Single-family Affordable Solar Homes (SASH) Program

Q1 2011 Program Status Report

April 2011

GRID Alternatives

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Single-family Affordable Solar Homes

1. Program Summary

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 differential 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 that significantly reduce household energy expenses and allow 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 participate in the California Solar Initiative's programs. 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.

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.

[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

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

	Budget, %	Budget, $	Expensed / Encumbered thru Q1 2011
Incentives	85%	$92,089,000	17,010,000
Administration	10%	$10,830,000	2,461,393
Marketing and Outreach	4%	$4,330,000	657,508
Evaluation	1%	$1,091,000	Budget resides w/ CPUC
Total	100%	$108,340,000	21,219,901

2. Q1 2011 Overview

Q1 2011 was a period of tremendous growth and expansion for GRID Alternatives and the SASH Program throughout California. Q1 2011 had the greatest number of SASH installations and the highest volume of new applications compared to any previous quarter of the Program. SASH also surpassed two significant milestones during Q1 2011. To start, the SASH Program achieved its first Megawatt of PV-solar installed. This is particularly remarkable when taking into account that nearly 75% of the installed SASH systems are between 1-3 kW. Secondly, GRID has received and processed over 1,000 applications of eligible SASH clients statewide. This achievement propels SASH toward meeting one of the three Program Milestones delineated in the SASH RFP and Decision 07-11-045 -- to install over 1,000 SASH systems within the initial two and half years of the Program[4]. GRID is confident that, considering the rate of applications received and installations completed in Q1 2011, this Milestone will be attained in the latter half of this year.

Other noteworthy progress of Q1 2011 includes GRID advancing the operations of its three newest regional offices in Riverside, Atascadero, and Chico. GRID now has seven offices serving the entire state.

At the end of Q1 2011, 466 PV-systems have been installed and interconnected, 195 projects have been reserved and are awaiting installation or interconnection, and another 331 applications statewide are under review by GRID's construction staff and sub-contracting partners to determine if a system design meets the 95% Design Factor requirement.

One factor contributing to the increased number of completed installations in Q1 2011 was GRID's marked improvement in orchestrating the Sub-Contractor Partnership Program (SPP). To illustrate, GRID's sub-contractors completed more SPP projects in the first three months of 2011 than in the entire 12 months of 2010. Another reason for the increased volume of both SASH installations completed and SASH applications received in Q1 2011 is that GRID continued to focus on the following core endeavors: expanding marketing and outreach scope; fostering new relationships and strengthening existing partnerships with volunteers, job training programs, and municipalities; and amplifying communication and media capacities. As in previous quarters, word-of-mouth and testimonials from satisfied first adopters of the Program continue to be the best marketing tool for attracting new SASH clients and fortifying existing clients' relationships.

Because GRID Alternatives is a mission based non-profit organization with strong ties to the low-income communities that SASH aims to serve, GRID has listened to the needs of SASH clients and responded to the slow recovery in the economy, the continued tight credit markets, and the unwillingness of many SASH homeowners to assume more debt, and has continually sought new ways to cover the "gap" that exists between the cost of most of the clients' systems and their SASH incentive. In Q1 2011 GRID built on its previous work in expanding internal fundraising efforts and received significant corporate and individual donations and new sponsorships. A new sponsorship that GRID expects to be a tremendous help in covering this "gap" is its partnership with module manufacturer Yingli Solar. Through this partnership, Yingli has committed to helping over 400 low-income families go solar in 2011.

4. Applications, Installations, Incentives

Table 4 summarizes the status of all SASH applications through Q1 2011.

Table 4: SASH Applications by Status and Service Territory

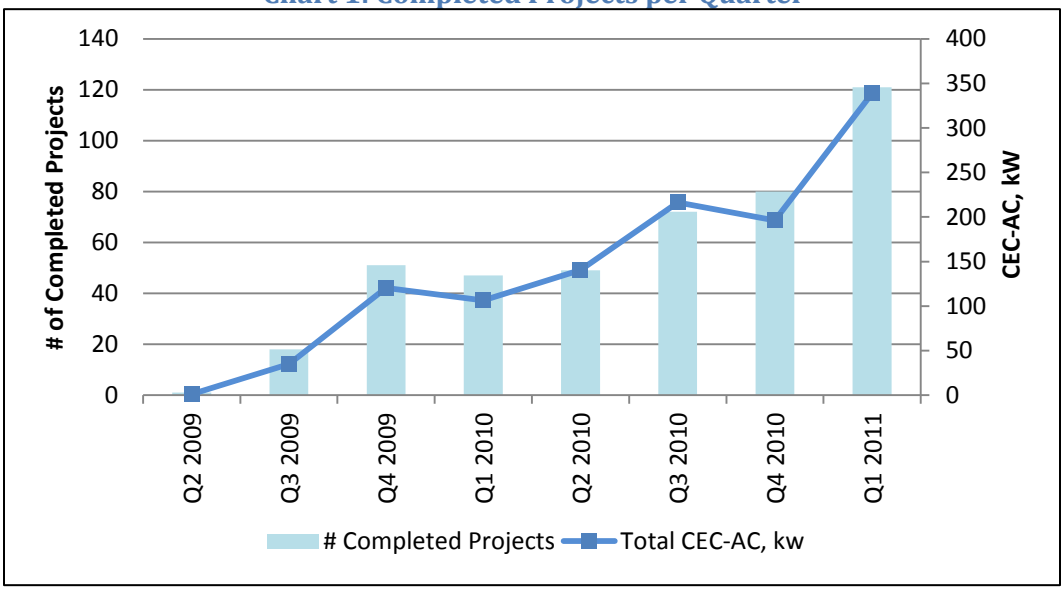
Application Status	Number of Applications				Total kW, (CEC-AC)	Total Incentives, $ millions
	PG&E	SCE	SDG&E	Totals		
STEP 1: Applications under review	180	130	21	331	827.5*	4.97*
STEP 2: Confirmed Applications/Reservations	68	118	9	195	643.2	4.14
STEP 3: Completed/Installed	251	125	90	466	1,207.2	7.90
TOTALS	**499**	**373**	**120**	**992**	**2,677.90**	**$17.01**

Data collected 4/11/2011

* Step 1 system sizing (kW) and incentives ($) are estimates based on an average system size of 2.5kW and 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 below shows the steady and incremental growth of interconnected projects each quarter since the beginning of the SASH Program. In Q1 2011, SASH interconnections have increased three-fold from the same time last year. **SASH is on track to meet or exceed its 2011 cumulative rebate reservation target of ~$20 million.**

Chart 1: Completed Projects per Quarter



Installation Costs: Table 6 below demonstrates that SASH's average installed costs remain substantially lower than installation costs for similarly sized projects in the general market CSI

Program. **On average a SASH system's installed-cost is 15% less than general market systems <10kW.**

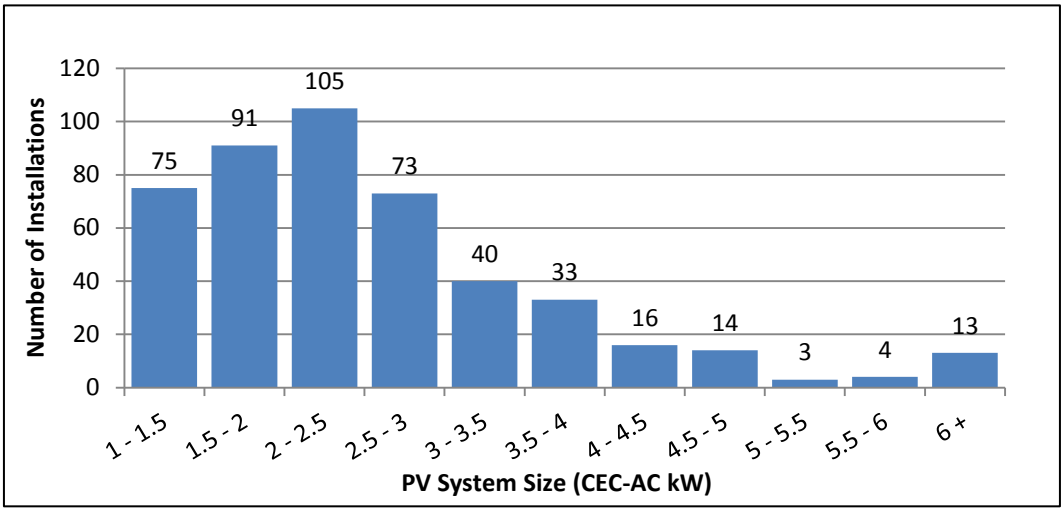
Table 5: Average Installed Cost, $/W

GRID/SASH Average $/W	**$7.21**
General Market CSI Average $/W	$8.49

Table 6: General Market CSI data collected from California Solar Statistics on 4/13/2011. Calculation based on all system sizes 1.0kW to 10.0 kW (CEC-AC, kW) for 1/1/2009 -4/13/2011.

System size: Chart 2 below shows that nearly 75% of installed SASH PV-systems are less than 3kW, and the average SASH installed project is around 2.5kW.

Chart 2: Completed SASH Installations by System Size



Since the majority of SASH PV-systems are less than 3kW, Chart 3 compares SASH's installed cost per Watt for similarly sized systems in the general market program. On the smallest sized systems (1-1.5kW) SASH systems cost 25% less than general market systems.

Chart 3: Installed Cost per Watt, SASH vs. General Market CSI

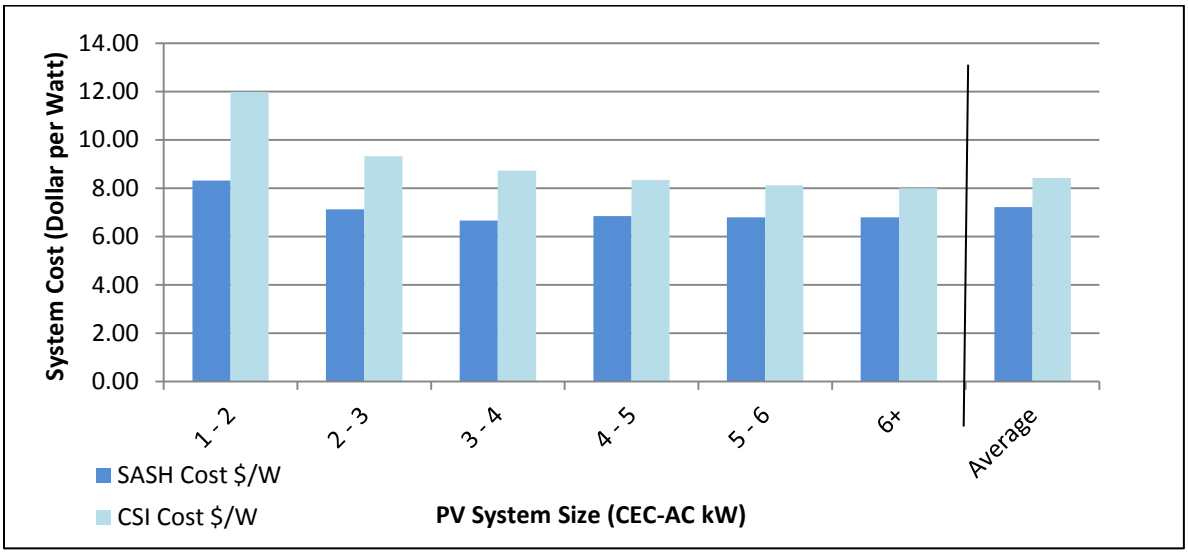
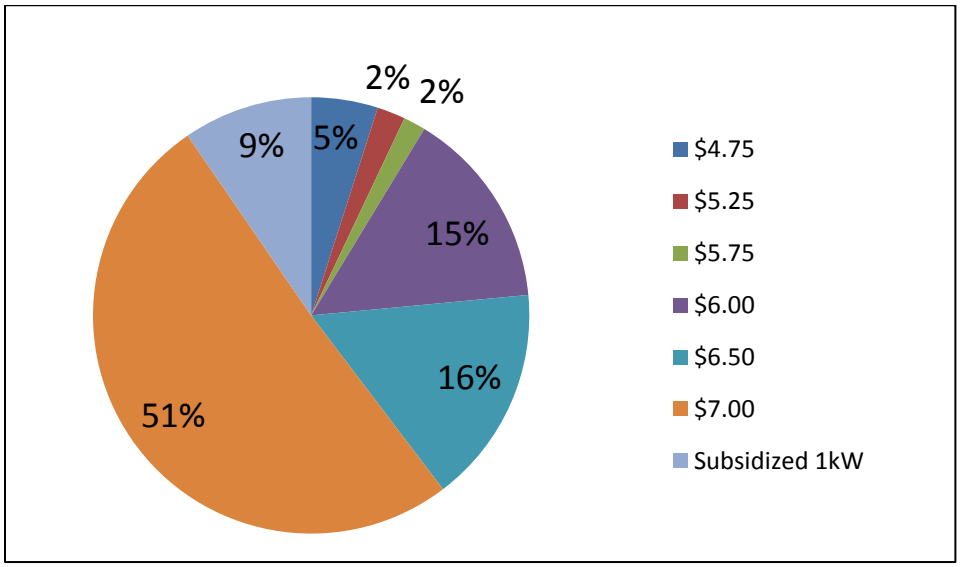


Chart 3: GRID's data is based on the total number (467) of installed SASH projects to date (4/14/2011). The CSI sample set is from the California Solar Statistics (updated 4/13/2011), and is filtered to include all residential projects, under 10kW, for 21/1/2009 – 4/13/2011.

The SASH Program is designed to be a comprehensive low-income program, and serve homeowners in the most distressed and impoverished areas of California. Chart 4 below shows that almost 90% of SASH clients qualify for CARE, a Program which has lower income requirements than SASH. This demonstrates that the SASH Program is mainly serving CARE-eligible homeowners -- homeowners at the lowest income levels who need the savings provided from solar electric systems the most. Chart 4 also illustrates that GRID has been able to qualify SASH clients and install SASH systems at every incentive level offered within the Program. At the non-CARE rate incentive levels, GRID works with the homeowner to explore avenues to cover the gap between their system costs and their available incentive.

Chart 4: SASH Installed and Reserved Projects by Incentive Level ($/W)



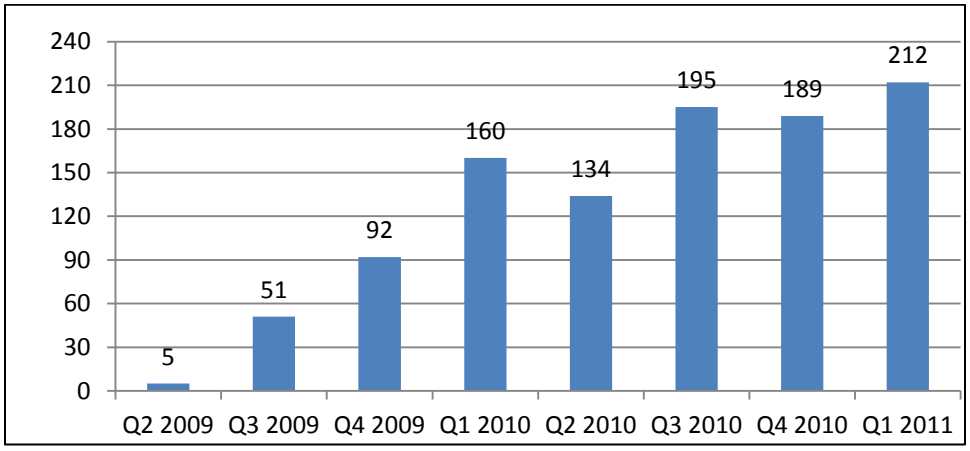
GRID works with homeowners who have a financing gap to explore individual financing options, such as a family contribution or private loan, and has experienced limited success with the gap financing challenge. GRID's new partnership with module manufacturer Yingli Solar, announced in Q1 2011 and slated to continue for the duration of this year, will be a significant asset to help cover many SASH clients' gap funding requirements. Given the slow economic recovery, continued tight credit markets, and the unwillingness of most homeowners to assume more debt, gap financing remains a potential obstacle for low-income families to participate in the SASH Program.

5. Marketing and Outreach

GRID currently has seven offices located in Oakland (PG&E), Carson (SCE), San Diego (SDG&E), Fresno (SCE/PG&E), Atascadero (SCE/PG&E), Riverside (SCE), and Chico (PG&E).

Chart 5 below shows that GRID received 212 applications in Q1 2011, bringing the total number of SASH applications to 1033 -- a sufficient pool of applicants to propel the SASH Program into 2011 on-track to meet its robust installation targets for this year. GRID continued to receive a high volume of SASH applications in Q1 2011, and from disparate geographic areas -- indicating both that the marketing and outreach strategies continue to be effective; and, that SASH is gaining exposure and expanding its scope throughout the state.

Chart 5: Applications Received per Quarter



GRID continued to utilize many of the marketing and outreach methods proven to be effective for recruiting SASH clients and building SASH brand recognition since the inception of the Program. These activities included: leveraging partnerships with organizations trusted by low-income homeowners, offering consumer education sessions, and increasing community exposure to the SASH program through events, media and marketing collateral.

As in the past, GRID extended partnerships with city and municipal housing departments to connect with homeowners. At GRID's request, housing departments or other affordable housing partners send letters of introduction for the SASH Program to local eligible homeowners. As more municipal and community leaders learn about SASH and observe the positive impacts that the Program has in low-income communities, this broad cross-section of new supporters will augment GRID's marketing and outreach endeavors in these neighborhoods, and also offer general advocacy for SASH and create awareness of the Program in wide political and professional circles.

GRID continued to leverage its existing relationships with key community partners to spearhead outreach efforts in low-income communities. This strategy has proven to be successful in these communities where individuals may be predisposed to mistrust new programs or organizations. GRID also continued to garner support and participation from the first-adopters of the SASH Program to discuss it with their neighbors and acquaintances and encourage them to contact GRID. Involving neighbors, volunteers, and civic supporters at SASH installations helps build the SASH brand recognition on-the-ground in low-income communities, and for a wide audience of stakeholders.

An endeavor to proliferate SASH brand recognition through increased exposure in local and national media outlets came to fruition in Q1 2011 as various press enterprises covered SASH installations throughout the state. For example, GRID's Regional Director in San Diego garnered widespread attention by appearing on the national Latino network Univision, and the Bay Area Regional Director was featured in local press along with an East Bay mayor at a SASH installation with an affordable housing partner.

6. 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 6,000 individual 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.

GRID ensures that the volunteers on SASH projects are adequately trained in safety and installation techniques and understand the SASH Program, the California Solar Initiative, and the benefits of PV-solar by requiring all volunteers to attend a mandatory volunteer orientation. In Q1 2011, GRID's offices held over 30 orientations that were each attended by 10 to 40 prospective volunteers. GRID also offered Team Leader trainings in Q1 2011 to qualify volunteers for both Ground Team Leader and Roof Team Leader. These sessions are geared toward more experienced volunteers, and many team leaders participate in order to gain valuable resume-building experience that will aid them in their job search in CA's solar industry. These classes educate participants about more advanced PV installation techniques. Participants leave with enhanced awareness of PV, and additional skills for the SASH Program and the solar industry in CA.

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. Through Q1 2011, the SASH Program has provided over 10,000 opportunities for volunteers to become involved and over 2,000 opportunities specifically for solar installation job trainees, further strengthening California's solar industry.

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.

- **Team Leaders may apply their experience toward NABCEP certification.** The North American Board of Certified Energy Practitioners (NABCEP) is widely recognized and accepted as the definitive certification for solar energy professionals. An individual pursuing NABCEP's PV solar installer certification must meet the Board's requirement of having completed two PV solar installations as part of their application. One of the auxiliary benefits for a GRID Team Leader to become "Certified" to lead volunteer SASH installations by completing various GRID Team Leader requirements is that the experience can be applied toward meeting NABCEP's requisite installations. Several of GRID's standout "Certified" Team Leaders have applied their GRID experience toward their successful pursuit of their NABCEP certification, thereby improving their resume for prospective employers and making them more competitive in the job market.

- **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 the 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.

- **Innovative new partnerships between private industry and community-based job training organizations.** The Sub-Contractor Partnership Program's job training requirement helps foster new partnerships between for-profit sub-contractors with local workforce development programs. The requirement that sub-contractors use one or more job trainees for each SASH installation often causes the for-profit company to look to community job training organizations or other local green job programs that they otherwise might not have considered when hiring new staff. Not only does this increase the breadth and impact of SASH on the solar industry's job development, but also can prove to a for-profit contractor that solar can be a viable technology for all and that outstanding employees can come from all neighborhoods and backgrounds.

- **General volunteering opportunities.** Over 6,000 volunteers have completed GRID's volunteer/solar orientation. Since the inception of the SASH Program, nearly 4,000 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. GRID's volunteer-based installation model lends itself perfectly to this need – these 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 one or more current or recent solar job trainees on each sub-contracted SASH installation. 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. GRID encourages sub-contractors to hire from the local communities whenever possible and provides contact lists of eligible local programs and job training partners to assist in this endeavor. 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.

7. Sub-Contractor Partnership Program

The SASH Sub-Contractor Partnership Program (SPP) provides opportunities for licensed CA contractors to participate in SASH installations. Qualified contracting companies agree to a reduced cost model and commit to hiring at least one eligible job trainee for each SASH installation. SASH projects that are too dangerous for volunteers to be involved, such as those with steep roofs, or homes that are located in geographically disparate areas from GRID's offices are generally installed by sub-contractors.

The robust growth of the SASH Sub-Contractor Partnership Program is one of the factors that contributed to the increase in the number of completed SASH installations this year as compared to last year. To illustrate, GRID's sub-contractors completed more SPP projects in the first three months of 2011 than in the entire 12 months of 2010. GRID is confident that recent overarching program changes and improvements in administrative efficiency, design review, and installation protocol will ensure that SPP remains an integral part of SASH's long-term success.

Due to the significant interest by private contractors to participate in the Sub-Contractor Partnership Program, GRID temporarily closed SPP to new applicants in November 2010. There is a high level of participation in the program and closing the program to new applicants allows GRID to work with existing SPP partners to streamline the program and develop the strong partnerships requisite for the program's long-term success. If necessary, GRID will re-open the program in the future, but GRID is confident that the existing contractors can handle the volume of projects planned for upcoming quarters.

GRID will continue fortifying partnerships with contractors who meet the SPP standards for cost competiveness, installation quality, customer service, commitment to workforce development, and overall professionalism for the duration of SASH.

During the SPP process GRID Alternatives is responsible for all marketing, outreach, application inspection, coordination of third-party system inspection, homeowner training and follow-up. The sub-contractor is responsible for the PV-solar system design and installation, commissioning, 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. GRID encourages sub-contractors to hire from the local communities whenever possible and provides contact lists of eligible local programs and job training partners to assist in this endeavor.

Though GRID requires contractors to hire only one eligible job trainee per installation, some sub-contractors have exceeded this expectation by having more than one eligible trainee on their SASH installations. Other companies have committed to specific individuals' career development and offered agreements to their new solar hires to provide many hours of on the job training over several SPP installations. Sub-contractors are asked to use the installations as an extended interview, and commit to hire job trainees if they perform well and the company has open entry-level solar PV installer positions. An auxiliary benefit of limiting the number of contractors in the program is that remaining contractors will be awarded more projects, and have an opportunity to hire job trainees for extended periods of time, thereby increasing the workforce development impact of SPP and creating valuable long-term employment opportunities for new hires in CA's solar industry.

8. Energy Efficiency

Energy efficiency (EE) remains an important part of the SASH program and the overall mission of GRID Alternatives. GRID believes that energy efficiency it is the essential first step to implement in clients' homes before installing solar PV. To this end, GRID performs an energy efficiency audit for every SASH applicant and shares comprehensive EE report with the homeowner. The EE report is based on the Department of Energy's Home Energy Saver online tool. The audit is conducted regardless of the clients' enrollment into CARE or LIEE. GRID works with the LIEE program administrators to enroll homeowners into LIEE if they are eligible, and with the IOUs to streamline LIEE enrollment for SASH clients. The following Table 9 summarizes the number of homeowners that qualified and were enrolled into the LIEE programs.

Table 6: LIEE Enrollment

Utility	Total
PG&E	276
SCE	266
SDG&E	74
Total	**616**

9. Affordable Housing Database

Developing a statewide affordable housing database is a unique challenge for the SASH Program. Though the affordable housing requirements initially posed significant obstacles for SASH implementation, recent changes to these requirements eliminated those obstacles. GRID is confident that P.U. Code 2852 is no longer a major obstacle to the implementation of SASH.

In October 2009, P.U. Code 2852 (via AB1551) affordable housing definitions were updated to remove the strict deed restriction requirement and allowed affordable housing properties to be subject only to a resale restriction or qualifying equity sharing agreement. Through 2009-2010, GRID and its affordable housing partner, CHPC, have worked with local jurisdictions throughout the IOU service territories to identify P.U. Code 2852 eligible homes.

The method GRID employs to identify additional SASH clients is two-fold: leveraging existing relationships with key community partners to spearhead outreach efforts in low-income communities; and, relying on recommendations and advocacy from first adopters of the SASH program to influence their neighbors to participate. In fact, the enthusiasm that the overwhelming majority of former SASH clients exude after receiving their PV-solar system serves as an impetus for their neighbors, family members, and acquaintances to apply. GRID is confident that this recent program change will enable the SASH Program to more easily meet its installation targets, and will also have a broader impact throughout California. In reflecting on the progress of SASH through Q1 2011, the expansion of the "resale restricted affordable housing" definition is a major achievement, and one that will help ensure the long-term success of the SASH Program.