

December 23, 2010

Mr. Damon Franz
Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Room 4004
San Francisco, CA 94102

RE: California Solar Initiative Thermal Program Quarterly Progress Report

Dear Mr. Franz:

Southern California Edison Company (SCE), on behalf of the California Solar Initiative (CSI) Thermal Program Administrators (PAs)¹, hereby submits the CSI-Thermal Program Quarterly Progress Report current as of October 1, 2010. The Report was prepared pursuant to Decision 10-01-022 and in accordance with the CSI-Thermal Quarterly Progress Reports Guidance (Guidance) you provided on October 26, 2010.

SCE gathered data from PG&E, CCSE, and SoCalGas and compiled the data into the Report, which appears as Attachment A to this letter.

Please contact me at (626) 302-3834 if you have any questions.

Sincerely,



Gary W. Barsley
Manager of Customer Solar Group
Southern California Edison

Cc: Molly Sterkel

¹ The CSI-Thermal PAs include, in addition to SCE, Pacific Gas & Electric, California Center for Sustainable Energy, and Southern California Gas Company.

ATTACHMENT A

California Solar Initiative Thermal Program Quarterly Progress Report

(May 1 – October 1, 2010)

Published On:

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Center for Sustainable Energy
CALIFORNIA



California Solar Initiative (CSI) Thermal Quarterly Progress Report

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California Solar Initiative (CSI) Thermal Quarterly Progress Report

1. Executive Summary

1.1. Introduction

Southern California Edison Company (SCE), on behalf of the California Solar Initiative (CSI) Thermal Program Administrators (PAs),¹ submits this 2010 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 Energy Division.²

This report provides an overall qualitative and quantitative review of the CSI-Thermal Program for the first six months of its operation, from the program launch date of May 1, 2010, through October 1, 2010. 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 a new program and the PAs were heavily engaged in startup activities during the first quarter, this report actually covers six months of operation – the first two quarters of the program. Future quarterly progress reports will cover three-month periods and will be issued roughly four weeks after the end of each quarter.

1.2. Key Report Highlights

With every launch of a new incentive program, a significant amount of start-up activity must be completed. This report highlights the achievements and milestones met to ensure a timely launch of the single-family portion of the CSI-Thermal Program.

From developing the program requirements to selecting a vendor to create a statewide application processing database and incentive calculator, the PAs have focused on delivering a program that meets program goals while ensuring effective use of ratepayer funds. With guidance from the CPUC and input from the solar water heating industry, the PAs were able to deliver a program that features a streamlined application process with clear program guidelines.

On May 1, 2010, the PAs began accepting single-family applications and provided customers and the public with a list of approximately thirty (30) eligible contractors who had completed the mandatory training workshop prior to the program launch. Having a list of eligible contractors before program launch helped avoid a potential lag in application submission for those projects that had been installed before May 1, 2010.

¹ CSI-Thermal PAs are Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), California Center for Sustainable Energy (CCSE) and Southern California Gas Company (SoCalGas).

² D.10-10-022, Ordering Paragraph No. 13 and Appendix A.

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With over \$61,000 in statewide incentives already paid or in the queue, the program continues to gain momentum through consumer awareness, anticipated launch of the multi-family/commercial program, and increased marketing efforts.

2. Introduction

2.1. Program Background

On January 1, 2007, the CPUC launched the CSI Program, 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 2016.³ 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 (SDG&E) service territory. Starting in July 2007, the California Center for Sustainable Energy (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 program and allowed it to continue 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),⁴ which authorized the CPUC to create a \$250 million incentive program to promote the installation on homes and businesses by 2017 of 200,000 SWH systems that displace the use of natural gas. The statute 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,⁵ which allocates funds for installation of 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, SoCalGas, SCE, and CCSE (in 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

³ Public Utilities Code § 2851, enacted by Senate Bill (SB) 1 (Murray), Chapter 132, Statutes of 2006.

⁴ Public Utilities Code § 2860-2867.

⁵ See generally D.10-01-022.

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the following barriers to growth: installation costs, lack of public knowledge about SWH, permitting costs and requirements, and a potential shortage of experienced installers. As identified 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 through:
 - 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;
 - Installation of electric-displacing SWH systems that displace 275.7 million kilowatt hour (kWh) per year (equivalent to 100,800 single-family residential systems); and
 - 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 allocation) for the CSI-Thermal Program is approximately \$280.8 million over the life of the program. This is comprised of (i) \$180 million allocated for natural gas-displacing SWH systems, not including low-income incentives,⁶ as authorized by AB 1470, and (ii) up to \$100.8 million that may be used to fund electric-displacing systems subject to overall CSI budget availability,⁷ as authorized by SB 1. Incentive dollars will be allocated between the single-family residential and multi-family/commercial customer classes as follows:

- 40 percent of the total incentive budget is reserved for single-family residential customer SWH systems;

⁶ Decision 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.

⁷ Decision 06-12-033 allows for the incentive budget of \$100.8 million to be shared between the electric-displacing portion of the CSI-Thermal program and other non-PV solar thermal technologies.

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- 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 size of 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 available until the budget caps have been reached, the general market CSI 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 |
| SoCalGas | 51.0% | \$91.8 |
| Total | 100.0% | \$180.0 |

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 |
| Total | 100.0% | \$100.8 |

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.

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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) |
|------|-------------------------------|---|
| 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 service territory⁸ 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 will be posted on www.csithermal.com.

2.5. Program Eligibility

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

⁸ SCE incentive step changes will correspond with SoCalGas gas incentive step changes for each customer class.

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- Customer site must be within the service territories of SoCalGas (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 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.¹⁰
- 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.¹¹
- 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 October 1, 2010, CSI-Thermal program expenditures total \$1,276,143. Table 5 illustrates detailed expenditures by Program Administrator followed by a breakdown of expenses specific to natural gas and electric programs.

Expenses during this reporting period reflect the cost of start-up activities including development of a statewide online database and public incentive calculator, mandatory contractor and self-installer training, and administrative staffing support. Since costs were incurred prior to the May 1 program launch, Tables 5, 6, and 7 cover expenditures from January 1, 2010, through October 1, 2010.

⁹ The CSI-Thermal Handbook is located at http://gosolarcalifornia.org/documents/CSI-Thermal_Handbook.pdf

¹⁰ 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).

¹¹ 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.

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Table 5: CSI-Thermal Expenditure by PA (Natural Gas and Electric)

| CSI-Thermal Program Expenditure Data January 1, 2010 to October 1, 2010 | | | | | |
|---|------------------|------------------|-----------------|------------------|--------------------|
| Expenditure Type | CCSE | PG&E | SCE | SoCalGas | Total |
| Administration | \$256,078 | \$402,733 | \$82,799 | \$184,232 | \$925,842 |
| Market Facilitation | \$224,965 | \$43,578 | \$7,639 | \$23,750 | \$299,932 |
| Measurement & Evaluation | \$0 | \$2,543 | \$0 | \$0 | \$2,543 |
| Incentives Paid | \$19,265 | \$25,397 | \$1,729 | \$1,435 | \$47,826 |
| Total | \$500,308 | \$474,251 | \$92,167 | \$209,417 | \$1,276,143 |

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

| CSI-Thermal Program Expenditure Data January 1, 2010 to October 1, 2010 | | | | |
|---|------------------|------------------|------------------|--------------------|
| Expenditure Type | CCSE | PG&E | SoCalGas | Total |
| Administration | \$228,654 | \$336,960 | \$184,232 | \$749,846 |
| Market Facilitation | \$185,372 | \$37,671 | \$23,750 | \$246,793 |
| Measurement & Evaluation | \$0 | \$2,543 | \$0 | \$2,543 |
| Incentives Paid | \$6,334 | \$12,556 | \$1,435 | \$20,325 |
| Total | \$420,360 | \$389,730 | \$209,417 | \$1,019,507 |

Table 7: CSI-Thermal Expenditures by Program Administrator (Electric)

| CSI-Thermal Program Expenditure Data January 1, 2010 to October 1, 2010 | | | | |
|---|-----------------|-----------------|-----------------|------------------|
| Expenditure Type | CCSE | PG&E | SCE | Total |
| Administration | \$27,424 | \$65,773 | \$82,799 | \$175,996 |
| Market Facilitation | \$39,593 | \$5,907 | \$7,639 | \$53,139 |
| Measurement & Evaluation | \$0 | \$0 | \$0 | \$0 |
| Incentives Paid | \$12,931 | \$12,841 | \$1,729 | \$27,501 |
| Total | \$79,948 | \$84,521 | \$92,167 | \$256,636 |

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4. Program Progress

The CSI-Thermal PAs completed significant milestones in the process of developing the single-family solar water heating incentive program. This section of the report presents program achievements and milestones from program inception through October 1, 2010.

4.1. Program Milestones

The PAs are required to take action upon specific items associated with the implementation of the CSI-Thermal Program as required by D.10-01-022. Each implementation item is listed in the following table with a corresponding status.

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| ORDERING PARAGRAPH | STATUS |
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| <p><i>(OP 2):</i> Within 60 days of this order, [SDG&E] shall revise its contract with [CCSE] to specify that [CCSE] will act as PA for the [CSI] Thermal Program in the [SDG&E] territory.</p> | <p>This task is complete, and the contract between SDG&E and CCSE was executed in the first Quarter of 2010.</p> |
| <p><i>(OP 3):</i> Within 60 days of this order, the Commission’s Energy Division shall hold workshops regarding:</p> <ul style="list-style-type: none"> a) <i>Development of siting, installation, freeze protection, and system sizing requirements to maximize solar water heating system performance and guard against oversizing of systems;</i> b) <i>Development of an on-line incentive calculation tool that estimates natural gas or electricity displacement based on solar water heating system location, design, and expected performance; and</i> c) <i>Development of appropriate energy efficiency improvements that reduce water heating demand and that are broadly applicable, do not require solar water heating system installer to develop new competencies, do not significantly increase project cost or delay installation, are easily validated on system inspection, and are likely to be retained by the system owner.</i> | <p>The PAs participated in the following two separate workshops conducted by the Energy Division:</p> <ul style="list-style-type: none"> • On February 23, 2010, the Energy Division hosted a workshop to discuss items (a) and (c). • On March 30, 2010, the Energy Division hosted a workshop to discuss item (b). |

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| ORDERING PARAGRAPH | STATUS |
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| <p><u>(OP 4):</u> <i>By April 1, 2010, the [CSI] Thermal [PAs], namely [PG&E], [SoCalGas], [SCE] and [CCSE], shall complete development of the on-line incentive calculation tool and provide it to the Energy Division.</i></p> | <p>In the course of developing the incentive calculator, the PAs discovered that a single calculator would not work for both single-family and multi-family/commercial projects so they created two separate calculators for both the single-family and multi-family commercial projects. The PAs requested an extension to the April 1 due date to gain additional industry insight at the March 30, 2010, workshop. Administrative Law Judge (ALJ) Duda extended the calculator due dates to April 16, 2010, for single-family and May 21, 2010, for multi-family/commercial versions.</p> <p>The PAs provided the Energy Division with proof that the single-family calculator had been developed on April 12, 2010, and proof that the multi-family/commercial calculator had been developed on May 21, 2010. The Energy Division approved both calculators for use in the CSI-Thermal Program.</p> |
| <p><u>(OP 5):</u> <i>By April 1, 2010, the [CSI]-Thermal [PAs], namely [PG&E], [SCE], [SoCalGas], and [CCSE], shall complete drafting of the single-family residential customer portion of the [CSI]- Thermal Program Handbook, which shall be a subset of the general market [CSI] Handbook, and jointly submit it as an Advice Letter in order to begin accepting solar water heating incentive applications from single-family residential customers on May 1, 2010.</i></p> | <p>The PAs filed the single-family residential Handbook via advice letter on March 22, 2010. Energy Division approved the advice letter on April 29, 2010, and the PAs began accepting single-family residential applications on May 1, 2010.</p> |

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| ORDERING PARAGRAPH | STATUS |
|--|--|
| <p><u>(OP 6):</u> <i>By April 1, 2010, each [CSI] Thermal [PA], namely [PG&E], [SCE], [SoCalGas], and [CCSE] shall submit a separate Advice Letter that includes: a) a detailed estimate of its program budget for the first year of program implementation, indicating direct and indirect expenses, labor and non-labor, for incentives, administration, market facilitation, and measurement and evaluation; and b) its proposed market facilitation strategic plan and detailed budget for the first two years of program implementation.</i></p> | <p>On April 1, 2010, each PA filed their respective program budget for the first year of program implementation and proposed market facilitation strategic plan and detailed budget for the first two years of program implementation.</p> <p>DRA and other parties protested the advice letters.</p> <p>On April 21, 2010, the Energy Division suspended the advice letters pending further review.</p> |

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| ORDERING PARAGRAPH | STATUS |
|---|---|
| <p><u>(OP 7):</u> <i>By May 1, 2010, the [CSI]-Thermal [PAs], namely [PG&E], [SCE], [SoCalGas], and [CCSE], shall complete drafting of the commercial and multifamily project portion of the [CSI] Thermal Program Handbook, which shall be a subset of the general market [CSI] Handbook, and submit it as an Advice Letter in order to begin accepting incentive applications for commercial and multifamily projects on June 1, 2010.</i></p> | <p>On April 23, 2010, the PAs requested an extension to file this advice letter for the following reasons:</p> <ol style="list-style-type: none"> 1. Resources had been diverted to respond to protests to the single-family residential portion of the Handbook. 2. Additional time would allow the PAs to fully manage single-family program start-up issues in the first week of May. 3. Topics related to the multi-family/commercial portion of the Handbook require more time to finalize than anticipated and the additional time would allow the PAs to resolve complicated technology and procedural issues related to multi-family/commercial SWH systems that are generally larger, more complex and involve much larger incentives than the single-family portion of the program. <p>The extension was granted on April 28, 2010 by the ALJ. An advice letter was then filed on May 24, 2010. Various parties protested this advice letter before the expiration of the comment period on June 14, 2010.</p> <p>The PAs replied to the industry protests on June 28, 2010. The CPUC issued a draft resolution on July 16, 2010. The PAs commented on the draft resolution on July 30, 2010. The CPUC approved the Resolution on August 12, 2010. The PAs then re-filed an advice letter on September 3, 2010. One party protested this advice letter before the expiration of the comment period on September 23, 2010. The PAs replied to the protest and re-filed an updated Handbook on September 30, 2010. The advice letter was approved and the PAs began accepting Multi-family/Commercial Applications on October 8, 2010.</p> |

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| ORDERING PARAGRAPH | STATUS |
|---|--|
| <p><u>(OP 8):</u> <i>Within 180 days of this order, the Energy Division shall hold a workshop on the issue of the eligibility of non-solar water heating solar thermal technologies that displace gas usage and meet all other program requirements, including certification from the Solar Rating and Certification Corporation. The workshop should address how to estimate these technologies thermal displacement for incentive calculation purposes and whether performance-based incentives are appropriate for these systems. Following the workshop, Energy Division should provide a workshop report to the service list of this proceeding, or its successor proceeding, and the Administrative Law Judge.</i></p> | <p>Energy Division postponed the non-solar water heating solar thermal technologies workshop due to unexpected delays in the multi-family/commercial program and to address issues for further refinement in the administration of the multi-family/commercial program.</p> |
| <p><u>(OP 9):</u> <i>The [CSI]-Thermal [PAs], namely [PG&E], [SCE], [SoCalGas], and [CCSE], may file advice letters to modify the [CSI] Thermal Program Handbook and expand program eligibility if the Solar Rating and Certification Corporation adopts certifications for additional solar thermal technologies such as concentrating solar collectors.</i></p> | <p>Not applicable.</p> |
| <p><u>(OP 13):</u> <i>In administering the [CSI]-Thermal [PAs], namely [PG&E], [SCE], [SoCalGas], and [CCSE], shall perform all duties specified in Appendix A, including but not limited to the following:</i></p> <p style="padding-left: 40px;"><i>a) Separately submit semi-annual expense reports to the Energy Division as a subset of and along with general market California Solar Initiative expense reports;</i></p> | <p>PG&E, SCE, and CCSE submitted semi-annual expense reports as a subset of their California Solar Initiative - General Market expense report filings.</p> <p>SoCalGas is not a CSI-GM PA and as a result its initial compliance expense report is this quarterly progress report.</p> |

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| ORDERING PARAGRAPH | STATUS |
|--|--|
| <p><i>b) Separately submit an Advice Letter with proposed [CSI]-Thermal market facilitation budgets and activities for each calendar year, which addresses the activities identified in Appendix A, no later than October 1 of the preceding year;</i></p> | <p>By ALJ Ruling on September 27, 2010, the ALJ clarified that the PAs would not need to make a filing on October 1, 2010, because the PAs had already filed their proposal for 2011 on April 1, 2010 as required by Ordering Paragraph 6 of D.10-01-022.</p> |
| <p><i>c) Separately submit quarterly progress reports to the Energy Division;</i></p> | <p>Per the Energy Division CSI-Thermal Quarterly Progress Reports Guidance document dated October 26, 2010, the PAs are directed to jointly file the quarterly progress report. This report is in response to this requirement.</p> |
| <p><i>d) Jointly host quarterly forums, in coordination with forums in the general market California Solar Initiative program, to obtain input from the public and interested parties on the program status;</i></p> | <p>The CSI-Thermal Program was included as an agenda topic in each of the general market CSI public forums.</p> |
| <p><i>e) Jointly ensure development and maintenance of a statewide program database as directed by Energy Division, and ensure program participants provide system data for the database, application processing, and program evaluation purposes;</i></p> | <p>A centralized statewide database has been established and it is located at www.csithermal.com. Every applicant to the program must complete their application using the database.</p> |
| <p><i>f) Determine convenient ways for customers to make a combined application for energy efficiency and solar incentives, although customers may not receive incentives from both programs for the same solar water heating system;</i></p> | <p>The PAs continue to work with their respective energy efficiency counterparts with the intention of enhancing synergies between the programs.</p> |
| <p><i>g) Post weekly information on their program websites and the statewide Go Solar California website regarding participation and incentive levels;</i></p> | <p>Public access to the current incentive step levels and remaining incentives can be found at www.csithermal.com/tracker. Detailed program participation information can be found at www.csithermal.com/public_export.</p> |

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| ORDERING PARAGRAPH | STATUS |
|---|---|
| <p><i>h) Provide written notification of incentive reductions to the [ALJ], with a copy to the service list of this or any successor proceeding, within five business days following a reduction;</i></p> | <p>Not applicable, as no incentive rate reduction has occurred.</p> |
| <p><i>i) Perform system inspections; and</i></p> | <p>The PAs have conducted inspections for the period covered in this report in accordance with the guidelines of the CSI-Thermal Handbook.</p> |
| <p><i>j) Coordinate measurement and evaluation activities with the general market California Solar Initiative program.</i></p> | <p>Not applicable, pending selection of a measurement and evaluation contractor by the CPUC.</p> |
| <p><u>(OP 16):</u> <i>Within 90 days of this order, [the CSI-Thermal PAs] shall each file an advice letter to amend their preliminary statements and establish a memorandum account to track actual annual expenditures for the gas-displacing CSI-Thermal program, beginning on the effective date of this decision through December 31, 2017. On an annual basis, each utility may, in its appropriate ratemaking proceeding, seek recovery from its gas customers on an equal cents per therm basis of the prior year's memorandum account balance, excluding customers participating in the California Alternate Rates for Energy Program, the Family Electric Rate Assistance Program, and any customers who are currently exempt from funding the Self Generation Incentive Program. Total expenditures by each utility over the duration of the California Solar Initiative Thermal Program may not exceed the amounts in Table 5 of this decision.</i></p> | <p>PG&E, SoCalGas and SDG&E filed advice letters to establish respective memorandum accounts. The ALJ also clarified that Southern California Edison, as an electric company, is not required to file an advice letter to establish a memorandum account for the gas-displacing portion of the CSI-Thermal Program.</p> |

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4.2. Application, Installations and Incentive Update

The CSI-Thermal program began accepting applications for single-family residential systems in May 2010. This section of the report highlights the volume of applications to date and the average cost of single-family systems that have been installed as of October 1, 2010.

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

| Summary Data | | | | |
|---|---------|----------|----------|-----------------|
| | CCSE | PG&E | SoCalGas | Total |
| RECEIVED APPLICATIONS | | | | |
| Application (Number) | 5 | 12 | 2 | 19 |
| Incentives (\$) | \$6,334 | \$18,723 | \$2,494 | \$27,551 |
| Capacity (First Year Expected Energy Displaced) | 501 | 1,532 | 200 | 2,233 |
| COMPLETED Applications | | | | |
| Application (Number) | 5 | 8 | 1 | 14 |
| Incentives (\$) | \$6,334 | \$12,556 | \$1,435 | \$20,325 |
| Capacity (First Year Expected Energy Displaced) | 501 | 1,044 | 112 | 1,657 |

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

| | CCSE | PG&E | SoCalGas | Average |
|---|---------|----------|----------|----------------|
| Average Project Cost per Single-Family Project | \$7,281 | \$10,105 | \$6,333 | \$7,906 |
| Average Project Cost per Unit of First Year Energy Displaced (Therms) | \$73.66 | \$82.28 | \$61.71 | \$72.55 |

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

| Summary Data | | | | |
|---|----------|----------|---------|-----------------|
| | CCSE | PG&E | SCE | Total |
| RECEIVED APPLICATIONS | | | | |
| Application (Number) | 14 | 19 | 2 | 35 |
| Incentives (\$) | \$13,886 | \$18,363 | \$1,729 | \$33,978 |
| Capacity (First Year Expected Energy Displaced) | 38,038 | 50,426 | 5,085 | 93,549 |
| COMPLETED Applications | | | | |
| Application (Number) | 13 | 13 | 2 | 28 |
| Incentives (\$) | \$12,931 | \$12,841 | \$1,729 | \$27,501 |
| Capacity (First Year Expected Energy Displaced) | 35,458 | 35,227 | 5,085 | 75,770 |

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

| | CCSE | PG&E | SCE | Average |
|--|---------|---------|---------|----------------|
| Average Project Cost per Single-Family Project | \$6,785 | \$6,015 | \$6,825 | \$6,542 |
| Average Project Cost per Unit of First Year Energy Displaced (kWh) | \$2.50 | \$2.45 | \$2.68 | \$2.54 |

5. Market Facilitation

5.1. Market Facilitation Plans

D.10-01-022 requires each CSI-Thermal PA to submit an advice letter by April 1, 2010, with its proposed market facilitation strategic plan and detailed budget for the first two years of program implementation. This decision directed the PAs to hold at least one public workshop in advance of their advice letter filing to obtain input from key industry and expert sources.

On February 23, 2010, the Energy Division conducted a public workshop to solicit feedback from interested parties on the market facilitation portion of the program. On April 1, 2010, the PA submitted their market facilitation plans for the first two years of the program.

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On April 26, 2010, the Energy Division suspended the Market Facilitation Advice Letters to provide more time for review. Upon review of the plans, the Energy Division found that each plan has valuable elements; however, the four PA plans must present a more robust, comprehensive strategic focus. In addition, the Energy Division found that numerous activities proposed should either not go forward or should be coordinated by a professional campaign manager for greater effectiveness. While the Commission conceded that its guidance was general in D.10-01-022, it noted that the PAs should be able to use their budgets to obtain or retain the expertise required to execute program marketing plans that address barriers and facilitate the solar thermal market.

In particular, the Energy Division directed that the market facilitation plans must address areas of coordination, market research, campaign management, sponsorships, and critical market facilitation such as training, permitting codes and standards, and customer service. Moreover, the Energy Division commented that none of the plans reflect the direction expressed in the Market Facilitation guidance document and the staff workshop that the PAs should pool resources and employ a professional firm to execute a statewide marketing campaign and manage other tasks that require a statewide rather than a regional focus.

Due to the suspension of the facilitation plans, 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, developed a statewide fact sheet, and attended public forums and workshops as detailed in the following sections of this report.

5.2. Statewide Marketing Efforts

Certain marketing tactics require a statewide approach in order to provide consistency and avoid duplication of work among the PAs. Based on experience with the general market CSI program, these types of activities are best executed as a statewide effort. Below are a few examples of such tactics.

5.2.1. 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 & 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 Handbook, application process, program requirements, technical requirements, and additional related resources. Upon completion of this designated CSI-Thermal Program training workshop and meeting other requirements, Applicants receive a key that will allow them to register and be eligible to apply for CSI-Thermal Program incentives in any PA territory.

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Table 12 shows the number of workshops held in each service territory for the first three quarters of 2010 and the number of attendees. Currently, there are over 212 licensed eligible solar contractors statewide.

Table 12: Mandatory CSI-Thermal Training Workshops Held by Program Administrator

| PA | Number of Workshops | Number of Attendees |
|--------------|---------------------|---------------------|
| PG&E | 11 | 616 |
| CCSE | 7 | 218 |
| SCE | 5 | 84 |
| SoCalGas | 5 | 108 |
| Total | 28 | 1,026 |

5.2.2. Statewide CSI-Thermal Fact Sheet

The PAs jointly developed a SWH fact sheet titled “Water Heating, The Solar Advantage”. The fact sheet provides a brief overview of the program and explains the basics of SWH and the energy savings benefits. The fact sheet outlined the program structure, participation requirements, incentive structure, and statewide contact information for each Program Administrator. PG&E took the lead on this effort. The PAs distributed the material at events and forums as part of the program outreach effort and public education.

5.2.3. CSI Monthly Newsletter

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

5.2.4. Media Events, Public Forums and Workshops

The PAs also coordinated activities and attended several forums and workshops including the Solar Energy Power Association (SEPA), California Solar Initiative (CSI) Forums, the Utility Solar Water Heating Initiative (USH2O), and Solar Power International (SPI). 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.

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5.3. 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.

5.3.1. California Center for Sustainable Energy

Training and Education

CCSE conducted seven mandatory workshops for contractors and self-installers, totaling 218 attendees. CCSE also conducted eight workshops for homeowners totaling 213 attendees. The homeowner workshops provided information on SWH technology and the CSI-Thermal Program.

Marketing Collateral

CCSE created two tri-fold brochures to highlight the CSI-Thermal Program for residents and for businesses.

Bundled Outreach

CCSE staff gave presentations on the CSI-Thermal Program at the following events: Energy Outwest Conference in Reno, Nevada on May 6, 2010; American Council Energy-Efficient Economy Hot Water Conference in Ontario, California on May 13, 2010; American Solar Energy Society National Solar Conference in Phoenix, Arizona on May 21, 2010; Bright Green Future in San Diego, CA on November 4, 2010 (Residential audience) and November 5, 2010 (Business audience).

CCSE conducted four local events in San Diego, California at which presentations on the CSI-Thermal Program were delivered: Solar Day on June 19, 2010, Kensington Clean Energy Festival on June 26, 2010, Family Energy Day on September 12, 2010; and Clean Energy Conference on September 16, 2010.

Additional local events conducted by CCSE to showcase solar water heating included the following:

- Solar Water Heating give-away contest, which ran through the month of September. CCSE found a manufacturer to donate a system and an installer to donate installation services for this promotion;
- Commercial Solar Tour on September 14, 2010, included two solar thermal projects on multifamily building; and
- Solar Homes Tour on October 1, 2010, showcased 50 homes, many of which had solar water and/or solar pool heating systems.

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Alliances and Co-Promotions

CCSE has worked to build relationships with solar thermal industry organizations to facilitate market awareness and collaboration. CCSE's solar water heating engineer, Skip Fralick, was voted onto the Board of Directors with the Solar Rating and Certification Corporation (SRCC). Additionally, Mr. Fralick was invited to chair a technical sub-committee with the International Association of Plumbing and Mechanical Officials (IAPMO). Through these two roles, Mr. Fralick is working to bring together and streamline the language and processes of SRCC and IAPMO.

CCSE also participates in monthly conference calls with the Department of Energy's Utility Solar Water Heating Initiative (USH2O), and was asked to provide a CSI-Thermal update on the following conference calls: May 12, 2010, June 8, 2010, August 17, 2010, and October 19, 2010.

Green Building Alliance of SD Regional Chamber- presentation at July 28, 2010 meeting

Newspaper and Magazine

CCSE staff wrote three articles for *Solar Today* magazine on the CSI-Thermal Program:

- November 2009 - December 2009: Article by Katrina Phruksukarn: "California Plans \$300 Million Solar Water Heating Program," *Solar Today*, November/December 2009, p. 15: <http://www.solartoday-digital.org/solartoday/20091112?pg=15#pg15>
- June 2010: Article co-authored by Katrina Phruksukarn: "Solar Broadens its Appeal in California," *Solar Today*, June 2010, p. 24: <http://www.solartoday-digital.org/solartoday/201006?pg=24#pg24>
- November 2010 - December 2010: Article co-authored by Katrina Phruksukarn and Jordan Iantorno: "Achieving Solar Thermal Market Transformation," *Solar Today*, November/December, p. 42: <http://www.solartoday-digital.org/solartoday/20101112?pg=42#pg42>

Additionally, CCSE purchased advertising space for the CSI-Thermal program in the following publications:

- Union Tribune, April 15, 2010;
- San Diego News Network, April 21, 2010;
- Construction Leaders Today, April 22, 2010;
- North Park News, May 18, 2010;
- Small Business Resource, June 2010; and
- Edible San Diego, September to December 2010.

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Public Relations/Media

CCSE staff was interviewed by KPBS on the CSI-Thermal Program:

- February 5, 2010: KPBS interview of Katrina Phruksukarn, CCSE CSI-Thermal Program Manager, on “San Diego Weekly”:
<http://www.kpbs.org/news/2010/feb/05/benefits-solar-water-heaters/>
- February 15, 2010: KPBS interview of Jordan Iantorno, CCSE CSI-Thermal Assistant Program Manager, on “These Days”:
<http://www.kpbs.org/news/2010/feb/15/going-solar-san-diego/>

Radio Tags/Public Service Announcement (PSA)

CCSE ran radio tags on KPBS on May 31, 2010, and daily from July 19, 2010 - October 31, 2010, to promote solar water heating homeowner’s workshops, Solar Day, and Kensington Clean Energy Festival.

Website 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, how to apply for an incentive, upcoming workshops, program documents, resources for installers, solar thermal vendors, and latest news on solar water heating. This information is updated frequently to maintain current information.

5.3.2. Pacific Gas & Electric

Hands-On Training

The CPUC identified as a market barrier to solar water heating adoption a lack of trained installers. As a result, PG&E decided to address this barrier in the early stages of the program in hopes that there would be enough qualified solar water heating contractors to meet the expected demand that the CSI-Thermal Program would create.

PG&E partnered with Diablo Valley College (DVC) to provide a hands-on Solar Water Heating Training Course. DVC is a leader in providing alternative energy training, and has a state of the art training facility with established solar water heating qualifications and resources. DVC was able to quickly customize a curriculum that suited the need to provide this training close to the launch of the CSI-Thermal Program.

PG&E offered the class to candidates possessing a valid California contractor’s license with the intention that upon completion of the training, participants would expand their business to provide solar water heating installations. Twenty-six students consisting of plumbers, photovoltaic installers, and roofers participated in the six day class which combined classroom work with

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hands-on training. The class was held on three consecutive Fridays and Saturdays in June. All 26 participants completed the training and many have already begun to offer solar water heating as part of their services.

First Incentive Check Ceremony

PG&E paid the first CSI-Thermal incentive to a residential customer in Walnut Creek, California. To honor this milestone, PG&E participated in a first check ceremony in which a company Director presented the check to the customer.

Local officials and media representatives were on hand to celebrate the event. The following articles were written as a result:

- June 30, 2010, Contra Costa Times article by E. Nardi, entitled “Walnut Creek Family Gets First PG&E Check in the State for a Residential, Solar-Hot Water Heating System.”
- June 30, 2010, KGO News article entitled “PG&E Hands Out First Solar Water Heater Rebate.”

CSI-Thermal Workshop

PG&E conducted eleven CSI-Thermal Program workshops for contractors and self-installers. Over 600 attendees participated in these workshops, which spanned various areas within the PG&E service territory.

Solar Water Heating Beginner Courses

In addition to the CSI-Thermal Program Contractor and Self-Installer Workshop, PG&E offers introductory solar water heating courses at various locations throughout the service territory. These courses are intended to provide solar water heating technology and market information to individuals looking to get into the business or looking to have a system installed on their property.

Online Updates and Training Courses

PG&E has found that providing online courses is an effective way to reach customers throughout the vast service territory. Over the past few months, PG&E has offered two different online courses dedicated to solar water heating: CSI-Thermal Program Overview and Updates and Solar Water Heating Basics.

- **CSI-Thermal Program Overview and Updates:** The goal of this course is to introduce interested parties to a general overview of the CSI-Thermal Program. Because the program has changed since its inception, this class also provides specific updates to industry member who have already participated in the CSI-Thermal Program Contractor and Self-Installer Workshop. PG&E had provided four of these online courses since the May 1, 2010 CSI-Thermal Program launch.

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- **Solar Water Heating Basics:** The goal of this course is to provide an overview of solar water heating technologies to individuals looking to gain high level information.

Website Development

PG&E has created a dedicated CSI-Thermal Program landing page from the company website: <http://www.pge.com/csithermal>

This webpage provides detailed information on the CSI-Thermal Program as well as FAQs, related links, and program documents. The website is updated frequently with program changes.

5.3.3. Southern California Edison

Training and Education

SCE, in partnership with SoCalGas, offered monthly CSI-Thermal Contractor and Self-Installer Training in the service territory. Since the inception of the CSI-Thermal Program, five classes have been completed at the SCE training facility with over 80 participants in attendance.

In addition, SCE leverages its existing trainings such as CSI Homeowner Solar Class, CSI Contractor Solar Class and CSI Commercial Solar Workshops to promote the CSI-Thermal Program to two key audiences – homeowners and solar contractors.

Bundled Outreach

SCE promoted the CSI-Thermal Program in city-wide Earth Day events in Santa Monica, Santa Barbara and Long Beach, cities which have shown a high propensity to “go solar.”

SCE participated in the Santa Barbara Community Environmental Council's Solar SUNday event. In addition, SCE took part in the energy/sustainability fairs held by the City of Monrovia, Alhambra and Frazier Park. Program information and fact sheets were distributed at each of these events.

Website Development

Prior to the launch of the program, SCE created a dedicated website for the CSI-Thermal Program that 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>.

SCE regularly updates its website as the program continues to evolve.

Public Relations/Media

SCE worked with internal public relations staff to announce the launch of the CSI-Thermal Program through various media outlets.

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Internal Collaboration/Integration

In collaboration with Edison's Energy Center, a solar water heating system was co-sponsored as part of an advanced technology center display that will showcase SmartConnect and associated Zero Net Energy technologies. The solar water heating system is placed in a highly visible location in the garage open ceiling/raft area. Customers are encouraged to conduct their own research towards meeting their energy savings goal through integration of various energy efficiency measures and technologies.

5.3.4. Southern California Gas Company

Training and Education

In an effort to increase adoption of solar water heating systems and increasing the number of trained installers, SoCalGas in collaboration with SCE coordinated and contracted with Alternative Energy Systems Consulting (AESC) to provide and deliver the mandatory contractor and self-installer training course. To ensure that overlapping SoCalGas and SCE service territories were covered by both utilities, the training courses alternated every other month between SCE and SoCalGas training facilities. SoCalGas' course was offered at its Energy Resource Center in Downey, California.

Media Events, Public Forums and Workshops

In addition to participating in forums and workshops with the other PAs, SoCalGas participated at the Los Angeles Business Council-Solar Leadership Roundtable, School Symposium for higher education, Women in Green Conference, Hotel & Lodging Conference, Solar Santa Monica, and the Southern California Air Quality Management District Clean Air Conference.

Call-in Center

SoCalGas has been providing fact sheets and information updates to its Customer Contact Center, 1-800-GAS-2000, in an effort to answer and address solar water heating questions and program inquiries. Interested participants are also provided information and links to the SoCalGas CSI-Thermal Program website in an effort to direct and address the caller's questions.

SoCalGas also set up a generic email address – swh@socalgas.com - for solar water heating inquires and regularly monitors the email inbox.

Website Development

SoCalGas developed and regularly updates its CSI-Thermal Program website: <http://www.socalgas.com/rebates/solar>.

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The website provides program information, program benefits, training courses, application requirements along with links to other relevant information.

Account Executive Collaboration

SoCalGas held forums and made presentations to its Account Executives to educate the staff on the CSI-Thermal program. Through contact with SoCalGas customers, the Account Executives have been able to generate customer interest and opportunities.

6. Conclusions

To launch the CSI-Thermal program by May 1, 2010, the PAs worked diligently with the Energy Division and gathered input from the solar water heating industry to ensure a comprehensive program that meets the goals of the program.

Participation has been slow initially; however, the volume of applications is steadily increasing. Once the market facilitation plans are approved by the CPUC, more marketing activities will be implemented to further promote the program and increase participation.

The launch of the multi-family/commercial portion of the program should attract larger solar water heating system installations.

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.