

Decision 15-01-035 January 29, 2015

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.

Rulemaking 12-11-005  
(Filed November 8, 2012)

**DECISION GRANTING PETITION FOR MODIFICATION OF  
D.12-08-008 AND D.13-08-004 REGARDING CHANGES  
TO THE CALIFORNIA SOLAR INITIATIVE THERMAL PROGRAM**

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Appendix A: Changes to D.12-08-008 and D.13-08-004

**DECISION GRANTING PETITION FOR MODIFICATION OF  
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TO THE CALIFORNIA SOLAR INITIATIVE THERMAL PROGRAM**

**Summary**

This decision adopts in full the petition to modify Decision (D.)12-08-008 and D.13-08-004 filed by the Program Administrators<sup>1</sup> (PAs) of the California Solar Initiative (CSI) Thermal Program and the California Solar Energy Industries Association. Accordingly, modifications to the CSI-Thermal Program include:

- Higher incentive levels for the single-family and multifamily/commercial sub-programs;
- A separate budget for the solar pool heating system sub-program;
- Reallocation of the sub-program budgets as 10% single-family, 60% multifamily/commercial, and 30% solar pool heating;
- A higher individual project cap for multifamily/commercial of \$800,000;
- An individual project rebate cap for solar pool heating systems at 50% of total system cost; and
- Authorization for the PAs to request substantial future changes to the Program via Tier 2 advice letter filings.

**1. Background**

California Solar Initiative (CSI) Thermal Program launch:

Assembly Bill (AB) 1470 (Huffman, 2007) directed the Commission to design and implement an incentive program which would install 200,000 solar

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<sup>1</sup> The CSI-Thermal PAs are Pacific Gas and Electric Company, Southern California Gas Company, Southern California Edison Company, and the Center for Sustainable Energy for the San Diego Gas & Electric Company territory.

water heating systems on buildings by 2017. Accordingly, the Commission adopted Decision (D.) 10-01-022 on January 21, 2010, which established the CSI-Thermal Program for the territories of Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and Southern California Gas Company (SoCalGas). The Program is administered by PG&E, SCE, SoCalGas, and by the Center for Sustainable Energy (CSE)<sup>2</sup> in the SDG&E territory.

The Program was designed to install the equivalent of 200,000 systems, or enough capacity to avoid 585 million therms of natural gas consumption over the 25 years of the systems' operation. The Program was designed to contain two sub-programs – single-family residential and multifamily/commercial – within each Program Administrator (PA) territory. It was funded by \$250 million in collections from gas ratepayers, with \$180 million available for rebates in the general market<sup>3</sup> program, and \$25 million in rebates for a low income program.<sup>4</sup>

The Program also incorporated an electric-displacing component, providing up to \$100.8 million in rebates, with these funds taken from the general market CSI photovoltaic (PV) program and earmarked in Senate Bill 1 (Murray, 2006), while those funds were available. As the CSI general market program has

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<sup>2</sup> Formerly the California Center for Sustainable Energy.

<sup>3</sup> The larger CSI Program for electricity (PV) generation also has a “general market program.” In this decision, the term “general market program” will refer, unless specifically noted, to the CSI-Thermal non-low income program.

<sup>4</sup> The remaining funds were allocated to measurement and evaluation, market facilitation, and program administration.

exhausted its funding, rebates for CSI-Thermal electric-displacing systems are no longer being offered in most areas of the CSI-Thermal Program.<sup>5</sup>

D.10-01-022 established four incentive steps for the gas-displacing part of the Program, with levels dropping as participation milestones are passed. The initial step, for both single-family residential and multifamily/commercial general market sub-programs, was set at \$12.82 per therm displaced in Step 1, diminishing to \$4.70 per therm displaced in Step 4. D.11-10-015 established incentives for single-family low income applicants at 200% (\$25.64 per therm displaced in Step 1) of the single-family general market applicants, and incentives for multifamily/commercial low income applicants at 150% (\$19.23 per therm displaced in Step 1) of the multifamily/commercial general market applicants.

Program rebate increase in 2012:

In the first two years of the CSI-Thermal Program participation was lower than anticipated, and in January 2012 the California Solar Energy Industries Association (CALSEIA) filed a petition to modify D.10-01-022 to adjust the incentive amounts. CALSEIA proposed to raise Step 1 incentive levels for single-family applicants 100%, and for multifamily/commercial customers 30%.

On August 2, 2012, the Commission granted in part CALSEIA's petition in D.12-08-008, which raised Step 1 rebates for single-family applications 45% (to \$18.59 per therm displaced) and multifamily/commercial applications 13.33% (to \$14.53 per therm displaced). Additionally, the budget amount allocated to the single-family program increased from 40% to 45%, while the amount allocated to

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<sup>5</sup> As of December 15, 2014, the CSI-Thermal Tracker website (<https://www.csithermal.com/tracker>) indicates that the budgets for all electric-displacing sub-programs are exhausted, except new CSE multifamily/commercial applicants. SCE multifamily/commercial applications are being placed on a waitlist.

the multifamily/commercial program decreased from 60% to 55%. The decision left unchanged the overall budget and the amount of therms displaced in each program step.

Because of the need to maintain the legislatively-mandated total therm savings (*i.e.* the equivalent of 200,000 single-family systems) for the Program, the Commission also ordered adjustments to the incentive levels of Steps 2, 3, and 4. The Commission declined to alter the rebate levels for the low income program, noting that the program had only recently begun.

Program Changes in 2013 – solar pool heating systems and other new technologies:

The CSI-Thermal Program underwent two substantive changes in 2013. D.13-02-018 allowed several new technologies into the Program, including process heat, solar cooling, and combination water/space heating. The decision also introduced a performance-based incentive structure for larger solar water heating systems and for the new technologies.

Additionally, the Legislature passed AB 2249 (Buchanan, 2012), which expanded the definition of solar water heating system to include solar pool heating systems, although single-family residential solar pool heating systems were specifically excluded from the definition of a solar water heating system. The Commission implemented this change with D.13-08-004, allowing non-single-family solar pool heating systems into the Program.

Because solar pool heating is more cost effective than the other technologies that the CSI-Thermal Program funds, the solar pool heating system rebates were set at a lower level, starting at \$7.00 per therm displaced in Step 1 and ending at \$3 per therm displaced in Step 4. The decision stipulated that in lieu of capping the rebates, the rebate levels could be changed via advice letter

filing if subsequently found to be too high. The decision established that funds for solar pool heating system applications should be drawn from the same bucket as multifamily/commercial applications.

January 2014 report to the Legislature:

In addition to allowing solar pool heating systems into the CSI-Thermal Program, AB 2249 required the Commission to issue a report, no later than February 1, 2014, reviewing the sufficiency of program incentives to meet the goals of AB 1470. Accordingly, the Commission's Energy Division issued its Review of Incentive Levels and Progress of the California Solar Initiative-Thermal Program (Report)<sup>6</sup> on January 29, 2014, focusing on the gas-displacing part of the Program. The Report found that:

- At current installation rates, the CSI-Thermal Program will not reach its target of 585 million therms displaced over the life of the systems installed;
- Natural gas prices declined by roughly 20% from 2007-08 wholesale prices, which significantly diminished the cost effectiveness of solar heating technologies;
- The multifamily/commercial general market sub-program has only achieved 7.23% (981,977 therms displaced) of its cumulative Program goal through 2013;
- The general market single-family sub-program has only achieved 0.64% (58,377 therms displaced) of its cumulative Program goal through 2013; and
- The introduction of swimming pool heating systems and other new technologies may spur significant Program participation.

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<sup>6</sup> The Report can be found on the CPUC's CSI-Thermal webpage at <http://www.cpuc.ca.gov/NR/rdonlyres/B7D3D1AC-5C9A-49C9-81E1-8E03E471AA73/0/CSIThermalAB2249ReportFinalWebVersionJanuary292014.pdf>.

Solar pool heating system rebate level advice letter filing:

On August 20, 2014 the PAs jointly filed an advice letter<sup>7</sup> to lower the rebates for solar pool heating systems to \$5 per therm displaced in Step 1, declining to end at \$3 per therm displaced in Step 4. The Commission approved this change via a letter of disposition on December 1, 2014.

**2. Joint Petition to Modify**

On July 23, 2014 the CSI-Thermal PAs and CALSEIA (Petitioners) filed a joint petition to modify (Petition) D.12-08-008 and D.13-08-004. The Petitioners seek to:

1. Increase the gas-displacing Step 1 rebates for the multifamily/commercial sub-program from \$14.53 to \$20.19 per therm displaced for the general market sub-program and from \$19.23 to \$24.89 per therm displaced for the low income sub-program.
2. Increase the gas-displacing Step 1 rebates for the single-family sub-program from \$18.59 to \$29.85 per therm displaced for the general market sub-program and from \$25.64 to \$36.90 per therm displaced for the low income sub-program.
3. Make the incentive level increases for both the multifamily/commercial and single-family sub-programs retroactive to the date the Petition was filed.
4. Create a separate budget for the solar pool heating system sub-program.
5. Reallocate CSI-Thermal Program funds remaining in Step 1 as of July 10, 2014 and the Step 2-4 budgets such that 10% are allocated to the single-family sub-program, 60% are allocated to the multifamily/commercial

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<sup>7</sup> CSE Advice No. 51, SoCalGas No. 4682, PG&E Advice No. 3503-G, SCE Advice No. 3096-E.

sub-program, and 30% to the solar pool heating system sub-program.

6. Authorize the PAs to allow any service territory which has moved to a subsequent step while awaiting the Commission's decision to return to the previous step to utilize the newly allocated funds at the Step 1 rate. Additionally, retroactively incentivize at the new Step 1 rate any applications which received a reservation at Step 2, as long as funds are available.
7. Raise the incentive cap per system for multifamily/commercial projects from \$500,000 to \$800,000.
8. Cap individual solar pool heating system rebates at 50% of the total system cost, applied to projects for which a reservation request and deposit are received by the PAs on or after the date of the proposed decision to resolve the Petition.
9. Allow for subsequent program changes to be requested by Tier 2 advice letter to enable more nimble Program adjustments in the future.

On August 22, 2014 two parties filed timely responses, the Office of Ratepayer Advocates (ORA) and Skyline Innovations, Inc. (Skyline). Both parties support all of the changes requested in the Petition.

### **3. Timeliness of Petition**

Rule 16.4(d) provides that:

Except as provided in this subsection, a petition for modification must be filed and served within one year of the effective date of the decision proposed to be modified. If more than one year has elapsed, the petition must also explain why the petition could not have been presented within one year of the effective date of the decision. If the Commission determines that the late submission has not been justified, it may on that ground issue a summary denial of the petition.

The Petition was filed on July 23, 2014, more than one year after the effective date of D.12-08-008. The Petitioners state that the petition was not filed within one year because they wanted to wait and analyze the effects of incentive adjustments to the CSI-Thermal Program approved in D.12-08-008. The Petitioners analyzed two years of Program data after approval of D.12-08-008 and determined that the incentive adjustments were insufficient for the Program to achieve its legislatively mandated Program targets.

The Commission recognizes the Petitioners' motivation for waiting longer than a year to file the Petition. Prior to the incentive level adjustments approved in D.12-08-008, the CSI-Thermal Program was unlikely to achieve its targets based on its historical progress.<sup>8</sup> The modifications to the CSI-Thermal Program adopted in D.12-08-008 were designed to expedite the Program's progress and thus it was reasonable for the Petitioners to observe the effects of the approved incentive adjustments for longer than a year in order to properly analyze their impacts. Similarly, Energy Division staff expressed concerns in its Report that the CSI-Thermal Program under its current incentive paradigm will not achieve its legislatively mandated targets.

The Petitioners' delay for filing their Petition in order to allow for data analysis of previous incentive increases is reasonable, and the Petitioners have met their burden under Rule 16.4(d) to justify submission of the Petition more than one year after the effective date of the decisions that are proposed to be modified.

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<sup>8</sup> See D.12-08-008 at 8.

#### 4. Discussion

The Petition requests higher incentive levels for the CSI-Thermal Program because the Program is likely to fall short of its goals. The Petitioners note that sustained solar water heating incentives are needed to develop a mainstream market, and that the market for rooftop solar PV struggled for many years to gain traction. Rooftop solar PV projects received 28% to 44% of system costs covered by monetary incentives from the Emerging Renewables Program (ERP) for ten years before finally taking off under the CSI, with PV market growth only becoming more robust in the fourth year and really taking off in the tenth year. The Petitioners argue that, by contrast, the CSI-Thermal Program rebates have covered only 15% to 19% of the costs of single-family residential installations. Further, while rebates of 29% to 41% of project costs for the multifamily/commercial sub-program are closer to incentive levels for the ERP Program, this level of incentives has only been in place for two years in contrast to the ten years it took for market growth in the ERP Program.<sup>9</sup>

The Petition claims that the single biggest factor that has limited expansion of solar water heating installations has been the low price of natural gas. When the CSI-Thermal Program was designed, natural gas exceeded \$17 per thousand cubic feet and was expected to rise. Instead, natural gas prices have stayed between \$8 and \$11 per thousand cubic feet. However, the Petitioners note that the price of gas is inherently volatile and that investments in solar water heating now represent a prudent hedge against future gas market volatility.<sup>10</sup>

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<sup>9</sup> Petition at 4-5.

<sup>10</sup> Petition at 5.

ORA generally supports the relief requested in the Petition. ORA states that the incentive rates have produced disappointing results thus far and supports raising incentives in order to promote market transformation while maintaining the CSI-Thermal Program goals.<sup>11</sup> Skyline fully supports all recommendations in the Petition, stating that the CSI-Thermal Program has not yet offered incentive rates high enough to overcome market barriers impeding mainstream adoption of solar thermal technologies.<sup>12</sup>

We agree with the Petitioners that D.12-08-008 must be modified to adjust the incentive structure for residential and commercial customers to achieve the goals of the CSI-Thermal Program. This decision adopts a new incentive structure for residential and commercial customers, as proposed by the Petitioners. This decision does not alter the overall CSI-Thermal Program budget or the total therm and kWh displacement goals.

#### **4.1. Multifamily/Commercial Sub-Program Incentives**

The Petition requests to increase multifamily/commercial Step 1 incentive levels to \$20.19 per therm displaced for the general market sub-program and \$24.89 per therm displaced for the low income sub-program. The Petitioners note that even though participation in the multifamily/commercial general market sub-program (as measured in installed square feet of collector area) increased by

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<sup>11</sup> The Office of Ratepayer Advocates' Response to the Petition of the CSI-Thermal Program Administrators and the California Solar Energy Industries Association for Modification of D.12-08-008 and D.13-08-004 Regarding the CSI-Thermal Program, August 22, 2014 (ORA Response), at 3.

<sup>12</sup> Response of Skyline Innovations, Inc. on the Petition Submitted by the CSI-Thermal Program Administrators and the California Solar Energy Industries Association for Modification of D.12-08-008 and D.13-08-004 Regarding the CSI-Thermal Program, August 22, 2014 (Skyline Response), at 2.

35% between the twelve months prior to, and the twelve months following, D.12-08-008, which raised rebates by 13.33%, the participation level was still only 20% of the rate that would be needed to achieve the Program's targets.

Furthermore, with the expected decrease of the federal investment tax credit (ITC) on January 1, 2017 from 30% to 10%, the Petitioners argue that the Program should take advantage of the ITC while it is still available at the higher level to drive down installation costs so that the market can sustain itself after the ITC drops.<sup>13</sup>

The Petition notes that the low income multifamily/commercial sub-program (current Step 1 rebate of \$19.23 per therm displaced) has had more success than the general market multifamily/commercial sub-program (current rebate of \$14.53 per therm displaced), though still inadequate to achieve Program goals. The Petitioners claim that the reason for the relatively greater success of the low income sub-program is the higher incentive that it offers, and therefore they base their proposal for a higher general market sub-program incentive on the existing incentive level for the low income sub-program. The Petitioners ask for a rebate level for the CSI-Thermal general market multifamily/commercial sub-program of \$20.19 per therm displaced, which is five percent higher than the existing low income program. The Petition notes that because much of Step 1 is spent or committed, the transition from Step 1 to Step 2 should be minimal, and recommends a 15% drop, to \$17.16 per therm displaced. The Petitioners then propose to drop by equal increments to Step 3 (\$10.15) and then Step 4 (\$3.13), which is maintained at the same level as it is now.<sup>14</sup>

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<sup>13</sup> Petition at 6-7.

<sup>14</sup> Petition at 8-9.

The Petitioners recommend the Commission also increase the incentive levels for the low income sub-program in order to maintain an added benefit for low income communities. The Petition notes that there is currently a difference of \$4.70 between the Step 1 incentives for low income and general market multifamily/commercial sub-programs. The Petitioners suggest maintaining that same differential for each of the Steps, which would yield a Step 1 low income incentive of \$24.89 per therm displaced, down to a Step 4 incentive of \$7.83 per therm displaced.<sup>15</sup>

The Petition provides analysis of typical payback scenarios using CSI-Thermal Program data, deriving mean and median values for project cost and expected therm savings from the 229 records for multifamily and commercial installations, as of March 30, 2014. The analysis shows that customers with average and even below average tax rates were much more likely to find the proposed rebate of just over \$20 to be attractive, since it yields project paybacks ranging from five to ten years. The analysis further shows that raising incentives to \$20.19 per therm displaced will reach the threshold to facilitate solar developers' acquisition of financial capital, thereby making investor financing available to more customers which, in turn, can help drive prices down.<sup>16</sup>

Skyline supports raising the multifamily/commercial incentive level, stating that raising the incentive level to \$20.19 per therm displaced will enable solar water heating systems to be cost competitive with current natural gas

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<sup>15</sup> Petition at 9.

<sup>16</sup> Petition at 9-12.

prices. Skyline also emphasizes that more competition drives prices down, resulting in lower installed system prices and cost of capital.<sup>17</sup>

We find the Petitioners arguments persuasive and supported by Energy Division's Report. Participation in the CSI-Thermal Program has been limited, and at the current installation rates is unlikely to reach its target of 585 million therms displaced over the life of the systems installed.<sup>18</sup> While it is not clear that raising the incentive levels as requested will result in complete market transformation given the limited duration of the Program, we do agree that some amount of market transformation is more likely given higher incentive levels in conjunction with the higher ITC. We also agree that raising the incentive levels will result in greater program participation, thereby increasing the likelihood of meeting the therm displacement targets. Further, we find it reasonable to maintain the existing difference in incentive levels between general market and low income sub-programs. Accordingly, we approve the modified incentive levels for the multifamily/commercial general market and low income sub-programs as requested.

#### **4.2. Single-Family Sub-Program Incentives**

The Petition requests to increase single-family Step 1 incentive levels to \$29.85 per therm displaced for the general market sub-program and \$36.90 per therm displaced for the low income sub-program. The Petitioners argue that an effort should be made to substantially increase Program uptake for single-family applications, with the expectation that increased market participation will bring down costs. The Petitioners reference the Staff Proposal

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<sup>17</sup> Skyline Response at 6.

<sup>18</sup> Report at 7.

from 2009, in which Energy Division argued that covering 30% of system costs should be enough to induce program participation.<sup>19</sup> Since this level has proven inadequate the Petition proposes to raise the percentage of costs covered by the incentive to 35%, which results in a recommended incentive of \$29.85 per therm displaced when applied to the observed median system cost of \$85.30 per therm displaced. The Petitioners apply the same logic for determining the remaining steps as used for the multifamily/commercial sub-program, proposing that Step 2 be 15% lower than Step 1, followed by equal-sized decreases down to Step 4, which is unchanged from its current level.<sup>20</sup>

For the low income sub-program, the Petitioners observe a difference of \$7.05 between the existing Step 1 low income and general market incentive rates, and request that this same difference be applied to their requested incentive levels for the single-family systems to create new Steps 1, 2, 3, and 4 for the low income sub-program.<sup>21</sup>

We agree that both the general market and low income single-family sub-programs are languishing, likely because the rebates being offered are insufficient to render cost effective a significant number of projects. Raising the single-family sub-program incentives should motivate higher participation which may help drive costs down, thereby further increasing market activity. We also find it reasonable to maintain the existing difference in incentive levels between general market and low income sub-programs. Accordingly, we approve the

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<sup>19</sup> *CSI-Thermal Program Energy Division Staff Proposal for Solar Water Heating Program* at 46. This report was issued as Appendix A to the Administrative Law Judge ruling of July 15, 2009 in Rulemaking 08-03-008.

<sup>20</sup> Petition at 13-14.

<sup>21</sup> Petition at 14.

modified incentive levels for the single-family general market and low income sub-programs as requested.

The current and the new incentive levels are shown in Table 1.

**Table 1: Current and new incentive levels (\$/annual therm displaced)**

		Single-Family		Multifamily/ Commercial		Solar Pool Heating	
		Current	New	Current	New	Current <sup>22</sup>	New
Step 1	General Market	18.59	29.85	14.53	20.19	5.00	5.00
	Low Income	25.64	36.90	19.23	24.89	N/A	N/A
Step 2	General Market	13.11	25.37	9.88	17.16	5.00	5.00
	Low Income	20.52	32.42	15.39	21.86	N/A	N/A
Step 3	General Market	7.69	14.30	6.55	10.15	4.00	4.00
	Low Income	15.38	21.35	11.53	14.85	N/A	N/A
Step 4	General Market	3.23	3.23	3.13	3.13	3.00	3.00
	Low Income	9.40	10.28	7.05	7.83	N/A	N/A

#### **4.3. Effective Date**

The Petition requests that the new incentive levels for the single-family and the multifamily/commercial sub-programs be made retroactive to the date of the filing of the Petition in order to prevent a stall in program participation. The Petitioners expressed concerns that filing of this Petition may have slowed down the market just when it needed a boost, by virtue of solar vendors and customers waiting to see if incentive levels would increase.<sup>23</sup>

<sup>22</sup> The current solar pool heating sub-program incentive levels were approved by the Commission on December 1, 2014 via a letter of disposition. Prior to that date, the solar pool heating sub-program incentives for Steps 1 through 4 were set at: \$7, \$7, \$5, and \$3 per therm displaced.

<sup>23</sup> Petition at 12-13.

While there is no assurance that the Commission would grant any request for a program change, potential applicants to the program may well have gone ahead with installation anticipating that the Commission would retroactively approve the higher incentives requested in the Petition. To promote fairness and reward the good faith of those who submitted applications after the date of the Petition, we will make the effective date for the higher incentives for single-family sub-programs and the multifamily/commercial sub-programs retroactive to July 23, 2014.<sup>24</sup>

#### **4.4. Solar Pool Heating and Sub-Program Budget Allocations**

The Petition requests a separate budget for the solar pool heating sub-program and reallocation of remaining funds between all sub-programs. When incentives for solar pool heating systems were added to the CSI-Thermal Program, the PAs asked for incentive funds to be drawn from the same budget as the multifamily/commercial program in order to simplify Program design. The Commission adopted this budget arrangement in D.13-08-004. Noting the budget uncertainty that arises from mixing two rebate levels within one budgetary bucket, the Petitioners now ask that this design feature be reversed and that the solar pool heating sub-program have its own budget.<sup>25</sup>

In addition, the Petitioners argue that because the multifamily/commercial sub-program is the more promising of the non-solar pool heating sub-programs, it should receive a larger share of the rebate budget. Specifically, the Petitioners request that the funds remaining across both general market sub-programs

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<sup>24</sup> Specifically, those single-family and multifamily/commercial applicants whose application forms were received on or after July 23, 2014 will be eligible for the higher incentives.

<sup>25</sup> Petition at 14.

(single-family and multifamily/commercial) for Step 1 as of July 10, 2014 and the Step 2 through 4 budgets be reallocated so that 10% of the funds go to the single-family sub-program, 60% go to the multifamily/commercial sub-program, and 30% go to the solar pool heating sub-program.<sup>26</sup>

ORA supports a separate incentive budget for solar pool heating systems so they do not deplete funds that could be otherwise used for multifamily/commercial projects.<sup>27</sup> Skyline supports a separate incentive budget for solar pool heating systems because it will create greater predictability in the market for domestic water heating developers and solar pool companies, which increases the likelihood that financing options will enter the market.<sup>28</sup>

We see virtue in having a separate budget for the solar pool heating sub-program so that high participation rates in the solar pool heating sub-program will not put other sub-program budgets at risk. It is possible that different market sectors need different time frames in which to achieve cost reductions and market transformation, and therefore require the assurance of a dedicated budget allocation. Further, a separate budget for the solar pool heating sub-program allows the Commission greater control over Program components and future alterations if necessary.

We also see value in reallocating the remaining general market funds across the single-family, multifamily/commercial, and, now, solar pool heating sub-programs. We agree that the multifamily/commercial sub-program has been more successful than the single-family sub-program and we find persuasive

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<sup>26</sup> Petition at 15.

<sup>27</sup> ORA Response at 5.

<sup>28</sup> Skyline Response at 2.

the Petitioners' arguments that potential economies of scale and opportunities for financing make the multifamily/commercial sub-program a more likely successful market in the near term.

We find both requests reasonable. Solar pool heating sub-program incentives will be funded from a dedicated budget, and we will reallocate the remaining general market funds for Step 1 as of July 10, 2014 and the Step 2 through 4 budgets such that 10% go to single-family projects, 60% to multifamily/commercial projects, and 30% to solar pool heating projects, as requested in the Petition. The revised allocations for the three general market programs are shown in Table 2.

The low income sub-programs must continue to finance qualifying projects out of their respective single-family and multifamily/commercial common budgets as long as funds last.<sup>29</sup>

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<sup>29</sup> There is no low income sub-program for solar pool heating.

**Table 2: New sub-program budget allocations by step and by PA (\$)**

		Single-family	Multifamily/ Commercial	Solar Pool Heating	All sub- programs
Step 1	PG&E	2,071,303	17,212,951	5,285,746	24,570,000
	SoCal Gas	3,269,310	20,375,946	8,484,744	32,130,000
	CSE	374,022	4,718,287	1,207,690	6,300,000
	Step Total	5,714,636	42,307,184	14,978,180	63,000,000
Step 2	PG&E	1,911,000	11,466,000	5,733,000	19,110,000
	SoCal Gas	2,499,000	14,994,000	7,497,000	15,990,000
	CSE	490,000	2,940,000	1,470,000	4,900,000
	Step Total	4,900,000	29,400,000	14,700,000	49,000,000
Step 3	PG&E	1,599,000	9,594,000	4,797,000	15,990,000
	SoCal Gas	2,091,000	12,546,000	6,273,000	20,910,000
	CSE	410,000	2,460,000	1,230,000	4,100,000
	Step Total	4,100,000	24,600,000	12,300,000	41,000,000
Step 4	PG&E	1,053,000	6,318,000	3,159,000	10,530,000
	SoCal Gas	1,377,000	8,262,000	4,131,000	13,770,000
	CSE	270,000	1,620,000	810,000	2,700,000
	Step Total	2,700,000	16,200,000	8,100,000	27,000,000
All steps	PG&E	6,791,000	43,877,802	19,530,490	70,200,000
	SoCal Gas	8,881,464	57,378,664	25,539,872	91,800,000
	CSE	1,741,464	11,250,718	5,007,818	18,000,000
	PA totals	17,414,636	112,507,184	50,078,180	180,000,000

#### **4.5. Authority to Return to Previous Steps**

The Petition requests that any sub-program which has moved to a subsequent step while awaiting a Commission decision be allowed to return to the previous step in order to utilize the reallocated funds at the Step 1 rate. The Petitioners further request that applications that received a reservation at Step 2 be retroactively incentivized at the new Step 1 rate as long as funds are available, in order to create a level playing field. At the time that the Petition was filed, multifamily/commercial rebates in SDG&E's service territory were on the verge of moving to Step 2, and indeed the step change has occurred.<sup>30</sup>

Because we adopt the requested reallocation of funds in order to provide additional funds to the more successful multifamily/commercial sub-program, it is reasonable to allow those funds to be utilized retroactively.

#### **4.6. Multifamily/Commercial System Incentive Cap**

The Petition requests that the maximum incentive that can be awarded to an individual multifamily/commercial project be raised to \$800,000 to bring the maximum project size eligible for incentives to the same size it was when the original cap was set. The original cap was \$500,000, and remained unchanged when the rebate levels were increased in D.12-08-008. The Petitioners point out that increased incentive levels for the multifamily/commercial sub-program mean the system size per dollar of incentive will be smaller, and the system size will effectively be capped since customers typically do not size systems beyond the maximum funded system size. Concerns that a small number of large customers would use a disproportionate amount of incentive money are

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<sup>30</sup> Petition at 16-17.

unfounded since the number of system installations has been far below expectations, and raising the cap will encourage more installations.<sup>31</sup>

We agree that adjusting the multifamily/commercial project cost cap correspondingly with the increased incentive level will likely encourage more installations and is reasonable. The maximum incentive for multifamily/commercial sub-program system size shall be raised to \$800,000 per system.

#### **4.7. Solar Pool Heating System Incentive Cap**

The Petition requests that incentives for solar pool heating systems be capped at 50% of the total project costs, to be implemented when a proposed decision is issued. When the solar pool heating sub-program was launched, there was considerable uncertainty about the system costs. CALSEIA at the time argued that individual incentive payments should be capped at 50% of the total project cost to minimize the chance of making excessively high payouts. The PAs, however, argued that such a cap could create an incentive to inflate the project cost. The Commission agreed with the PAs and did not adopt an incentive cap in D.13-08-004.<sup>32</sup>

The Petitioners explain that experience with the solar pool heating sub-program has shown that pool system installation costs are variable, and lower than expected. As of June 16, 2014, 97 solar pool heating system applications had been submitted. Of those, 56% covered 100% of the system cost and only 19% covered less than 50% of the system costs. Because of this, the PAs

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<sup>31</sup> Petition at 17-18.

<sup>32</sup> Petition at 18.

now agree with CALSEIA's previous position.<sup>33</sup> ORA agrees with the proposed cap as an important ratepayer protection.<sup>34</sup>

To limit excessive payouts, the Petitioners ask that the Commission implement the proposed cap as soon as possible. The Petitioners request that the cap be applied to projects for which a reservation request and deposit are received on or after the date of the proposed decision addressing the Petition.

We agree that it is reasonable to guard against excessive costs, and will adopt a 50% cap for solar pool heating systems. Further, given the number of systems that have received incentives covering the majority of system costs, it is reasonable to immediately limit excessive incentives. PAs must apply the cap to solar pool heating system projects for which a reservation request and deposit are received beginning on the effective date of this decision.

#### **4.8. Program Changes via Advice Letter**

The Petition requests that the Commission permit any further CSI-Thermal Program changes for all sub-programs to be requested via Tier 2 advice letters, with consultation from Energy Division, in order to react to market trends and maximize the Program's effectiveness. The Petitioners argue that a key weakness of the CSI-Thermal Program has been an inability to adapt quickly to changing market conditions as most substantial Program changes have required a Commission decision.<sup>35</sup> ORA agrees that a Tier 2 advice letter process would benefit the Program by allowing more nimble adjustments.<sup>36</sup>

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<sup>33</sup> *Id.*

<sup>34</sup> ORA Response at 5.

<sup>35</sup> Petition at 19-20.

<sup>36</sup> ORA Response at 5.

We agree and will allow substantive Program changes to be requested by the PAs via Tier 2 advice letters after consultation with Energy Division.

#### **5. Waiver of Comment Period**

ORA and Skyline filed responses in support of the Petition. Today's decision grants the relief requested in an uncontested matter. Accordingly, pursuant to Rule 14.6(c)(2), the otherwise applicable 30-day period for public review and comment is waived.

#### **6. Assignment of Proceeding**

Michael Picker is the assigned Commissioner and Regina DeAngelis and Karin Hieta are the assigned Administrative Law Judges in this proceeding.

#### **Findings of Fact**

1. On July 23, 2014 the PAs and CALSEIA filed a joint petition to modify D.12-08-008 and D.13-08-004 (Petition).
2. On August 22, 2014 ORA and Skyline filed timely responses in support of all changes in the Petition.
3. AB 1470 authorized the Commission to design and implement an incentive program to install 200,000 solar water heating systems in homes and businesses by 2017.
4. D.10-01-022 established the CSI-Thermal Program for the service territories of PG&E, SCE, SDG&E, and SoCalGas.
5. The CSI-Thermal Program was designed to install the equivalent of 200,000 systems, or enough capacity to avoid 585 million therms of natural gas consumption over the 25 years of the systems' operation.
6. The CSI-Thermal Program was funded in collections from gas ratepayers, with \$180 million to be available for rebates in the general market program, and \$25 million rebates for a low income program.

7. D.10-01-022 established four incentive steps for both single-family and multifamily/commercial sub-programs in each PA territory, with levels dropping as participation milestones are passed.

8. D.11-10-015 established separate low income incentives for both single-family and multifamily/commercial sub-programs.

9. In D.12-08-008 the Commission granted in part CALSEIA's petition to modify D.10-01-022 to increase Step 1 rebates for single-family and multifamily/commercial sub-programs.

10. AB 2249 expanded the definition of solar water heating system to include solar pool heating systems, excluding single-family systems, and required the Commission to issue a report, no later than February 1, 2014, reviewing the sufficiency of program incentives to meet the goals of AB 1470.

11. D.13-08-004 incorporated solar pool heating systems into the CSI-Thermal Program with incentives to be drawn from the same bucket as multifamily/commercial applications, with no rebate cap.

12. The Commission's Energy Division issued its Report on January 29, 2014, focusing on the gas-displacing part of the CSI-Thermal Program.

13. At current installation rates, the CSI-Thermal Program will not reach its target of 585 million therms displaced over the life of the systems installed.

14. The multifamily/commercial general market sub-program has only achieved 7.23%, and the single-family general market sub-program has only achieved 0.64%, of their cumulative Program goals through 2013.

15. Natural gas prices declined by roughly 20% from 2007-08 wholesale prices, which significantly diminished the cost effectiveness of solar heating technologies.

16. The PAs and CALSEIA did not file their Petition within one year of the effective date of D.12-08-008 because they believed it was reasonable to wait and analyze two years of Program data to determine the effectiveness of the incentive adjustments to the CSI-Thermal Program approved in D.12-08-008.

17. The ITC is set to decrease from 30% to 10% on January 1, 2017.

18. The proposed changes to the CSI-Thermal Program will not change the overall Program budget or the total therm and kWh displacement goals.

19. The original cap on individual multifamily/commercial systems remained at \$500,000 when rebate levels were increased in D.12-08-008.

20. As of June 16, 2014, 97 solar pool heating system applications had been submitted with 56% of applications covering 100% of the system costs and 19% of applications covering less than 50% of system costs.

### **Conclusions of Law**

1. The delay in filing the Petition in order to allow for data analysis of previous incentive increases is reasonable and the joint PA and CALSEIA petition to modify D.12-08-008 and D.13-08-004 should be considered.

2. Increasing the sub-program incentives in conjunction with an ITC at 30% will likely increase Program participation, the likelihood of meeting Program goals, and opportunity for market transformation.

3. It is reasonable to maintain existing levels between the general market and low income sub-programs.

4. The proposed multifamily/commercial and single-family sub-program incentive increases are reasonable.

5. It is reasonable to make the effective date for new incentive levels retroactive to the filing date of the Petition in order to promote fairness and

reward the good faith of those who submitted applications after the date of the Petition.

6. A separate incentive budget for solar pool heating systems will ensure that solar pool heating installations do not deplete funds that could be otherwise used for multifamily/commercial projects.

7. The multifamily/commercial sub-program has been more successful than the single-family sub-program and is more likely to be a successful market in the near term.

8. It is reasonable to reallocate the remaining general market funds across the single-family, multifamily/commercial, and solar pool heating sub-programs to provide more incentives to the multifamily/commercial sub-program.

9. Any sub-program which has moved to a subsequent step while awaiting a Commission decision should be allowed to return to the previous step in order to utilize the newly reallocated funds at the Step 1 rate, as long as funds are available.

10. Concerns that a small number of large multifamily/commercial customers would use a disproportionate amount of incentive money if the individual system cap was raised are unfounded since the number of installations has been far below expectations, and raising the individual multifamily/commercial project cap will encourage more installations.

11. The maximum incentive that can be awarded to an individual multifamily/commercial project should be raised to \$800,000 to bring the maximum project size eligible for incentives to the same size it was when the original cap of \$500,000 was set.

12. Capping solar pool heating systems at 50% of the total project costs will limit excessive payouts and provide important ratepayer protections.

13. It is reasonable to implement the solar pool heating system cap of 50% of total project costs beginning on the effective date of this decision.

14. It is reasonable to allow future substantive CSI-Thermal Program changes to be requested by the PAs via Tier 2 advice letter after consultation with Energy Division.

## **O R D E R**

### **IT IS ORDERED** that:

1. Decision (D.) 12-08-008 and D.13-08-004 regarding the California Solar Initiative Thermal Program are modified as set forth in Appendix A of this decision.

2. The new incentive levels for single-family and multifamily/commercial California Solar Initiative Thermal Program sub-programs, as summarized in Appendix A of this decision, shall be effective retroactively, for applications received on or after July 23, 2014.

3. California Solar Initiative Thermal Program incentives paid to individual solar pool heating systems shall be capped at 50% of system cost for applications received on or after the effective date of this decision.

4. Within 30 days of the effective date of this order, the California Solar Initiative (CSI)-Thermal Program Administrators (namely, Pacific Gas and Electric Company, Southern California Gas Company, Southern California Edison Company, and the Center for Sustainable Energy) shall file jointly a Tier 2 advice letter to modify the CSI Thermal Handbook incorporating the changes in this decision summarized in Appendix A.

5. Rulemaking 12-11-005 remains open.

This order is effective today.

Dated January 29, 2015, at San Francisco, California.

MICHAEL PICKER

President

MICHEL PETER FLORIO

CATHERINE J.K. SANDOVAL

CARLA J. PETERMAN

LIANE M. RANDOLPH

Commissioners

# Appendix A

**Changes to D.12-08-008 and D.13-08-004**

1. Program incentives (\$ per annual therm displaced) are changed to:

**Table 1: Adopted CSI Thermal Gas Displacing Incentive Structures<sup>1</sup>**

	Single-Family		Multifamily/Commercial	
	General Market	Low Income	General Market	Low Income
Step 1	29.85	36.90	20.19	24.89
Step 2	25.37	32.42	17.16	21.86
Step 3	14.30	21.35	10.15	14.85
Step 4	3.23	10.28	3.13	7.83

2. Solar pool heating systems will be given a separate budget.<sup>2</sup>
3. Sub-program budgets are reallocated such that 10% of funds are allocated to the single-family sub-program, 60% are allocated to the multifamily/commercial sub-program, and 30% are allocated to the solar pool heating sub-program, based on the funds remaining across single-family and multifamily/commercial sub-programs for Step 1 as of July 10, 2014 and the Step 2 through Step 4 budgets.

The three sub-programs will have the following budgets (\$):

**Table 2: CSI Thermal Gas Displacing Budgets by Sub-Program<sup>3</sup>**

		Single-Family	Multifamily/Commercial	Solar Pool Heating	All Sub-Programs
Step 1	PG&E	2,071,303	17,212,951	5,285,746	24,570,000

<sup>1</sup> The non-low income incentive levels in this table replace the incentive levels adopted in Table 1 of Appendix A in D.12-08-008. The low income incentive levels replace the low-income incentive levels adopted in D.11-10-015, which can be seen in Table 8 of D.12-08-008.

<sup>2</sup> This modifies D.13-08-004, which did not create a separate budget for the solar pool heating system sub-program.

<sup>3</sup> The single-family and multifamily/commercial sub-program budgets in Table 2 replace the sub-program budgets adopted in Table 2 of Appendix A in D.12-08-008.

	SoCal Gas	3,269,310	20,375,946	8,484,744	32,130,000
	CSE	374,022	4,718,287	1,207,690	6,300,000
	Step Total	5,714,636	42,307,184	14,978,180	63,000,000
Step 2	PG&E	1,911,000	11,466,000	5,733,000	19,110,000
	SoCal Gas	2,499,000	14,994,000	7,497,000	15,990,000
	CSE	490,000	2,940,000	1,470,000	4,900,000
	Step Total	4,900,000	29,400,000	14,700,000	49,000,000
Step 3	PG&E	1,599,000	9,594,000	4,797,000	15,990,000
	SoCal Gas	2,091,000	12,546,000	6,273,000	20,910,000
	CSE	410,000	2,460,000	1,230,000	4,100,000
	Step Total	4,100,000	24,600,000	12,300,000	41,000,000
Step 4	PG&E	1,053,000	6,318,000	3,159,000	10,530,000
	SoCal Gas	1,377,000	8,262,000	4,131,000	13,770,000
	CSE	270,000	1,620,000	810,000	2,700,000
	Step Total	2,700,000	16,200,000	8,100,000	27,000,000
All steps	PG&E	6,791,000	43,877,802	19,530,490	70,200,000
	SoCal Gas	8,881,464	57,378,664	25,539,872	91,800,000
	CSE	1,741,464	11,250,718	5,007,818	18,000,000
	PA totals	17,414,636	112,507,184	50,078,180	180,000,000

4. If a sub-program has advanced to Step 2 by the time this decision goes into effect, it shall be allowed to return to Step 1 to utilize the newly allocated funds at the Step 1 rate as long as funds are available. Any applications which received a

reservation at Step 2 will be retroactively incentivized at the new Step 1 rate as long as funds are available.

5. The natural gas-displacing multifamily/commercial sub-program incentive cap per system shall be raised from \$500,000 to \$800,000.

6. Incentives for solar pool heating systems shall be capped at 50% of the system cost.<sup>4</sup>

7. The Program Administrators are allowed to request further CSI-Thermal Program changes via Tier 2 advice letter filings, after consultation with Energy Division.

(End of Appendix A)

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<sup>4</sup> This modifies prior rules for solar pool heating systems adopted in D.13-08-004.