California Solar Initiative Thermal Program

Quarterly Progress Report

(January 1 – March 31, 2016)

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Table of Contents

List of Tables

1. Executive Summary

Pacific Gas and Electric Company (PG&E), on behalf of the California Solar Initiative (CSI) Thermal (CSI-Thermal) Program Administrators (PAs),[1] submits this First Quarter (Q1) 2016 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 March 31, 2016. 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 2, 2015, the CPUC issued D.15-10-004, effective October 1, 2015, 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 program territories have now received enough low income applications to reserve all available low income funds.

On March 17, 2016, the CPUC approved PG&E Advice 3691-G/4800-E / CSE Advice 69 / SCG Advice 4930 to shift $25 million from all sectors of the CSI-Thermal general market budget to the CSI-Thermal low-income budget, increasing the total low-income budget to $50 million.

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 March 31, 2016, CSI-Thermal Program expenditures totaled $77,658,260. 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.

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

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 March 31, 2016					
Expenditure Type	**CSE**	**SCE**	**PGE**	**SCG**	**Total**
Administration	$2,037,858	$935,259	$5,232,383	$3,638,499	**$11,843,999**
Market Facilitation	$2,047,831	$902,314	$7,699,358	$9,440,083*	**$20,089,586**
Measurement & Evaluation	$23,976	$1,921	$47,124	$4,039	**$77,060**
Incentives Paid	$6,992,947	$65,193	$15,146,224	$23,443,251	**$45,647,615**
Total	**$11,102,612**	**$1,904,687**	**$28,125,089**	**$36,525,872**	**$77,658,260**

*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 January 1 – March 31, 2016				
Expenditure Type	**CSE**	**PG&E**	**SCG**	**Total**
Administration	$47,177	$168,471	$135,950	**$351,598**
Market Facilitation	$33,593	$80,558	$156,094*	**$270,245**
Measurement & Evaluation	$941	$15,560	$2,204	**$18,705**
Incentives Paid	$105,332	$722,659	$1,108,192	**$1,936,183**
Total	**$187,043**	**$987,248**	**$1,402,440**	**$2,576,730**

*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 January 1 – March 31, 2016				
Expenditure Type	**CSE**	**PG&E**	**SCE**	**Total**
Administration	$8,671	$0	$14,328	**$22,999**
Market Facilitation	$8,398	$0	$0	**$8,398**
Measurement & Evaluation	$235	$0	$494	**$729**
Incentives Paid	$0	$0	$0	**$0**
Total	**$17,304**	**$0**	**$14,822**	**$32,126**

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, 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 January 1, 2016 through March 31, 2016.

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
	Q1	Q1	Q1	
Multifamily-Commercial				
CSE	26.09%	26.09%	73.91%	23
PG&E	97.22%	100.00%	0.00%	36
SCE	0.00%	0.00%	0.00%	0
SoCalGas	69.44%	91.67%	8.33%	36

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
	Q1	Q1	Q1	
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	100.00%	100.00%	0.00%	12
SCE	0.00%	0.00%	0.00%	0
SoCalGas	97.92%	100.00%	0.00%	48
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	66.67%	88.89%	11.11%	9
SCE	0.00%	0.00%	0.00%	0
SoCalGas	75.00%	100.00%	0.00%	8
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	0.00%	0.00%	0.00%	0
PG&E	40.91%	81.82%	18.18%	22
SCE	0.00%	0.00%	0.00%	0
SoCalGas	89.09%	100.00%	0.00%	55

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%	1
PG&E	46.15%	53.85%	46.15%	13
SCE	0.00%	0.00%	0.00%	0
SoCalGas	97.06%	100.00%	0.00%	34
Inspection: Percentage of applications with inspection with processing time between Incentive: Application Review and Incentive: Approved as described.				
CSE	20.00%	60.00%	40.00%	5
PG&E	44.44%	77.78%	22.22%	9
SCE	0.00%	0.00%	0.00%	0
SoCalGas	75.00%	75.00%	25.00%	12
Percentage of applications with processing time between Incentive: Application Review and Incentive: Paid as described.				
CSE	16.67%	33.33%	66.67%	6
PG&E	33.33%	70.83%	29.17%	24
SCE	0.00%	0.00%	0.00%	0
SoCalGas	78.72%	91.49%	8.51%	47

5. Market Facilitation

5.1 Statewide Marketing Facilitation Effort

CSI-Thermal Statewide Working Group

Though the PAs did maintain a monthly Working Group schedule in Q1 2016, there was no Marketing participation in these meetings.

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 Q1 2016 and the number of attendees. As of March 31, 2016, there are 597 licensed eligible solar contractors statewide.

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

	Q1 2016	
PA	**Number of Workshops**	**Number of Attendees**
CSE	1	7
PG&E[8]	1	8
SCE	0	0
SCG	1	8
Total	**3**	**23**

[7] http://gosolarcalifornia.org/.

[8] PG&E canceled a second workshop in Q1 due to low event registration

5.3 PA-Specific Marketing Efforts

5.3.1 Southern California Gas Company

In Q1 2016 SCG continued collaborating with Alternative Energy Systems Consulting (AESC) to provide mandatory contractor and self-installer training courses (1 Course with 9 attendees). SCG's courses were offered at our 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 Q1. At each venue, brochures and promotional items were distributed.

Solar co-sponsored with other SCG Programs:

February 25, 2016	University of California, Riverside Solar Conference, Riverside
March 15, 2016	Income Property Management Expo, Pasadena

Local Market Facilitation Plan

Throughout Q1 SCG finalized the Paid Media portion of the 2016 M&O campaign.

SCG conducted post-campaign review of the 2015 Solar Thermal Marketing and Outreach campaign and distributed the results to internal stakeholders.

Solar Microsite

The SCG solar 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.

Meetings to begin the process of transitioning the content from SolarWaterHeating101.com to SoCalGas.com have begun.

2016 CSI-Thermal Local Media Plan

SCG met with UCLA's Chief Sustainability officer to discuss opportunities for expanding upon the existing collaboration in order to continue increasing awareness about the CSI-Thermal Program.

5.3.2 Center for Sustainable Energy

Summary

In Q1 2016, CSE engaged in research, planning, and content creation for targeted digital marketing and outreach efforts that would get underway in 2016. Work was done to refine SWH messaging targeted to multifamily and single family customers through digital display ads. In addition,

messaging was introduced to promote the availability of solar pool heating incentives for commercial and multifamily customers in key San Diego publications.

Training and Education

CSE conducted the following SWH workshops in Q1 2016. A brief description of each workshop follows.

Workshop Title	Date	Attendees
Solar for Homeowners	1/28/2016	16
How to Become an Eligible Contractor in the CSI-Thermal Program	2/11/2016	7
Solar for Homeowners	2/18/2016	104
Solar for Homeowners	3/10/2016	11

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 Q1 2016 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 16,300 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 Q1 2016.

Marketing Activities by Tactic

Events:

In Q1 2016, CSE's CSI-Thermal Program did not participate in any outreach events. Instead, preparations were made for a busy April that would include a presence at both the San Diego Earth Fair and the San Diego Apartment Owners Association Conference and Expo.

Paid Advertising:

Homeowners

CSE has long recognized the challenging economics of SWH adoption within the residential market and during Q1 2016, focused narrowly on workshops and pay-per-click digital advertising (Google AdWords and Bing Ads) for this target sector.

- Google AdWords: 43,308 impressions; 287 Clicks
  - CTR: 0.66%
  - 36% decrease in clicks over Q4 2015 which corresponds with a decreased daily spending limit in Q1 2016 compared to the previous quarter
- Bing Ads: 8,391 impressions; 289 clicks
  - CTR: 3.44%
  - 16% increase in clicks over Q4 2015

While these display ad campaigns were CSE's only Paid Advertising targeting homeowners in Q1, preparations were also underway to launch a display ad campaign with Dwell in early Q2.

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, CSE has continued to actively engage and conduct targeted advertising to the multifamily market. Efforts in Q1 2016 focused specifically on promoting how solar pool heating systems can help reduce operating costs for multifamily complexes and how SWH in general presents a powerful value proposition for the multifamily sector.

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 1,500 impressions per issue.

During Q1 2016, the SDCAA Advisor email newsletter provided a relatively low-cost means to reach the highly desirable multifamily target audience.

During Q1 2016, CSE ran six (6) ads resulting in 24 clicks to CSE's multifamily landing page for an average click-through rate of 0.27% and a total of 8928 impressions. Creative is refreshed for each release and content focusing on rebates for pool systems seems to have performed well with this audience, with a click through rate of 0.59% when introduced compared to an average click through rate for the year of 0.31%.

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 Q1 2016 marketing efforts for commercial solar thermal included content and ad creation for a story on Solar Pool Heating that would be featured in the San Diego Business Journal during the month of April.

Web Development

CSE's website devotes several pages to CSI-Thermal Program-specific information at www.energycenter.org/swh. During Q1 2016, preparations began to migrate this content onto a dedicated microsite specifically for CSI-Thermal Program end-users. The new microsite will retain much of the same content but will benefit from an improved user interface and navigation experience which should help end users of all types connect with an installer or attend a workshop.

Contractor Support and Engagement

Contractors are the critical actors in the SWH market, and in Q1 2016 CSE continued the series of Contractor Quarterly Updates. 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. Highlights of the Q1 contractor update were identifying how changes to the Federal Tax Credit would affect the CSI-Thermal Program and information on current developments with local permitting officials.

5.3.3 Pacific Gas and Electric Company

Planning and Targeting Efforts

PG&E's 2015 marketing and outreach efforts extended through the end of 2015, therefore in the first quarter of 2016, PG&E focused its efforts on confirming the SWH marketing outreach plans. As part of the planning progress, PG&E conducted an analysis of the program participants against the 2015 targets. The analysis provided insight that while the number of qualified leads generated far exceeded the 2015 goals, there was an opportunity to increase the conversion of leads to program participants. Therefore, PG&E has refined the 2016 target audience for both residential and business marketing efforts to further align with the past program participants. Additionally PG&E started its planning for its presence at the Intersolar National Conference scheduled for mid-July.

Residential Marketing

To ensure alignment with the targeting refinements, PG&E also spent time in the first quarter to update the primary messaging to tap into the key motivators of the more environmentally focused target audience. Thus the primary message for residential customers will be more environmentally focused versus the financial message that was the focus in 2015. The outreach materials for the multi-touch, multi-channel campaign have been updated and the outreach is scheduled to launch in the second quarter. The tactics of the plan include direct-to-customer through emails, complemented with digital media as well as an updated website landing page inclusive of a new video.

Business Marketing

Similarly to the residential efforts, PG&E also spent the first quarter assessing the marketing plan as well as the creative needs as a result of the targeting refinements. The multi-touch, multi-channel campaign will kick off with the inclusion of an article in the small-business focused digital newsletter and be followed by both interests driving tactics such as print advertising as well as direct-to-customer efforts as emails. Another key component of the business marketing efforts is leveraging the internal sales team and the efforts commenced at the internal sales summit in the first quarter. The targeting refinements will provide focus to the sales team and hone their efforts to only the key identified industries, such as the Food and Beverage Processing industry.

CSI-Thermal Program Workshops

PG&E's CSI-Thermal Program held one Contractors and Self-Installers Workshops in Q1 2016. 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 Q1 2016, 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, 3,403 projects have been completed as of March 31, 2016, accounting for over $48 million in statewide incentive payments and annual savings in excess of 3.45MM therms and 917 MWh.