
PG&E	89%	97%	100%	97%	100%	100%	0%	0%
SCE	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SCG	n/a	100%	n/a	n/a	n/a	n/a	n/a	n/a

**Table 15: Application Processing Times by Program Administrator between "Incentive Application Review" and "Incentive Application Approved" Stages**

	30 Days or Less		60 Days or Less		90 Days or Less		Greater than 90 days	
	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011	Q4 2010	Q1 2011
<b>Residential with Inspections</b>								
CCSE	89%	86%	93%	100%	96%	100%	4%	0%
PG&E	40%	60%	60%	100%	90%	100%	10%	0%
SCE	n/a	50%	n/a	100%	n/a	100%	n/a	0%
SCG	n/a	43%	n/a	100%	38%	0%	100%	0%
<b>Residential without Inspections</b>								
CCSE	100%	100%	100%	100%	100%	100%	0%	0%
PG&E	96.20%	87.50%	100%	100%	100%	100%	0%	0%
SCE	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SCG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Commercial/Multifamily with Inspections</b>								
CCSE	n/a	100%	n/a	100%	n/a	100%	n/a	0%
PG&E	100%	60%	100%	100%	100%	100%	0%	0%
SCE	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SCG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Commercial/Multifamily without Inspections</b>								

<b>CCSE</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>PG&amp;E</b>	100%	95.65%	100%	95.65%	100%	100%	0%	0%
<b>SCE</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>SCG</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

#### 4.2 Amendments to the CSI-Thermal Program Handbook

PG&E, on behalf of the CSI-Thermal PAs filed an advice letter on January 14, 2011 to propose amendments to the CSI-Thermal Program Handbook. The revisions came as a result of additional experience in administering the program as well as useful industry feedback.

The revisions included, but are not limited to, tank substitution for single-family projects, addition of certificate of meter calibration for systems with a capacity over 250 kWth, and adjustment and clarification to Commercial/Multifamily system sizing and metering.

The advice letter was approved and became effective on February 28, 2011 and was promptly communicated to the stakeholders including the service list for Rulemaking 10-05-004 (i.e., the CSI service list), eligible solar-thermal contractors and the solar water heating community.

#### 4.3 CSI-Thermal Program Non-Water Heating Solar Thermal Technologies Workshop

On February 23, 2011, the CPUC held a workshop in San Francisco to discuss considering the inclusion of other solar thermal technologies into the program. The workshop was well attended by various industry stakeholders. The workshop discussed technologies whose advocates are seeking incentives through the program and also addressed challenges facing the inclusion of these new technologies. Primary challenges include: (1) development of guidelines and standards for system design to guard against overheating, freezing, stagnation; and (2) calculation methods for thermal displacement for the purposes of paying incentives to systems that cannot be easily modeled by the standard calculator in our existing online database.

Upon conclusion of the workshop, interested parties were asked to provide written comments by March 18, 2011 to the CPUC to ensure a complete account of parties' proposals and recommendations on the issues discussed. A total of 15 parties submitted comments and suggestions regarding the workshop. The comments were carefully evaluated and will be vital in future decisions around program expansion.

The CPUC plans to look at the comments received to determine program priorities and next steps.

## 5. Market Facilitation

### 5.1 Market Facilitation Plans

Due to the suspension on April 26, 2010 of the market facilitation plans filed via advice letter, a marketing budget has not yet been approved. The statewide market facilitation efforts have thus been limited in scope. The PAs held CSI-Thermal workshops, and attended public forums and workshops as detailed in the following sections of this report.

### 5.1.1 Statewide Market Facilitation Efforts

Certain marketing tactics require a coordinated approach to provide consistency and avoid duplication of time and expenses among the PAs. Based on experience with the General Market CSI program, these types of activities are best executed as a statewide effort.

### 5.2 Statewide Solar Thermal Awareness Campaign

The PAs worked together to develop a RFP that will drive a \$4.5 million two-year statewide CSI-Thermal awareness campaign. SCG volunteered to lead the RFP process and, on behalf of the PAs, released an RFP on March 11, 2011. One hundred questions were submitted by 27 agencies, and ultimately three agencies submitted proposals. Final agency selection will occur in June 2011. In July, a public workshop will be held to review the statewide and local market facilitation plans and allow for public questions and written comments. Approximately two to three weeks following the public workshop, the PAs will file advice letters with their statewide and local market facilitation plans to the CPUC for approval.

In support of the program goals, campaign management for the CSI-Thermal Program will focus on marketing objectives that support the goal of increasing consumer confidence, awareness and understanding of solar water heating (SWH) technology and the benefits of the CSI-Thermal Program itself, namely:

- Drive awareness of SWH technologies and their benefits within target audiences
- Leverage the *Go Solar, California!* brand to build distinct awareness of the CSI-Thermal Program, its rebates and its value to Californians
- Leverage the success of the established *Go Solar, California!* brand through web links looking for opportunities to integrate the brand and other *Go Solar, California!* goals, such as energy efficiency where applicable without diluting the CSI-Thermal Program message
- Coordination with the marketing efforts in the CSI general market program, including conducting joint activities where appropriate.

The strategic statewide marketing campaign will target the following customer segments:

- Residential:
  - Homeowners
  - Households with income of \$75,000 or more
  - Households of two (2) or more occupants
  - Residents who have lived in their homes ten (10) or more years
  - Residents likely to have purchased/installed energy efficiency measures
  - Low income households (once the low income program is adopted by the CPUC)
- Multi-family property owners, especially those with one decision maker

- Commercial:
  - Lodging
  - Healthcare
  - Food and beverage
  - Other sectors in the hospitality industry
  - Any buildings with existing SWH systems that have high hot water use

The RFP requires a strategic and tactical plan that includes the following elements:

- A statewide brand and messaging strategy
- A statewide mass media strategy
- A statewide public relations (PR)/earned media strategy
- A statewide social media strategy
- A statewide research strategy (market/customer)
- A statewide events and promotions strategy
- One to three creative campaign platforms that can be applied to multiple channels, educational and promotional materials and leveraged across statewide and localized channel outreach efforts
- Tactical recommendations by targeted customer segments. Tactics may include but not be limited to:
  - Consumer and contractor materials, collateral and other tools (i.e., guides, factsheets, brochures, etc.)
  - In-person and online trainings and classes
  - Leverage trade professionals (installers/contractors) as a marketing channel
  - Retail channel marketing
  - Targeted outreach (i.e., direct mail/email)
  - Video tutorials
  - Comprehensive evaluation, reporting and analytical tracking

Once the winning bidder has been selected, the CSI-Thermal PAs will work with that bidder in consultation with the CPUC to finalize the statewide campaign.

The total two-year campaign management contract of up to \$4,500,000 will be all inclusive of development, implementation, administrative and incidental costs. Table 16, below, notes the co-funding contribution by each PA.

**Table 16: Budget Contributions for two-year statewide market facilitation campaign**

<b>Budget Allocation by PA</b>		
<b>PA</b>	<b>% Allocation</b>	<b>Cost Share</b>
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>



### 5.3 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 were publicized on each PA website. As part of the statewide effort, the PAs coordinated this activity and developed an eight-hour 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 key that allows them to register and be eligible to apply for CSI-Thermal Program incentives in any PA territory.

Table 1717 shows the number of workshops held in each service territory for Q4 2010 and Q1 2011 and the number of attendees. As of May 10, 2011, there are 296 licensed eligible solar contractors statewide.

**Table 17: Mandatory CSI-Thermal Training Workshops Held by Program Administrator**

PA	Q4 2010		Q1 2011	
	Number of Workshops	Number of Attendees	Number of Workshops	Number of Attendees
PG&E	3	81	2	68
CCSE	4	70	6	123
SCE	1	16	2	31
SCG	2	34	1	12
<b>Total</b>	<b>10</b>	<b>201</b>	<b>11</b>	<b>234</b>

### 5.4 CSI Monthly Newsletter

The PAs provided editorial support and content to promote the CSI-Thermal Program for the statewide *Go Solar California!* monthly electronic newsletter.

### 5.5 Media Events, Public Forums and Workshops

The PAs also coordinated activities and attended several forums and workshops including the CSI Forums, the Non Domestic Water Heating Public Workshop at the CPUC, and Solar Power International (SPI) Conference. In these forums, the PAs staffed booths, handed out literature, made presentations, and held discussions with the general public, contractors, solar installers, and local, state and federal

government officials. The information provided explained the CSI-Thermal Program requirements, eligibility and incentive structure. Additional discussions were held to expand the statewide training effort by reaching out to training facilitators, Junior Colleges and trade schools in holding solar installation courses as part of an ongoing curriculum.

## **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**

CCSE conducted monthly Solar Water Heating Basics for Homeowners workshops and contractor trainings in Q4 2010 and Q1 2011. CCSE trained a total of 90 homeowners and 103 contractors on SWH technology and benefits at these workshops. The marketing and solar thermal teams developed animated flash presentations to visually demonstrate the comprehensive workings of various SWH systems. These animated flash presentations have offered workshop participants an alternative learning tool when trying to understand thermal technology.

#### **Solar Thermal Homeowner Workshop Promotion**

The ongoing workshop trainings both for homeowners and contractors were promoted via weekly e-blasts, through direct mail in the quarterly workshop calendar and with two direct mail postcards. Workshops were also highlighted in the monthly California Solar Initiative Newsletter and on the CCSE website workshop calendar. In addition, beginning in March, CCSE hired a part-time marketing specialist to assist in online workshop promotion and data entry of workshop evaluations. 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.

#### **Direct Mail**

CCSE “direct-mailed” two postcards to promote Q1 2011 workshops. Two 6-inch x 4.25-inch FSC certified versions were sent out to 26,051 homes respectively; 12,495 were sent to Carlsbad and 13,556 to San Diego. The postcard marketing resulted in 25 web visits and 7 workshop attendees. This number is

higher than our traditional paid email marketing, demonstrating that direct mail marketing was an effective marketing channel comparatively speaking this quarter.

Marketing Analysis of 2011 Workshop Evaluation Forms during January-March (Solar Water Heating for Homeowners):

1. Attending workshop as homeowners: 90% homeowners

2. City:

Clairemont:	22.0%	El Cajon:	14.4%
Encinitas:	11.8%	Carlsbad:	1.8%
Fallbrook:	3.7%	Chula Vista:	16.2%
La Mesa:	21.4%	Oceanside:	4.6%
Ramona:	8.4%	La Jolla:	15.7%

3. How Did You Hear About Us:

Word of Mouth:	14.6%
CCSE Website:	13.6%
Online Source:	21.4%
CCSE Email Blast:	32.4
Newspaper/Magazine:	20.3%

### 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 as Earth Day giveaways

### Bundled Outreach

The CSI-Thermal Program contributed funds to the Energy All-Star Awards held on March 31, 2011. This event is one of CCSE's primary outreach events where solar industry stakeholders, SWH contractors and other government and industry professionals from various industries are invited to celebrate the achievements of San Diego's clean energy all-stars. Panama Bartholomy, Deputy Director of the California Energy Commission, was the key note speaker at the event, which welcomed more than 300 attendees to the University of San Diego Joan B. Kroc Center for Peace and Justice. The annual event is an opportunity to bring relevant renewable energy industry issues to the forefront, to celebrate industry leaders, and to network within and outside of the clean energy community.

### PR and Media

CCSE is collaborating with Mission Heights Homeowner Association to arrange press coverage for the first Solar-Thermal commercial/multifamily installation in SDG&E territory. CCSE has created Solar Thermal Partner Award Certificates for Mission Heights Home Owners Association and Hill N Dale Home Owners Association to recognize their accomplishments in being the first two multifamily solar installations in SDG&E service territory.

[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:

- Search Engine Optimization (SEO) is improving for CCSE’s website, as it has moved to first page results for relevant keywords such as “solar water rebates,” “solar rebates,” “sustainable energy,” “energy legislation,” “energy resource center,” and “San Diego energy.”
- CCSE updated the CSI-Thermal documents section of the website including the updated version of the CSI-Thermal Handbook and Solar Water Heating Pilot Program Final Evaluation Report from ITRON.
- Throughout Q1 2011, CCSE advertised CSI-Thermal Program webinars and CSI-Thermal workshops on the CCSE home page. This advertising attracted about 400 visitors to the page.



**4 pages were viewed a total of 406 times**  
 Filtered for pages containing "thermal-webinars"

Content Performance						Views: [Grid] [Refresh] [Close]
<b>Pageviews</b> <b>406</b> <small>% of Site Total: 0.17%</small>	<b>Unique Pageviews</b> <b>346</b> <small>% of Site Total: 0.19%</small>	<b>Avg. Time on Page</b> <b>00:00:57</b> <small>Site Avg: 00:01:23 (-30.35%)</small>	<b>Bounce Rate</b> <b>78.26%</b> <small>Site Avg: 50.27% (55.68%)</small>	<b>% Exit</b> <b>19.70%</b> <small>Site Avg: 31.94% (-38.32%)</small>	<b>\$ Index</b> <b>\$0.05</b> <small>Site Avg: \$0.01 (371.02%)</small>	

**5.6.2 Pacific Gas & Electric**

[CSI-Thermal Workshop](#)

PG&E continues to offer monthly CSI-Thermal Program Workshops for contractors and self-installers. During the Q4 2010 and Q1 2011 period, PG&E conducted seven total workshops in San Francisco, Stockton, and Ukiah.

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 two different SWH online-based courses in both Q4 2010 and Q1 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.

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.

### Junior College Speaking Event

Each semester, Diablo Valley College offers a course in Solar Thermal Systems. PG&E has been given a guest speaking opportunity to present the CSI-Thermal Program to the students in the course. With an understanding of CSI-Thermal Program, students are better prepared to enter the solar industry.

### Graduation Ceremony from Diablo Valley College

In late 2010, a ceremony was held in Pleasant Hill, California, honoring 26 graduates who completed PG&E's PowerPathway™ Solar Water Heating course at Diablo Valley College in summer 2010. Course participants were owners or employees of small plumbing or solar contracting companies, and the course was designed to increase their skills and advance their careers in solar thermal system installations. Graduates of the course reported being very happy with the hands-on training and course content, with one contractor indicating he had generated so much new business, he was able to hire additional staff to keep up with the demand. Graduates were joined in celebration by the Pleasant Hill Chamber of Commerce's Green committee, State Senator Mark DeSaulnier and Pleasant Hill Mayor Karen Mitchhoff.

### Account Representative Collaboration

The CSI-Thermal Program was a major topic covered at PG&E's regional account representative trainings in March. The event provided a great opportunity to work with PG&E's Account Representatives on program details and potential customers. This collaboration has since generated a great deal of customer inquiries.

### First Commercial Incentive Check Ceremony

Shortly after the Commercial/Multifamily CSI Thermal Program launched in Q4 2010, PG&E awarded Taco Bell in Albany the first commercial incentive for installation of a solar water heating system. To honor this milestone, PG&E along with local city and community leaders gathered on November 30, 2011 in Albany for a ceremony to mark the occasion. The check presented represented 27% of the total project costs for Taco Bell.

### Solar Month Integration

In October 2010 and January/February 2011, PG&E's CSI-Thermal Program staff was able to participate in two high profile campaigns driven by other PG&E programs.

In 2010, an integrated, multi-channel solar campaign was launched by CSI- General Market in support of Solar Energy Month. The target audience was 100,000 residential customers primarily in the greater Bay Area. A direct mail communication was developed to encourage customers to download a solar kit for more information, including the Solar Thermal Fact Sheet. Over 12,000 respondents have requested and received a kit to date. The kit was available via mail and also at [www.pge.com/solar](http://www.pge.com/solar). Another campaign component was a 5-minute video segment featured as part of CBS 5's Eye on the Bay program throughout October 2010. This segment featured two PV customers and one residential CSI-Thermal customer showcasing their satisfaction with their choice to install solar and the benefits received. This segment was seen by viewers in the greater Bay Area and is also available on [www.pge.com/solar](http://www.pge.com/solar) and YouTube.

### Winter Gas Thermal Campaign Integration

In 2011, PG&E's Winter Gas Savings campaign had television ads, emails and search engine marketing driving customers to its landing pages on [pge.com](http://pge.com). The CSI-Thermal Program was able to secure a banner ad placement on this landing page, which was visible to over 150,000 site visitors as the campaign progressed. The banner ad tied to the CSI-Thermal pages of [www.PGE.com](http://www.PGE.com) providing customers who inquired with basic information on thermal and how it works.

## **5.6.3 Southern California Edison**

### Training and Education

SCE, in partnership with SCG, offered monthly CSI-Thermal Program Contractor and Self-Installer mandatory Training in the service territory. Since the inception of the CSI-Thermal Program, eight classes have been completed at the SCE training facility with over 130 participants in attendance.

In addition, SCE leverages its 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 to two key audiences – homeowners and solar contractors.

In Q4 2010, the CSI-Thermal Program was discussed in all of SCE’s solar training classes. Table 18, below, lists the class and total number of attendees.

**Table 18: SCE Class Attendance**

<b>Attendance Totals By Class For Q4 2010</b>		
<b>Class Name</b>	<b># of Classes</b>	<b>Attendees</b>
<b>Commercial</b>	1	62
<b>Contractor</b>	2	104
<b>HSC</b>	4	84
<b>Totals</b>	<b>7</b>	<b>250</b>

SCE continues to offer classes geared toward contractors as well as non-residential and residential customers. During Q1 2011, SCE reached 122 contractors through three “CSI Contractor Solar Classes,” all of which were also offered via Webinar; 48 commercial customers through two “CSI Commercial Solar Workshops”; 158 residential customers through three Homeowner Solar Classes (HSC); and two CSI Thermal training classes with a total of 31 attendees. In each of these classes, the CSI-Thermal Program was highlighted as an incentive program that is currently available to the customers.

**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:

- Solar Power International 2010, October 11-14, 2010
- City of Indian Wells MASH Track 2 Project Ribbon-Cutting, October 21, 2010
- Building Industry Show, November 18-19, 2010
- Black History Month at CTAC, February 4, 2011
- World Ag Expo, February 8-10, 2011

- Solartech Permitting & Interconnection Symposium at CTAC, February 10, 2011
- Electricity West Conference in Long Beach, February 23, 2011
- SCE Demand Side Management Program Rollout, February 23, 2011
- SCE Non-PO Contractor Program Informational Session & Fair, March 17, 2011

### Website Updates

SCE regularly updates a dedicated website for the CSI-Thermal Program as the program continues to evolve. It provides customers and contractors a quick and easy way to access program information and current updates. SCE's website is located at: <http://www.sce.com/csithermal>.

## **5.6.4 Southern California Gas Company**

### Training and Education

In an effort to increase adoption of SWH systems and increase the number of trained installers, SCG in collaboration with SCE coordinated and contracted with Alternative Energy Systems Consulting (AESC) to provide the mandatory contractor and self-installer training course. To ensure that overlapping SCG and SCE service territories were covered by both utilities, the 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. Two workshops were held during Q4 2010 and one during Q1 2011 with 36 attendees. An online webinar was also held during Q1 2011 to provide an update to previous attendees regarding current information on CSI-Thermal Program Handbook requirements. Over 100 contractors logged on to the webinar.

### Media Events, Public Forums and Workshops

SCG sponsored the Affordable Comfort Inc. (ACI), Regional event held on January 10 and 11, 2011 at the Biltmore Hotel in Los Angeles. The effort supported outreach and education of contractors that were interested in either continuing to participate in the CSI-Thermal Program or find out for the first time about the program. Many of the new construction contractors who are not building at the moment are looking for new opportunities and are being persuaded to join in on our two programs.

### 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 website in an effort to direct and address the callers' questions. SCG is also monitoring its [swh@socalgas.com](mailto:swh@socalgas.com) account for solar water heating inquiries.

### Website Development



SCG continues to update its CSI-Thermal Program website on an ongoing basis:  
<http://www.socalgas.com/rebates/solar>.

### Account Executive Collaboration

SCG continues to hold meetings and provide updates to its Account Executives to educate SCG staff on the CSI-Thermal Program.

### Communications Advisor

SCG volunteered to lead the statewide market facilitation effort and took the lead on developing the work scope and an RFP for the envisioned two-year \$4.5 million statewide campaign. To support this effort, SCG has hired a full-time professional Communications Advisor.

## **6. Conclusions**

The launch of the commercial/multifamily portion of the CSI-Thermal Program has attracted larger SWH system installations. The PAs continue to work diligently with the Energy Division and industry stakeholders to expand the CSI-Thermal Program and consider including other thermal technologies into the program.

Participation has been steadily increasing, and the program is anticipated to grow as other thermal technologies are allowed into the program. In addition, once the market facilitation plans are approved by the CPUC, more marketing activities will be implemented to further promote the program and increase customer awareness and participation.

With the declining incentives in the General Market CSI Program, focus and interest on the CSI-Thermal Program will likely increase for solar contractors and customers.