

California Solar Initiative Thermal Program

Quarterly Progress Report

(October 1 – December 31, 2015)

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Center for Sustainable Energy



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1. Executive Summary

Center for Sustainable Energy®, on behalf of the California Solar Initiative (CSI) Thermal (CSI-Thermal) Program Administrators (PAs),¹ submits this Fourth Quarter (Q4) 2015 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 July 1, 2010 through December 31, 2015. 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.

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 solar water heating (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 Assembly Bill (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.

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 13 and Appendix A.

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

⁴ Public Utilities Code §§2860-2867.

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 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.

On January 29, 2015, the CPUC issued D.15-01-035, effective January 29, 2015. The Decision modified the CSI-Thermal Program to raise incentive rates for single-family, multifamily, commercial, and low-income applications. Additionally, it increased the maximum rebate allowed for multifamily/commercial applications; reallocated the incentive budget to 10% single-family, 60% multifamily/commercial and 30% solar pools; placed a 50% incentive cap on solar pool systems; and allowed the PAs to make future program changes through the filing of a Tier 2 Advice Letter rather than a Petition for Modification.

⁵ D.10-01-022.

On August 14, 2015, the PAs submitted an Advice Letter to revise the CSI-Thermal Handbook and update the state agency that oversees Targeted Employment Areas, and include Qualified Census Tracts as an option for a presumed resale restriction. The Handbook also updated the definitions and criteria for onsite field inspection processes, including infractions, failures, probation, suspension, and disqualification from the program. The revised Handbook became effective September 13, 2015.

On October 1, 2015, the CPUC issued D.15-10-004 modifying D.11-10-015 and allowing for expansion of the CSI-Thermal Low-Income Program to include customers participating in the Low-Income Weatherization Program (LIWP) and Low-Income Home Energy Assistance Program (LIHEAP).

In the fourth quarter of 2015, SCG and PGE joined CSE in opening a waitlist for low income projects as all three territories have now received enough low income applications to reserve all available low income funds.

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 technologies 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

3. Program Expenditures

From program inception through December 31, 2015, CSI-Thermal Program expenditures totaled \$75,049,408. 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.

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

Table 1: CSI-Thermal Expenditures by PA

Natural Gas and Electric/Propane					
CSI-Thermal Program Expenditure Data January 1, 2010 to December 31, 2015					
Expenditure Type	CSE	SCE	PGE	SCG	Total
Administration	\$1,982,010	\$920,931	\$5,063,917	\$3,502,549	\$11,469,407
Market Facilitation	\$2,005,841	\$902,314	\$7,618,800	\$9,283,989*	\$19,810,944
Measurement & Evaluation	\$22,800	\$1,427	\$31,564	\$1,835	\$57,626
Incentives Paid	\$6,887,615	\$65,193	\$14,423,565	\$22,335,058	\$43,711,431
Total	\$10,898,266	\$1,889,865	\$27,137,846	\$35,123,431	\$75,049,408

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

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

Natural Gas				
October 1 – December 31, 2015				
Expenditure Type	CSE	PG&E	SCG	Total
Administration	\$58,145	\$210,448	\$163,772	\$432,365
Market Facilitation	\$43,142	\$296,637	\$528,486*	\$868,265
Measurement & Evaluation	\$892	\$17,667	\$1,835	\$20,394
Incentives Paid	\$284,614	\$965,135	\$1,377,373	\$2,627,122
Total	\$386,793	\$1,489,887	\$2,071,466	\$3,948,146

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

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

Electric/Propane				
October 1 – December 31, 2015				
Expenditure Type	CSE	PG&E	SCE	Total
Administration	\$10,903	\$0	\$20,504	\$31,407
Market Facilitation	\$10,785	\$0	\$0	\$10,785
Measurement & Evaluation	\$223	\$0	\$0	\$223
Incentives Paid	\$0	\$0	\$0	\$0
Total	\$21,911	\$0	\$20,504	\$42,415

4. Program Progress

The CSI-Thermal Program has a 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 from 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 Statistics 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, 2015.

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	100.00%	100.00%	0.00%	6
PG&E	83.33%	100.00%	0.00%	12
SCE	0.00%	0.00%	0.00%	0
SoCalGas	90.57%	100.00%	0.00%	53

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	0.00%	0.00%	0.00%	0
PG&E	85.71%	100.00%	0.00%	7
SCE	0.00%	0.00%	0.00%	0
SoCalGas	97.56%	98.78%	1.22%	82
Inspection: Percentage of applications with inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	50.00%	50.00%	50.00%	2
PG&E	0.00%	40.00%	60.00%	5
SCE	0.00%	0.00%	0.00%	0
SoCalGas	87.50%	100.00%	0.00%	8
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	50.00%	50.00%	50.00%	2
PG&E	60.00%	80.00%	20.00%	15
SCE	0.00%	0.00%	0.00%	0
SoCalGas	89.36%	96.81%	3.19%	94

Table 6: Processing Time from Application Review to Incentive Approval (2- 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%	13
PG&E	50.00%	100.00%	0.00%	22
SCE	0.00%	0.00%	0.00%	0
SoCalGas	96.77%	96.77%	3.23%	31
Inspection: Percentage of applications with inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	0.00%	28.57%	71.43%	7
PG&E	53.85%	84.62%	15.38%	13
SCE	0.00%	0.00%	0.00%	0
SoCalGas	62.50%	100.00%	0.00%	8
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	61.90%	76.19%	23.81%	21
PG&E	25.93%	51.85%	48.15%	27
SCE	0.00%	0.00%	0.00%	0
SoCalGas	65.96%	93.62%	6.38%	47

5. Market Facilitation

5.1 Statewide Marketing Facilitation Effort

CSI-Thermal Statewide Working Group

The CSI-Thermal Statewide Working Group met on one occasion in October to deliver our Q3 2015 presentation to the CPUC and other IOUs. The remainder of Q4 2015 centered around planning for the 2016 year.

5.2 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 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 2015 and the number of attendees. As of December 31, 2015, there are 592 licensed eligible solar contractors statewide.

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

	Q4 2015	
PA	Number of Workshops	Number of Attendees
CSE	1	2
PG&E	2	23
SCE	0	0
SCG	2	9
Total	5	34

⁷ <http://gosolarcalifornia.org/>.

5.3 PA-Specific Marketing Efforts

5.3.1 Southern California Gas Company

In Q4 2015, SCG continued collaborating with Alternative Energy Systems Consulting (AESC) to provide mandatory contractor and self-installer training courses (2 Courses with 9 attendees). SCG's course was offered at its Energy Resource Center in Downey, California.

Trade Shows and Events

SCG promoted the CSI-Thermal Program as an exhibitor at the following shows and events during Q4 2015. At each venue, brochures and promotional items were distributed.

Solar co-sponsored with other SCG Programs:

October 1, 2015	Palm Springs Energy Summit
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Local Market Facilitation Plan

Throughout Q4 2015, SCG finalized the media portion of the 2015 M&O commercial portion of the campaign.

SCG executed its Local Post-Wave Research in the month of December. During this quarter, Solar also received approval from the CPUC for the 2016 Marketing & Outreach Plan.

Solar Microsite

The SCG microsite, solarwaterheating101.com, continues to be a valuable resource for residential and commercial consumers. They can use it to find the latest information on different types of systems and rebates.

2015 CSI Thermal Local Media Plan

The Solar Champion, UCLA video continues to successfully build awareness for the CSI-Thermal Program. To date, the video has received 118,000 views on youtube.com

5.3.2 Center for Sustainable Energy

Summary

In Q4 2015, CSE leveraged the customer connections and content generated in the previous quarters, focusing efforts specifically on single family and multifamily customers. Among some of the primary market facilitation-related tasks were monitoring and refining an integrated digital marketing campaign including digital advertising (individual properties and ad networks), pay-per-click and social advertising, and content marketing.

Training and Education

CSE conducted the following SWH workshops in Q4 2015. A brief description of each workshop follows.

Workshop Title	Date	Attendees
Solar for Homeowners	10/6/2015	92
How to Become an Eligible Contractor in the CSI-Thermal Program	11/5/2015	2
Solar for Homeowners	11/12/2015	16
Solar for Homeowners	12/1/2015	105

Solar for Homeowners

This integrated workshop is for residents seeking to learn more about both SWH and solar photovoltaics (PV).

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.

Workshop Promotion

CSE leveraged the following in-house communication platforms during Q4 2015 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 an audience interested in renewable energy technologies 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 continued pay-per-click digital advertising during Q4 2015.

Marketing Activities by Tactic

Events:

In Q4 2015, the CSI-Thermal Program team leveraged our connections with the multifamily property owner and manager community in San Diego. This effort culminated with a webinar

about the value proposition of solar water heating and included a guest speaker from a local property management company who shared his experience with installing several systems.

- Solar Water Heating for Commercial and Multifamily - Webinar – 10/27/15
 - 25 Attendees

Paid Advertising:

Homeowners

CSE has long recognized the challenging economics of SWH adoption within the residential market and during Q4 2015, focused narrowly on workshops and pay-per-click digital advertising (Google AdWords and Bing Ads) for this target sector.

- Google AdWords: 83,857 impressions; 451 Clicks
 - CTR: 0.54%
 - 73% increase in clicks over Q3 2015
- Bing Ads: 10,189 impressions; 248 clicks
 - CTR: 2.47%
 - 88% increase in clicks over Q3 2015

Multifamily

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

Recognizing continued interest by contractors in the multifamily sector and the potential of recently increased rebates to further enhance the value proposition of SWH among this market segment, CSE has continued to actively engage and conduct targeted advertising to the multifamily market. Efforts in Q4 2015 focused specifically on communicating how end users can realize the value of installations through increases to Net Operating Income.

San Diego County Apartment Association (SDCAA):

SDCAA Advisor Newsletter Digital Banner Ads:

The SDCAA Advisor newsletter is distributed twice per month to over 3,200 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 38.1% open rate and provides an average of 1,278 impressions per issue.

During Q4 2015, the SDCAA Advisor email newsletter provided a relatively low-cost means to reach the highly desirable multifamily target audience.

During Q4 2015, CSE ran six (6) ads resulting in 38 clicks to CSE's multifamily landing page for an average click-through rate of 0.64% (up

from 0.58% in Q3 2015) and a total of 6379 impressions. Creative is being refreshed every few advertisements and is assumed to be the reason for the uptick in click-through rates.

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 2015 marketing efforts for commercial solar thermal consisted of strategizing about how to reach the large Hotel and Motel Industry in San Diego leading into 2016.

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 which clean energy technologies (including solar thermal) are most favorable for their business operations.

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, available rebates and how to find a contractor.

2016 Planning

CSE devoted time in Q4 2015 to creating an implementation plan for our 2016 efforts. This included identifying priorities, timelines, and staff roles. It also included initial research and discussions with several potential display ad partners.

Contractor Support and Engagement

Contractors are the critical actors in the solar water heating market, and Q4 2015 saw CSE initiate a new engagement strategy for local San Diego contractors. Building on the contractor webpages that were optimized in Q3 2015, CSE distributed the first in a series of Contractor Quarterly Updates in October. The goal of this newsletter is to inform contractors of CSE's market facilitation efforts and potential opportunities to co-market their services to customers. This will be distributed every quarter to active contractors in San Diego.

5.3.3 Pacific Gas and Electric Company

In Q4 2015, PG&E wrapped up its targeted multi-touch, multi-channel marketing campaign that consisted of direct to customer outreach. The campaign was comprised of the following components by customer segment:

- Residential
 - Two direct mail drops – two creative executions with separate outer envelope teasers to test messaging.
 - Two e-mail drops – two creative executions with separate subject lines to test messaging.
 - Search and Digital Display Ads – one static version and one HTML5 animated version in multiple banner sizes.
 - Telemarketing – separate scripts and resources for cold and hot leads.
- Multifamily/Commercial
 - Four direct mail drops – one creative execution with personalized messaging based on customer industry.
 - Four e-mail drops – one creative execution with personalized messaging and variable images based on customer industry.
 - Search and Digital Display Ads – one static version and one HTML5 animated version in two banner sizes.
 - Telemarketing – separate scripts and resources for cold and hot leads.

Overall Campaign

The objective of PG&E’s marketing campaign was to drive customers through the front-end part of the purchasing process (to the point of contacting a contractor) by generating leads (action that shows interest) and qualified leads (action that shows intent to purchase). The primary messaging focused on the financial and environmental benefits with call to action to request a solar water heating kit. The combined residential & multifamily/commercial campaigns achieved over 15,000 leads and almost 5,000 qualified leads, which represents increase of 42% over 2014’s campaign results, as shown below:

Leads	2014 Actuals	2015 Actuals	% Increase from 2014 to 2015
Residential	8,319	12,317	148%
Commercial	2,277	2,768	122%
Total to Date	10,595	15,085	142%

In addition, looking at website metrics generated by all tactics combined provides another perspective of the campaign’s success, with over 51,000 customers visiting the solar water heating landing page while the campaign was in-market.

Direct to Customer—Direct Mail, Email and Telemarketing

In an effort to generate leads, the direct to customer strategy was to facilitate the purchase decision process by providing rich information (what solar water heating is, the key benefits and applicability) during the consideration stage and get customers to take the next step of contacting a contractor. Below are the final campaign results by tactic:

Direct Mail

- Of the over 15,000 leads generated, roughly 44% of them were a result of the direct mail component of the campaign.
- Metrics for the outer envelope message test indicated that the “environmental” message resulted in a greater response rate than the “savings” message.

Email

- Performance was strong with results in line with PG&E’s average open rates of 24% - 28% and average click-through rates of 2.4% - 3.6%.

	Open Rate	Click-Through Rate
Residential	27%	3%
Multifamily/Commercial	27%	2%

- Metrics for the subject line test indicated that both “save money/energy” and “good for environment” performed at roughly equivalent levels.

Telemarketing

- This effort served as an effective lead nurturing tactic that provides interested customers the opportunity to speak with someone live about solar water heating.
- As a result, this effort generated approximately 670 additional qualified leads.

Digital Media

The local digital media effort—banners ads, native, search engine marketing and retargeting—has continued to be an effective tactic for driving engagement with solar water heating content online. The combined search and display ad campaign delivered over 41MM impressions and 79,617 clicks to the solar water heating website. Additional digital media metrics below:

- Click-through rate was 0.19%.
- Residential customers represented 84% of website traffic vs. 16% multifamily/commercial customers.
- Approximately 6,000 of the visitors demonstrated higher engagement by staying on the site for 45 seconds or longer.

CSI-Thermal Program Workshops

PG&E’s CSI-Thermal Program held two Contractors and Self-Installers Workshops in Q4 2015. The workshops were administered by the PG&E Program Administrator and the lead partnering Professional Engineer, leveraging the facilities of the Pacific Energy Center in San Francisco. All qualifying technologies are covered, in detail, and contractors were instructed how to access and properly use the CSI-Thermal Program tools, as previously outlined in section 5.2. The workshops continue to be important elements to convey program requirements and to ensure all installers are

well prepared to engage successfully with the CSI-Thermal Program. Licensed contractors, self-installers and interested members of local governments have leveraged our Workshops, and the format continues to be an important tool for education, outreach and engagement with the solar community as a whole.

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 of the CSI-Thermal 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.

5.3.4 Southern California Edison Company

Because SCE and SCG have overlapping service territories, we are directing interested contractors and self-installers to SCG's monthly training center. Because CSI-Thermal Program rebates are no longer available in SCE territory, there is low to no interest for training.

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 SCG.

6. Conclusions

Throughout Q4 2015, the CSI-Thermal Program has demonstrated a commitment towards improvement and balancing the complex needs of ratepayers, customers, industry, and the marketplace. The CSI-Thermal 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. Since program inception, 3,192 projects have been completed as of December 31, 2015, accounting for over \$44 million in statewide incentive payments and annual savings in excess of 3.16MM therms and 917 MWh.