

California **Solar** Initiative

California Public Utilities Commission

Staff Progress Report

April 2008



GO **solar**
CALIFORNIA



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Cover Photo Credit: California Solar Initiative funded System. Installer: Solarecity Electric. System Size: 5.5 DC kW. Location: Loomis, CA.

1. Executive Summary

The California Public Utilities Commission (CPUC or Commission) Energy Division Staff prepared this report to describe recent progress on the California Solar Initiative, the country's largest solar incentive program.

In January 2007, the State of California launched the Go Solar California campaign, an unprecedented \$3.3 billion effort that aims to install 3,000 MW of new grid-connected solar over the next decade and to transform the market for solar energy by dramatically reducing the cost of solar. The State of California had installed 280 MW of installed grid-tied photovoltaic (PV) capacity by the end of 2007.¹

As part of the statewide solar effort, the CPUC initiated the investor-owned utility solar program, known as the California Solar Initiative (CSI) on January 1, 2007. The CSI has generated enormous new demand for solar in California. This report focuses exclusively on CSI program developments and consumer demand, and does not report on the other parts of the state's solar offerings, such as the California Energy Commission's (CEC) New Solar Homes Partnership (NSHP) which funds solar installations on new home construction or the dozens of small solar programs administered by the state's 40+ municipal utilities (or publicly owned utilities, POU's).

California Solar Initiative program demand remains robust through the first quarter of 2008.

- As of March 31, 2008, the California Solar Initiative has applications equaling 249.3 MW of new solar, including 40.7 MW added in the first quarter of 2008. Projects have twelve months to complete installation.
- The program has 33.4 MW of installed projects, including 14.2 MW completed in the first quarter of 2008.
- The active applications in the California Solar Initiative are worth an estimated \$649 million of solar incentive payments.
- In the first fifteen months, the program has received over 10,000 applications for solar incentives -- 9,817 (and 249.3 MW) of which are still active applications. There were over 2,200 applications in the first quarter of 2008.
 - Residential applications (8,786 active applications) make up 89% of all applications received.
 - However, the total capacity of non-residential applications (207.3 MW) makes up 83% of the capacity of the applicant pool.

Solar installations in 2008 are expected to be at least 100 MW, which would exceed installations in 2007.

- The State of California installed 59 MW in 2006 and 81 MW in 2007. According to the CEC database, of this total,

¹ 1981-2007 data from California Energy Commission's *Grid Connected PV Capacity Installed in California*, April 1, 2008. Available at: http://energy.ca.gov/renewables/emerging_renewables/GRID_CONNECTED_PV_12-31-07.XLS.

- The California Solar Initiative installed 19.2 MW in 2007.
- The CEC's New Solar Homes Partnership installed 8 kW.
- The CPUC's Self Generation Incentive Program (SGIP, now closed to solar, replaced by CSI) installed 33 MW in 2007.
- The CEC's Emerging Renewables Program (now closed to solar, replaced by CSI and NSHP) installed 26 MW, and.
- Solar programs in non-IOU territories installed a total of 3 MW in 2007.
- In 2008, the California Solar Initiative program has already installed 14.2 MW.
- Based on the 208 MW worth of applications received by the end of 2007 – there should be at least 100 MW installed under the California Solar Initiative in 2008 and the number could be even higher.² The total installed MWs could be higher depending on how fast projects that commence in 2008 complete installation or lower if the program's dropout rate increases or large number of projects request project completion extensions.

The outlook for solar demand in California in the coming year is strong despite new challenges that the program may need to overcome in the months ahead. Any of these challenges might result in a temporary slowdown in the progress of the California Solar Initiative.

- **Declining Incentive Levels.** Strong demand for CSI incentives in the first year of the program has caused incentive levels to decline three times within 15 months in some market segments. PG&E and SCE recently moved to Step 5 for Non-Residential projects, or \$1.55/watt for commercial systems – both administrators were able to extend Step 4 to more eligible projects by conducting due diligence on the projects in the pipeline and addressing any likely dropouts prior to moving into Step 5. Nonetheless, moving to Step 5 means that the non-residential sector in those territories has had a 38% reduction in incentive levels compared to January 2007. In other service territories and customer classes, such as SCE's residential class, incentive levels have not declined at all since January 2007. See Figure 2 for all current incentive levels and a representation of historical incentive level changes. The program design anticipated a decline in incentive levels as the market demand grew, and the early steps were designed to be smaller than the later steps.
- **Dropout Rate.** Early CSI Program dropout rate estimation is currently 12.5 percent for all projects, which is lower than previous state programs. The Self-Generation Incentive Program (SGIP), precursor to the CSI Program, experienced project dropout rates closer to 50 percent. However, it is important to note that it is too early to predict actual dropout rates for the life of the CSI Program. Relatively few projects have reached the end of their 12 month implementation window, and all incomplete projects may receive timeline extensions on a case by case basis. The CPUC and Program Administrators continue to monitor program dropouts and will address dropout issues when reliable and compelling dropout data is available. See Section 5.9 "Program Drop Outs" for current statistics.

² Most of the 208 MW applied after the first quarter of 2007, yet are expected to be completed within 12 months of initial application. The 100 MW estimate includes those projects expected to be completed by the end of 2008 minus those that were already completed in 2007 or have dropped out. This estimate includes a conservative estimate of program dropouts (50%, significantly higher than the actual dropout rate to date).

- **Worldwide PV Demand.** The CSI program is just one part of the world PV market, and strong demand worldwide has caused a shortage of the silicon components needed to produce most solar panels, causing PV prices to remain high. It is widely expected that as production capacity increases in the next year or two to meet this demand, prices will decline, but it is uncertain by how much or how soon.
- **Federal Investment Tax Credit Uncertainty.** Currently, under federal law there is an investment tax credit available to homeowners and businesses that install solar. The current law expires at the end of 2008. While there are efforts underway in Congress to extend the Investment Tax Credit for solar, the uncertainty around the tax credit could cause a disruption to the solar market in California. While the law does not expire until the end of the year, projects need to be installed before the end of the year to qualify so the slowdown would occur sooner rather than later. In addition, there may also be a rush to install systems already in the pipeline so those systems can qualify under the current tax rules.
- **Housing and Credit Markets.** The CSI program's demand is linked to the health of the housing and credit markets and a downturn in those markets could have an effect on demand for new solar PV systems. Less money might be available for homeowners and businesses to finance new investments, such as solar PV systems.

In the first quarter of 2008, the CPUC and its Program Administrators continued to make improvements to the California Solar Initiative and address implementation issues.

Detailed updates and background information on program implementation can be found in Section 4 of the report, and recent highlights include:

- Program data from the CSI database is now updated weekly and available to the public at csi.powerclerk.com.
- In March, the CPUC closed the regulatory proceeding that originally established and designed the CSI, while simultaneously opening a new proceeding to handle remaining unresolved matters of implementation. The new Rulemaking (R.) 08-03-008 will cover both CSI and SGIP, as well as other distributed generation issues.
- On February 29, CPUC staff released a proposal for a CSI Multifamily Low-Income Program. A decision on this proposal is expected later in the year.
- A Request for Proposals for an Research Demonstration and Development (RD&D) Program Manager was released on April 1st, with a deadline of May 20.
- The CPUC recently adopted a resolution approving handbook changes necessary to incorporate non-PV solar technologies into the CSI program and establishing a list of eligible non-PV solar technologies.
- In April, parties submitted a proposal to the CPUC to take the Solar Hot Water Pilot Program Statewide, as well as extend the pilot for six months to provide the Commission time to consider AB 1470 (Huffman, 2007) implementation.
- The CPUC adopted a major decision³ on metering accuracy and performance monitoring in January that removed barriers to the implementation of the Performance Based Incentive (PBI) portion of the program. Workshops to finalize the implementation details are ongoing, but expected to complete in the next few months.

³ CPUC Decision 08-01-030

2. Go Solar California! Overview

The goal of the Go Solar California campaign is to install 3,000 MW of new, solar electricity generation capacity by 2016 - moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. The Go Solar California statewide budget is \$3.3 billion over 10 years, and it has three distinct program components, each with a portion of the statewide budget and solar installation goals, as shown in the Table below:

- The **California Solar Initiative** is overseen by the CPUC and provides solar incentives to customers in investor-owned utility (IOU) territories of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric. These three utilities represent about 75-80% of California's electric use. The California Solar Initiative provides cash back for solar for existing homes and existing and new commercial, industrial, government, non-profit, and agricultural properties – within the service territories of the investor-owned utilities. The California Solar Initiative has a budget of \$2,167 million over 10 years, and the goal is to reach 1,940 MW of installed solar capacity by 2016. This goal includes 1,750 MW from the general market program and 190 MW from the low-income residential incentive program. *This Staff Progress Report focuses only on the California Solar Initiative.*
- The **New Solar Homes Partnership (NSHP)**, managed by the California Energy Commission (CEC), advances solar in new home construction within the territories of the three investor owned utilities. This program compliments the CSI (which does not fund solar on residential new construction) and has a budget of \$400 million over 10 years, with a goal of 360 MW.
- The **Publicly Owned Utilities (POU)** component requires each municipal utility to offer a solar incentive program, an aggregate commitment of \$784 million over 10 years, toward a goal of 700 MW.

Table 1. Go Solar California campaign by Program Component, 2007-2016

Program Authority	California Public Utilities Commission	California Energy Commission	Publicly Owned Utilities (POU)
Budget	\$2,167 million	\$400 million	\$784 million
Solar Goals (MW)	1,940 MW	360 MW	700 MW
Scope	All systems in IOU areas <u>except</u> new homes	New homes in IOU territories	All systems in POU areas
Audience	Various	Builders, home buyers	Various
Begins	January 2007	January 2007	January 2008

2.1 California Solar Initiative Program History

- The CSI Program builds on nearly 10 years of state solar rebates offered to customers in IOU territories, i.e. Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric.
 - Prior to January 1, 2007, California's solar incentive programs were organized according to the **size of the system**.
 - For small systems, the CEC managed the **Emerging Renewables Program (ERP)** since 1998, and for larger systems over 30 kW, the CPUC managed solar incentives through its **Self-Generation Incentive Program (SGIP)** since 2001.
- In August 2004, Governor Schwarzenegger affirmed his support for solar energy, and announced the Million Solar Roofs program.
- In January 2006, the CPUC collaborated with the CEC to develop the framework of the CSI Program through 2016, resulting in Decision (D.) 06-01-024.
 - The new framework included a major **administrative transition** where the CEC and the CPUC changed the responsibilities shared between the two state agencies. In the new program, the solar incentive programs would be organized by building type (instead of by the size of the system as discussed above). The CEC would provide incentives to New Homes (new construction), and the CPUC administered program would provide incentives to all other facilities in investor-owned utility territories.
 - The new framework also included a major shift in the way solar incentives were calculated – away from a system that funded solar incentives based only on capacity and towards one where **incentive levels are based on performance** factors such as installation angle, tilt, and location.
- In March 2006, the CPUC initiated a new distributed generation **Rulemaking (R.) 06-03-004**, to implement the CSI Program, as well as decide other distributed generation program and policy matters. Among the major CSI related policy decisions made in R.06-03-004 were how to organize and adjust the incentive levels, how to provide performance based incentives, how to require metering, and how to develop program rules in the form of a Program Handbook. The rulemaking also decided issues related to low income solar program development, marketing and outreach, research, development and demonstration (RD&D), program evaluation, and the Self Generation Incentive Program (SGIP).
- In August 2006, the CPUC adopted D.06-08-028 that established the CSI Program incentive schedule, program budgets, system performance and metering requirements, and other fundamental program design decisions.
- In August and September 2006, **Governor Schwarzenegger signed SB1 and AB 2723**, which authorized the CPUC's CSI Program and introduced a number of new program requirements related to the general market incentive program and the low-income program.⁴

⁴ Chapter 132, Statutes of 2006 (SB 1, Murray) and Chapter 864, Statutes of 2006 (AB 2723, Pavley).

- In December 2006, the CPUC revised the CSI Program requirements and design features to comply with the new laws, and adopted D.06-12-033. Also, the CPUC issued the CSI Program Handbook for the first time.
- In January 2007, the CPUC determined that distributed generation system owners (including CSI systems) retained ownership of their Renewable Energy Credits (RECs) in D.07-01-018.
- **In January 1, 2007, the CSI program launched and the program began** operating under the CSI Program Handbook.
 - The CEC's Emerging Renewables Program and the CPUC's Self Generation Incentive Program stopped taking new applications after December 31, 2006.
- Throughout 2007, the CPUC issued a number of decisions to revise parts of the general market incentive program, as well as implement the RD&D, low-income, and non-PV programs.
- In March 2008, the CPUC closed R.06-03-004 and **opened a new rulemaking, R.08-03-008** to handle remaining California Solar Initiative program and policy issues, as well as other Distributed Generation issues, such as the Self Generation Incentive Program.

3. California Solar Initiative - Basic Information

3.1 Program Administration and Budgets

- In January 2007, the CPUC's CSI Program launched with a budget of \$2,167 million (2007-2016) as detailed in Table 2.

Table 2. CPUC California Solar Initiative Budget, 2007-2016

Program Category	Budget (\$ Million)
General Market Program Subtotal	\$1,897
<i>Direct Incentives to Consumers for PV and non-PV technologies</i>	<i>\$1,707</i>
<i>Program Administration, Marketing & Outreach, Evaluation (10%)</i>	<i>\$190</i>
Low-Income Programs (10%)	\$217
Research, Development, Deployment and Demonstration (RD&D)	\$50
San Diego Regional Energy Office Solar Hot Water Pilot	\$2.6
Total California Solar Initiative Budget	\$2,167

- The CPUC designated three Program Administrators to administer the general market program (incentive program) that provides solar incentives to consumers for PV and non-PV solar technologies. The three Program Administrators are:
 - Pacific Gas & Electric (PG&E),
 - Southern California Edison (SCE), and
 - California Center for Sustainable Energy (CCSE, formerly known as the San Diego Regional Energy Office) in San Diego Gas & Electric's territory.

- The other program components of the CPUC's California Solar Initiative have separate budget and administration plans. All budgets are for 10 years.
 - The Low-Income Single Family Program will have a single statewide Program Manager (not yet selected) and a budget of \$108 million.
 - The Low-Income Multifamily Program will have a budget of \$108 million, and the CPUC has not yet made a final program administration decision.
 - The Research, Development, Deployment and Demonstration (RD&D) Program will have a single statewide Program Manager (not yet selected) and a budget of \$50 million.
 - The Solar Hot Water Heating Pilot Program is administered by CCSE and has a budget of \$2.6 million for 1.5 years, and is only available in San Diego Gas & Electric service territory.

3.2 California Solar Initiative Incentive Program Resources

The CSI statewide consumer website , includes information on the CPUC, CEC, and POU programs, including the CSI Program Handbook	www.GoSolarCalifornia.ca.gov
The CSI Program Administrators developed a tool to calculate the up-front Expected Performance Based Buy down (EPBB) incentive, known as the EPBB Calculator	www.csi-epbb.com
The CSI Program Administrators launched an online application tool and reporting database, known as Powerclerk	csi.powerclerk.com
Up-to-date information about the program's current incentive level, or "step" can be found on the online CSI Trigger Tracker	www.csi-trigger.com
Information about the CPUC regulatory proceeding that deals with the CSI Program	www.cpuc.ca.gov/PUC/energy/solar/
Pacific Gas & Electric Company	www.pge.com/solar
Southern California Edison	www.sce.com/CSI/
California Center for Sustainable Energy (CCSE) – offering Solar Rebates in San Diego Gas & Electric Territory and the solar hot water pilot program	www.energycenter.org

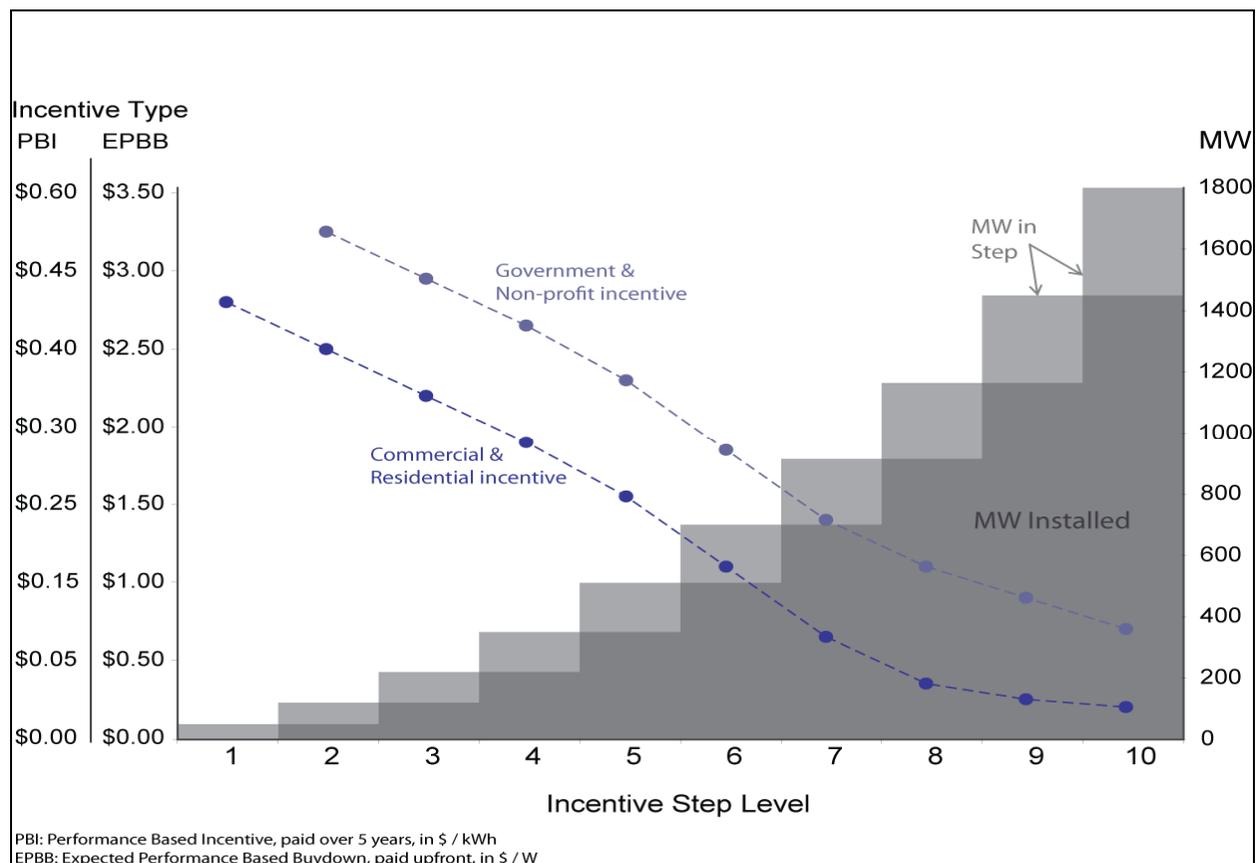
3.3 California Solar Initiative Incentive Levels

The California Solar Initiative offers financial incentives for solar installations based on the expected performance of a given solar installation. The expected performance is derived principally from the size of the solar array, and also takes into consideration the angle and location of the system installation. For larger systems, the incentive is based on the actual performance of the system over the first five years.

The incentive level available to a given project is determined by currently available incentive in each utility territory for each customer class. The CSI was designed so that the incentive level decreases over ten steps, after which it goes to \$0, as the total demand for solar energy systems grows.⁵

The CPUC divided the overall goal of 1,750 MW by the ten declining steps.⁶ Each step has MWs allocated to each Program Administrator and customer class, residential and non-residential (a combination of commercial and government/non-profit). Once the total number of MWs for each step is reached within a particular customer class, the Program Administrator moves to the next step and offers a lower incentive level for that class. Therefore, high commercial demand in SCE’s territory will not lower the incentive level offered to PG&E’s residential customers, and so on. Figure 1 offers a visual explanation of the increasing MW installations and decreasing incentive levels over the life of the program. The light grey box in each “Incentive Step Level” represents the available MWs at that incentive value. The dark grey box represents the cumulative installed MWs as the program proceeds through the steps.

Figure 1. Overview of the CSI Step Level Changes



⁵ In previous versions of the State’s solar programs, incentives declined based on a calendar year regardless of demand for incentives.

⁶ The goal for the CPUC portion of the CSI program is 1,940 MW, divided into 1,750 MW for the general market incentive program, and 190 MW for the low-income program.

The original step allocations and megawatt goals were divided among the three investor-owned utility according to a relative proportion of electricity sales. Table 3 shows the original MW goals of the program divided by PG&E, SCE, and CCSE, as well as residential and non-residential. The goals (and budgets) were divided by utility territory based on a relative percentage of electricity sales, and they are PG&E - 43.7%, SCE - 46.0%, SDG&E - 10.3%.

As each Program Administrator receives applications for solar incentives, it tracks the total MWs reflected in the applications received. Table 3 also shows the actual MW available or used at each step. The “actual” MW amount is different than the “original” MW amount because the actual amount takes into account Program dropouts, and represents that actual number of MW that will be paid out at a given step. See Table 3 Notes for additional explanation.

Finally, Table 3 shows in highlight the current step for each Program administrator and each customer segment, based on CSI Program demand as of April 11, 2008. PG&E and SCE are both in Step 5 for Non-Residential, for example.

Table 3. Incentive MW Available by Step, by Program Administrator and Customer Class

Step	MW in Step	PG&E (MW)				SCE (MW)				CCSE in SDG&E Territory (MW)			
		Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential	
		Original	Actual	Original	Actual	Original	Actual	Original	Actual	Original	Actual	Original	Actual
1	50	0	0	27.8	11.4	0.07	0	12.4	5.5	0	0	6.4	0.2
2	70	10.1	12.8	20.5	22.1	10.6	10.7	21.6	23.0	2.4	2.4	4.8	9.7
3	100	14.4	14.6	29.3	29.6	15.2		30.8	33.7	3.4	3.4	6.9	7.8
4	130	18.7	18.7	38.1	49.6	19.7		40.1	42.7	4.4		9.0	9.6
5	160	23.1		46.8	46.8	24.3		49.3	49.3	5.4		11.0	
6	190	27.4		55.6		28.8		58.6		6.5		13.1	
7	215	31.0		62.9		32.6		66.3		7.3		14.8	
8	250	36.1		73.2		38.0		77.1		8.5		17.3	
9	285	41.1		83.4		43.3		87.8		9.7		19.7	
10	350	50.5		102.5		53.1		107.9		11.9		24.2	
Subtotal		252.4		512.3		265.6		539.5		59.5		120.8	
Totals		764.8				805.0				180.3			
Percent		43.7%				46.0%				10.3%			

Notes:

(1) Shading Denotes Current Step as of April 11, 2008.

(2) The “Actual” MW field in Table 3 denotes the actual amount of MW that are either actively reserved or completed in each step and will be paid out at the given incentive level. The “Actual” MW numbers are equal to the “Original” MW in step less dropouts from that step plus dropouts from previous steps. The “Actual” numbers are current as of 02/29/2008. The “Original” MW amount represents the original number of MW allocated to the step in CPUC decision D.06-12-033, Appendix B, Table 13.

(3) In accordance with CPUC policy decisions that provided for a transition between the Self Generation Incentive Program and the California Solar Initiative, Step 1 was fully reserved in 2006 under the Self Generation Incentive Program, which was only open to non-residential projects. The 50 MW in Step 1 were not allocated across the utilities, and were therefore reserved on a first come, first served basis. Although almost all Step 1 MW were reserved by non-residential entities, Program Administrators later reallocated Step 1 dropouts into both residential and non-residential categories.

(4) Any Step 1 MW unaccounted for in this chart were reserved by Southern California Gas (an SGIP Program Administrator) in 2006.

3.3 California Solar Initiative Incentive Payment Types: EPBB and PBI

The California Solar Initiative pays solar consumers their incentive either all-at-once for smaller systems, or over the course of five years, for larger systems. The program's two incentive payment types are:

(1) **Expected Performance-Based Buy-Down, or EPBB:**

- **EPBB payments are provided on a \$ per watt basis.**
- In 2008, systems smaller than 50kW in capacity can receive a one-time, up-front incentive based on expected performance, and calculated by equipment ratings and installation factors (geographic location, tilt and shading).
- EPBB is available for systems under 30 KW after 2010.
- Systems eligible for EPBB can choose to opt-in to the PBI system described below.

(2) **Performance Based Incentive, or PBI:**

- **PBI payments are provided on a \$ per kilowatt-hour basis.**
- As of January 1, 2008, all systems over 50 kW must take the PBI, and by 2010 all system over 30 kW must be on PBI.
- Any sized system can elect to take PBI.
- The PBI pays out an incentive, based on actual kWh production, over a period of five years.

Figure 2 shows the current incentive payment available for each Program Administrator, according to the current step and customer segment. The Figure also shows the dates on which the step levels changed for each customer class and each utility territory.

- A website is maintained daily with information about the currently applicable incentive available in each utility territory, it is known as the "CSI Trigger Tracker", and a link is provided in "California Solar Initiative Incentive Program Resources" section above.
- For a complete listing of all incentive amounts for all steps and all customer types, see the California Solar Initiative Program Handbook.

Figure 2. California Solar Initiative Incentive Level, Current and Historic, Jan. 1, 2007 -- April 11, 2008

Note: Each step shows both the EPBB and PBI incentive level.

Program Month	PG&E			SCE			CCSE		
	Residential	Non-Residential	Govt & Non-Profit	Residential	Non-Residential	Govt & Non-Profit	Residential	Non-Residential	Govt & Non-Profit
Jan 07	Step 2	Step 2		Step 2	Step 2		Step 2	Step 2	
	\$2.50 \$0.39	\$2.50 \$0.39	\$3.25 \$0.50	\$2.50 \$0.39	\$2.50 \$0.39	\$3.25 \$0.50	\$2.50 \$0.39	\$2.50 \$0.39	\$3.25 \$0.50
Feb									
Mar		Step 3			Step 3				
		\$2.20 \$0.34	\$2.95 \$0.37		\$2.20 \$0.34	\$2.95 \$0.37			
Apr									
May		Step 4							
		\$1.90 \$0.26	\$2.65 \$0.37						
Jun									
Jul					Step 4				
					\$1.90 \$0.26	\$2.65 \$0.37			
Aug	Step 3							Step 3	
	\$2.20 \$0.34							\$2.20 \$0.34	\$2.95 \$0.37
Sep									
Oct									
Nov									
Dec									
Jan 08							Step 3		
							\$2.20 \$0.34		
Feb								Step 4	
								\$1.90 \$0.26	\$2.65 \$0.37
Mar		Step 5			Step 5				
		\$1.55 \$0.22	\$2.30 \$0.32		\$1.55 \$0.22	\$2.30 \$0.32			
Apr	Step 4								
	\$1.90 \$0.26								

EPBB: Expected Performance Based Buydown, in \$ / W
PBI: Performance Based Incentive, in \$ / kWh
Note: MW from Step 1 of the solar Trigger Tracker were fully reserved under SGIP in 2006.

4. CPUC CSI Program Implementation

CSI Program Implementation Updates			
Program Area	Update	Historical information and background	
Program Execution	Program Forum	<p>The next Program Forum will be hosted by Southern California Edison and held on April 17, 2008 in Los Angeles.</p>	<p>The CPUC established the CSI Program Forum as a quarterly public meeting intended to allow stakeholders to learn about program updates and discuss solutions to implementation issues. Program Forums were previously held in April, June and October of 2007 and January 2008.</p>
	Program Handbook	<p>The CPUC released the CSI Program Handbook in January 2008. In February 2008, the CPUC released a small addendum/update to the CSI Program Handbook. The changes:</p> <ul style="list-style-type: none"> ▪ Remove the independence requirement for Performance Monitoring and Reporting Service, and ▪ Establish requirements to validate PBI data reporting. The update includes a set of interim performance data provider protocols. <p>The CSI Program Administrators are currently working to identify changes that can be made to further streamline the CSI Program Handbook.</p>	<p>The CSI Program Handbook was released initially in December 2006, and it provides a compendium of all program rules and eligibility information. The Program Handbook is periodically revised and re-released in order to reflect either changes to the program rules as ordered by the CPUC and/or minor modifications proposed by the Program Administrators and approved by the CPUC. In January 2008, the Commission reissued the Program Handbook to reduce the paperwork requirements of the CSI Program and allow for non-PV incentives. The new Program Handbook reflects approved administrative streamlining measures and keeps the Program Handbook current with recent CPUC decisions.</p>

CSI Program Implementation Updates		
Program Area	Update	Historical information and background
Program Execution	<p>EPBB Calculator</p> <p>The EPBB Calculator was reissued in March 2008 to incorporate changes necessary to calculate incentives for building integrated photovoltaic (BIPV) technologies.</p> <p>The CSI Program Administrators and the CPUC are working together to identify all areas where changes must be made to the EPBB calculator to insure that the CSI Program complies with the CEC's adopted <i>Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1</i> Report. On April 1st, the Program Administrators filed an outline of a plan with the CPUC for how they plan to proceed on the EPBB calculator modifications.</p>	<p>In 2007 the CPUC launched the EPBB Calculator for applicants to calculate their incentive based on system characteristics. In December 2007, the CEC ratified their <i>Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1</i> Report, which set minimum requirements for calculating estimated performance based incentives (EPBI). The CSI program's EPBB calculator falls under the requirements for EPBI and must comply with the Eligibility Requirements Report by January 1, 2009.</p>
	<p>Application Processing</p> <p>The Program Administrators are conducting at least one installer training class per month on key program requirements, tools and application processing.</p>	<p>The Program Administrators increased staffing to accommodate a large spike in program applications in the summer of 2007. The CPUC is monitoring staffing levels.</p>
	<p>Online Application Tool and Program Data</p> <p>The CSI Program Administrators are currently working to increase functionality and improve data integrity within the database. Program data, which is updated weekly, is available to the public at csi.powerclerk.com.</p>	<p>In August 2007, the CSI Program launched the online CSI Application tool to facilitate online submission and tracking of all CSI applications. In September, the program released program data for the first time from the program application database. The database was not available at the start of the program due to the short time to prepare for the program launch, and the Program Administrators used interim databases to meet the needs of program tracking until the database was ready.</p>

CSI Program Implementation Updates		
Program Area	Update	Historical information and background
Program Execution	Marketing and Outreach	<ul style="list-style-type: none"> ▪ The Program Administrators developed a series of statewide CSI program fact sheets for solar installers, residential customers and commercial customers, available in English, Chinese and Spanish at www.gosolarcalifornia.ca.gov ▪ The Program Administrators are developing an online tutorial for the CSI program’s online application tool. The tutorial will be available later in 2008. ▪ The monthly CSI Newsletter currently has a distribution of over 1,600 subscribers. Issues are posted on www.gosolarcalifornia.ca.gov ▪ The Program Administrators are coordinating on a unified CSI booth at major solar conferences such as ASES and Solar Power 2008. <p>The CPUC adopted an interim Marketing and Outreach plan in May 2007 with the intention of considering a long-term marketing and outreach plan at a later date. The Program Administrators were each allotted an annual budget of \$500,000 per year for basic marketing and outreach activities as an “interim” budget. The Program Administrators are currently coordinating on many projects, including an electronic newsletter, fact sheets, training materials and online tools. On December 3, 2007, the Program Administrators submitted interim M&O plans for 2008, receiving approval for monthly installer training and consumer workshops; coordination on statewide materials such as an electronic newsletter and a consumer-friendly version of the CSI Program Handbook; bill inserts or other direct mailings; and web enhancements and online multi-media products.</p>

CSI Program Implementation Updates			
Program Area	Update	Historical information and background	
Program Requirements	Time of Use (TOU) Rates	<p>Legislation is pending that would make optional the requirement that owners of solar PV systems take service under TOU rates. The pending legislation removes the condition that TOU rates are optional only until the next utility rate case.</p>	<p>SB 1 required solar incentive recipients to go on TOU rates. An unintended consequence was that a few customers with high peak demand had higher electricity bills after reducing demand with solar than on “flat” electricity rates without solar. In June 2007, the legislature, the Governor and the CPUC all took necessary action to delay the TOU mandatory requirement until new TOU rates are established as part of each utility’s rate cases.</p>
	Metering Accuracy and Performance Monitoring	<p>On Jan. 31, 2008, the CPUC removed the independence requirement for PMRS providers, created a framework for developing Performance Data Provider (PDP) protocols and set interim protocols for data transfer to validate PBI payments.⁷</p> <p>In February 2008, workshops were held to discuss development of the PDP protocols, non-performance requirements, data security and transfer formats. The Program Administrators and the CPUC will organize a final set of workshops (planned for May 2008) to discuss data validation tests and a finalized PDP protocol.</p> <p>In March 2008, the Program Administrators submitted a plan to develop an accuracy testing standard for inverter-integrated meters.⁸</p>	<p>The CSI Program requires that participants meet thorough metering and monitoring requirements. In July 2007, the CPUC modified the metering requirements by: (1) allowing consumers in the EPBB path to install meters that are accurate within +/- 5%; (2) requiring all consumers participating in the PBI to install meters that are accurate to within +/- 2%; (3) clarifying that PBI recipients are not exempt from PMRS requirements, but that all EPBB recipients can be exempt if bid estimates surpass a specified cost cap.</p>

⁷ CPUC Decision 08-01-030, approved on January 31, 2008

⁸ In Compliance with D. 06-07-028, Advice Letters were filed: SCE AL 2227-E and PG&E AL 3239-E on March 27, 2008.

CSI Program Implementation Updates		
Program Area	Update	Historical information and background
Program Requirements	<p>Shading Criteria</p> <p>The Program Administrators are working to assess what changes will need to be made to the current methodology for calculating minimal shading to bring the CSI into compliance with the CEC's <i>Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1</i> Report.</p>	<p>The CEC's <i>Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1</i> includes a shading calculation methodology that is different than the current one used within the CSI Program.</p>
	<p>Installation Inspections</p> <p>The Program Administrators have redeveloped their inspection training protocols so that minor errors not greatly affecting system performance would not result in failure.</p> <p>The Program Administrators recently issued a notice to installers about the potential scenarios that could occur as a result of any program inspection.</p>	<p>The CSI Program requires inspection of most large installations prior to paying the incentive. In order to gauge how the new performance requirements were faring, Program Administrators inspected many systems before moving to sampled inspections (1 in 7) for systems under 30 kW in July, 2007.</p>

CSI Program Implementation Updates			
Program Area	Update	Historical information and background	
Program evaluation	CEC SB1 Report	The CEC's <i>Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1</i> report was completed in December 2007. ⁹ The CPUC is working with the Program Administrators and the CEC to determine what changes to the program might be necessary. On January 15 th , the CPUC issued a ruling providing the Program Administrators direction on complying with the guidelines. On April 1, 2008, the Program Administrators filed a plan to implement the changes necessary to the EPBB calculator to comply with the CEC <i>Guidelines</i> .	SB 1 requires the CEC to establish eligibility criteria, conditions on incentives and standards for equipment, components and systems for ratepayer funded solar projects.
	CSI Program Measurement and Evaluation Plan	No update.	CPUC staff is reviewing various proposals for a cost-effectiveness methodology for solar and other distributed generation technologies. After the CPUC adopts a Cost-Effectiveness Methodology applicable to the CSI Program, staff will propose a program Measurement and Evaluation plan.
	Program Data	Program data, which is updated weekly, is available to the public at csi.powerclerk.com .	The CSI database features are currently in development to allow the public access to current information on program data.

⁹ Available at <http://www.energy.ca.gov/2007publications/CEC-300-2007-012/CEC-300-2007-012-CMF.PDF>.

CSI Program Implementation Updates		
Program Area	Update	Historical information and background
Program components	<p>Building Integrated PV (BIPV)</p> <p>On March 10, 2008, the CSI EPBB calculator integrated a function that accommodates calculation of incentives for BIPV systems. This change means that BIPV systems can now fully access all available CSI incentives. An explanation of how estimated performance of BIPV systems has been included in the EPBB calculator user guide.</p>	<p>Initially, the CSI Program could not allow applicants using BIPV products to apply for the up-front EPBB incentive, because the state could not accurately predict temperature influences on the performance of BIPV technologies. In July 2007, the Commission adopted D.07-08-007, which approves BIPV products for the incentive program based on the fact that the Commission had received satisfactory data to use in modifying the incentive calculator.</p>
	<p>Non-PV Solar Technologies</p> <ul style="list-style-type: none"> • The CPUC recently adopted E-4131, a resolution that adopted the CSI Program Handbook changes necessary to incorporate non-PV technologies into the CSI program. The resolution established the list of eligible technologies. • The Program Administrators have not yet made an application available to these non-PV solar technologies, but the CPUC expects non-PV technologies to be able to apply for incentives in 2008. • On March 25, 2008, the CPUC issued draft Resolution E-4162, which would remove solar water heaters (SWH) from the list of eligible non-PV technologies. Removal of solar water heating would comply with D.06-01-024, which states that solar water heating technologies are only eligible for incentives through the Solar Hot Water Pilot Program on-going in San Diego. 	<p>When the CSI Program was developed in 2006, the CPUC provided that incentives could be paid to both PV and non-PV solar technologies. The CPUC program originally lacked sufficient detail to allow the non-PV technologies to apply for incentives, but recent program amendments via decision and advice letter clear the way for non-PV technologies to apply for incentives.</p>

CSI Program Implementation Updates			
Program Area	Update	Historical information and background	
Program Components	Solar Water Heating Pilot Program	<p>In April 2008, CCSE and the California Solar Energy Industries Association (CalSEIA) jointly filed a petition at the CPUC to extend and expand the pilot program to all three investor-owned utility service territories. The petition has not yet been addressed by the Commission.</p>	<p>When the CSI Program was developed in 2006, a small pilot program for solar hot water heating was funded, making incentives available only to SDG&E customers who install the technology. The goal of the pilot program is to evaluate the cost-effectiveness of solar water heating systems and characterize the solar water heating market in order to determine if a stand-alone statewide program is needed.</p>
	Single-Family Low Income Program	<p>A competitive solicitation (Request for Proposal, RFP) for a statewide Single-Family Low-Income Program Manager will be issued shortly to implement the CPUC's program design. The competitive bidding process will last through the summer of 2008, and the Single-Family Low-Income Program Manager will be chosen at the end of this process. The CSI Single-Family Low-Income Incentive Program will be implemented throughout the state towards the end of 2008.</p>	<p>In November 2007, the CPUC established the policy framework for the CSI Single-Family Low-Income Incentive Program. The program has a budget of \$108 million and is expected to run through 2015. Incentive payments for installed solar photovoltaic systems range from \$4.75 to \$7.00 per watt for qualifying low-income homeowners, as defined by Public Utilities Code 2852. The program will also provide fully-subsidized 1kW PV systems to qualifying households with incomes of 50% of area median income or less. The Commission decision requires a Program Manager to administer the program.</p>

CSI Program Implementation Updates			
Program Area	Update	Historical information and background	
Program Components	Multi-family Low-Income Incentive Program	<p>On February 29, 2008, a CSI Low Income Multifamily Program staff proposal was released in an Administrative Law Judge’s Ruling. A public workshop on this proposal was held at the CPUC in San Francisco on March 17, 2008. The Assigned Commissioner and Administrative Law Judge are considering this proposal and public comments. A proposed decision on a Low Income Multifamily Program is expected in 2008.¹⁰</p>	<p>In July 2007, the CSI Program Administrators submitted a <i>multifamily</i> low income housing incentive proposal, which was discussed in a CPUC workshop in August 2007.</p>
	Research Development and Demonstration (RD&D)	<p>A Request for Proposals for a CSI RD&D Program Manager was released on April 1, 2008.¹¹ The RD&D Program Manager will work with the CPUC on all aspects of implementing the RD&D Program, including: strategy development, project solicitation and evaluation, funding recommendation, report preparation and periodic evaluation of the projects and program costs. The RD&D Program Manager will also be responsible for overseeing the day-to-day operations of the CSI RD&D Program. The deadline for this RFP is May 20, 2008.</p>	<p>On September 20, 2007, the Commission approved D.07-09-042 to enact a \$50 million Research, Development, Deployment and Demonstration (RD&D) solar grant program that will focus predominantly on demonstration projects and grid-integration initiatives. The Commission approved a RD&D Plan that identifies the goals and objectives of the program, sets forth allocation guidelines for the RD&D funds, and establishes criteria for solicitation, selection and funding RD&D projects. The Commission decision requires the hiring of a Program Manager to administer the program.</p>

¹⁰ Staff proposal is available at <http://docs.cpuc.ca.gov/efile/RULINGS/79408.pdf>

¹¹ Notice of release of RFP available at http://www.cpuc.ca.gov/PUC/energy/Solar/080401_notice.htm

5. Program Demand Statistics

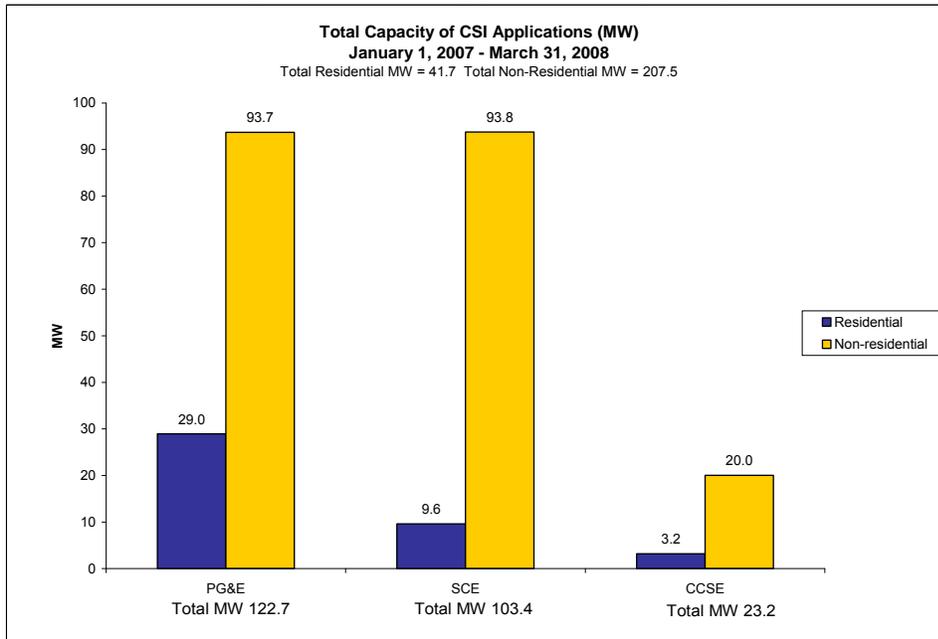
Important Note: This section provides analysis from newly generated data from the program database on April 2, 2008. The data has improved significantly since the January 2008 version of the Staff Progress Report, but the data continues to be incomplete in some cases. In order to produce this report, the staff had to clean some parts of the data to remove null fields and remove applications with insufficient data. The Program Administrators are continuing to improve the reliability of the information included in the database reports. All references to capacity throughout are CEC-AC rating, not CSI rating which includes an expected performance adjustment for the installation and design of the system, aka design factor.

5.1 Program Participation is Robust

The California Solar Initiative has received over 10,000 applications, and there are currently 9,817 active applications for 249.3 MW of new solar and \$649 million in incentives. An additional 270 applications were received but have been withdrawn or rejected from the program (referred to as drop outs throughout this document).

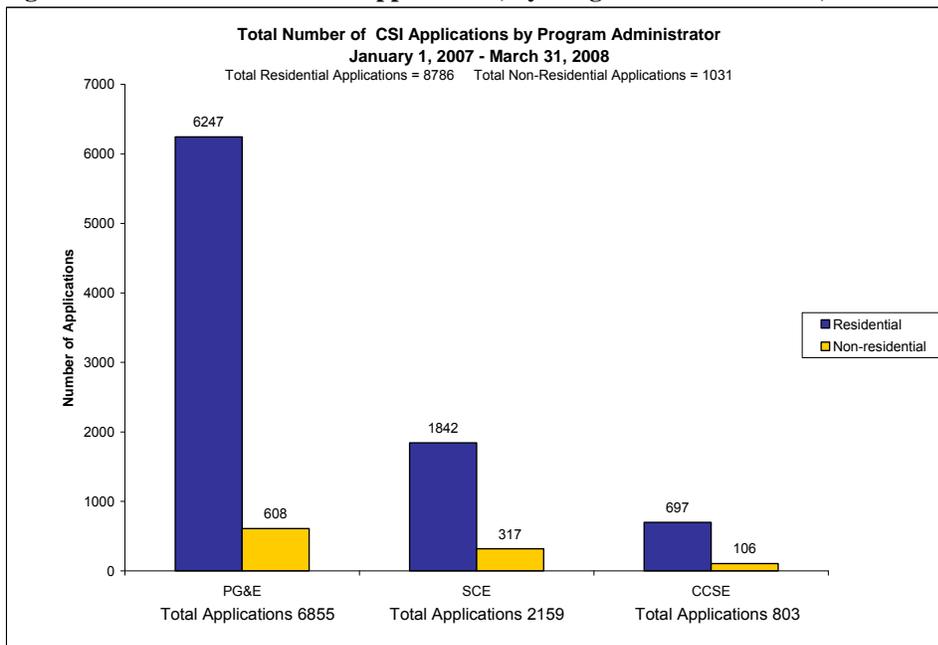
- As shown in Figure 3, SCE and PG&E saw strong demand in non-residential applications, 93.8 MW and 93.7 MW respectively, at the end of the first quarter of 2008.
- SCE saw a 25% increase from the end of 2007 through March 31, 2008 for non-residential demand. CCSE had a more modest increase from 18 MW to 20 MW. SCE's surge in non-residential demand may have been caused by an impending non-residential step drop in PG&E's territory – driving potential sales southward where the incentive levels were still expected to be higher. This surge in demand balanced out the sales between north and south and resulted in both PG&E and SCE moving into a lower incentive level, Step 5.
- As shown in Figure 4, PG&E's has received 6,247 applications in the residential sector in the program to date – still far exceeding SCE's and CCSE's participation in the residential sector. A total number of 8,786 applications have been received in the residential sector statewide, and 1,031 non-residential projects.

Figure 3. Total Capacity of CSI Applications, by Program Administrator, Jan. 1-Mar 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008. Note: Total does not include drop outs (cancelled or removed systems).

Figure 4. Total Number of CSI Applications, by Program Administrator, Jan. 1-Mar 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008. Note: Total does not include drop outs (cancelled or removed systems).

5.2 Program Participation Varies by Geography

A closer look at the application requests per program administrator reveals more about the geographic and customer demand patterns, as well as administrative challenges. Non-residential

applications, equaling 207.5 MW, comprise a bulk of the capacity in the application pool (160.8 MW in commercial and 46.7 MW in government/non-profit). Eighty-nine percent of the applications were smaller residential projects, while non-residential projects make up a small percentage of the application pool-- commercial is 8% of the total and government/non-profit sector is 3% of the total.

As seen in Table 4, PG&E is managing 70% of the program's applications (only 49% in terms of MWs), due to their large number of residential applications. Although residential applications contain slightly less paperwork and a shorter, two-step application process, reviewing the applications still requires significant administrative time regardless of system size (e.g. Program Administrators report that a 4 kW system can take the same time to process as a 100 kW system.) The volume of applications has affected PG&E's review time of applications, but a backlog that occurred in the summer of 2007 is resolved, see administrative metrics section below.

Table 4. Number of Applications and MW by Customer Type and Administrator

Customer Class	Data	Program Administrator			Total
		CCSE	PG&E	SCE	
Residential	# of Applications	697	6247	1842	8,786
	Applications %	7%	64%	19%	89%
	MW	3.2 MW	29.0 MW	9.6 MW	41.7 MW
	MW %	1%	12%	4%	17%
Commercial	# of Applications	76	455	249	780
	Applications %	1%	5%	3%	8%
	MW	16.0 MW	69.5 MW	75.4 MW	160.8 MW
	MW %	6%	28%	30%	65%
Government/ Non-Profit	# of Applications	30	153	68	251
	Applications %	0.3%	2%	1%	3%
	MW	4.1 MW	24.2 MW	18.3 MW	46.7 MW
	MW %	2%	10%	7%	19%
Total # of Applications		803	6,855	2,159	9,817
% of Applications		8%	70%	22%	
Total MW		23.2	122.7	103.4	249.3
% of Total (by Administrator)		9%	49%	41%	

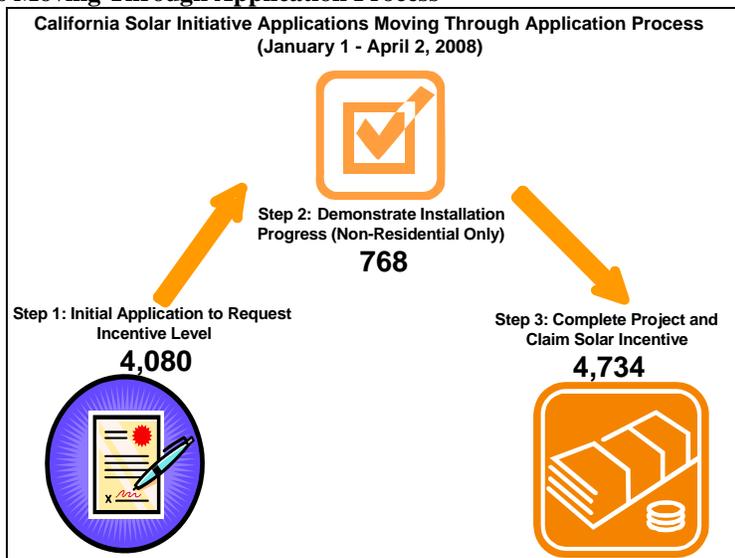
Source: CSI PowerClerk Online Database, April 2, 2008. Note: total **does not include** drop outs.

5.3 Projects are Proceeding through CSI Application Steps and Reaching Completion

Applications proceed through several stages before payment - from Requested to Reserved to Completed. Residential and small commercial applicants can apply through an abbreviated two-step application process—the first step is to apply and confirm your incentive level and the second step is to submit documentation of an installed system to receive a rebate. Larger commercial projects have an interim application step -- a milestone review and confirmed reservation stage, making a three-step process before payment. The final part of the rebate process is triggered when the applicant submits an incentive claim form, signifying that the project is installed and ready for inspection (if applicable), documentation review, and payment. The data in Table 5 below includes all applicants – those with a two-step process as well as those with a three-step process.

As shown in Table 5, the majority of applicants are still in the application Step 1 or application Step 2 stage in the CSI application process, although a large number of applicants (yet a small number of MWs) have moved to the application Step 3.

Figure 5. Applications Moving Through Application Process



- There are 4,080 applicants in the application processing Step 1, which includes 3,404 with confirmed reservations. Those projects with confirmed reservations can now begin installation.
- Another 768 applications (all non-residential) are in application processing step 2.
- Once the applicant finishes step 1 (residential) or step 2 if applicable (non-residential), the applicant proceeds with the installation, an inspection if required, and submits the final required paperwork into the Incentive Claim Form (ICF) Package.
- The number of projects in application processing Step 3, which means their Incentive Claim Package has been submitted, has increased from 2,719 to 4,734.
 - Of those submitted, 4,043 projects are "completed", valued at 24.0 MW and \$59 million.
 - An additional 691 projects are "pending payment" or "incentive claim submitted" (which essentially means under review).
 - In Step 3, 96% of the applications (4,568 applications equal to 20.5 MW) are residential, and 4% (166 applications equal to 12.5 MW) are non-residential.
- Another 270 solar projects have dropped out of the program (worth 32.7 MW), having been either rejected for ineligibility or withdrawn due to unfavorable economics.

Table 5. CSI Application Status, MW and Payments, January 1-March 31, 2008

Handbook Step	Application Status	Number of Applications				Total		Total Incentive
		CCSE	PG&E	SCE	Totals	MW	\$	
Application Processing Step 1	Reservation Request Review	13	386	64	463	13.2	MW	\$ 29,481,374
	Reservation Reserved	32	123	58	213	61.3	MW	\$ 146,694,933
	Confirmed Reservation	263	2405	736	3404	80.4	MW	\$ 222,274,784
	Total Applications in Step 1	308	2914	858	4080	154.9	MW	\$ 398,451,091
Application Processing Step 2 (Only applies to non-residential)	Online Proof of Project Milestone Submitted	0	1	0	1	1.0		\$ 2,047,893
	Milestone Review	1	54	9	64	20.5	MW	\$ 54,798,265
	Pending RFP	1	2	0	3	1.5	MW	\$ 4,408,494
	Incentive Claim Request Review	21	613	66	700	11.3	MW	\$ 30,328,001
Total Applications in Step 2	23	669	75	768	34.3	MW	\$ 91,582,653	
Application Processing Step 3 (Step 2 for Residential and Small Commercial)	Incentive Claim Submitted	39	187	39	265	2.8	MW	\$ 7,631,309
	Pending Payment	19	291	116	426	6.7	MW	\$ 18,076,753
	Completed	392	2792	859	4043	24.0	MW	\$ 58,592,879
	Total Applications in Step 3	450	3270	1014	4734	33.4	MW	\$ 84,300,941
	Suspended	22	1	212	235	26.7	MW	\$ 74,695,686
	Drop Outs	21	166	83	270	32.7	MW	\$ 82,288,803
	Total	640	5381	1701	10087	281.9	MW	\$ 731,319,174
	Total w/o Drop Outs	624	5277	1640	9817	249.3	MW	\$ 649,030,371

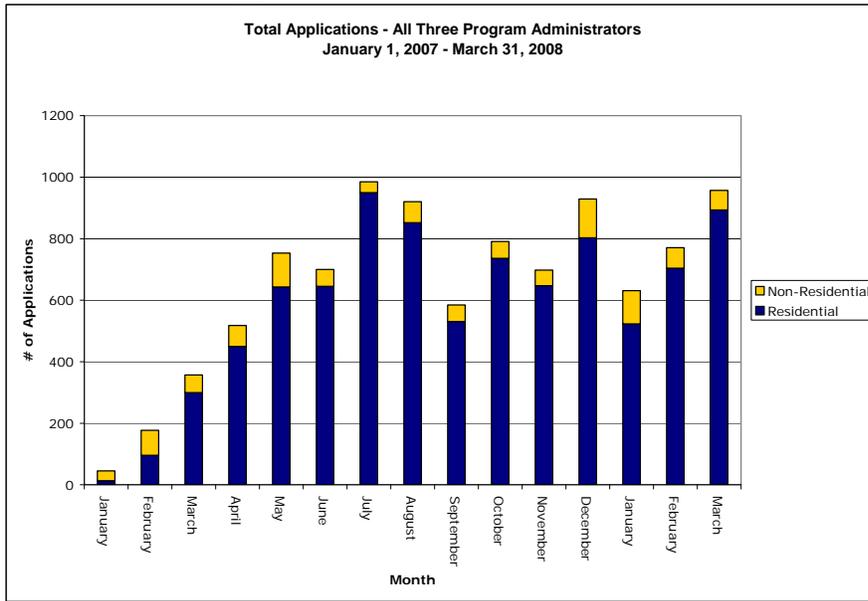
Source: CSI PowerClerk Online Database, April 2, 2008.

Note: A project's system capacity (CEC-PTC rating) may change over the lifetime of a project – for example, an application may be submitted for a 4 kW PV system, but a 4.5 kW system was installed because the installer used less efficient PV system components than were expected in the beginning of the project. The "Total MW" column does not reflect these changes in system capacity throughout a project's lifetime, but only captures the size of the project as currently reflected in the database. This discrepancy accounts for the difference between the "Drop Outs" in Table 5 and Table 13. The latter table is calculated using the Trigger Tracker database which does account for changes in project size over time.

5.4 Program Demand remains Healthy through 2008

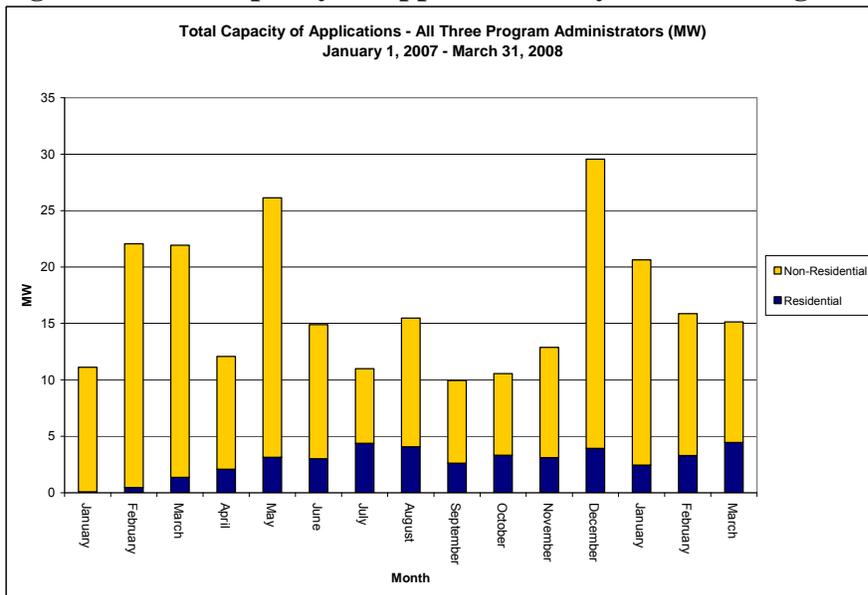
Interest in the CSI Program has remained strong through the beginning of the program's second year. Figure 6 and Figure 7 provide a month by month view of the total number of applications received in the program. This month-by-month view is not "confirmed reservations", but applications received. The surge in non-residential demand in December 2007 was likely related to the fact that PG&E and SCE both edged very close to changing from Step 4 to Step 5 in December 2007.

Figure 6. Total Applications – By Customer Segment, Jan. 1-Mar. 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008.

Figure 7. Total Capacity of Applications - By Customer Segment, Jan. 1- Mar. 31, 2008



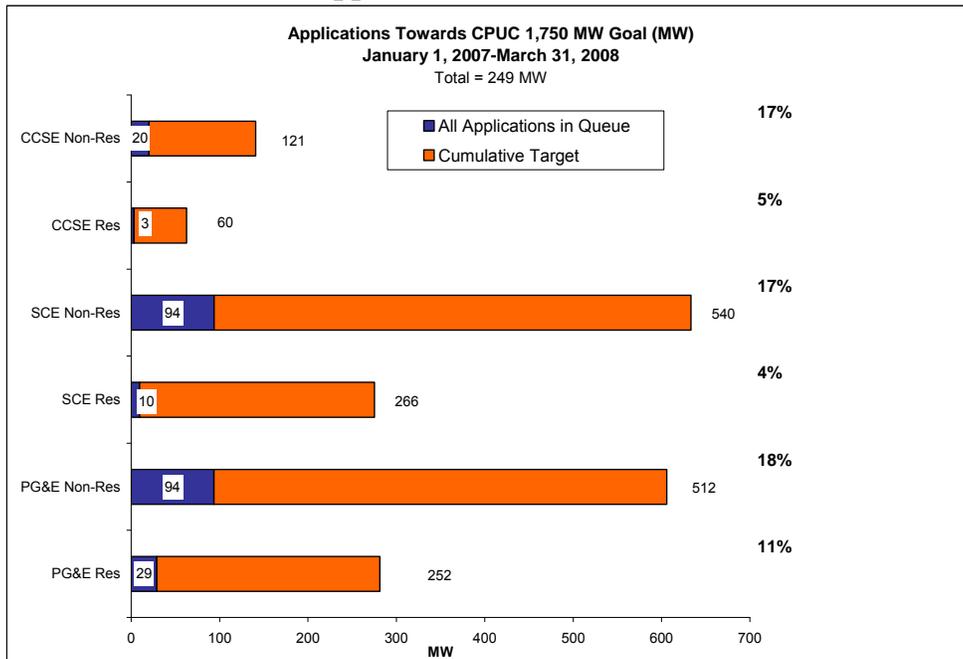
Source: CSI PowerClerk Online Database, April 2, 2008.

5.5 Program Making Progress to Reach Overall CSI Goals

One goal of the CPUC portion of the CSI Program is to grow solar installations to reach 1,750 MW by 2017. With 249 MW worth of applications, the program would appear to be on track to meet at least 14% of the program’s 10 year goal. The CPUC did not adopt annual targets for the CSI Program, as demand is expected to fluctuate as the incentive levels drop and the industry adjusts.

In designing the program, the CPUC divided the goals by program administrator and customer segment. Figure 8 shows the current applications in relation to each of the sub goals. Each Program Administrator is making progress towards its portion of the program’s MW goals. Figure 8 shows the goals per Program Administrator per sector (residential or non-residential) that are based on Table 3 on Page 13 above. The non-residential portion of the CPUC goals are about 17-18% underway, whereas the residential portion of the goals are 4% underway in SCE territory, 11% underway in PG&E’s territory, and increased to 5% in CCSE territory. Figure 8 shows the progress towards the goal based on MWs in applications that are currently in the queue (and does not include drop outs).

Figure 8. CPUC has 250 MW of Applications Towards Ten-Year 1,750 MW Goal

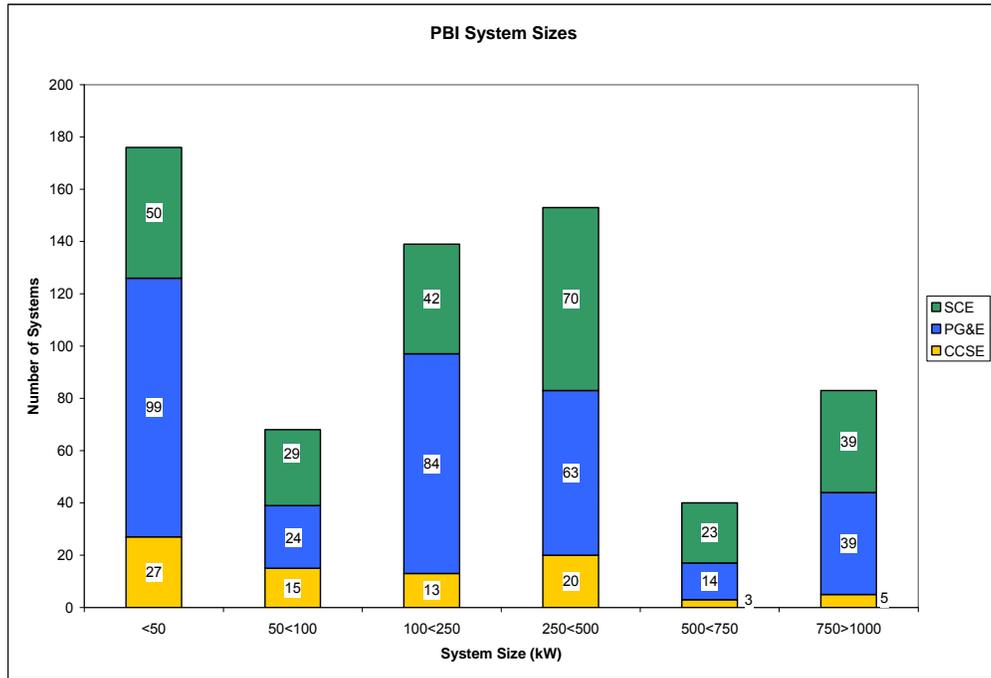


Source: CSI PowerClerk Online Database, April 2, 2008.

5.6 PBI Incentive Demand

The PBI incentive path is required of larger projects in the CSI Program. There are currently 659 PBI projects, that when installed will bring online an estimated 192 MW of new solar. The commercial sector dominates PBI projects; there are 148 MW of commercial projects. The remaining 44 MW of PBI projects are 34 MW of government projects, 9 MW of non-profit projects, and less than 1 MW of residential projects. Figure 9 shows the number of PBI systems by size to show the frequency of medium and large systems in the CSI Program.

Figure 9. Number of PBI Systems by System Size by Program Administrator, January 1 – March 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008.

Voluntary Opt-In to PBI System

The CPUC is also monitoring the extent to which customers are taking the PBI incentive payment even if they are not required to do so. This information will help inform the planned phase-down of PBI to 30 kW systems by 2010. The PBI incentive was required of all systems 100 kW and greater in 2007, and it is required of all systems 50 kW and above as of 2008. Customers that opt-in to PBI should be sure to understand the costs and rigor of the PBI monitoring and metering requirements. As shown in Table 6, the PBI incentive path is being taken by about 2% of customers that do not need to take PBI. In 2008, there were 176 systems that were under 50 kW that voluntarily opted into the PBI payment system.

Table 6. Systems Below 100 kW that Opt into PBI, January 1- March 31, 2008

System Size	CCSE	PG&E	SCE	Total
<30kW	27	89	46	162
30<50kW	0	10	4	14
Total	27	99	50	176
<i># of Systems <100kW</i>	<i>761</i>	<i>6648</i>	<i>1978</i>	<i>9387</i>
<i>% of Systems <50kW in PBI</i>	<i>3.5%</i>	<i>1.5%</i>	<i>2.5%</i>	<i>1.9%</i>
<i>% of Systems <100kW in EPBB</i>	<i>96.5%</i>	<i>98.5%</i>	<i>97.5%</i>	<i>98.1%</i>

Source: CSI PowerClerk Online Database, April 2, 2008.

5.7 Program Administrator's Administrative Processing Time

The CPUC is tracking a number of administrative benchmarks in order to monitor potential Program Administrator performance issues. The key issues include how long is it taking for applications to be processed and payments to be made. All of the data in this section was provided to the CPUC by the Program Administrators in a data request completed April 4th, 2008, and encompassing Program data through February 29th, 2008, unless otherwise noted.

Reservation Request Review Time

The Program Administrators are striving to take less than 30 days to confirm both residential and non-residential reservation requests. Table 7 below shows application processing time from date the application was received at the Program Administrator, based on the time stamp for paperwork in hand at the Program Administrator¹², to the date application has confirmed reservation. Note that the application processing time is dependent on the Program Administrator reviewing paperwork, as well as the applicant responding to any requests for more information or application corrections. Therefore, Table 7 includes time periods when the Program Administrators contact an applicant to ask for additional information, as well as wait for the response.

The Program Administrators have made progress recently on getting towards their goal of confirmed reservation within 30 days.

- For Residential Applications processed recently:
 - 58% - PG&E, 40% - SCE, 95% - CCSE – were processed in less than 30 days
- For Non-Residential Applications processed recently:
 - 14% - PG&E, 46% - SCE, and 53% - CCSE – were processed in less than 30 days

The applications that take "greater than 60 days" to get from received to reservation can be assumed to have some type of problem. Some of the most frequent types of problems encountered with applications are:

- Listed equipment does not match EPBB print out
- Mailing Address vs. Project Site Address

¹² The date the paperwork is received at the Program Administrator is usually after the Application package is submitted via the online application database Powerclerk.

- Missing signature(s)
- Incomplete or missing documentation

Table 7 compares includes the 2007 data overall, as well as the more recent timeframe of December 2007 through February 2008. (March 2008 was not included in the data set because so many applications are still pending). While each project requires individual attention and “no two projects are alike”, the data is offered to demonstrate that for the most part, the Program Administrators have addressed paperwork processing backlogs. Also, the data allows one to observe that there is a range of processing time across the program. No single area is “all backlog” or “100%” processed in under 30 days.

Across all the Program Administrators, processing time for non-residential is clearly longer than for residential. PG&E’s residential processing time significantly improved compared to 2007 figures, which were dominated by a PG&E summer 2007 backlog due to unanticipated high demand over that period.

PG&E’s residential application processing time continues to improve. PG&E’s processing time for non-residential applications during the December 07 – February 08 time period did not improve compared to the 2007 data probably as a result of the administrative team’s “due diligence” in addressing potential Step 4 dropouts prior to moving to Step 5. PG&E essentially delayed moving from Step 4 to Step 5 to ensure that all anticipated dropouts from prior steps were processed prior to closing out Step 4.

Table 7. Number of Days between Application Received and Confirmed Reservation

Percentage of applications whose processing time between “Application Received” and “Confirmed Reservation” is:										
	1-14 days		15-29 days		30-59 days		Greater than 60 days		Not yet reserved	
	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007
RESIDENTIAL										
PG&E	6%	6%	52%	19%	37%	32%	2%	42%	3%	1%
SCE	48%	28%	40%	38%	11%	13%	1%	2%	0%	19%
CCSE	93%	79%	2%	12%	1%	5%	1%	3%	3%	1%
NON-RESIDENTIAL										
PG&E	3%	2%	11%	19%	44%	36%	23%	33%	20%	10%
SCE	34%	9%	46%	19%	18%	27%	2%	8%	0%	37%
CCSE	53%	42%	0%	14%	6%	38%	0%	3%	38%	3%

Source: CPUC Data Request, Submitted April 4, 2008. “Dec – Feb” includes data from Dec. 1, 2007 through Feb. 29, 2008. “2007” data includes all Program data from Jan. 1 – Dec. 31, 2007.

Installation Time

The average installation time is determined by the applicant, not by the Program Administrators. Applicants have twelve months from the date of a confirmed reservation to turn in an Incentive

Claim Form. Installation times vary according to residential and non-residential projects. Table 8 below shows the average number of days from the receipt of the reservation incentive form to the installation date. The majority of CSI projects are not yet complete, and so Table 8 shows data based only on the projects to date that have reached the incentive claim form stage.

Table 8. Average Number of Days of Installation (Mean Number of Days from Reservation to Incentive Claim Form Received) in 2007

	RESIDENTIAL	NONRESIDENTIAL
PG&E	70 days	104 days
SCE	57 days	76 days
CCSE	68 days	102 days

Source: CPUC Data Request, Submitted April 4, 2008. ,

Interconnection Time

The time for interconnections is based upon the date the utility interconnection department deems the application complete (final single line, final building permit, etc.) to performing the interconnection inspection and issuing the permission to operate letter. This time is typically under the utility's control, and not dependent on additional inputs from cities, counties, etc, however exogenous factors such as customer unavailability or adverse weather conditions may impact this. Table 9 identifies the time from interconnect application to authorization to interconnect.

Table 9. Time from interconnect application to authorization to interconnect (in days) for 2007

	RESIDENTIAL	NONRESIDENTIAL
PG&E	6	7
SCE	5	8
CCSE	5	5

Source: CPUC Data Request, Submitted April 4, 2008.

Incentive Claim Review Time

Table 10 below shows time from Incentive Claim Form received, based on time-stamp of received paperwork received at the Program Administrator¹³, to Pending Payment status for applications. The Program Administrators receive the CSI incentive claim form packages and time-stamp date the received application paperwork. Based on the date the Program Administrators receive the paperwork (not necessarily the date the Incentive Claim Form is submitted electronically via Powerclerk), the Program Administrators review the paperwork and perform onsite inspections on a sample of projects. Since scheduling and inspection times vary significantly, Table 10 includes the different lengths of time for residential and non-residential applicants with and without inspections. Included in the time periods in Table 10 are times when

¹³ The date the paperwork is received at the Program Administrator is usually after the Incentive Claim Form is submitted via the online application database Powerclerk.

the Program Administrators contact an applicant and ask for additional information based on incomplete or errors in an Incentive Claim Form.

The applications that take "greater than 90 days" to get from Incentive Claim Form received to Pending Payment can be assumed to have some type of problem. Some of the most frequent types of problems encountered with applications at the ICF stage are:

- System not interconnected
- Revised EPBB not submitted to reflect changes in installed equipment
- Missing PMRS documentation
- Missing 10 Year warranty for equipment and/or installation
- Incomplete documentation
- Incomplete/No data from or about PDP Provider
- Host Customer unaware of CSI Inspection need

Table 10. Percentage of applications whose processing time between “Incentive Claim Form Received” and “Pending Payment”

Percentage of applications whose processing time between “Incentive Claim Form Received” and “Pending Payment” stage is:										
	1-29 days		30-59 days		60-89 days		Greater than 90 days		Not yet in “Pending Payment” Stage	
	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007	Dec. - Feb	2007
RESIDENTIAL with inspection										
PG&E	6%	6%	62%	55%	19%	22%	2%	12%	11%	3%
SCE	68%	74%	28%	18%	3%	4%	3%	3%	0%	2%
CCSE	61%	48%	15%	25%	6%	19%	0%	5%	18%	3%
RESIDENTIAL without inspection										
PG&E	48%	50%	46%	33%	5%	9%	1%	5%	0%	3%
SCE	85%	76%	16%	16%	0%	6%	0%	3%	0%	0%
CCSE	77%	67%	6%	23%	0%	6%	0%	3%	17%	1%
NON-RESIDENTIAL with inspection										
PG&E	10%	8%	20%	38%	0%	31%	0%	23%	70%	0%
SCE	80%	33%	10%	33%	10%	34%	33%	0%	0%	0%
CCSE	25%	0%	50%	0%	0%	40%	0%	20%	25%	40%
NON-RESIDENTIAL without inspection										
PG&E	34%	53%	16%	17%	9%	13%	0%	2%	41%	15%
SCE	64%	56%	36%	33%	0%	11%	0%	0%	0%	0%
CCSE	40%	43%	40%	29%	0%	0%	0%	0%	20%	28%

Source: CPUC Data Request, Submitted April 4, 2008. "Dec – Feb" includes data from Dec. 1, 2007 through Feb. 29, 2008. "2007" data includes all Program data from Jan. 1 – Dec. 31, 2007.

Payment Time

Once an Incentive Claim Form package has been reviewed and approved, including the complete inspection if applicable, the applicant is ready for payment. The time from Pending Payment to Completed status reflects the amount of time it takes for the payment to be made to the applicant. Again, the timeframes vary based on residential and non-residential, but they also vary depending on whether the project is receiving an EPBB incentive or a PBI incentive. Table 11 shows the average number of days from Pending Payment status to Completed status, for both EPBB and PBI incentives.

No PBI payments have been made by PG&E and SCE to non-residential projects. These projects are expected to be paid once the final metering and PDP protocols are in place, See Program Implementation updates.

Table 11. Average Number of Days from Pending Payment to Completed (Mean Number of Days from ICF Approved to Payment Made for 2007

	Residential		Non-Residential	
	EPBB	PBI	EPBB	PBI
PG&E	6	30	8	*
SCE	78	*	48	*
CCSE	15	50	19	21

* No PBI payments made in these categories

Source: CPUC Data Request, Submitted April 4, 2008.

According to CCSE, PBI payment timelines often have a built in 30 day delay from date project is approved (Pending Payment) until the first receipt of a full month of production data. Upon receipt of the production data, the Project Administrators have 30 days to complete the payment. Therefore, 60 days from Pending Payment to First Payment is fairly typical. In several cases, CCSE has not received production data until 60+ days after the project was approved. CCSE has put in requirements to try to improve the responsiveness of PDP/PMRS providers.

For PG&E, the check for EPBB payments is initiated when a customer submits complete documentation on his/her Incentive Claim and the inspection has been completed and report provided (if selected for an inspection). PBI applications are approved when a customer submits complete documentation on his/her Incentive Claim and the inspection has been completed and report provided (if selected for an inspection). However, PBI payments are not initiated until the generation data has been submitted to the Program Administrators for payment.

5.8 Installer Trainings

The CSI Program held 71 trainings during 2007 that trained at least 3,227 attendees. Each Program Administrator offered numerous trainings throughout the year, and these trainings provide an opportunity to train installers on the CSI application process. Table 12 shows the number of trainings held per Program Administrator.

Table 12. Number of CSI Trainings 2007

	Number of CSI Trainings Held in 2007	Number of Attendees at Installer Trainings in 2007
PG&E	33	2,167
SCE	26	376
CCSE	12	684
Total	71	3,227

Source: CPUC Data Request, Submitted April 4, 2008.

PG&E offers two primary training classes, the “CSI Workshop” and “Solar Power Basics for Residential Customers”. These workshops are offered monthly and open to interested customers and installers.

SCE currently offers monthly solar training sessions that cover the basics of the CSI program, primarily for installers. Beginning in May 2008, these sessions will be titled “Professional Training” and offered twice a month. Beginning in April 2008, SCE will also offer the “Solar Evenings” program for interested residential customers, which will be held two evenings a month throughout SCE service territory.

CCSE offers two primary solar courses, “Solar for Homeowners” and “The Financial Case for Solar”. Both workshops include information relevant to installers and homeowners.

5.9 Program Drop Outs

As the CSI Program has progressed, some systems have either dropped out entirely or decreased in overall size (MW). Overall, the estimated Program dropout rate is 12.5%, including systems that have either totally dropped out of the program and systems that have downsized capacity. As per Commission decision D.07-05-007, these “dropout” MWs are added in at the current step when they drop out. This program feature means that there can be more MWs given out at a given step than originally expected under the CPUC’s step table. Table 3 demonstrated the difference between “original” and “actual to date” MWs in step. There may also be a dollar differential between the incentive amount at which the MWs were originally reserved and the incentive amount where the MWs are added back into the program at a new step. Table 13 shows the dropout MWs for the CSI Program, by Program Administrator, as well as the associated “Dollar Differential”. This table includes data through February 29th, 2008, and the data was drawn from information provided by the Program Administrators in a data request dated April 4th, 2008. More detailed data is available in the Appendix B of this report.

Table 13. CSI Program Dropouts and “Dollar Differential” Unreserved when MW drop out at one incentive level and are added back into program at a lower incentive level

Step	PG&E (MW)			SCE (MW)			CCSE in SDG&E Territory (MW)			Totals	
	Res MW	Non-Res MW	\$ unreserved (1)	Res MW	Non-Res MW	\$ unreserved	Res MW	Non-Res MW	\$ unreserved		
1	--	16.7	--	--	7.01	--	--	6.16	--	29.94	--
2	0.34	12.08	\$5,616,350	0.07	3.41	\$1,023,018	0.03	0.42	\$233,400	16.36	\$6,872,768
3	5.83	4.57	\$1,276,500		0.99	\$630,686	0	0.23	\$69,000	11.62	\$1,976,186
4		8.60	\$73,850		1.38	\$0		0.19	\$0	9.98	\$73,850
Total	31.42		\$6,966,700	5.85		\$1,653,704	0.87		\$302,400	38.1	\$8,922,804

Source: CPUC Data Request, Submitted April 4, 2008.

Note: (1) The “\$ Unreserved” figure is an estimated calculation based on an assumption that all non-residential dropouts are commercial projects. The actual figures may differ slightly based on government & non-profit participation in the steps. The “\$ unreserved” figure does not equal the total amount of incentive money associated with the dropped out MWs. (2) Step 1 was fully reserved under the Self Generation Incentive Program in 2006, and these applications were subject to different programmatic rules. Therefore, Step 1 dropout rates are not directly comparable to the rates for Steps 2 and beyond, and are not included in the totals row at the bottom of Table 13. (3) The amount of MW dropout shown on this chart differs from that shown in Table 5 because this data includes MW changes from system downsizing. (4) Data presented is current as of February 29th, 2008.

CSI Program Dropout Rate

Although we can currently estimate a program dropout rate of 12.5%¹⁴, it is particularly challenging to calculate an accurate overall CSI Program dropout rate at this time. First, the Program has just completed its first year, and all projects have at least 12 months to either reach completion or dropout. Therefore, a dropout rate would appear larger for older projects merely because they have more likely reached the end of their 12 month installation window. The program expects to have a clearer view of project drop out rates after a larger volume of projects completes its full twelve month cycle.

It is also worth noting that the amount of MW that dropped out of PG&E’s non-residential program and were added back into Step 4 and, to a lesser degree, SCE Step 4 are relatively large. As these Program Administrators approached the step change from Step 4 to Step 5, they made a conscious effort to follow up on all incomplete projects in order to encourage those that would eventually drop out to do so immediately. Therefore, both PG&E and SCE were able to extend Step 4 through their “due diligence” in addressing potential Program dropouts.

5.10 SGIP Funding and Solar Reservations as a Transition into CSI

In 2006, the CPUC provided a transition between the Self Generation Incentive Program and the California Solar Initiative. The most important aspects of this transition was that the CPUC (1)

¹⁴ This rate is calculated by dividing the total number of dropout MW, including both total dropouts and downsized systems, by the total number of MWs applied for under the CSI Program.

funded the SGIP program to meet a sharp rise in the demand for solar incentives and (2) set incentive declines based on the CPUC adopted “step table” commenced in advance of the actual program launch on January 1, 2007.

In 2006, nearly 97 MW of solar PV projects were reserved under the Self-Generation Incentive Program (SGIP). The first 50 MW of projects reserved in 2006 are considered “Step 1” of the CSI Trigger Tracker, and received incentive payments of \$2.80 per watt for all customer classes. The Step 1 projects were based on “first come first serve” in all four SGIP Program Administrator territories. (SGIP has a fourth Program Administrator, Southern California Gas Company.) After these first 50 MW were reserved, the incentive levels declined to Step 2. In May 2006, projects began receiving “Step 2” level incentives of \$2.50 per watt for residential & commercial customers and \$3.25 per watt for government & non-profit customers.

Any unspent funds in the 2006 SGIP solar budget were transferred to the CSI balancing accounts on December 31st, 2006. Starting on January 1, 2007, all funds committed under the California Solar Initiative are subject to the legislative budget limits expressly set for solar incentives from January 1, 2007 through 2016, as well as the budgetary detailed guidance provided by the CPUC.

5.11 CSI Administrative Expenditures

Decision D.06-01-024 allocated 10% of the overall CSI budget to administrative expenses. Administrative expenses are meant to include program administration, marketing and outreach (M&O) , and measurement and evaluation (M&E). D.06-12-033 adjusted these figures to maintain the 10% administrative expenditure figure while complying with legislative budget limits. The CPUC established a 5% cap on administrative spending, and the other 5% would be spent on M&O and M&E. The cap on administrative spending is over the lifetime of the program and not on an annual basis. The CPUC has not yet established budgets for the M&O and M&E portions of the budget, except to authorize each program administrator to spend \$500,000 per annum on an interim marketing and outreach program. The Program Administrators were unable to utilize all of their M&O funds in 2007 due to a late start in the program. Program Administrators are required to submit reports of their administrative spending to the CPUC Energy Division on a semi-annual basis. Table 14 below summarizes Program Administrator administrative spending for 2007.

Table 14. CSI Administrative Spending

Program Administrator	Total Allowed Administrative Budget*	Administrative Spending 2007	Marketing & Outreach Spending 2007	Total 2007 Administrative Spending	Admin Burn Rate (Actual / Allowed)
PG&E	\$83,000,000	\$3,441,063	\$276,857	\$3,717,920	4.5%
SCE	\$87,200,000	\$2,283,560	\$239,057	\$2,522,617	2.9%
CCSE	\$19,500,000	\$881,973	\$495,941	\$1,377,914	7.1%
Totals	\$189,700,000	\$6,606,596	\$1,011,855	\$7,618,451	4.0%

Source: Total Administrative Budget from D.06-12-033, Appendix A, Table 3. Spending to date from Program Administrator expense reports submitted to Energy Division, January 2008.

5.12 Third Party Owned Projects

Third party ownership is not tracked by the CSI database, but there is a reasonable proxy of this information based on looking at projects that have a “Host Customer” that is different from a “System Owner”. Similarly, the CSI database does not include information on whether a “System Owner” has a Power Purchase Agreement (PPA) with the “Host Customer” because that information is not part of the CSI application process. While PPA arrangements do exist within third-party owned projects, there could be other financial or management arrangements between the two entities.

Table 15 shows there are just 355 projects where “Host Customer” is different from “System Owner”, but these projects have a total capacity of 97.5 MW, representing 40% of the applications in the CSI program. Of these projects, about 83% of applications are non-residential throughout all three IOU territories. (68% of PG&E’s applications, 99% of SCE’s applications, and 97% of CCSE’s applications are non-residential).

Table 15. CSI Projects with Different “Host Customer” vs. “System Owner”, By Program Administrator

	Program Administrator			Total
	CCSE	PG&E	SCE	
Number of applications with different Host Customer/System Owner	36	163	156	355
Number of applications of all CSI projects	803	6855	2159	9817
Total capacity of applications with different Host Customer/System Owner (MW)	11.4	43.0	55.0	109.4
Total capacity of applications of all CSI Projects (MW)	23.2	122.7	103.4	249.3

Source: CSI PowerClerk Online Database, April 11, 2008.

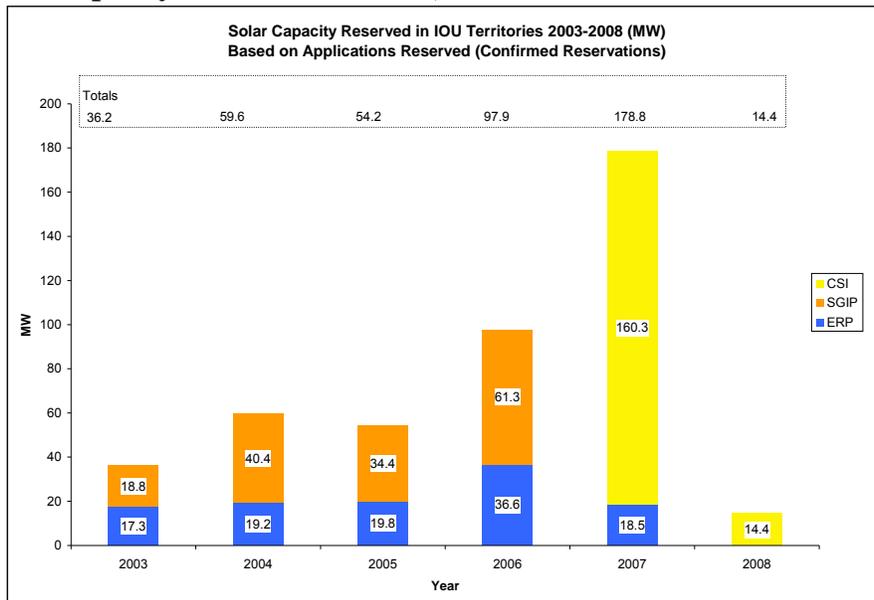
5.13 CSI Program Demand Comparison to Prior Programs

The CPUC is interested in monitoring the comparison of the CSI Program with the programs that it replaced. In terms of solar capacity, demand for the program is surpassing that of earlier rebate programs, despite the transition to performance-based incentives and the new application process.

In the January 2008 report, we compared the confirmed reservations by year by program. Since the CEC's ERP program received over 3,000 applications in the closing weeks of 2006, many of the ERP program reservations were confirmed in 2007.

As shown in Figure 10, based on updated data, there were applications confirmed for 97.9 MW of solar in 2006 in the ERP and SGIP programs. In 2007, there were applications confirmed for 178.8 MW of solar capacity in the ERP and CSI programs. The CSI Program received 208 MW of applications in 2007, but only processed 160.3 confirmed reservations.

Figure 10. Solar Capacity in IOU Territories, 2003-2008



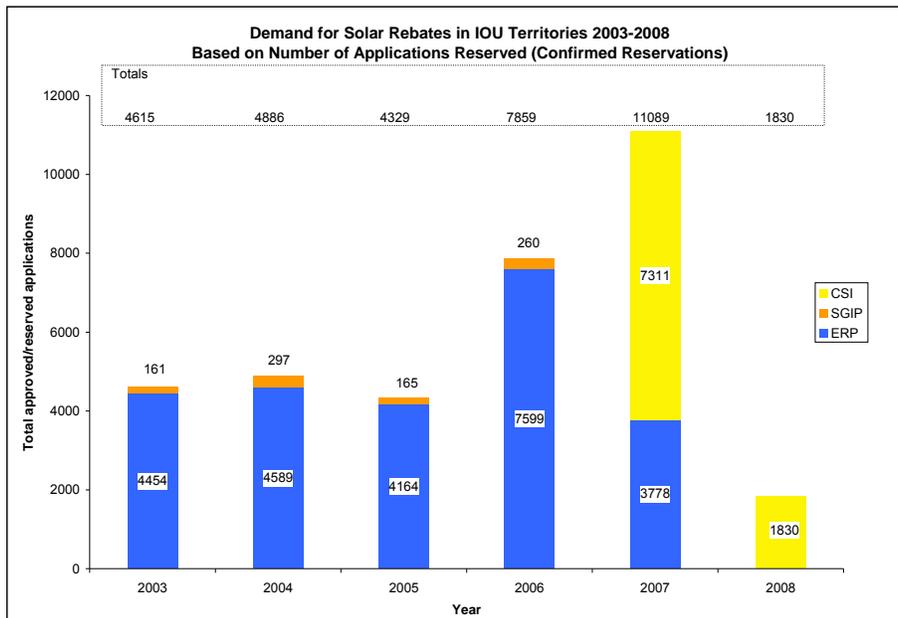
Sources: CEC ERP database through January 7, 2008. CPUC SGIP database through January 2008. CSI PowerClerk Online Database through January 7, 2008.

Notes: Data represents all applications approved in ERP and all reservations confirmed in CSI/SGIP. This differs from the September report which includes all applications *received* in ERP/CSI/SGIP. The CSI data excludes applications in the Reservations Reserved, and Reservations Request Review status.

ERP data includes residential applications for existing and new properties. CSI data includes residential applications for existing properties only.

In terms of the number of applications confirmed, based on updated data, there were 7,859 applications confirmed in 2006 in the ERP and SGIP programs. In 2007, there were 11,089 applications confirmed in the ERP and CSI programs. 2008 has seen a 1,830 confirmed applications in CSI, totaling 14.4 MW. The CEC's NSHP program is not included in the data, but there were applications approved in that program as well.

Figure 11. Demand for Solar Rebates in IOU Territories 2003-2008



Sources: CEC ERP database through January 7, 2008. CPUC SGIP database through January 2007. CSI PowerClerk Online Database through March 31, 2008.

Note: Data represents all applications approved in ERP and all reservations confirmed in CSI/SGIP.

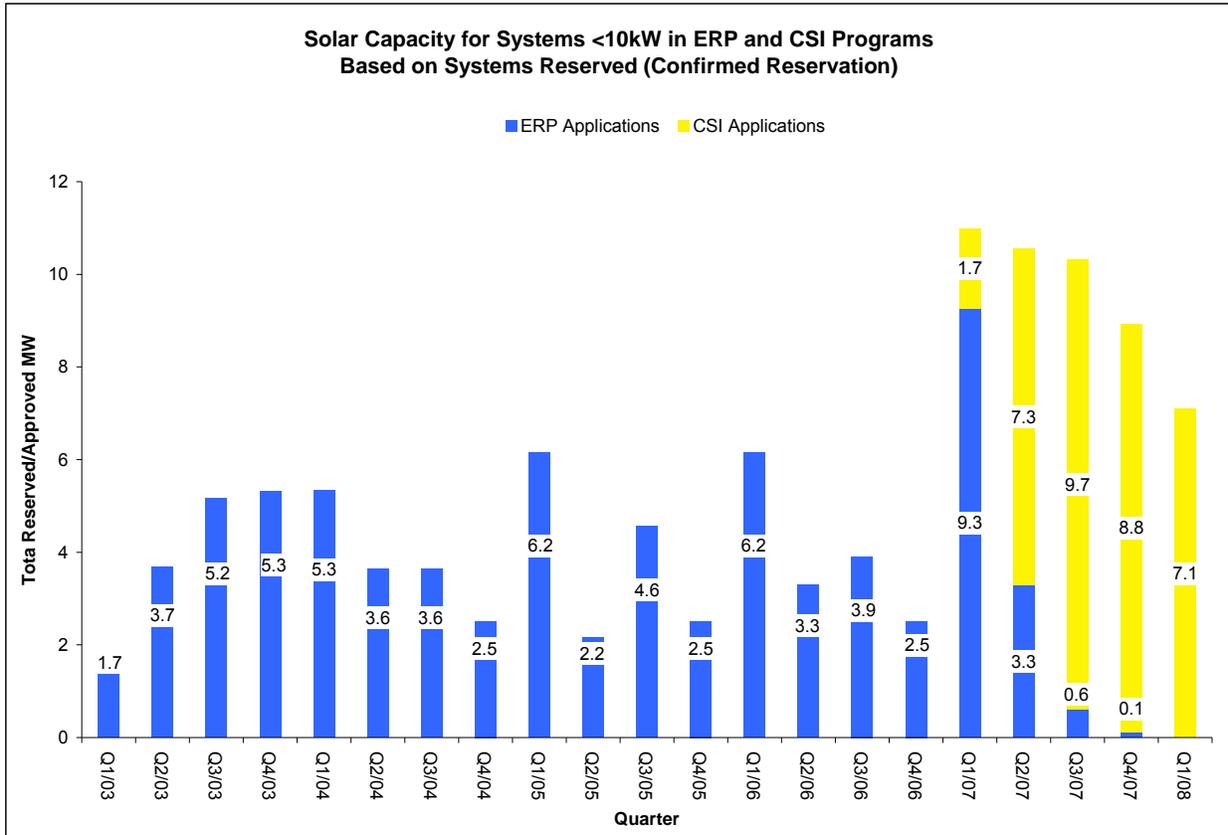
5.14 CSI Program's Under 10 kW Demand Tracks ERP's Demand for Projects Under 10 kW

The previous section looked at the difference in overall demand between the CSI and previous programs. The CPUC is also monitoring the demand for incentives by sector. For the under 10 kW sector, which is primarily residential, the CPUC has looked at quarter by quarter comparisons of the under 10 kW portion of the CSI Program and the under 10 kW portion of the ERP program.

It is important to remember that the ERP program funded both residential and small commercial installations under 30 kW. The CEC's program did not categorize applications by residential versus non-residential systems. Therefore, in the analysis below, we compare applications under 10 kW from both programs. There is some small commercial in this sector, but it is largely residential.

Figure 12 shows that solar capacity reserved in the under 10 kW project segment has remained fairly steady in the CSI Program, exhibiting a peak in Q3 2007 of 9.7 MW. In Q1 2008, there was a modest drop to 7.1 MW.

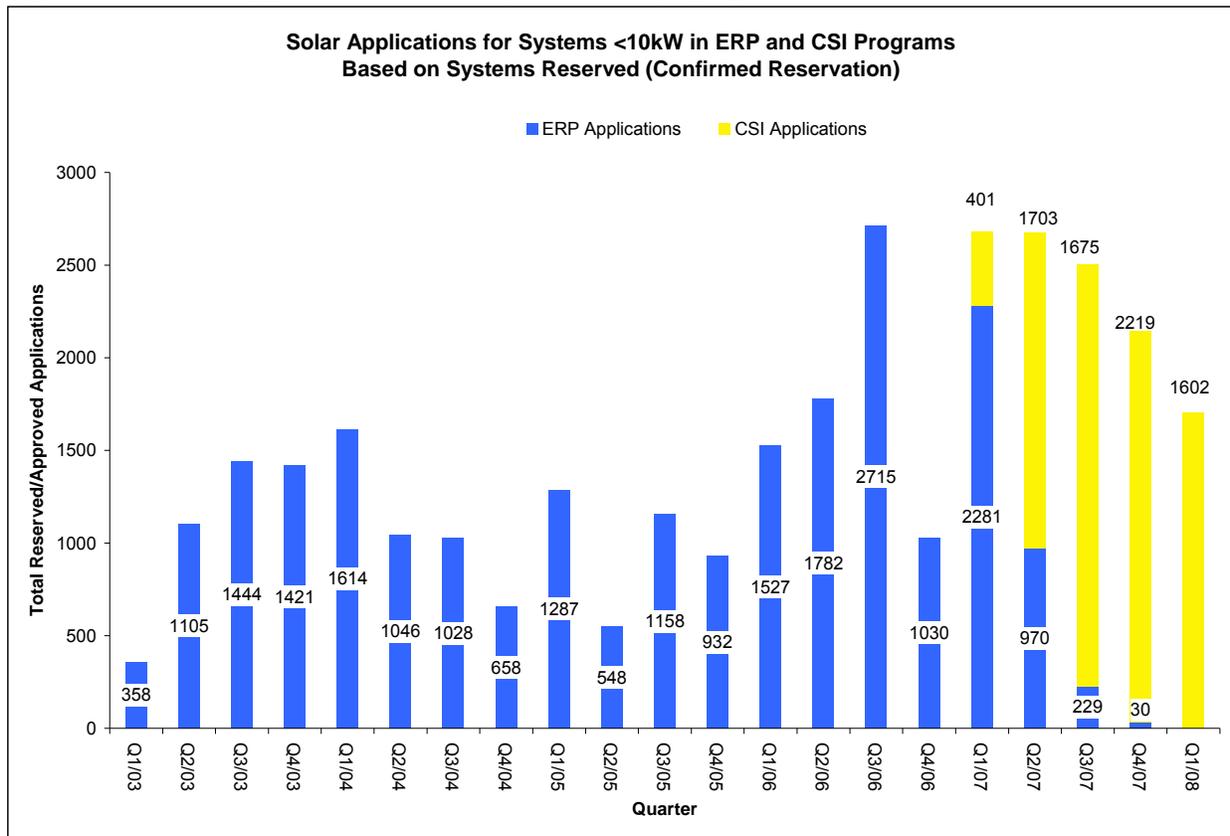
Figure 12. Solar Capacity of Applications <10kW, 2003-2007, by Quarter



Sources: CEC ERP database through January 7, 2008. CPUC SGIP database through October 2007. CSI PowerClerk Online Database through March 31, 2008.

Notes: The CSI data excludes applications in the Reservations Reserved, and Reservations Request Review status. ERP data includes residential applications for existing and new properties. CSI data includes residential applications for existing properties only.

Figure 13. Solar Applications <10kW, 2003-2007, by Quarter



Sources: CEC ERP database through January 7, 2008. CPUC SGIP database through October 2007. CSI PowerClerk Online Database through March 31, 2008.

Notes: The CSI data excludes applications in the Reservations Reserved, and Reservations Request Review status. ERP data includes residential applications for existing and new properties. CSI data includes residential applications for existing properties only.

5.15 California Solar Initiative Supported Strong Statewide Grid-Installed Capacity Progress in 2007

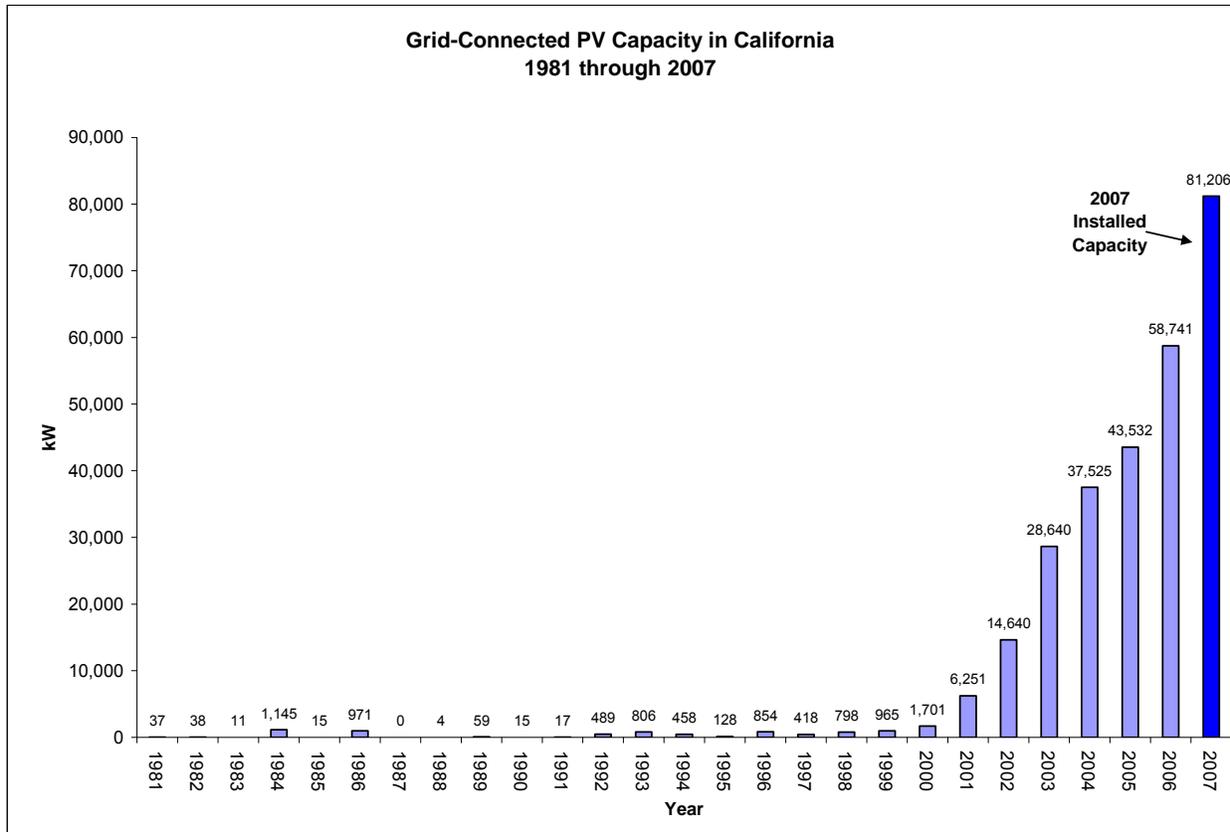
The ultimate metric for the CSI Program will be the amount of installed MW of new grid connected solar in California. Because the program is only a year old, the data discussed in this progress report focuses primarily on the capacity of applications to date, rather than on installed MWs. The CPUC will be closely monitoring the actual installations and eventually doing a thorough review of the annual growth under CSI.

The California Energy Commission (CEC) tracks installed MW of grid connected PV since 1981. The most recent version of the CEC's database was published in April 2008, and Figure 14 shows the MW of grid-connected PV systems since 1981 through December 31, 2007.

In 2007, the installed capacity in California was 81 MW, an increase by 38% from 2006, where the installed capacity was 59 MW. Of the 2007 installations:

- 19.2 MW came from the CSI Program,
- 33 MW came from SGIP (no longer an active program, replaced by CSI)
- 26 MW came from ERP (no longer an active program, replaced by CSI and NSHP)
- 8 kW came from NSHP
- 3 MW came from solar programs in non-IOU territories

Figure 14. Grid-Connected PV Capacity in California, 1981 through 2007

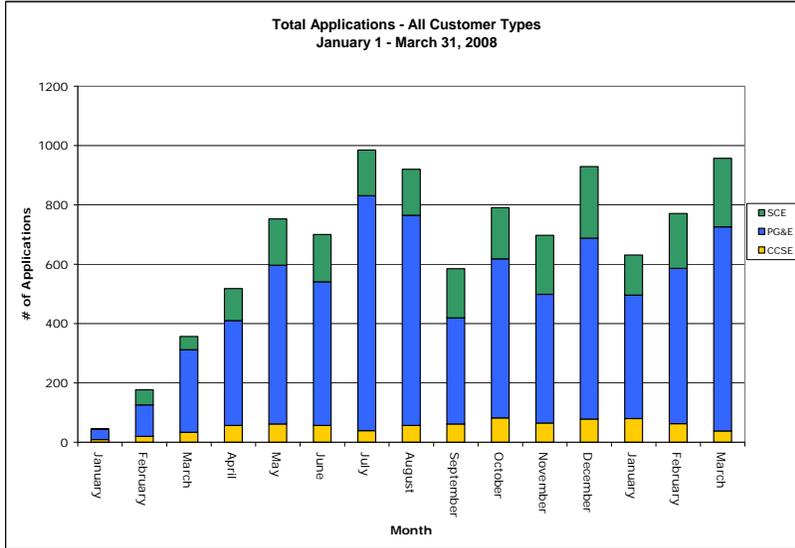


Source: 1981-2007 data from California Energy Commission's *Grid Connected PV Capacity Installed in California*, April 1, 2008. Available at: http://energy.ca.gov/renewables/emerging_renewables/GRID_CONNECTED_PV_12-31-07.XLS.

Appendix A

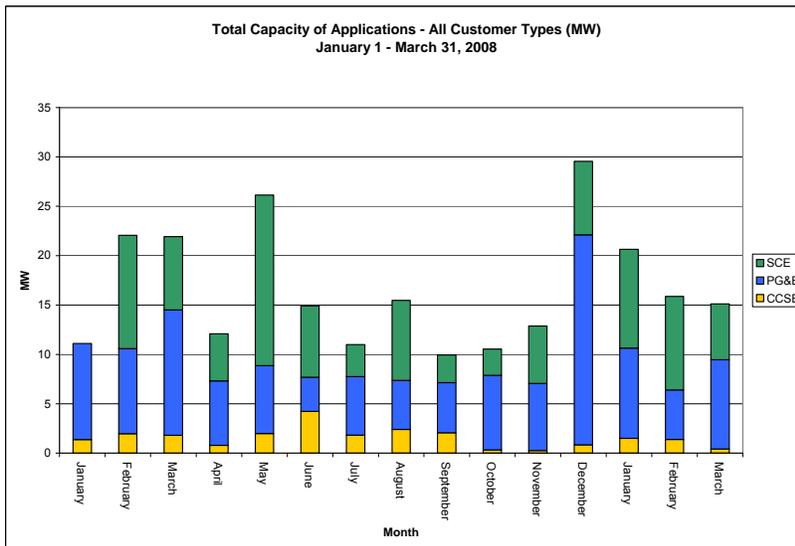
Additional data graphs of CSI Program demand by month and by Program Administrator are provided in the Appendix.

Figure 15. Total Applications – By Program Administrator, Jan. 1-Mar. 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008.

Figure 16. Total Capacity of Applications – By Program Administrator, Jan. 1- Mar. 31, 2008



Source: CSI PowerClerk Online Database, April 2, 2008.

Figure 17. Total Applications-PG&E, Jan. 1-Mar. 31, 2008¹⁵

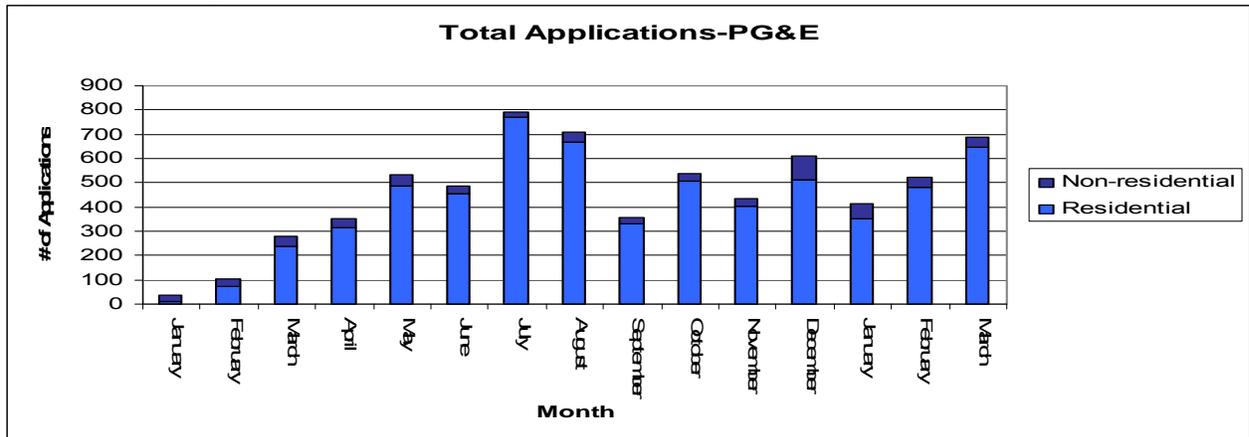


Figure 18. Total Capacity of Applications- PG&E, Mar. 31, 2008

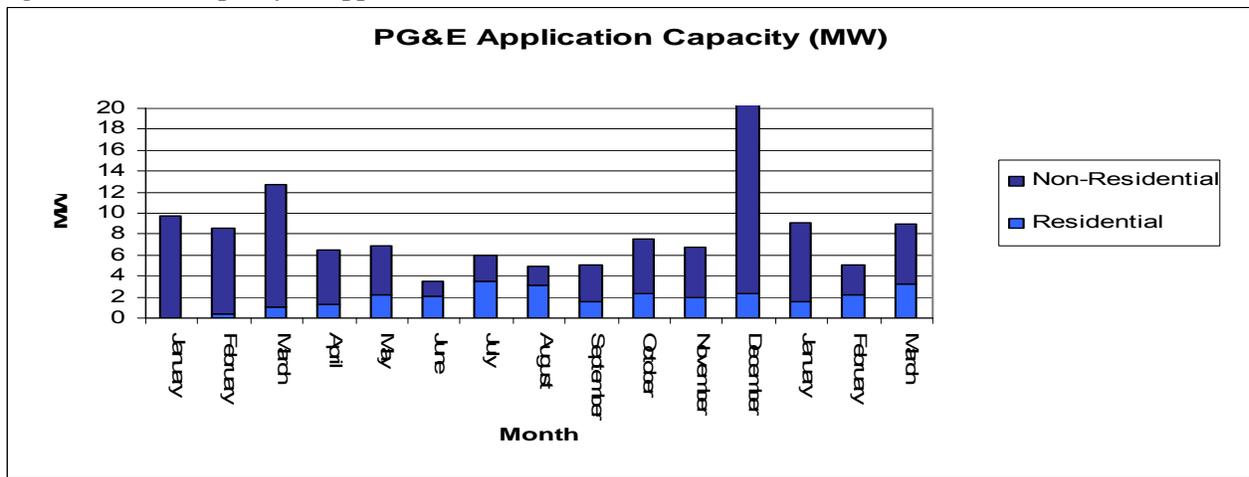
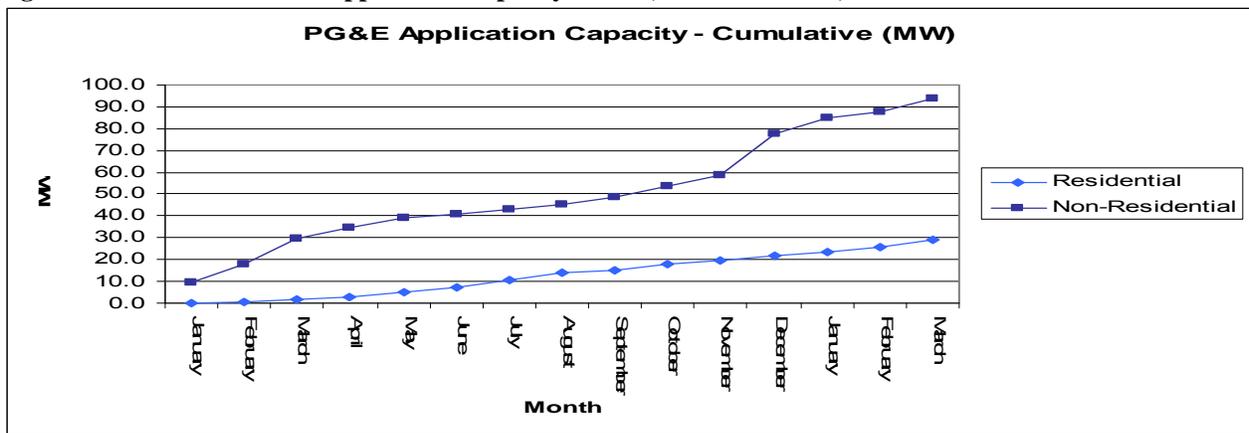


Figure 19. Total Cumulative Application Capacity-PG&E, Jan. 1- Mar. 31, 2008



¹⁵ Sources for Figure 16 through 24 are the CSI PowerClerk Online Database, April 2, 2008.

Figure 20. Total Applications-SCE, Jan. 1- Mar. 31, 2008

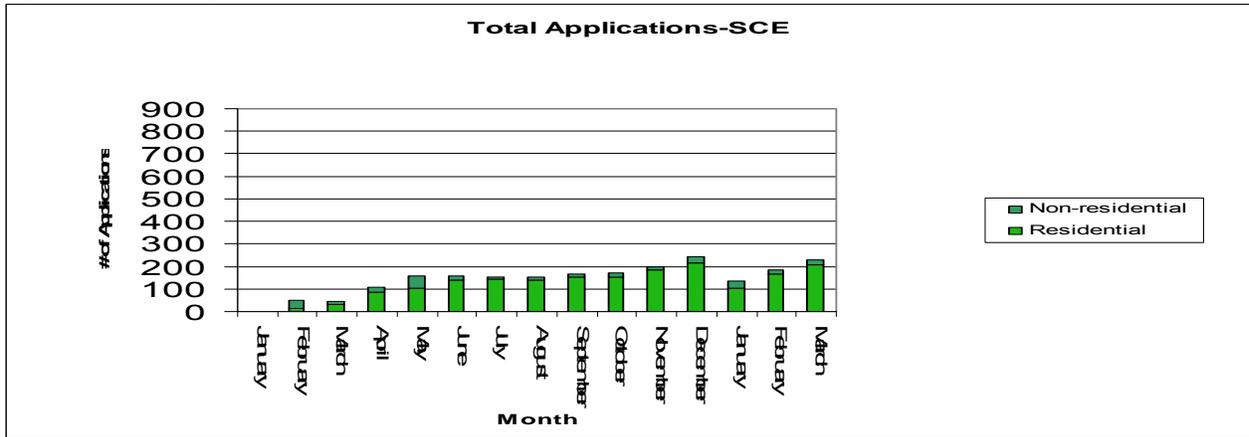


Figure 21. Total Capacity of Applications-SCE, Jan. 1- Mar. 31, 2008

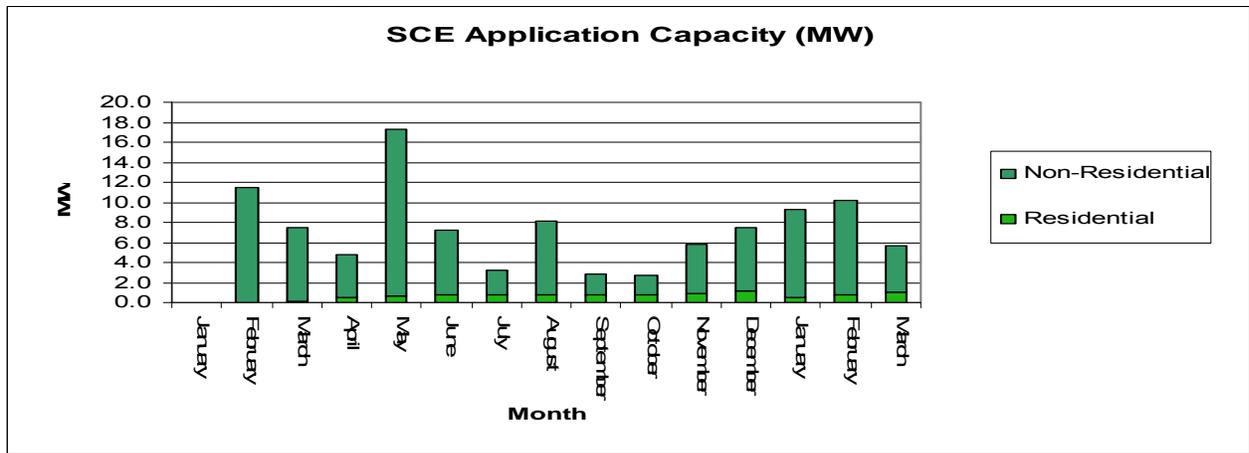
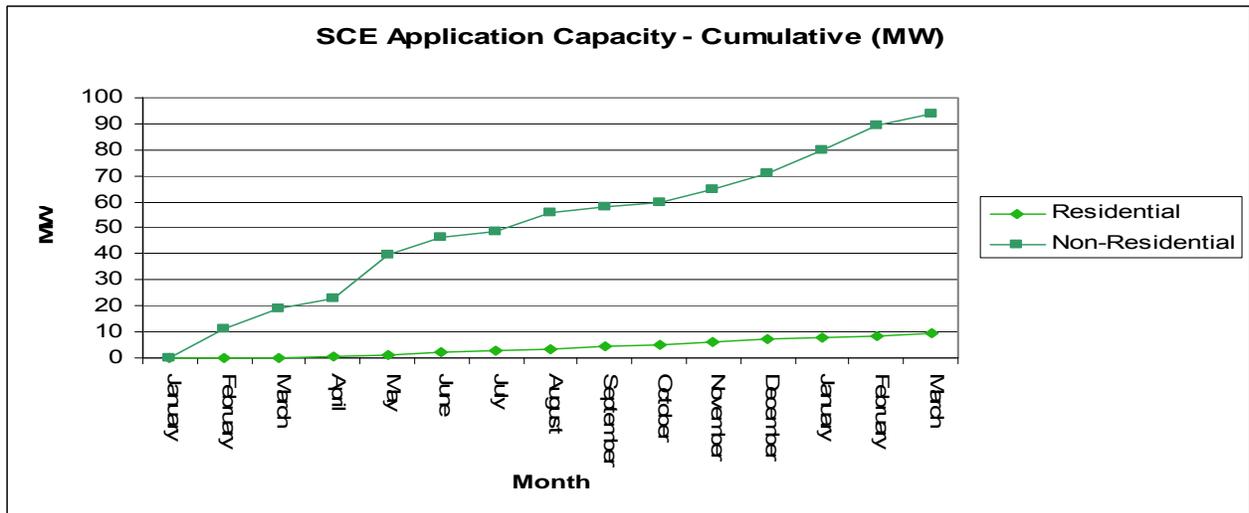


Figure 22. Total Cumulative Applications-SCE, Jan. 1-Mar. 31, 2008



. Total Applications-CCSE, Jan. 1-Mar. 31, 2008

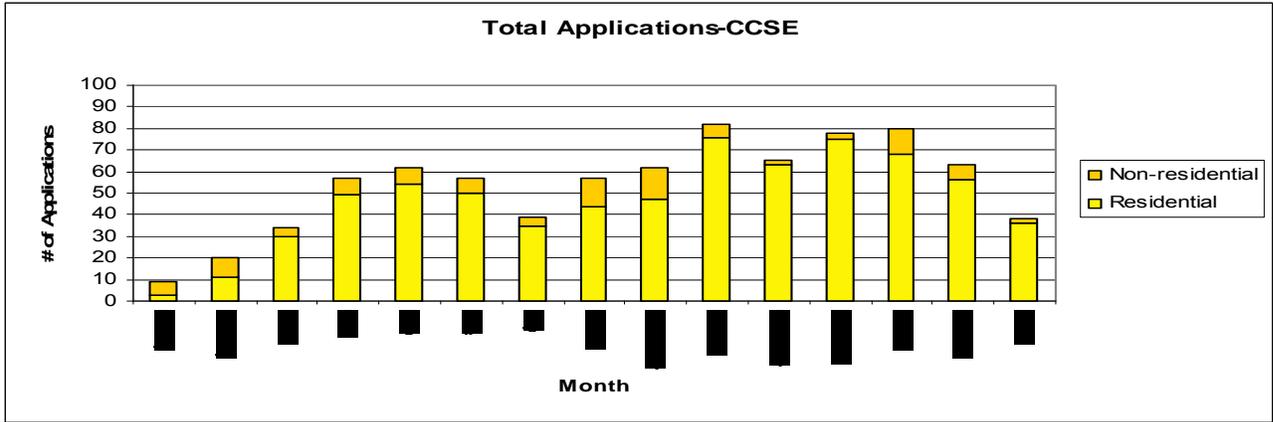


Figure 23. Total Applications by Capacity- CCSE, Jan. 1-Mar. 31, 2008

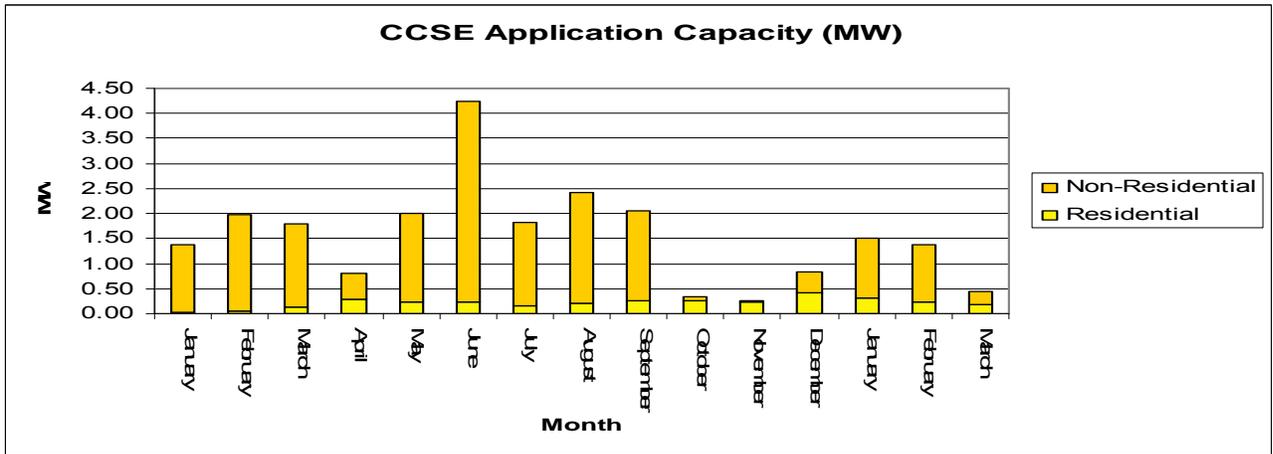
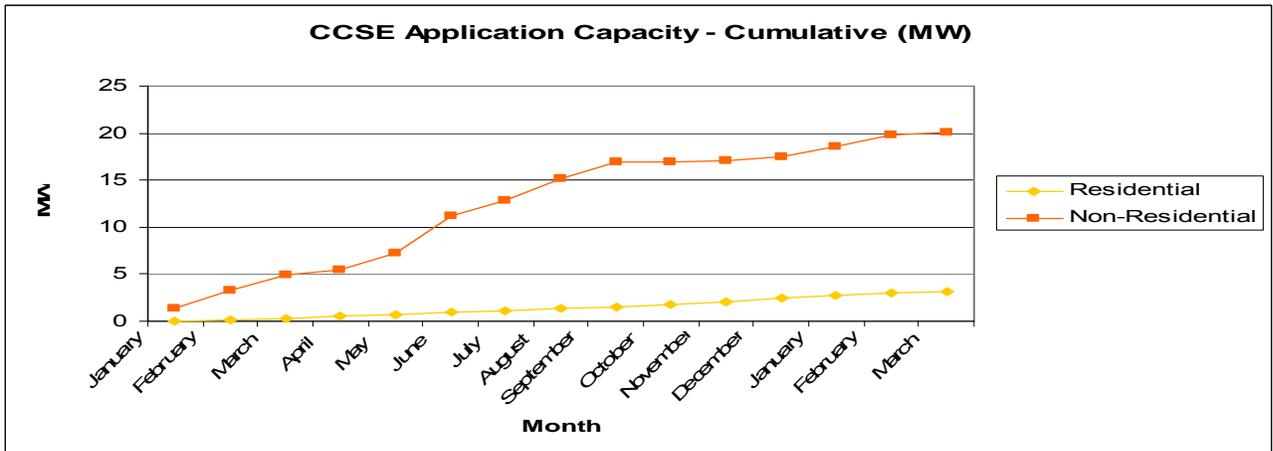


Figure 24. Total Cumulative Applications-CCSE, Jan. 1- Mar. 31, 2008



Appendix B:

Dropout data by Program Administrator as of 02/29/2008.

Table 16. CCSE Dropout Data as of 02/29/2008

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1								
2	2.40	\$6,009,000	0.032	\$3,400		0.020412	0.011346	
3	3.40	\$169,000	0.00047	\$0			0.000471	
Non-Residential (Commercial and Government)								
1	6.42	\$17,997,302	6.16		0.000167	5.30	0.86	
2	4.80	\$29,914,664	0.43	\$230,000		.02	0.09	0.34
3	6.90	\$21,202,024	0.23	\$69,000			0.13	0.23
4	9.00	\$2,904,214	0	0				
Total Unreserved			0.87	\$302,400				

Table 17. PG&E Dropout Data as of 02/29/2008

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	-	-	3.208			3.042	0.165	
2	10.1	\$25,250,000	0.335	\$69,300		0.104	0.231	
3	14.4	\$31,680,000	5.826	\$0			5.826	
Non-Residential (Commercial and Government)								
1	27.8	\$77,840,000	13.565			12.882	0.410	0.273
2	20.5	\$51,250,000	12.082	\$5,547,050		0.773	4.129	7.179
3	29.3	\$64,460,000	4.572	\$1,276,500			0.317	4.255
4	38.1	\$72,390,000	8.602	\$73,850				8.391
5	46.8	\$72,540,000						
Total Unreserved			31.42	\$6,966,700				

The dropout in step 1 came from SGIP projects of which some was allocated to residential step 2.

Table 18. SCE Dropout Data as of 02/29/2008

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	0.07	\$182,568	0.07			0.07		
2	10.6	\$19,224,145	0.07	\$0		0.07		
Non-Residential (Commercial and Government)								
1	12.39	\$34,712,977	6.94			4.78	0.51	1.65
2	21.6	\$67,776,074	3.41	\$1,023,018			3.41	
3	30.8	\$93,659,544	0.99	\$630,686				0.99
4	40.1	\$93,256,664	1.38	\$0				1.38
Total Unreserved			5.85	\$1,653,704				

Table 19. Corrected dropout data for SCE, replacing Table 15 of the January 2008 CSI Staff Progress Report (pgs. 28-29; data current as of 12/31/2007)

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4	MW added to Step 5
Residential									
1*	-	-	0.07	21,000.00	***	0.07	NA	NA	NA
2	10.6	15,618,772.10				***	NA	NA	NA
Non-Residential (Commercial and Government)									
1*	12.39	34,712,976.82	6.94	3,225,000.00	***	4.78	0.51	1.65	NA
2	21.6	74,503,161.57	3.41	1,023,000.00		***	3.41	0	NA
3	30.8	103,738,002.71	1.05	315,000.00			***	1.05	NA
4	40.1	53,668,124.36						***	NA
Total Unreserved				4,600,000					

List of Common Solar Acronyms

ASES	American Solar Energy Society
BIPV	Building-Integrated Photovoltaic
CCSE	California Center for Sustainable Energy
CEC	California Energy Commission
CPUC	California Public Utilities Commission
CSI	California Solar Initiative
EPBB	Expected Performance-Based Buydown
ERP	Emerging Renewables Program
M&O	Marketing and Outreach
Non-PV	Non-Photovoltaic (Solar that is not PV, e.g. Solar Thermal)
NSHP	New Solar Homes Program
PBI	Performance Based Incentives
PDP	Performance Data Provider
PG&E	Pacific Gas and Electric Company
PMRS	Performance Monitoring and Reporting Service
POU	Publically-Owned Utility
PV	Photovoltaic (also called Solar Electric)
RD&D	Research, Development and Demonstration
REC	Renewable Energy Credit
SB1	Senate Bill 1, the legislation authorizing the California Solar Initiative
SCE	Sothern California Edison
SGIP	Self-Generation Incentive Program
SHW	Solar Hot Water
TOU	Time of Use Rates

California Solar Initiative Contact Information

For statewide consumer information about solar rebates and programs, visit:

www.gosolarcalifornia.ca.gov

For solar customers with program questions, contact your Program Administrator:

PG&E Customers:	www.pge.com/solar PG&E Solar Hotline: 1-415-973-3480
SCE Customers:	www.sce.com/csi SCE Solar Hotline: 866-584-7436
SDG&E Customers:	California Center for Sustainable Energy www.energycenter.org CCSE Solar Hotline: 858-244-1177

For press inquiries about the CPUC portion of the California Solar Initiative, contact:

Terrie Prosper, Press Office, CPUC
Email: t dp@cpuc.ca.gov or 415-703-2160

For policy or program development questions about the CPUC portion of the California Solar Initiative, contact:

Email: energy@cpuc.ca.gov or 415-355-5586

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