

California Solar Initiative Thermal Program

Quarterly Progress Report

(October 1 – December 31, 2014)

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Center for Sustainable Energy™



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1. Executive Summary

1.1. Introduction

SoCalGas (SCG), on behalf of the California Solar Initiative (CSI) Thermal (CSI-Thermal) Program Administrators (PAs),¹ submits this Fourth Quarter (Q4) 2014 Progress Report for the CSI-Thermal Program (Report), 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.²

This report provides an overall qualitative and quantitative review of the CSI-Thermal Program from January 1, 2010 through December 31, 2014. It also highlights the program's progress and achievements for the quarter. The report has been divided into several sections covering topics such as program budget, eligibility requirements, incentive structure, program expenditures, market facilitation activities, and regulatory updates.

1.2. Key Report Highlights

As we proceeded into the fourth quarter of 2014, the PAs and engineers finalized their discussions addressing questions and issues regarding the new solar pool heating system subprogram. The industry, including the California Solar Energy Industries Association (CALSEIA) and other individuals, provided valuable input in an effort to prepare a Petition to Modify (PTM) to further enhance the program. This Decision granting the PTM (D.15-01-035) was approved by the Commission on 1/29/15.

CSE, on behalf of the CSI-Thermal PAs, filed a Tier 2 Advice Letter (AL) on August 20, 2014, to propose a decrease in incentive rates for solar pool heating systems (in compliance with Assembly Bill (AB) 2249 and D.13-08-004), as well as, other amendments to the CSI-Thermal Program Handbook. The CSI-Thermal PAs believe that the current \$7 per therm rate is overly generous and offsets a higher than anticipated portion of the installation costs. Lowering the incentive rates (to \$3-\$5 per therm) will meet the needs of the majority of the SWH community and will continue to promote and encourage the installation of solar pool heating systems. In addition, the PAs submitted revisions to the CSI-Thermal Program Handbook to further simplify the application submittal process and clarify various sections, such as rebate levels and installation requirements.

On September 9, 2014, California Solar Thermal, Inc. (CST) filed a protest to the AL.

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

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

On September 16, 2016, the PAs filed a reply to the protest. In their reply, the PAs contended that the protest is without merit and recommended that the Commission reject it and approve the AL as filed.

On December 1, 2014, the CPUC issued a Letter of Disposition supporting the AL and the proposed revisions to the Handbook. The protest was dismissed without merit. The \$5 per therm incentive rate for pools became effective on December 12, 2014. The remaining changes to the AL and the Handbook became effective 45 days from the date of the Disposition Letter, on January 15, 2015. In conjunction with the reduction to the pool incentive rate, the pool calculator wind factor was reduced from 0.5 to 0.3, making the pool calculator wind factor consistent with the wind factor used for the domestic hot water calculator.

2. Introduction

2.1. Program Background

In January 2007, the CPUC launched the CSI program, a \$2.16 billion ratepayer-funded incentive initiative 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; however, the CPUC deferred eligibility for SWH technologies under the CSI until a pilot program for SWH technologies was conducted in the service territory of San Diego Gas & Electric Company (SDG&E). Starting in July 2007, CSE administered a \$2.59 million pilot program for SWH incentives in SDG&E's service territory (Pilot Program). In D.08-06-029, the Commission extended the Pilot Program until the earlier of December 31, 2009, or when the budget was exhausted.

In 2007, Governor Arnold Schwarzenegger signed AB 1470 (Stats. 2007, ch. 536),⁴ which authorized the CPUC to create a \$250 million incentive program to promote the installation of 200,000 natural gas-displacing SWH systems on homes and businesses 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,⁵ allocating funds for both natural gas-displacing and electric-displacing SWH systems and other solar thermal technologies, in the service territories of California's major investor-owned utilities. The CPUC established the

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

⁴ Public Utilities Code § 2860-2867

⁵ D.10-01-022

incentive structure, program administration details, and other key CSI-Thermal Program rules. The CPUC designated PG&E, SCG, SCE, and CSE (for SDG&E's service territory) as the PAs for the CSI-Thermal Program. The PAs launched the single-family residential program in May 2010 and the commercial/multifamily program in October 2010.

On October 13, 2011, the CPUC issued D.11-10-015, effective on October 6, 2011, which authorized the low-income component of the CSI-Thermal Program. The \$25 million budget for CSI-Thermal low-income SWH incentives is funded by collections from gas ratepayers pursuant to AB 1470, as previously established in D.10-01-022. The low-income program was launched in March 2012.

On August 6, 2012, the Commission issued D.12-08-008, effective on August 2, 2012, which modified the incentive structure for the single-family and multifamily/commercial mainstream programs. The new rates were incorporated into the program on October 4, 2012, and were applied to projects that were in application review as of July 4, 2012.

On March 6, 2013, the CPUC issued D.13-02-018, effective February 28, 2013. This decision modified the CSI-Thermal Program to provide incentives to process heat applications, solar cooling technologies, space heating technologies and systems that combine multiple applications. In addition, this decision modified the way rebates are paid to certain systems under the program by creating a performance-based incentive system that will pay rebates based on actual metered energy delivered to the facility.

On August 19, 2013, the CPUC issued D.13-08-004, effective August 15, 2013. The decision modified the CSI-Thermal Program to provide incentives for solar pool heating systems for all applications with the exception of single-family residential systems. The decision required the PAs to develop a pool calculator based on the TRNSYS Type 344 model and incorporate the solar pool heating program into the existing commercial/multifamily incentive budget.

The CSI-Thermal Program is designed to significantly increase the adoption rate of SWH technologies in the California marketplace. The budget as noted above was authorized by AB 1470 and by Senate Bill (SB) 1. 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 decline over the life of the program in four steps to facilitate market transformation.

Additional information regarding program goals, budgets, incentive structures, and eligibility can be found in detail in the CSI-Thermal Program Handbook.⁶

⁶ The CSI-Thermal Handbook is located at http://gosolarcalifornia.org/documents/CSI-Thermal_Handbook.pdf.

3. Program Expenditures

From program inception through December 31, 2014, CSI-Thermal Program expenditures totaled \$54,510,552. Table 1 illustrates the detailed expenditures by PA followed by a breakdown of expenses specific to the natural gas and electric/propane-displacing programs for the reporting period as represented in Table 2 and Table 3.

Program expenditures consist of, but are not limited to, administration activities, such as application processing, continued enhancement of the statewide online database, mandatory contractor and self-installer training, local and statewide marketing efforts, activities related to potential program expansion, and administrative staffing support.

Table 1: CSI-Thermal Expenditures by PA

Natural Gas and Electric/Propane					
CSI-Thermal Program Expenditure Data January 1, 2010 to December 31, 2014					
Expenditure Type	CSE	SCE	PGE	SCG	Total
Administration	\$1,718,191	\$826,781	\$4,053,885	\$2,811,726	\$9,410,583
Market Facilitation	\$1,730,050	\$843,833	\$6,309,187	*\$7,544,459	\$16,427,529
Measurement & Evaluation	\$16,804	\$1,427	\$8,074	0	\$26,305
Incentives Paid	\$4,822,056	\$62,997	\$10,459,381	\$13,301,701	\$28,646,135
Total	\$8,287,101	\$1,735,037	\$20,830,528	\$23,657,886	\$54,510,552

* This amount also includes total Statewide M&O expenses, including allocations to be reimbursed by other PAs.

Table 2: CSI-Thermal Expenditures by PA (Natural Gas)

Natural Gas				
October 1 – December 31, 2014				
Expenditure Type	CSE	PG&E	SCG	Total
Administration	\$51,276	\$193,857	\$189,194	\$434,327
Market Facilitation	\$90,875	\$688,835	*\$433,463	\$1,213,173
Measurement & Evaluation	\$3,372	\$0	\$0	\$3,372
Incentives Paid	\$166,430	\$677,762	\$2,280,032	\$3,124,224
Total	\$311,953	\$1,560,454	\$2,902,689	\$4,775,096

* This amount also includes total Statewide M&O expenses, including allocations to be reimbursed by other PAs.

Table 3: CSI-Thermal Expenditures by PA (Electric/Propane)

Electric/Propane				
October 1 – December 31, 2014				
Expenditure Type	CSE	PG&E	SCE	Total
Administration	\$9,724	\$0	\$29,875	\$39,599
Market Facilitation	\$22,677	(\$10,714)*	\$57,887	\$69,850
Measurement & Evaluation	\$827	\$0	\$0	\$827
Incentives Paid	\$0	\$0	\$0	\$0
Total	\$33,228	(\$10,714)	\$87,762	\$110,276

* This amount represents activity type time corrections from previous period.

4. Program Progress

During Q4, the CSI-Thermal Program launched a new solar thermal statistics website, which can be found at <http://csithermalstats.org/>. This website provides vital program statistics in easy-to-read charts and graphs, offers access to the program’s master data set, and includes resources for customers to find a local contractor.

When contractors or homeowners apply for incentives with the CSI-Thermal Program, they provide data about their residence or business and the solar thermal system they will install. California Solar Thermal Statistics analyzes selected data expected to be of greatest interest to the public. The data is updated every other week.

The View Solar Thermal Statistics menu provides the following program data: Program Totals, Statistics by Application Status, Quarterly Series Comparisons, Statistics by County, Statistics by Climate Zone, Cost by System Size, Applications by Sector, Savings Distribution, Budget Reports, and Data Annex. The dynamic filters on each figure allow you to slice and dice the program data to suit research and evaluation needs.

Data from past quarterly reports can be recreated and tracked with current data using the CSI-Thermal Stats site including but not limited to program budgets, costing data, and incentive step levels.

4.1 Turnaround Times

The PAs strive to process reservation requests and incentive claim requests within 30 days or less for both single-family residential and multifamily/commercial applications to ensure that projects move forward as quickly as possible. Tables 4 through 6 reflect the reporting period from October 1 through December 31, 2014.

Table 4 shows the most recent application processing timeframes (between the "Reservation Application Review" and "Reservation Application Approved" stages) for 2- or 3-step multifamily/commercial project applications. This metric represents the amount of time it took to reserve incentives for a multifamily/commercial project.

Table 5 shows the time from Application Review to Incentive Approval for 1-step – Single-Family Residential project applications. The time measured in the processing time tables includes both PA application processing time and the time taken by the host customer to respond to requests for more information or application corrections.

Table 6 shows the Time from Application to Incentive Approval for 2- and 3-step-multifamily/commercial project applications.

Applications that require the PAs to take more than 60 days to approve typically have outstanding issues that require resolution or input from the Applicant and/or customer. Issues encountered from these applications include, but are not limited to:

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

Table 4: Multifamily/Commercial Application Processing Times by Program Administrator between "Reservation Application Review" and "Reservation Application Approved" Stages

Program Administrator	30 Days or Less	60 Days or Less	Greater than 60 Days	Total
	Q4	Q4	Q4	
Multifamily-Commercial				
CSE	86.96%	91.30%	8.70%	23
PG&E	93.18%	100.00%	0.00%	44
SCE	0.00%	0.00%	0.00%	0
SCG	72.37%	93.69%	6.31%	333

Table 5: Processing Time from Application Review to Incentive Approval (1- Step – Single-Family Residential)

Program Administrator	30 Days or Less	60 Days or Less	Greater than 60 Days	Total
	Q4	Q4	Q4	
No Inspection: Percentage of applications without inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	100.00%	100.00%	0.00%	1
PG&E	97.37%	100.00%	0.00%	38
SCE	0.00%	0.00%	0.00%	0
SCG	62.50%	100.00%	0.00%	16
Inspection: Percentage of applications with inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	0.00%	0.00%	0.00%	0
PG&E	90.00%	100.00%	0.00%	10
SCE	0.00%	0.00%	0.00%	0
SCG	40.00%	60.00%	40.00%	10
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	100.00%	100.00%	0.00%	1
PG&E	88.68%	100.00%	0.00%	53
SCE	0.00%	0.00%	0.00%	0
SCG	28.00%	64.00%	36.00%	25

Table 6: Processing Time from Application Review to Incentive Approval (2-and 3-Step - Commercial or Multifamily Residential)

Program Administrator	30 Days or Less	60 Days or Less	Greater than 60 Days	Total
No Inspection: Percentage of applications without inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	100.00%	100.00%	0.00%	3
PG&E	100.00%	100.00%	0.00%	17
SCE	0.00%	0.00%	0.00%	0
SCG	95.24%	98.81%	1.19%	84
Inspection: Percentage of applications with inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	10.00%	50.00%	50.00%	10
PG&E	57.14%	100.00%	0.00%	7
SCE	0.00%	0.00%	0.00%	0
SCG	63.33%	93.33%	6.67%	30
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	27.27%	54.55%	45.45%	11
PG&E	50.00%	100.00%	0.00%	14
SCE	0.00%	0.00%	0.00%	0
SCG	8.99%	69.66%	30.34%	89

5. Market Facilitation

5.1 Statewide Market Facilitation Plan for 2014

The 2014 Statewide Market Facilitation Plan was submitted to the CPUC for approval on October 1, 2013 and was approved on November 12, 2013.

2014 Statewide Market Facilitation Plan

The statewide market facilitation plan concluded on November 30, 2014. The statewide facilitation plan leveraged the following media channels: Broadcast, digital, mobile, social media, and paid search to promote SWH. Some examples of 2014 campaign achievements include:

- Delivered 146MM multi-media impressions; previous year (2013): 107MM
- Drove over 312,000 visits to the statewide landing page, waterheatedbythesun.com
- 13,274 unique prospects to utilities websites; previous year (2013): 9,954
- Reached over 4.7MM households via our broadcast footprint

2014 Statewide Post-Wave Research

The statewide M&O representatives conducted a Post-Wave II research initiative to assess the effectiveness of the 2014 statewide campaign and measure key objectives. Research areas aligned with those of the Post-Wave I (April 2012 – June 2013) for comparative purposes. Travis Research is the firm leading the initiative alongside our agency of record, Phelps Total Market. High-level findings are scheduled to be shared with CPUC representatives and the PAs during February's PA call.

2015 Statewide Decision

On August 21, 2014, the PAs jointly decided not to commit funds toward a collaborative statewide media plan during 2015 in order to provide each PA an opportunity to concentrate on local marketing efforts. This shift in approach will enable each individual PA to leverage the foundation of the statewide campaign, including creative assets. In addition, it will enable the PAs to take a more concentrated and targeted approach to increasing program awareness and encouraging adoption of SWH on a local level.

5.2 Other Activities

The M&O representatives provided an update during the CSI Public Forum on November 19, 2014, as well as provided marketing updates to Energy Division staff via conference calls on regular basis during Q4.

5.3 Mandatory CSI-Thermal Program Workshops

Contractors and self-installers are required to attend a designated, no-cost CSI-Thermal Program training workshop. The PAs conduct training courses in their respective program territories. The workshops are publicized on each PA's website as well as the GoSolarCalifornia website.⁷ As part of the statewide effort, the PAs coordinated this activity and developed a one-day Contractor and Self-installer 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

⁷ <http://gosolarcalifornia.org/>.

requirements, and additional related resources. Upon completion of this mandatory CSI-Thermal Program training workshop and meeting other requirements, Applicants receive a unique alphanumeric key that allows them to register on the web-based, online statewide application database and be eligible to apply for CSI-Thermal Program incentives in any PA territory.

Table 7 shows the number of workshops held in each service territory during Q4 2014 and the number of attendees. As of December 31, 2014, there are 565 licensed eligible solar contractors statewide.

Table 7: Mandatory CSI-Thermal Workshops Held by Program Administrator

	Q4 2014	
PA	Number of Workshops	Number of Attendees
CSE	1	4
PG&E	1	12
SCE ⁸	0	0
SCG ¹⁴	2	31
Total	4	47

5.4 PA-Specific Marketing Efforts

5.4.1 Southern California Gas Company

In an effort to increase adoption of SWH systems and the number of trained installers, SCG continued collaborating with SCE and Alternative Energy Systems Consulting (AESC) to provide mandatory contractor and self-installer training courses. To ensure overlapping SCG and SCE service territories were covered by both utilities, training courses alternated every other month between SCE and SCG training facilities. SCG’s course was offered at its Energy Resource Center in Downey, California. SCG hosted two workshops with 31 attendees during Q4 2014.

Trade Shows and Events

SCG promoted the CSI-Thermal Program as an exhibitor at the following shows and events during Q4. At each venue, statewide brochures and promotional items were distributed.

⁸ Contractors and self-installers can attend classes offered by either SCE or SCG. SCE and SCG alternate locations each month to cover overlapping service territories. SCE cancelled their scheduled classes in Q4 2014 due to lack of enrollment.

Solar co-sponsored with other SCG Programs

10/10/2014	Southern California Energy Summit
10/15/2014	Million Dollar Trade Show and Landlord Conference
10/18/2014	Taste of Soul
10/18/2014	San Bernardino Home Show
10/18/2014	Desert Aid Walk
10/18 & 19/2014	Calabasas Pumpkin Festival
10/30/2014	Coachella Valley Association Economic Summit
12/5, 6, & 7/2014	Steller Desert Living Home Show

Solar Microsite

SCG completed the project to revamp the general look and feel of the SCG solar microsite, solarwaterheating101.com. It went live on November 7, 2014. When consumers go to the microsite, they will see images and ideas consistent with the overall SCG messaging strategy and can find information on different types of systems and rebates. During Q4, the microsite received 79,066 visits.

Local Market Facilitation Plan

SCG's local facilitation plan concluded on November 30, 2014. The local facilitation plan leveraged the following media channels: Broadcast, radio, print, digital, mobile, social media, Sunset sponsorship, and grassroots/experiential to promote SWH. Some examples of 2014 campaign achievements include:

- Delivered 98MM multi-media impressions;
- Over 53k consumers engaged with our solar mobile unit
- Drove 276,343 visits to the solarwaterheating101.com landing page; and
- Reached over 2.1MM households via our broadcast footprint.

2015 CSI-Thermal Local Media Plan

The 2015 SCG local facilitation plan was submitted to the CPUC on October 1, 2014 for review. The 2015 plan is designed to build upon the current messaging strategy, strengthening the SWH message at localized/community levels. The 2015 program will activate based on the following key platform strategies:

- Leverage 2014 messaging strategy to create an integral local-level campaign to increase awareness
- Evolve the experiential component for residential and business customers to continue familiarity with the systems and target audience benefits
- Further define the commercial messaging strategy highlighting the financial benefits
- Optimize tactical communications through an integrated media approach

5.4.2 Center for Sustainable Energy

Summary

Q4 2014 was an active administrative quarter for CSE. Among some of the primary M&O-related tasks were developing and filing the 2015 Marketing & Outreach Plan and budget, closing out the statewide M&O campaign in partnership with the statewide PAs, coordinating with Energy Solutions on the development of a new contractor search widget, reviewing previous campaign performance insights, and responding to a CPUC data request.

Training and Education

CSE conducted the following SWH workshops in Q4 2014. A brief description of each workshop follows.

Workshop Title	Date	Attendees
Skip's Tips	10/15/2014	6
Solar Water Heating Basics for Homeowners	10/16/2014	11
Skip's Tips	11/18/2014	2
How to Become an Eligible Contractor in the CSI-Thermal Program	11/21/2014	4
Solar Water Heating Basics for Homeowners	12/11/2014	10

Solar Water Heating Basics for Homeowners

This workshop is for residents seeking to learn more about the advantages and potential benefits of SWH technology.

How to become an Eligible Contractor in the CSI-Thermal Program

Attendance at this contractor and self-installer workshop is a prerequisite for becoming an eligible contractor under the CSI-Thermal Program.

Skip's Tips

Led by CSE's solar water heating technical expert, Skip Fralick, this workshop covers advanced solar thermal topics. The workshop format usually includes a focus on a particular industry segment and/or thermal technology.

Workshop Promotion

CSE leveraged the following in-house communication platforms during Q4 2014 to help promote SWH and available workshops:

- *Roundup Newsletter*: CSE publishes a bi-weekly e-mail calendar that features all CSE-hosted workshops offered in California. This newsletter is sent to over 14,500 subscribers and continues to be an effective medium for promoting CSI-Thermal Program workshops.
- *CSE's online calendar*: Features all of CSE's events and workshops and is one of the most active pages on CSE's website.
- *Facebook, Twitter and LinkedIn*: CSE has an active presence on Facebook, Twitter and LinkedIn. These social media channels connect CSE to a green-minded audience and provide a fruitful platform for engaging with the community as well as sharing CSI-Thermal Program updates, promoting workshops and spreading awareness of SWH. In addition to occasional posting about solar thermal and upcoming workshops, CSE has also found recent success with Facebook newsfeed advertising which has proved to be an effective medium for highly-targeted digital campaigns.

Marketing Activities by Audience Segment

a) Residential

CSE has long recognized the challenging economics associated with adoption of SWH within the San Diego residential market. As previous marketing efforts have proven unable to overcome the lengthy payback period associated with residential SWH, CSE has scaled back local marketing and outreach efforts toward this audience segment. In Q4 2014, CSE offered two residential workshops to sustain a baseline level of awareness in the residential market.

Workshops

CSE recognizes that workshops remain an important component to increasing awareness of SWH and educating the community about the benefits of water heated by the sun.

Due to the challenging residential solar water heating value proposition, CSE relied upon low and no-cost promotional tactics to promote SWH workshops during Q4. By focusing marketing efforts on more efficient vehicles (i.e., the Roundup Newsletter and CSE events calendar), CSE has maintained a lean residential marketing budget while continuing to stimulate interest in SWH.

Print advertising

Recognizing that high-income homeowners may be more willing to invest in SWH despite the long-term financial payback, CSE began targeting high-income households during Q4 2014 via print ads in two luxury home magazines. While CSE seeks to measure performance of these ads by monitoring web traffic to the residential CSI-Thermal Program landing page, this print campaign strategy is primarily an awareness approach and intended to stimulate interest and understanding of SWH among this target market segment.

Dream Homes – October, November, December 2014

Monthly Distribution: 18,000 (print)

Direct web referrals: 1

San Diego Home & Garden – November 2014

Monthly distribution: 26,714

Monthly readership: 189,560

Direct web referral: 6

Recognizing that the value of subscription magazine advertising is a longer term strategy, CSE plans to continue advertising in the above two publications during 2015 with occasional creative refresh and optimizations throughout the year. If CSE continues to observe poor performance in terms of web traffic through Q2 2015, we will reassess creative and messaging and then consider discontinuing this targeted print strategy for the remainder of 2015.

b) Commercial

Almost every business uses hot water, whether it is for hand sinks and showers or high-volume commercial dishwashers, heavy-duty laundries, pools or industrial processes. The focus of Q4 marketing efforts for commercial solar thermal consisted of furthering exploratory research efforts with the goal of identifying promising target industries in San Diego.

Commercial/ Industrial Lead Generation

The CSI-Thermal Program participated in the development of the Clean Energy Assessment tool, a free online assessment that assists commercial property owners/managers in discovering clean energy technologies that are most favorable for their business operations. CSE made multiple UX improvements to this tool during Q4 2014 and plans to more actively promote the tool to facilities managers, property managers and energy engineers in 2015.

Case Study

CSE developed a SWH case study on the Lakehouse Hotel & Resort. This case study was prominently featured on CSE's home page as well as on the CSI-Thermal Program commercial and multifamily pages during Q4 2014.

Building Industry Engagement

The building industry had previously not been considered a high priority target audience for CSE's SWH marketing efforts. In response to recent research insights, however, it has become clear that targeted education and outreach directed toward building industry professionals (i.e., builders, developers, architects and general contractors) could be advantageous for stimulating SWH projects in the San Diego region.

In Q4 2014, CSE began fostering a relationship with the local San Diego chapter of the Building Industry Association (BIA). CSE intends to leverage a new organizational BIA membership during 2015 to increase SWH awareness and understanding among the building industry audience.

c) Multifamily

With nearly half of San Diego County's 3 million residents currently living in rental housing, the multifamily market presents a promising opportunity for SWH adoption in San Diego.

Recognizing an increased interest by contractors in the multifamily sector, CSE began planning an integrated campaign including paid and earned media while exhibiting at local events to target property owners. The multifamily campaign first launched with a webinar in Q3 2014 and continued through Q4 with sustained advertising directing multifamily property owners to visit CSE's solar water heating landing page to learn more.

Print Advertising

The San Diego County Apartment Owner's Association (SDCAA) email newsletter is distributed twice per month to over 4,200 members (multifamily apartment owners and managers) in San Diego County. According to Multibriefs, the organization that handles the SDCAA Advisor email distribution, the newsletter generally receives a 33.33% open rate and provides an average of 1,454 impressions per issue.

During Q4 2014, the SDCAA Advisor email newsletter provided a relatively low-cost way to reach the highly desirable multifamily target audience. Although CSE messaging performed well in relation to industry averages, the number of ad clicks fell off during Q4 2014.

The recent "falling off" during Q4 could be the result of stale creative that needs to be refreshed or competing end-of-year priorities for the newsletter's audience. Recent website updates were also implemented to provide more content and opportunities for interaction, and CSE will be tracking page views closely in 2015. Additionally, CSE began exploring other opportunities with SDCAA to create a more integrated campaign that better leverages paid media and content marketing opportunities in 2015.

SDCAA "Rental Owner" Magazine

- a) Ran ½ page ad in SDCAA's October 2014 Rental Owner magazine distributed to over 2,000 multifamily property owners in San Diego

Digital banner ads in SDCAA's bi-weekly email newsletter

- b) Ran six (6) ads for an average click-thru rate of 0.22% and a total of 9,575 impressions

Web Development

CSE's website devotes several pages to CSI-Thermal Program-specific information at www.energycenter.org/swh. These pages are updated frequently to ensure CSE's CSI-Thermal Program website remains an engaging, accurate and up-to-date resource for local homeowners and businesses who want to learn more about SWH and available rebates.

CSE Website Optimization

In addition to routine updates to CSI-Thermal Program web content (e.g., news, program updates, SEO improvements, etc.), CSE also undertook a more comprehensive website optimization effort in Q4 2014. These updates are expected to go-live for all three audience segments (i.e., homeowner, multifamily and commercial) in early 2015.

Web optimizations were guided by past performance insights collected during 2014 and include an improved user experience that more effectively funnels users to highly sought-after content and the critical first step of contacting a contractor.

In order to keep web traffic flowing to the CSI-Thermal webpages in the wake of the CSI-Thermal Statewide digital media campaign, CSE has also included the continuation of a digital media campaign effort within its 2015 M&O Plan. Q4 involved preliminary planning for the 2015 digital campaign effort, which will utilize search engine optimization, digital banner ads, and paid search tactics to direct users to the newly revised SWH landing pages on CSE's website.

CSI-T Contractor Search Widget

During Q4, CSE continued to coordinate and oversee the development of a new contractor search function in partnership with Energy Solutions. The new contractor search "widget" is designed to facilitate interested customers getting in contact with an eligible CSI-Thermal Program contractor and is expected to launch on CSIthermal.com in February 2015. The new widget will also be made available to each PA for embedding on their respective websites. The embedded widget will enable each PA to keep prospective customers on their own website rather than directing already-engaged users to a third-party website (CSIthermal.com) in order to take the next step.

The screenshot displays a web interface for finding contractors. On the left, the 'Find Contractors' section includes a search box with '92103', a 'Proximity (miles)' dropdown set to '15', and a checkbox for 'Only show contractors who have installed projects within the past year'. Under 'Project Type', 'Residential' is selected. Under 'Sort by', 'Name' is selected. Below this, '7 Contractor Search Results' are listed:

- CALIFORNIA SOLAR THERMAL INC**
<http://www.californiasolarthermal.com/>
888-867-2611
3 Residential Projects
- CLEANTECH ENERGY SOLUTIONS INC**
<http://www.go-cleantech.com/>
760-744-1001
12 Residential Projects
- SOLAR - TEC SYSTEMS INC**
<http://www.solar-tec.com/>

On the right, the 'Project Locations' section features a Google Map of the San Diego area. A red pin is placed in the central San Diego region, and several blue location markers are scattered across the map, indicating project sites in various neighborhoods like Encinitas, Poway, Santee, and Chula Vista.

5.4.3 Pacific Gas and Electric Company

PG&E has engaged in various and diverse marketing activities in the fourth quarter of 2014 with special emphasis on the key goal of increasing participation in the CSI-Thermal Program. As part of PG&E's ongoing efforts, PG&E continued to offer SWH-related monthly classes and training for customers as well as contractors and self-installers throughout its service territory. In support of driving SWH adoption, PG&E continued executing its multi-channel, multi-touch direct to customer outreach campaign. The outreach activities have consisted of direct mail, email and telemarketing with supporting paid media to further engage customers. While the final campaign results are still being evaluated through the end of November, there were over 13,000 customers who actively responded to our SWH content. Approximately 8,000 customers requested a Solar Water Heating kit, and over 2,000 customers took the next steps of searching for a contractor.

CSI-Thermal Program Workshops

The CSI-Thermal Program held one Contractors and Self Installers Workshop in Q4 2014, which is a mandatory class for all contractors who wish to take part in the CSI-Thermal Program. Normally we would try to offer two or more workshops per Quarter, but encountered scheduling difficulties due to holidays in November and December this year. This workshop was offered in a new location – at the Safety Center in Sacramento, and was well received by attendees. The workshops are vital in conveying program requirements and ultimately help ensure contractors are better prepared to submit CSI-Thermal Program paperwork. All qualifying technologies are covered, as well as some that do not receive incentives, and contractors are instructed on how to use the CSI-Thermal Program database to submit project paperwork and check status. This workshop is required in order to become an eligible installer within the CSI-Thermal Program.

- October 31, 2014 – Contractors and Self Installers Workshop; [Safety Center, Sacramento CA](#). 15 students

Solar Water Heating Informational Courses

PG&E continues to offer customer education and outreach courses online and in-person at our local training centers. Informational and introductory courses provide details on SWH technology, as well as rebate 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 and via the web to ensure optimal access and that attendees do not have to take time off from their jobs to attend.

PG&E has generally conducted three different SWH courses to cover the basics on the program for residential and multifamily/commercial interest:

- **Solar Water Heating Basics:** This course provides an overview of SWH technologies to individuals looking to gain high-level information.

- **Solar Water Heating Systems for Homeowners:** This basic class provides an overview of the design, specification, and installation aspects of SWH systems for residential applications.
- **Solar Water Heating - Advanced Commercial Systems:** This advanced class focuses on key aspects of large-scale SWH systems for commercial applications.

Direct Mail and Email

Approximately 220,000 direct mail pieces and 90,000 emails were sent as a second touch in the fourth quarter, with additional follow-up communications to those who responded to keep them engaged during the purchase cycle. The goal of the campaign was to highlight the benefits of SWH (financial focus for business customers and environmental focus for residential customers), as well as promote the available incentives. Each campaign component had a clear call to action to get a “Solar Water Heating Kit” to aid in taking the next steps of finding a contractor.

The campaign results are currently being evaluated. As of the November 2014, the business direct mail had a response rate of 3.3%, and the residential direct mail had a response rate of 2.0%. The email had a click to open rate of 5.02% for residential and 9.77% for business customers.

Telemarketing

To further facilitate the decision making process, PG&E conducted telemarketing to customers who requested a Solar Water Heating kit, in order to offer information and to answer any additional questions.

As of November 2014, the telemarketing component achieved an overall response rate of 11%. This represents the percentage of customers who were interested in getting a list of contractors to take the next step. This represents a total of 583 customers who subsequently received contractor information.

Online Paid Media

To provide the overarching support for the direct to customer outreach, PG&E continued its digital and paid media of search and online banner ads for IP targeting, search retargeting, retargeting and mobile. These assets were executed through digital partners such as The Trade Desk, 9th Decimal and Magnetic.

Static and Flash banner ads ran until December 21, 2014 in the following sizes:

1. 160x600
2. 300x250
3. 728x90
4. 320x50 (mobile)

As of November 2014, the online campaign delivered over 42 million impressions and 20,000 clicks to the pge.com solar water heating webpages.

5.4.4 Southern California Edison Company

SCE continues its efforts to increase adoption of SWH systems and the number of trained installers by offering the monthly CSI-Thermal Program Contractor and Self-Installer Training.

Because SCE and SCG have overlapping service territories, the two utilities offer the monthly training at their respective energy centers on an alternating basis and cross-promote it on their respective websites as well as in the *Go Solar, California* newsletter. For this reporting period, the class SCE scheduled was cancelled due to lack of enrollment.

A brief description of SCE's other class/workshop offerings, which are promoted via direct mail, on SCE's Energy Center calendar and website, and on the Go Solar California Website, follows:

CSI Commercial Solar Workshop and Webinars — These workshops and webinars are designed for SCE commercial, government and non-profit customers, and provide an overview of the CSI and CSI-Thermal Programs. Attendees learn about the CSI and CSI-Thermal Programs, eligibility requirements, the application and funds reservation process, rebates, and how solar can help customers lower operating costs and demonstrate their company's commitment to environmental stewardship.

During Q4 2014, SCE held three Commercial Solar Workshops in the City of Irvine with a total of 10 attendees. There were two pilot Commercial Solar Connections Events in the City of Irvine, with a total of 17 attendees. There were two webinars with three attendees.

Customer Outreach

SCE participates in conferences, tradeshows, and community-based events as a means to further educate customers about the CSI-Thermal Program and provide continuing program exposure and increase customer awareness. In many cases, SCE leverages the M&O opportunities provided by the CSI general market program to also promote the CSI-Thermal Program. SCE distributed program fact sheets, bid comparison forms, and other related information at the following events:

- Apartment Owners Association, Los Angeles, 10/15/2014
- LPA Community Forum, Long Beach, 10/17/2014
- Solar Power International, Las Vegas, 10/20-23/2014
- CA Green Schools Conference & Exposition, Pasadena 11/5-6/2014
- SCE Water Conference, Irwindale, 11/5/2014

Local Market Facilitation Plan

SCE's local market facilitation efforts leveraged the statewide efforts and focused on potentially high-reward geographic and market segments in SCE's service territory, incorporating a variety of media while using pre-existing creative (with minor SCE-specific adjustments) to help limit unnecessary expenditures.

[SCE Website](#)

SCE has a dedicated section of its SCE.com website to promoting the CSI-Thermal Program at www.sce.com/solarwaterheating.

The pages include detailed information about the program, recent changes to the program, and upcoming Contractor and Self-Installer trainings offered by SCE and SCG.

6. Conclusions

Through Q4 2014, the CSI-Thermal Program has demonstrated a commitment towards improvement and balancing the complex needs of ratepayers, customers, industry, and the marketplace. The PAs continue to advance the tools of the Program, implementing changes when and where appropriate and when scientific or market-based reasons to do so exist.

On December 1, 2014 the CPUC issued a Disposition Letter approving proposed revisions to the CSI-Thermal Program and incentive rates for pools were reduced. Also during Q4 2014, the CSI-Thermal Program launched a new solar thermal statistics website, which provides vital program statistics in easy-to-read charts and graphs. The PAs anticipate that with these enhancements the program will continue to see an increase in program participation, especially in the solar pool heating system program.