Single-family Affordable Solar Homes (SASH) Program

Q2 2010 Program Status Report

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GRID Alternatives

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The SASH Program is part of the California Solar Initiative and funded by California utility ratepayers under the auspices of the California Public Utilities Commission.

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1. Program Overview

The Single-family Affordable Solar Homes (SASH) Program is one of the California Solar Initiative's two low-income programs. GRID Alternatives, a non-profit solar contractor, is the statewide Program Manager for the SASH Program. The SASH PV-solar incentive is available to qualifying low-income homeowners in the Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric territory (SDG&E) service territories.

The SASH Program is uniquely designed to be a comprehensive low-income solar program. In addition to providing aggressive incentives, SASH is structured to promote or provide energy efficiency, workforce development and green jobs training opportunities, and broad community engagement with low-income communities. There is no other low-income solar program in California that has such a diverse range of benefits for low-income communities. It is truly a first-of-its-kind solar program.

The SASH incentive provides low-income families with free or low-cost PV-solar systems which significantly reduces household energy expenses and allows families to direct those savings toward other basic needs. GRID Alternatives' volunteer-based installation model has proven to be a highly efficient and low-cost model that makes solar even more affordable for low-income homeowners. In addition to being the primary installer for SASH, GRID provides education on and access to energy efficiency programs which further reduces a household's energy consumption and expenses.

In implementing the SASH Program, GRID Alternatives provides opportunities for local volunteers to assist with installations, to engage their communities, and to share their diverse experiences. Currently, GRID has thousands of volunteers statewide to help promote and install solar in low-income communities. GRID requires its volunteers to participate in a solar orientation program that educates these potential solar adopters about PV-solar and energy efficiency. This basic consumer education program will help further the broader CSI goals of promoting the use of PV-solar technology statewide and helping build broad-based community support for solar electric technologies and energy efficiency.

Finally, SASH provides a foundation for promoting and building a sustainable solar industry in California by incorporating a workforce development and job training component into the program. GRID partners with local job training programs to give their trainees an opportunity to get hands-on installation experience. The SASH Program also promotes partnerships between solar contractors and local workforce development programs by including a job training requirement for all sub-contracted SASH projects. This becomes a double benefit to low-income communities since many green-collar job trainees come from the same communities that the SASH Program aims to serve.

2. Background

In D.06-01-024, the California Public Utilities Commission ("the Commission") adopted the Staff proposal to set aside a minimum of 10% of CSI Program funds for projects installed by low-income residential customers and affordable housing projects. In 2006, the California Legislature codified this requirement in Senate Bill (SB) 1 and Assembly Bill (AB) 2723. Subsequently, in D.06-12-033, the Commission directed the Program Administrators (PAs) to conform the CSI Program to SB 1[1] and AB 2723[2] requirements and directed that 10% of the total ten-year CSI budget would be reserved for the low-income residential solar incentive programs that are now referred to as the Single-family Affordable Solar Homes (SASH) and Multifamily Affordable Solar Housing (MASH) Programs. GRID Alternatives was selected as the statewide Program Manager for the SASH Program.

In D.07-11-045, the Commission established the $108.34 million SASH Program as a component of the CSI Program. The SASH Program provides incentives "for homeowners who occupy their homes and meet the definition of low-income residential housing established in Public Utilities Code Section 2852."[3] The Commission adopted an incentive structure that provides a fully-subsidized 1kW PV-solar system to "very-low income" households, and a partial-subsidy to qualified "low-income" households.

The overall goal of the SASH program is "to provide existing low-income single family homes with access to photovoltaic (PV) systems to decrease electricity usage and bills without increasing monthly household expenses."[4]

The SASH Program will operate either until December 31, 2015, or when all funds available from the program's incentive budget have been allocated, whichever event occurs first. Public Utilities Code Section 2852(c)(3) requires that any program dollars remaining unspent or unencumbered on January 1, 2016, are to be used for Low Income Energy Efficiency programs.

2.1. Incentive Structure

SASH installations will be provided a one-time payment under the Expected Performance Based Buydown (EPBB) structure to help reduce the homeowner's upfront cost their PV-solar installation. The SASH Program only offers the EPBB incentive and does not offer the Performance Based Incentive (PBI).

The SASH Program has seven incentive payment levels based on the applicant's income compared to the area median income (AMI), tax liability, and CARE-eligibility. The incentive levels will remain constant throughout the life of the SASH Program and will not decrease with program demand like the CSI general market program incentive structure.

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[1] SB 1 (Murray & Levine), *Chapter 132, Statutes of 2006*, sets forth specific CSI program requirements regarding program budget, conditions for solar incentives, and eligibility criteria

[2] AB 2723 (Pavley), Chapter 864, Statutes 2006, required the Commission to ensure that not less than 10% of the CSI funds are used for the installation of solar energy systems on low-income residential housing and authorized the Commission to incorporate a revolving loan or loan guarantee program for this purpose.

[3] D.07-11-045, Appendix A, p.1

[4] D.07-11-045, Appendix A, p.1

Fully Subsidized (Free) Systems

A maximum of twenty percent ($21,668,000) of the total SASH Program funds are available for full-subsidies to qualifying households. The SASH Program provides a full-subsidy for 1 - 1.2 kW systems to owner-occupied households that qualify as “extremely low income” or “very low income” (i.e., up to 50% of area median income per the Health and Safety Code definitions referenced in P.U. Code 2852). This subsidy is capped at a maximum of $10,000 per qualifying household.

A household that qualifies for a full subsidy can either take the full subsidy for a 1–1.2 kW system or take a partial subsidy, as described below, for a larger system.

Partially Subsidized Systems

The partial-subsidy is available to customers whose total household income is below 80% of the area median income. The partial-subsidy is calculated on a sliding-scale that is based on the homeowner’s tax liability and the customer’s eligibility in the California Alternative Rates for Energy (CARE) program. If the Applicant qualifies for the CARE program but is not currently enrolled, the Program Manager will work with the Applicant to enroll them into CARE. The table below exhibits the sliding-scale incentive rates:

Table 1: Incentive Rates, $/W

Federal Income Tax liability	CARE-eligible	Not CARE-eligible
$0	$7.00	$5.75
$1 to $1,000	$6.50	$5.25
>$1,000	$6.00	$4.75

2.2. Eligibility

To qualify for the SASH Program, the Applicant must meet the following minimum requirements:

A. Must be a customer of PG&E, SCE, or SDG&E. The project’s Site must be within the service territory of, and receive electric service from PG&E, SCE, or SDG&E.

B. The residence must be occupied by the homeowner/applicant.

C. The household’s total income must be 80% of the area median income (AMI) or less based on the most recent available income tax return. Area Median Income is subject to annual changes based upon Housing and Urban Development's income guidelines.

D. The residence must be California Public Utilities Code (P.U.) 2852-compliant, defined as one of the following:

1) An individual owner-occupied residence sold at an affordable housing cost to a lower income household that is subject to:
    a. a resale restriction, **or**;

b. an equity sharing agreement for which the homeowner does not receive a greater share of equity than described in paragraph (2) of subdivision (c) of Section 65915 of the Government Code.

The resale restriction or equity sharing agreement must be held with a public entity or a qualifying 501(c)(3) nonprofit affordable housing provider.

2) An owner-occupied residence that is part of a multi-family complex and is financed with low-income housing tax credits, tax-exempt mortgage revenue bonds, general obligation bonds, or local, state, or federal loans or grants, and where the affordable units have been or will be initially sold at an affordable housing cost to a lower income household and those units are subject to a resale restriction or equity sharing agreement pursuant to the terms of the financing or financial assistance.

3) An owner-occupied residence that is part of a multi-family complex in which at least 20 percent of the total housing units have been or will be initially sold at an affordable cost to a lower income household and those units are subject to:
   a. a resale restriction, **or**;
   b. an equity sharing agreement for which the homeowner does not receive a greater share of equity than described in paragraph (2) of subdivision (c) of Section 65915 of the Government Code.

   The resale restriction or equity sharing agreement must be held with a public entity or a qualifying 501(c)(3) nonprofit affordable housing provider.

2.3. Budget

The SASH Program budget is $108.34 million. The program will be funded by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) according to the following percentages:

Table 2: SASH Budget Allocations by Utility Territory

	PG&E	SCE	SDG&E	Total
Budget %	43.7%	46%	10.3%	100%
Total Budget ($ in millions)	47.34	49.8	11.2	108.34

The Program Manager shall ensure that the $108.34 million is allocated as follows across program functions:

Table 3: SASH Budget Allocations by Program Functions

Administration	10%
Marketing and Outreach	4%
Evaluation	1%
Incentives	85%
Total	100%

3. Program Status – to date

By the end of 2010, GRID anticipates that the SASH Program will have installed or reserved a total of 400-450 solar installations totaling around $7.8M in incentives and ~1.2MW (CEC-AC). These targets were established in the SASH Implementation Plan. At the end of Q2 2010, the SASH Program is on track to meet or exceed these 2010 targets.

In Q2 2010, the SASH Program experienced incredible structural growth and made significant progress in key areas including: increasing installations through the Sub-Contractor Partnership Program; increasing marketing and outreach efficiency; building partnerships with volunteers and job training/workforce programs; and broadening the affordable housing client database.

By the end of Q2 2010, 169 PV-systems have been installed and interconnected, 83 projects have been reserved and awaiting installation or interconnection, and another 196 applications statewide are under review by either the third-party Application Inspector or by GRID's construction staff to determine if a system design meets the 95% Design Factor requirement.

Because GRID Alternatives is a mission based non-profit organization with strong ties to the low-income communities that SASH aims to serve, we have listened to the needs of families and responded to the downturn in the economy by making nearly all 169 completed SASH installations free to the homeowners. GRID accomplished this by leveraging funding from local jurisdictions, project sponsorships, and general fundraising. Since the SASH incentive does not cover 100% of installation costs, identifying gap financing remains critical to achieving the long term goals of SASH.

The table below summarizes the status of all SASH applications through Q2 2010.

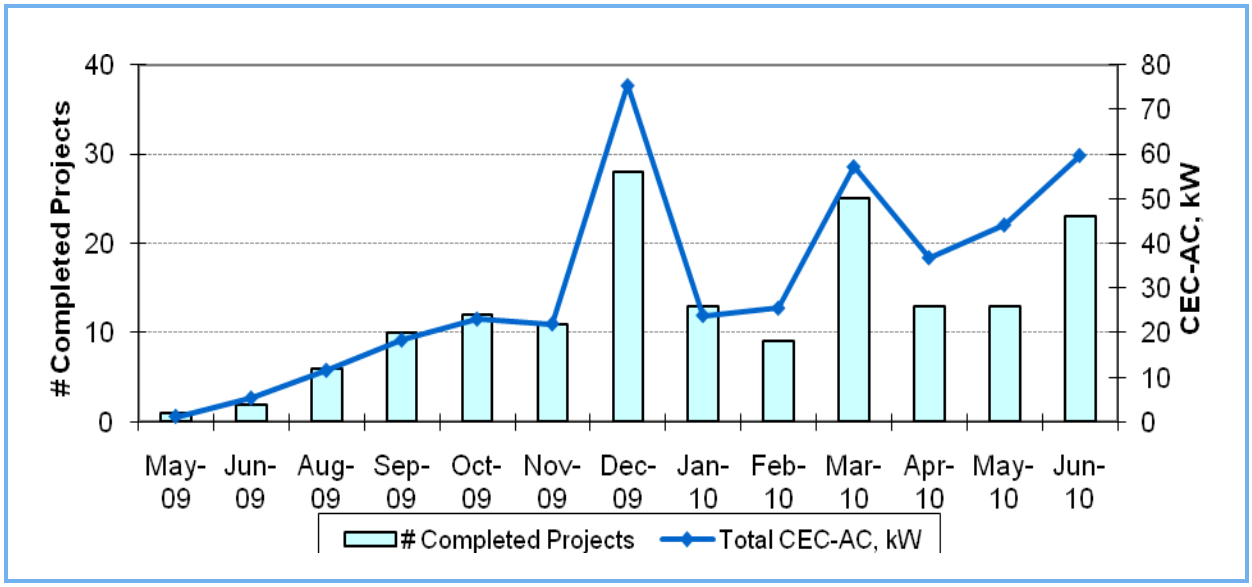
Table 4: SASH Applications by Status and Service Territory

Application Status	Number of Applications				Total kW, (CEC-AC)	Total Incentives, $ millions	Avg # Days from current step to Step 3
	PG&E	SCE	SDG&E	Totals			
STEP 1: Applications under review	95	76	25	196	490*	$2.94*	110
STEP 2: Confirmed Applications/Reservations	31	44	8	83	231.58	$1.47	42
STEP 3: Completed/Installed	93	35	41	169	409.03	$2.68	--

Data collected 7/19/10

* Step 1 system sizing (kW) and incentives ($) are estimates only based on an average system size of 2.5kW and an average incentive level of $6.00/W. System designs are not completed until the Applicant is confirmed to meet all other program requirements. The majority (80-90%) of projects in Step 1 will receive Step 2 reservations.

Chart 1: Completed Projects per Month

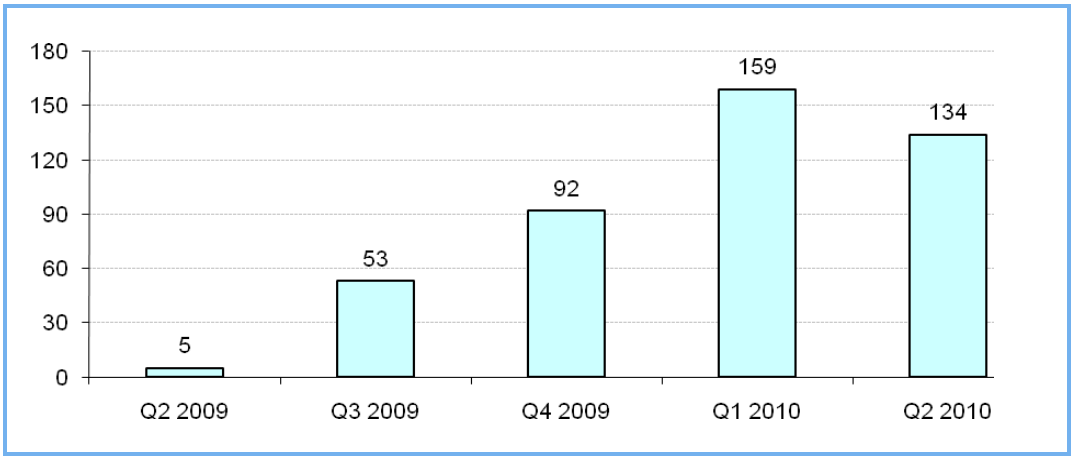


3.1. Marketing and Outreach

GRID currently has four offices located in Oakland (PG&E), Carson (SCE), San Diego (SDG&E), and Fresno (SCE/PG&E). In Q1 and Q2, GRID hired outreach staff in the Inland Empire and Central Coast regions, further expanding GRID's outreach capacity. Per the SASH Implementation Plan, GRID anticipates hiring a Central Coast Regional Director in Q3 2010 and fully staffing the office by the end of the year. Most projects reserved in the Central Coast and Inland Empire will be installed through the Sub-Contractor Partnership Program until GRID establishes its regional offices.

In Q2 2010, GRID received 134 applications bringing the total number of SASH applications to 443, well on the way to meeting SASH's 2010 target of 400-450 installations/reservations. GRID worked with local housing departments and low-income housing developers to do targeted marketing to qualified P.U. Code 2852 homes.

Chart 2: Applications Received per Quarter



3.2. Sub-Contractor Partnership Program

GRID Alternatives continued developing the Sub-Contractor Partnership Program (SPP) in Q2 2010 and has created a strong foundation for the future of the program. In Q2 2010, the first 2 SPP installations were completed and GRID had over 100 SASH projects in various stages of the SPP process (RFQ through installation). GRID anticipates steady growth in sub-contracted projects throughout 2010, totaling 100-150 SPP installations by the end of 2010. .

Contractors can apply to the SPP program through GRID's website. During the SPP process GRID Alternatives will be responsible for all marketing, outreach, application inspection, coordination of third-party system inspection, homeowner training and follow-up. The sub-contractor will be responsible for the PV-solar system design and installation, warranties, permitting and building inspection, and utility interconnection.

The SPP program promotes partnerships between solar contractors and local workforce development programs by incorporating a job training requirement for all sub-contracted SASH projects. This becomes a double benefit to the low-income community since many solar job trainees come from the same communities that the SASH Program aims to serve.

3.3. Volunteer and Workforce Development

GRID's unique volunteer-based installation model has made every SASH project a workforce development opportunity for a broad range of professional interests. These volunteer and training opportunities will help create the solar market transformation sought through the California Solar Initiative. These opportunities also create a well-informed public and proof that the technology can be adopted by everyone in every community within California. Over 2500 volunteers or job trainees have already participated in a SASH installation and thousands more will help bring the SASH Program and solar energy to low-income families throughout the state and will prove solar is a technology for all communities.

Volunteers and job trainees are the backbone to GRID's installation model and will be an important part of the overall success of the SASH program. GRID reserves 20% of its in-house installations exclusively for workforce development programs, and the SASH Program has provided over 2,200 hours of hands-on experience to solar job trainees, further strengthening California's solar industry. While the volunteer labor is crucial to keeping installation and homeowner out-of-pocket costs at a minimum, there is also an inherent experiential and educational value that this volunteer experience gives to these potential solar adopters and passionate solar advocates.

GRID Alternatives has incorporated "green job" training and workforce development initiatives into the SASH Program with the following initiatives:

- **Integration of hands-on solar installation experience into low-income job training programs.** GRID Alternatives partners with existing job training organizations to incorporate GRID Alternatives' volunteer-based installation projects into their construction training curricula. GRID Alternatives dedicates 20% of its internal installations for these trainees to build hands-on experience with real-world solar PV installations that have conditions and requirements comparable to what they would encounter in private industry.

- **GRID Team Leader and ongoing hands-on opportunities of job trainees.** In addition to reserving entire installations for job training partnerships, GRID gives individual job trainees priority to participate on volunteer installations. Additionally, job trainees can participate in GRID's "Team Leader Program" that provides leadership roles on GRID's volunteer installations. These opportunities give a job trainee more opportunities to get the critical hands-on PV-installation experience required by most PV-solar contractors.

- **Paid work and job placement opportunities for training program graduates.** Students or graduates of these job training organizations may be provided with short-term paid work and opportunities for long-term job placement in the solar PV industry through our Subcontractor Partnership Program. These trainees will work alongside experienced installers from for-profit companies to install SASH systems, reducing total installation costs for the homeowner while providing the job trainees and the contractors with extended, paid "field interviews" where the trainees can be evaluated for available long-term installer positions with the company.

- **General volunteering opportunities.** Over 4,200 volunteers have completed GRID's volunteer/solar orientation. Since the inception of the SASH Program, over 2,500 volunteers participated in GRID's educational solar orientation program and worked directly on SASH installations. The orientation program allows GRID to promote solar energy and educates volunteers on solar technologies, the importance of energy efficiency, and the CSI incentive programs.

Providing low-income individuals with hands-on solar installation experience and avenues to employment in the growing solar PV installation industry is an important part of GRID Alternatives' mission to empower communities in need through renewable energy. GRID Alternatives currently partners with a growing number of low-income job training organizations interested in providing green-collar job training to their constituents. These programs need to provide real-world, hands-on experience for their trainees. Our volunteer-based installation model lends itself perfectly to this need – our projects serve as a solar PV version of a teaching hospital, where trainees can "learn by doing" in the field and gain valuable exposure, experience and skills that will significantly increase their employability.

The Sub-Contractor Partnership Program requires all contractors to use current or recent solar job trainees on each sub-contracted SASH installation. We hope this will continue to propel the California solar industry forward and provide long lasting benefits beyond the scope of the CSI and SASH programs' lifecycles.