

**Disadvantaged Communities – Single-family Solar
Homes (DAC-SASH) program**

**Semi-annual Progress Report
July 2021**



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1. Program Summary

The Disadvantaged Communities – Single-family Solar Homes (DAC-SASH) program is overseen by the California Public Utilities Commission (CPUC, or Commission) and provides incentives for photovoltaic (PV) solar systems to qualifying low-income homeowners located in disadvantaged communities¹ within the service territories of Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric (SDG&E), (collectively, the California investor-owned utilities or IOUs). GRID Alternatives (GRID), a non-profit solar contractor, is the statewide Program Administrator (PA) for the DAC-SASH Program. DAC-SASH is largely designed based on the Single-family Affordable Solar Homes (SASH) program, which has successfully operated in California’s IOUs since 2008 and is also administered statewide by GRID.

The overall goal of DAC-SASH is to provide opportunities for low-income homeowners within disadvantaged communities to overcome barriers to accessing on-site, solar PV systems to decrease electricity usage and bills without increasing monthly household expenses. Low-income families face myriad barriers to accessing solar, including financial; lack of marketing and outreach; educational and linguistic; distrust of outside entities and governments; and structural barriers like housing types and roof

¹ Disadvantaged communities for the DAC-SASH program are defined as census tracts scoring in the top 25% statewide on the CalEnviroScreen 3.0 map. Homeowners in one of 22 additional census tracts that are in the top five percent of pollution burden but that do not have an overall CalEnviroScreen score because of unreliable socioeconomic data are also eligible.
<https://oehha.ca.gov/calenviroscreen/maps-data>

condition. GRID's experience has demonstrated that dedicated, carefully designed and executed low-income solar programs can overcome these barriers and provide access to the program and also meaningful community co-benefits. GRID has designed the DAC-SASH program to build off the success of the SASH program, addressing the primary barriers to solar access for this market segment.

GRID's program model represents a holistic approach for a very hard-to-reach population. GRID's model for DAC-SASH is an integrated, turn-key model in which GRID takes responsibility for the entire project process from client outreach through contracting and system installation. The approach incorporates energy education, referrals to complementary services, and workforce development and job training into the program. This proven model ensures efficient program delivery while maximizing benefits to participating families and communities and maintaining iron-clad consumer protections for a vulnerable population.

In implementing the DAC-SASH program, GRID provides opportunities for local volunteers and job trainees to assist with installations, engage their communities, and to participate in CA energy programs. Every project includes a workforce development component, and opportunities for individuals to receive on-the-job training and access resources to assist in obtaining long-term employment. GRID partners with job training organizations (JTOs) around the state and will be focused on JTOs located in disadvantaged communities and job trainees residing in disadvantaged communities for the program's workforce development initiatives.

2. Background

Assembly Bill (AB) 327 (Perea), Stats. 2013, ch. 611 directed the California Public Utilities Commission (Commission) to develop a successor to then-existing Net Energy Metering (NEM) tariffs, and also required the Commission to develop specific alternatives designed to increase adoption and growth of renewable generation in disadvantaged communities (DACs). The Commission issued Decision (D.) 18-06-027 (Decision) in June 2018, which adopted three new programs intended to promote the installation of renewable generation among residential customers in DACs: the DAC - Single-family Solar Homes (DAC-SASH) program, the DAC-Green Tariff program, and the Community Solar Green Tariff program.

The Decision describes the intent with the creation of the DAC-SASH program:² “The



DAC – Single-family Solar Homes (DAC-SASH) program, modeled after the Single-family Affordable Solar Homes (SASH) program, will provide assistance in the form of upfront financial incentives towards the installation of solar generating systems on the homes of low-income homeowners. The DAC-SASH program will be available to low-

income customers who are resident-owners of single-family homes in DACs. The incentives provided through DAC-SASH will assist low-income customers in

² D. 18-06-027: Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities. 21 June 2018, p. 2-3.

overcoming barriers to the installation of solar energy, such as a lack of up-front capital or credit needed to finance solar installation.”

The Commission’s experience with a non-utility Program Administrator (PA) successfully managing the SASH program informed its decision to have the DAC-SASH program managed by a single statewide PA, selected through a competitive bidding process.³ The DAC-SASH PA Request for Proposals (RFP) was released on October 19, 2018 and the PA role awarded to GRID Alternatives (GRID) on January 4, 2019.

Eligibility Requirements: To qualify for DAC-SASH, homeowners must live in one of the top 25 percent most disadvantaged communities statewide using the [CalEnviroScreen](#),⁴ and be a billing customer of Pacific Gas & Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E). As of December 8, 2020, Decision 20-12-003 added tribal lands (or California Indian Country) as counting as eligible geography for the program as well, in addition to DACs. Homeowners must also meet [income qualifications](#) denoted by the income guidelines of either the California Alternate Rates for Energy (CARE) program or the Family Electric Rate Assistance (FERA) program. Details for the DAC-SASH program’s eligibility and application processes can be found in the [DAC-SASH Program Handbook](#).

Both D.18-06-027 and GRID’s DAC-SASH Administration Contract with SCE delineate reporting requirements for this semi-annual progress report,⁵ which will be published by January 30 and July 30 each year and detail the progress of the prior two quarters.

³ D. 18-06-027, p. 33.

⁴ Homeowners in one of 22 additional census tracts that are in the top five percent of pollution burden but that do not have an overall CalEnviroScreen score because of unreliable socioeconomic data are also eligible. See D.18-06-027, Conclusion of Law 3.

⁵ D.18-06-027, at pg. A-4, and Task 6(D)(1-19) in SCE PO 4501098383 Statement of Work, April 2, 2019.

3. Q1-Q2 2021 Update

Overview: In the first half of 2021 the DAC-SASH Program posted strong results with 745kW (CEC-AC) of solar electric capacity interconnected for the benefit of almost 200 low-income homeowners. This outcome is notable given the ongoing impacts of the COVID-19 pandemic on GRID's standard operations. The program's total installed capacity has increased by over one third from the prior reporting period to a cumulative 3.46 MW (CEC-AC) installed capacity. All-time, over 940 PV systems have been installed using DAC-SASH incentives, 110 projects are reserved and awaiting installation or interconnection, and over 75 applications have been submitted and are currently under review.

Activities: Ongoing activities include refining GRID's resume bank and job board and refining quality control processes to verify project qualification and document processing accuracy. To attract DAC-SASH clients, GRID's regional offices continue to gather word-of-mouth testimonials from past program participants. GRID is continually increasing marketing and outreach efforts in DACs, now utilizing the IOU-provided leads or referrals to do so as well. In Q1 and Q2 GRID worked to implement the [2021 DAC-SASH Marketing, Education, and Outreach \(ME&O\) Plan](#) across the state and in Q1 GRID updated the ME&O plan to include tribal lands, which were made eligible for the program by Decision 20-12-003 on December 8, 2020. GRID began outreaching to households living on tribal lands and has completed seven tribal DAC-SASH projects to date in SDG&E territory. These projects are often paired with GRID's Tribal Solar Accelerator Fund to ensure the installation is close to or 100% fully funded. GRID

expects to reserve and install more tribal projects in the second half of 2021 in the North Coast region of the state, in addition to SDG&E territory.

Finally, GRID began a workforce development partnership with LinkedIn in late 2020 which runs through the end of 2021. This is an exciting opportunity for GRID's IBT 200 job trainees and SolarCorps Fellows to participate in LinkedIn employment coaching events.

COVID-19 Impacts / Update: In Q1 and Q2 2021, GRID continued to follow and adapt to federal, state and local directives in order to execute DAC-SASH solar installations and marketing/outreach activities that are safe for its clients, community members, and installation staff. GRID continued to keep general volunteers off of program installations, however in Q1 and especially in Q2 [group job training began to take shape once again](#) as GRID offices found outdoor and online training spaces that allow job training cohorts to take place safely. GRID kicked off 2021 with training offerings also including some socially distanced in-person lessons.

To address limits on in-person group training due to COVID-19, GRID submitted Advice Letter (AL) 15, *Proposed Modifications related to the Program's Job Training Requirements in Response to the COVID-19 Pandemic* on June 26, 2020 to request a waiver of job training requirements in up to 10% of DAC-SASH projects. The AL was approved and became effective on July 10, 2020 and was in effect for 12 months through July 10, 2021. The DAC-SASH program used the waiver eight times for projects that could not secure a job trainee in a timely manner.

4. Program Budget

The Commission has authorized \$10M per year to be collected for DAC-SASH, beginning on January 1, 2019, and continuing through December 31, 2030. The Decision describes that the state's IOUs will first collect DAC-SASH program funding through available greenhouse gas (GHG) allowance revenues. In the event that there are insufficient funds available from the GHG allowance revenue, then the DAC-SASH program will be funded through customer rates via public purpose funds.⁶ The total \$120M program is funded by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) according to these percentages:

Table 1: Budget Allocations by Utility Territory

| | PG&E | SCE | SDG&E | Total |
|--|----------------|----------------|-----------------|-----------------|
| Budget % | 43.7% | 46.0% | 10.3% | 100% |
| Budget through 2021 (\$ in millions) | \$13.11 | \$13.0 | \$3.09 | \$30.00 |
| Remaining Program Budget (2022-2030) (\$ in millions) | \$39.33 | \$41.40 | \$9.27 | \$90.00 |
| Total Program Budget (\$ in millions) | \$52.44 | \$55.20 | \$ 12.36 | \$120.00 |

⁶ D. 18-06-027, p. 31.

Table 2: Budget through 2021: Allocations by Program Function

| | Budget % | Budget through 2020 (\$ in millions) | Expensed Q1-Q2, 2021 | Expensed prior to 2021 | Remaining in 2021, Program Budget ⁷ |
|---------------------------------|-------------|--------------------------------------|------------------------|------------------------|--|
| Incentives | 85% | \$25,000,000 | \$2,251,077 | \$7,068,099 | \$16,180,824 |
| Administration | 10% | \$3,000,000 | \$456,380 | \$1,965,013 | \$578,607 |
| Marketing & Outreach | 4% | \$1,200,000 | \$187,610 | \$722,902 | \$239,4888 |
| Evaluation | 1% | \$300,000 | Budget resides w/ CPUC | | |
| Total Program Budget | 100% | \$30,000,000 | \$2,895,068 | \$9,806,013.51 | \$16,998,919 |

⁷ Unused funds roll over to the subsequent calendar year, and any funds not allocated to specific projects or expenses by December 31, 2030, will be returned to ratepayers. D. 18-06-027, p. 31.

5. Program Growth and Project Details

Table 3 below summarizes the status of DAC-SASH applications through Q2 2021 based on the application approval date.

Table 3: Applications by Status and Utility 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 | 35 | 40 | 2 | 77 | 284.9 | \$0.85 |
| STEP 2: Confirmed Applications/Reservations | 70 | 33 | 7 | 110 | 433.9 | \$1.30 |
| STEP 3: Installed | 604 | 311 | 27 | 942 | 3,466.6 | \$10.40 |
| Total | 709 | 384 | 36 | 1,129 | 4,185.4 | \$12.56 |

Data pulled 7/15/21. *Step 1 system sizing (kW) and incentives (\$) are estimates based on an average system size of 3.7kW CEC-AC and incentive level of \$3/W. Designs are not completed until the Applicant is confirmed to meet all program requirements, but typically >90% of projects in Step 1 will move forward to Reserved status.

Chart 1: Completed Projects by Quarter

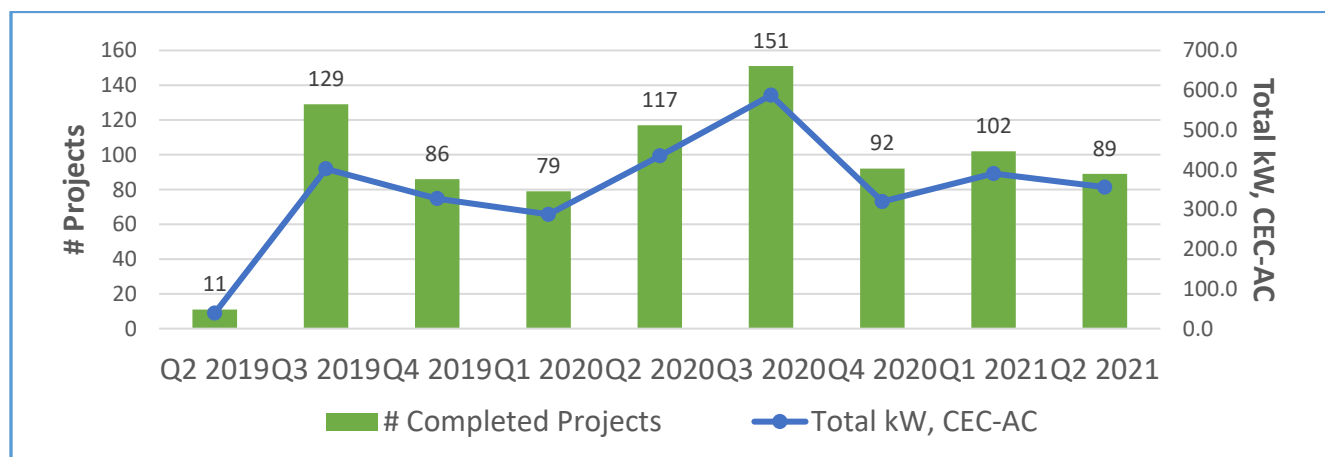
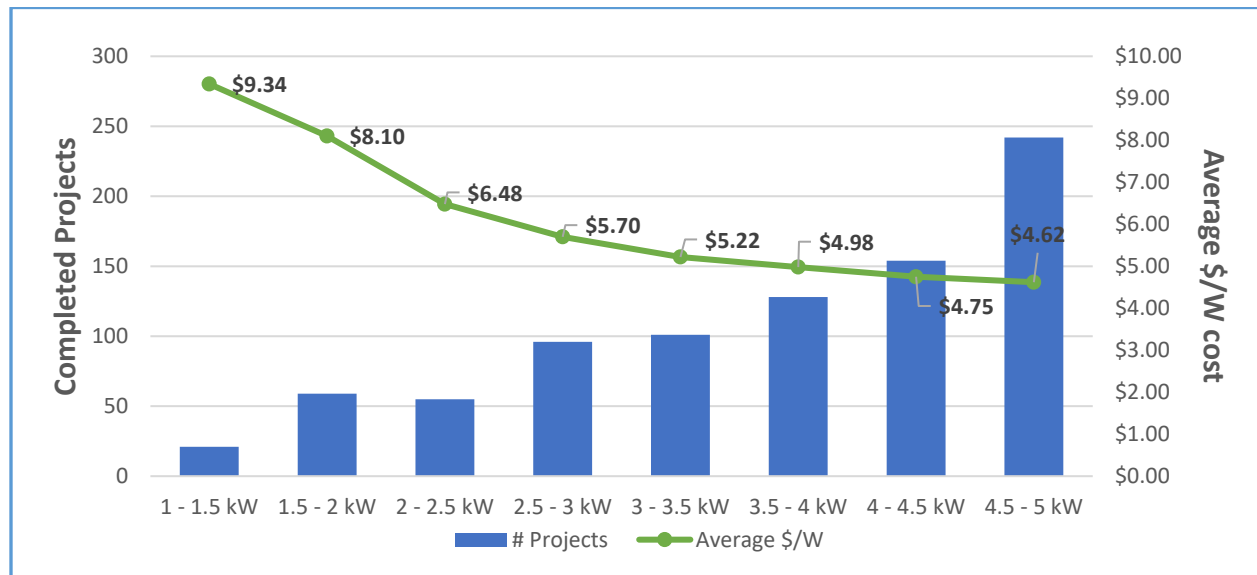


Chart 1 above illustrates the program’s progress in 2021, with almost 200 projects completed and interconnected in the first half of the year. These projects represent over 740kW (CEC-AC) in installed capacity and have an expected annual output of almost 1.2 million kilowatt hours.

Chart 2 below indicates that over 70% of all installed DAC-SASH PV-systems are 3kW (CEC-AC) in size or larger, with an average installed system size of 3.7kW (CEC-AC). Where the system size is not constrained by roof space, sizing is based upon the client’s annual usage (kWh) minus the energy efficiency savings the client may realize by adopting basic energy efficiency measures. DAC-SASH solar systems are capped at 5kW (CEC-AC).

Chart 2: Completed Projects by System Size and \$/Watt



6. Incentives and Project Financing

The DAC-SASH program offers one, non-declining incentive level of \$3/W (CEC-AC). GRID's average cost to install DAC-SASH systems through 2021 was \$5.06/Watt (CEC-AC) and varies by system size (see Chart 2 above). This average system cost does not include all of the marketing and outreach expenses required to reach the program's target audiences and educate them about program benefits, nor does it include all of GRID's overhead and the expense to provide no-cost job training and workforce development and education. The cost for DAC-SASH installations may be higher than a general market installation because GRID brings teams of job training students and volunteers to assist with the installation, creating a teaching opportunity and a classroom on the roof for solar job trainees.

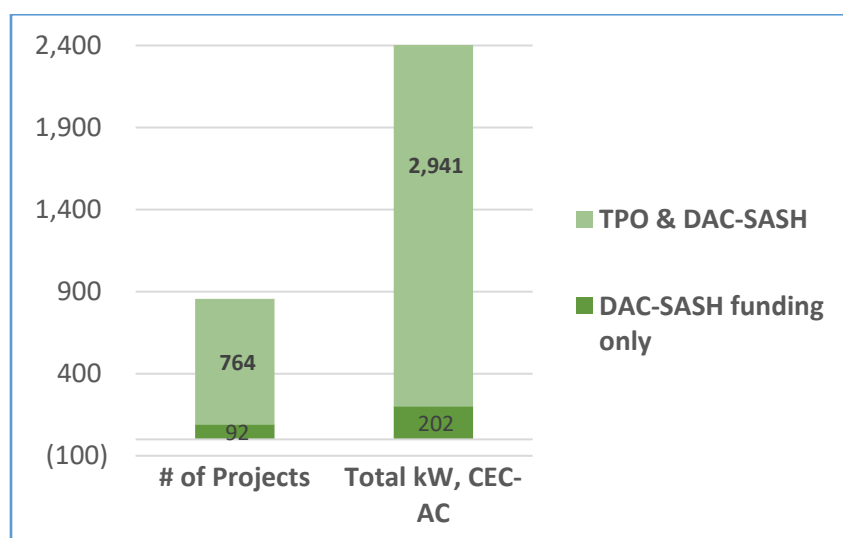
Because the incentive of \$3/W, CEC-AC covers only ~60% of the average system cost, GRID must overcome a financing gap for families by contributing the organization's own fundraising dollars or other additional resources toward covering the gap, which allows more families to go solar with the Program.



GRID's contributions toward covering these financing gaps include general philanthropy, in-kind equipment donations, proceeds from a third-party ownership (TPO) model, and corporate sponsorships. Long-standing partnerships with major equipment manufacturers including Enphase Energy and SMA Solar help cover many clients' gap funding requirements. GRID expects to utilize philanthropic and in-kind contributions to augment gap financing efforts in 2021 and beyond. Gap financing

remains an obstacle for most low-income families to participate in the DAC-SASH Program.

Chart 3: Projects with Third-party Ownership (TPO) Funding



Through its “families-first” TPO model, GRID is able to leverage the federal Investment Tax Credit (ITC) to help finance DAC-SASH projects, while providing additional benefits to participating families such as a performance guarantee, system monitoring, and 25-year warranty coverage. With Resolution E-5030 (September 12, 2019), the Commission approved GRID’s TPO model that was previously approved for the SASH program in Resolutions E-4719 (June 25, 2015) and E-4829 (March 2, 2017). The primary partner for GRID’s TPO model is currently Sunrun. As seen in Chart 3, of the 856 total DAC-SASH projects completed to date, 90% are third-party owned.⁸

⁸ GRID projects that cannot leverage the TPO model are due to the system size being too small to meet the TPO provider’s requirements, deed or land ownership documentation that does not meet the TPO provider’s requirements (such as projects on tribal lands), and/or a project partner/city/client that is unable or unwilling to approve a TPO ownership structure.

7. Marketing and Outreach



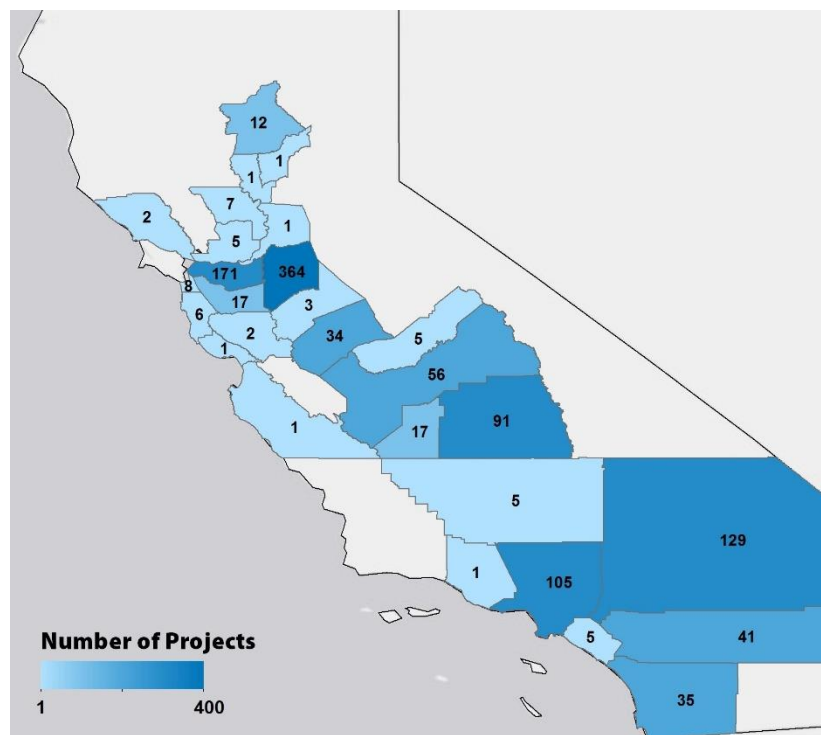
The 2021 Marketing, Education and Outreach (ME&O) plan for the DAC-SASH program can be accessed on GRID's website⁹ and provides details on planned ME&O activities, key performance indicators, the program's ME&O budget, and includes sample marketing collateral for the program.

GRID assesses progress toward achievement of its ME&O KPIs and submits an updated ME&O plan each calendar year. Below is a simplified overview of GRID's marketing strategies for the program.

GRID Alternatives has eight California regional offices, located in Oakland (PG&E), Willits (PG&E), Los Angeles (SCE), San Diego (SDG&E), Fresno (SCE/PG&E), Riverside (SCE), Chico (PG&E), and Sacramento (PG&E). Map 1 below shows the location of all pending or completed DAC-SASH applications through Q2 2021. It also illustrates that GRID has qualified DAC-SASH applicants over a wide range of CalEnviroScreen DACs in IOU territory.

⁹ <https://gridalternatives.org/sites/default/files/DAC-SASH%202021%20ME%26O%20plan.pdf>

Map 1: Location of DAC-SASH applications and installations through Q2 2021



Much of IOU territory that would otherwise be eligible for the program is not considered a DAC. The percentage of each IOU territory that is also in a DAC is fairly low, with 5% in SDG&E, 15% in PG&E, and 30% in SCE territory under the current DAC definition.¹⁰

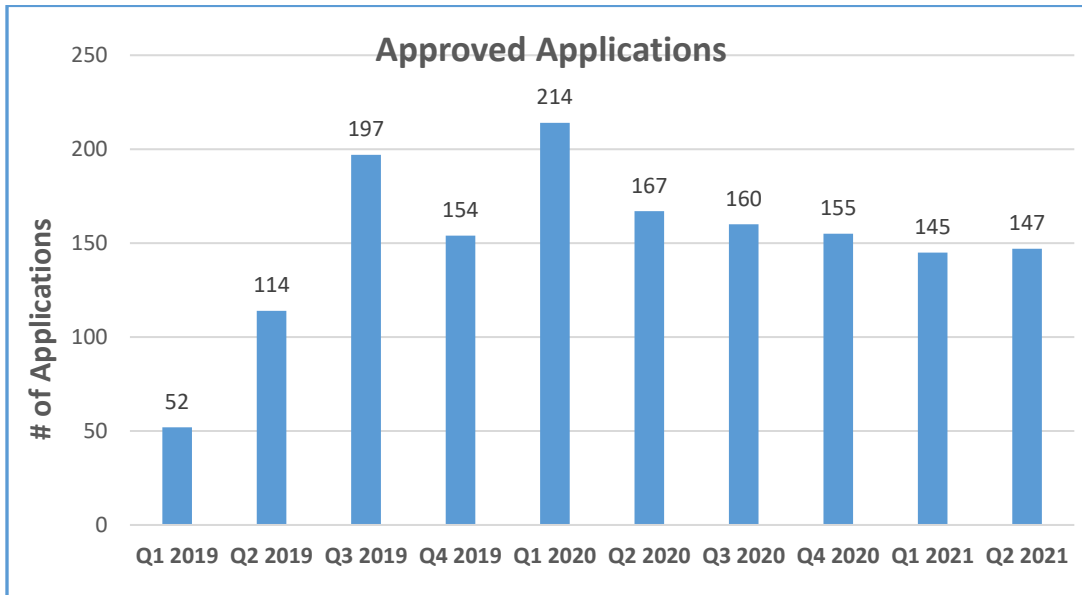
Appendix A lists the number of DAC-SASH applicants in each DAC

census tract (not depicted in map above due to the small size of each tract).

Chart 4 below, shows that GRID processed or approved almost 300 applications from eligible clients in the first half of 2021. Of these applications only 12 were in SDG&E’s utility territory, which highlights the barriers to identifying qualifying homes in SDG&E’s territory, as detailed in Section 11, “Barriers to Participation.”

¹⁰ SDG&E: Total Census Tracts in Territory = 703; Census Tracts in CES DACS = 37; CES DACs as % of territory = 5.3%; PG&E: Total Census Tracts in Territory = 2812; Census Tracts in CES DACS = 427; CES DACs as % of territory = 15.2%; SCE Total Census Tracts in Territory = 3059; Census Tracts in CES DACS = 887; CES DACs as % of territory = 29%. This considers all census tracts that are both entirely included in an IOU territory and that intersect it or are partially included. Data obtained from: www.census.gov/cgi-bin/geo/shapefiles/index.php; and www2.energy.ca.gov/maps/serviceareas/Electric_UTILITY_Service_Areas.html.

Chart 4: Applications by Quarter



GRID’s marketing and outreach approach for the DAC-SASH program is based on the success of its work administering the SASH program and other low-income solar programs and combines a recognized brand, data-driven targeting, community and institutional partnerships, and experience-based and flexible marketing and outreach activities. Consistent advocacy and assistance throughout the entire outreach process - and the lifetime of the solar system - is key to ensuring that language, physical ability, age and education level are not barriers to participation and that participants can make informed decisions and receive the greatest possible benefit from the solar system. In communities often targeted by predatory practices and scams, showing long-term investment in household and community benefit is a crucial component of the program. To this end, GRID combines in-community, in-language outreach and education with community and local government partnerships to ensure information reaches eligible households through a trusted source. In new markets and regions, strong relationships with trusted community partners to co-market the program is GRID’s primary strategy for developing trust with its target audiences.

GRID's educational messages are reinforced by a robust referrals program, local media, and easily accessible digital platforms (including a DAC-SASH program summary and link on SCE and PG&E clean energy webpages).

Once a client has been approved for participation, they receive dedicated, ongoing support from application to installation and interconnection, including referrals to complementary state and local programs, including the Energy Savings Assistance Program (ESAP), CARE, and FERA. Following the installation phase, GRID provides ongoing education and engagement, system online monitoring, and access to phone support and troubleshooting throughout the expected life of the system, ensuring maximum impact and long-term benefit. Ensuring a positive client experience and long-term investment in the community is key to continued program enrollment and impact, particularly as a significant amount of new program enrollees are due to direct referrals from satisfied participants. To collect client feedback, GRID provides a participation survey after the installation of the PV-system, as well as an annual survey to monitor impact and satisfaction over the long term. Per the reporting requirements for DAC-SASH's Semi-Annual Progress Report, GRID includes in Appendix B a summary of participant survey results.

7.1 IOU referrals for Targeted ME&O¹¹

Upon receiving ESA and CARE customer profiles or leads in February 2021 from each IOU, GRID analyzed and organized the new data and spoke with regional Outreach

¹¹ Decision 20-12-003 requires that each of the IOUs share potentially DAC-SASH eligible customer profiles or leads to GRID Alternatives once per year, starting in February 2021.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M354/K045/354045228.PDF>

teams about how and where to utilize these new leads to be most beneficial in the short-term. In Q2 GRID began outreaching via phone and print marketing to some of these leads, primarily with mailed postcards or letters. For this first ME&O effort to the IOU's leads, GRID focused primarily on regions where GRID struggles to find eligible DAC-SASH clients, in particular the Bay Area and the San Diego area. These leads were filtered for no Net Metered billing (which would indicate they already have solar), annual kWh usage over 3,000kWh (the typical cutoff for TPO financing), and geographic factors based such as where construction barriers are less prevalent. A summary of the data received is below, per the requirements of [D.20-12-003](#):

- # of customer profiles provided by IOUs: Roughly 25,650 leads that are useful were received (see SCE summary below for more information)
- # of customers outreached to: Roughly 3,900 of the leads received have received a phone call and/or a mailer through June 30th
- # of installations resulting from outreach: One installation is pending at this time; keep on mind it can take 2-6 months from initial outreach and application to the installation phase of a DAC-SASH project.

SDG&E : Of the 4,200 customer profiles received, 2,600 of them contained sufficient usage to warrant outreach. Of these, GRID sent 2,100 postcards in May (GRID had 130 of these in its system from previous marketing campaigns). To date GRID has received roughly five responses, with two converted leads that are expected to move forward to installation. GRID will follow-up this summer with phone banking to a portion of these leads in zip codes where GRID knows that housing stock and roof conditions are better and able to support a solar system with a 25-year warranty.

PG&E : Of the 11,150 customer profiles shared, over 1,100 postcards were sent to Bay Area homeowners in June (40% of these were leads GRID had in its system from

previous marketing efforts). Two leads have responded so far and may be converted into projects in the coming months. In June another 700 leads were called in the Stockton area, to be followed-up with via postcard or a CPUC-branded letter in Q3. To date there are 10 converted leads in the Stockton or North Valley region, a better conversion rate compared to this region's past DAC-SASH marketing campaigns.

SCE : Roughly 10,300 useful leads were received from SCE, meaning that these customers were enrolled in the ESA or CARE programs from 2018 forward and have over 3,000kWh of usage¹² GRID is not yet utilizing this data, in part because its staff is still focused on the SASH program's wind-down in SCE territory. Also, an existing co-marketing partnership with SCE has been instrumental in providing high-quality leads that convert into installations. GRID predicts that these leads will be analyzed and used starting in Q1 2022.

8. Job Training and Workforce Development



Job training is central to GRID's mission and the DAC-SASH program delivery model. GRID takes a holistic approach that integrates job training opportunities into every project and creates ladders of opportunity for individuals from all backgrounds to access well-paying jobs in California's thriving solar industry.

¹² Total GRID received over 200,000 customer profiles dating back to 2002, but many of these will not be useful as the data and homeowner status will likely have changed in the past 10-20 years that have lapsed.

Every project is a classroom for local job seekers, many coming from the same disadvantaged communities that the program is designed to serve. Through a combination of the program's job training requirements and GRID's voluntary initiatives, the DAC-SASH program is positioned to deliver impactful workforce development outcomes.

8.1 Job Training Requirements

Projects installed using GRID's volunteer and job trainee-based model must meet one of the five categories described below. Projects installed with the Subcontractor Partnership Program (SPP) model must include at least one paid workday for job trainees.¹³

1. **Team Leader¹⁴:** GRID's Team Leader Program offers experienced volunteers more comprehensive, in-depth training to further develop their skills and increase employment opportunities in the growing solar jobs market. Team Leaders log a minimum of 40 hours on GRID Alternatives' installations, complete a suite of six certifications on technical skills, attend a leadership skills workshop, and complete two installations to sign off on skills with a GRID installation supervisor.
2. **SolarCorps Fellow:** SolarCorps opportunities at GRID Alternatives include fellowships in project management, system design, marketing and outreach,

¹³ Additional information on these programs and requirements can be found at: www.gridalternatives.org/programs/workforce-development and in the DAC-SASH Program Handbook.

¹⁴ The Team Leader program was approved in D 15-01-027, as one pathway for eligible job training in GRID's volunteer and job trainee model. The subsequent development of the IBT program (described on the next page) and expansion of the internship program, make it such that GRID rarely utilizes Team Leaders in its model any longer, yet it remains an option for meeting the requirement.

communications, job trainee and volunteer management, market development, construction, and fundraising. These are one-year paid fellowships that are based on the AmeriCorps program and are sometimes combined with additional funding from the Corporation for National and Community Service.

3. **Job Training Students (at least 3):** Some of GRID Alternatives' in-house installations are reserved for job training groups of students from job training programs. These are students from community colleges, vocational high schools, or community job training programs that generally have completed a PV-classroom component, but utilize GRID's installation as the hands-on, real world application of the skills they are learning in a classroom.
4. **Installation Basics Training (IBT) Participants (at least 3):** GRID's Installation Basics Training (IBT) program awards trainees with certificates for industry-relevant skills learned and demonstrated in GRID's unique, hands-on training environment under the supervision of our professional solar installation staff. GRID currently offers 11 Skills Certificates that cover a variety of array and electrical skills, such as conduit bending and racking installations. To earn all 11 Skills Certificates, IBTs typically need to dedicate 130-300 hours in the field (8-20 complete installations).
5. **Design & Construction Intern:** Design and construction internships allow job seekers the opportunity to explore a solar career in a real work environment while being coached through skill development. Design and construction interns spend at least 6 weeks and up to 4 months gaining solar installation training and experience on GRID's in-house installations. Depending on their focus, interns may support projects with site visits, system design, or direct installation. Internships include job search support, hard and soft skills development under the instruction and supervision of experienced GRID staff, and individualized goals depending on personal objectives.

To align with industry standards, the categories below are relevant job task categories for job trainees participating in the program:

- Directly work on solar installation

- Installing Electrical Components
- Installing Mechanical Components
- Completing System Installation
- Conducting Maintenance and Troubleshooting Activities
- Project Design/Project Engineering
 - Designing Systems
- Project management/coordination

Tables 4 and 5 below highlight job trainee type, hours worked, and the number of trainees participating on DAC-SASH program installations.

Table 4: Unique Participants in Job Training Programs

| | Solar Corps | IBT Trainees | Job Trainees | Interns | Team Leaders | Total Internal | Sub- contractor Program (SPP) |
|---------------------------------|-------------|--------------|--------------|---------|--------------|----------------|-------------------------------|
| # of unique participants | 51 | 73 | 297 | 3 | 3 | 427 | 4 |

Table 5: Job Training Hours by Volunteer and Work Type

| Type of work | Solar Corps | IBT Trainees | Job Trainees | Interns | Team Leaders | Total Internal | SPP | Total |
|---|--------------|--------------|--------------|-----------|--------------|----------------|-----------|---------------|
| Directly Worked on Installation (hours) | 9,038 | 2,744 | 4,655 | 80 | 36 | 16,553 | 56 | 16,609 |
| Design/Engineering (hours) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Project Management/Coordination (hours) | 696 | 0 | 0 | 0 | 0 | 696 | 12 | 708 |
| Total Hours | 9,734 | 2,744 | 4,655 | 80 | 36 | 17,249 | 68 | 17,317 |

8.2 Workforce Development Initiatives

In addition to project-level job training requirements outlined above, GRID incorporates additional “green job” training and workforce development components into the Program with the following initiatives:

Integration of hands-on solar installation experience into low-income job training programs. GRID Alternatives actively partners with 20 California job training organizations (JTOs)¹⁵ to incorporate its volunteer-based installation projects into their construction training curricula. GRID dedicates approximately 20% of its internal installations to these trainees to gain hands-on experience with real-world solar installations that have conditions and requirements comparable to what they will encounter in private industry

Paid Work and Job Placement Opportunities for Training Program Graduates:

Graduates from job training programs have the opportunity for paid work alongside professional installers with DAC-SASH subcontractors. One of the biggest challenges for “green job” training is providing sufficient job placement opportunities for job trainees, ideally resulting in local hiring. Job trainees are often competing with environment-oriented college graduates looking for a way to enter the solar industry. The job training component of GRID’s SPP Program was developed to help “level the playing field” and provide opportunities for local job trainees to enter the solar PV workforce. GRID subcontractors use DAC-SASH installations as an extended interview, committing to hire job trainees if they perform well and the company has open entry-level solar installer positions.

¹⁵ Active JTO partners are those that GRID has worked directly with on a DAC-SASH installation since the program’s inception.



Resume Bank/Job Board: GRID maintains an online Resume Bank/Job Board to promote economic development in disadvantaged communities through job training and local hiring initiatives. This platform connects job seekers and employers and was expanded to more easily match qualified trainees or job

candidates with opportunities. The Resume Bank and Job Board provide the additional benefit of gathering critical hiring data. For example, GRID has found that frequent updates with individuals, JTOs, and contractors who use the resume bank, lead to insights about the success rate of individuals seeking full-time employment.

Local Hiring Strategies Aimed at Disadvantaged Workers: GRID aims to ensure that individuals with barriers to employment can participate in the DAC-SASH program and benefit from its workforce development initiative. GRID works with JTO partners to emphasize the importance of including “soft skills” training - such as computer literacy, resume and interviewing skills - into its curriculum in order to enhance an individual’s employability. GRID ensures that JTOs that work with these populations have their trainees participate in the Resume Bank/Job Board and can be easily referred to companies that are hiring through the Resume Bank/Job Board. GRID has

partnered with JTOs that work with re-entry populations and at-risk young adults and has successfully connected trainees to paid job training opportunities.

The Installation Basics Training (IBT) program awards trainees with certificates for industry-relevant skills. These skills are learned under the supervision of GRID's professional installation staff. GRID's IBT program provides job trainees with valuable hands-on training, support for development of a skillset requested by employers, and access to potential employment opportunities. IBT trainees earn certificates by demonstrating competency in specific skills while working on installations. GRID offers 11 Skills Certificates that cover a variety of array and electrical skills.

To earn all 11 Skills Certificates, trainees typically need to dedicate 130-300 hours in the field (8-20 complete installations).



Employment opportunities for IBT trainees include on-site networking opportunities with corporate sponsors, referrals to companies hiring for installation positions in the solar industry, and access to GRID's Resume Bank.

GRID Job Trainees may apply their experience toward NABCEP certification. The North American Board of Certified Energy Practitioners (NABCEP) is widely recognized as the leading certification for solar energy

professionals. An individual pursuing NABCEP's PV solar installer certification must meet the Board's minimum requirement of having led 5 PV solar installations in order to sit for the certifying exam. GRID job trainees may take the NABCEP certification test

once they have led five solar installations, either directly with GRID and/or with our subcontractors as part of the SPP program.

General volunteer opportunities. GRID holds mandatory orientations that all prospective volunteers must attend, which focuses on safety at the job site and allows GRID to promote solar energy and educate volunteers on solar technologies, the importance of energy efficiency, and California's low-income solar, storage, and energy efficiency programs. Individuals who complete the volunteer orientation are then eligible to work on DAC-SASH installations and leave with better knowledge about the solar industry that can motivate them to be solar advocates in their own communities.

JTOs and Job Trainees located in DACs: GRID is focused on involving JTO partners and job trainees who are located in or reside in DACs. Of the 20 JTO partners that GRID is actively working with now, there are 12 located in DACs. Several of these active JTO partners are listed below:

- Rising Sun Center for Opportunity (Oakland): since 2014
- Fresno Workforce Connection (Fresno): since 2019
- Inland Empire Job Corps Center, (San Bernardino): since 2016

In addition, GRID estimates that over 220 participants (all types, including volunteers) working on DAC-SASH projects reside in a CalEnviroScreen DAC.

Tracking and Job Placement: Finally, GRID has developed a robust system for tracking DAC-SASH job training participants, the hours they work, and project location of this work. GRID has also begun collecting additional information on wages paid, which helps determine local hiring success. To date, GRID estimates that at least 192 DAC-SASH job training or volunteer participants have secured longer-term paid employment after working on a DAC-SASH project, based on self-reporting to GRID (this is not independently verified by GRID). Trainees will be surveyed on an annual basis to measure retention, in both the solar industry and overall workforce, as well as

career growth. GRID will also survey SPP Program installers on their long-term hiring of trainees, trainee recruitment experience, and trainee quality on a semi-annual basis, as well as receive information from its JTO partner network. Feedback from trainees, employers, and JTOs will inform revisions to improve the effectiveness of the training and ensure the DAC-SASH program delivers impactful workforce development outcomes in communities throughout the IOUs and in CES DACs.

9. Coordination with Complementary Programs

GRID seeks to integrate the DAC-SASH program into the full landscape of CA programs that can benefit disadvantaged communities. These include, but are not limited to, energy efficiency programs, electric bill payment assistance programs, Electric Vehicle (EV) programs, and the Self-Generation Incentive Program (SGIP) that can increase the resiliency of low-income households.

9.1 Energy Efficiency & Energy Savings Assistance Program

Energy efficiency (EE) is an important part of the DAC-SASH program and the overall mission of GRID Alternatives. GRID believes that energy efficiency is the essential first step to implement in clients' homes before installing PV-solar. To this end, GRID conducts an energy efficiency education and training session for every DAC-SASH applicant. GRID has observed that these one-on-one education sessions can be

effective in driving behavioral changes that reduce energy consumption at the household level.

GRID works with the Energy Savings Assistance Program (ESAP) administrators to enroll eligible homeowners into the program and to work collaboratively to improve data transfer and standardize information GRID receives about ESAP enrollment. All DAC-SASH PV systems are sized based on past usage and also consider presumed energy savings from ESAP measures taken.

Table 6: Referrals to ESAP and Enrollment Percentage

| | Total Referred | Enrolled | % Enrolled in ESAP |
|------------------|----------------|----------|--------------------|
| PG&E | 914 | 331 | 36% |
| SCE | 621 | 254 | 41% |
| SDG&E | 36 | 8 | 22% |
| Total | 1,572 | 593 | 38% |

Table 6 summarizes the number of DAC-SASH participants that have been referred to the IOUs for enrollment into ESAP through Q2 2021 or have been successfully enrolled.¹⁶ In addition to ESAP referrals, GRID plans to explore partnerships in the future with the IOUs and other programs that provide additional efficiency services to

¹⁶ GRID refers all ESAP-eligible DAC-SASH applicants to the ESA program. Some DAC-SASH participants may not be ESAP-eligible if they have already completed services in the program, are not income-eligible, or already have an energy efficient home built in the last 5 years.

qualified homeowners, such as the Weatherization Assistance Program¹⁷ and the Low-Income Weatherization Program.

9.2 CA Alternate Rates for Energy / Family Electric Rate Assistance programs

GRID also coordinates with California IOUs, the administrators of the CARE and FERA programs, to increase enrollment in these assistance programs and further increase benefits for DAC-SASH participants.

Table 7: CARE/FERA Enrollment of DAC-SASH Applicants

| | Total Applications | CARE Enrolled | FERA Enrolled | Total Enrolled | % Enrolled |
|--------------|---------------------------|----------------------|----------------------|-----------------------|-------------------|
| PG&E | 868 | 682 | 9 | 691 | 80% |
| SDG&E | 50 | 40 | - | 40 | 80% |
| SCE | 618 | 472 | 8 | 480 | 78% |
| Total | 1,536 | 1,194 | 17 | 1,211 | 79% |

Though all qualifying-DAC-SASH households are eligible for CARE and/or FERA, many households are unaware of the benefits and accessibility of these programs. GRID’s outreach staff provides information about CARE and FERA to all DAC-SASH participants and refers all DAC-SASH participants to the IOUs for potential enrollment. At this time, almost 80% of DAC-SASH and potential clients are enrolled in one of these assistance programs.

¹⁷ www.benefits.gov/benefit/1844

9.3 The Self-Generation Incentive Program (SGIP)

In late 2019, Decision 19-09-027 in the Self-Generation Incentive Program (SGIP) that provides incentives for energy storage, among other technologies, decided to allow households that qualify for DAC-SASH to also qualify for the SGIP's Equity and Resiliency budget. In 2020 GRID worked with the SGIP Program Administrators (PAs) and the Energy Division to try to create a streamlined SGIP enrollment processes for DAC-SASH participants. GRID is also working with a new partner called Swell and its equipment procurement team to explore integrating battery storage into its PV-model, ensuring the storage systems can be delivered at no cost and that long-term warranty coverage and battery replacement are included. GRID initiated a pilot in Q3 2020 to begin development of a DAC-SASH PV + storage pairing for its highest-need, resiliency clients.

9.4 Electric Vehicle and Clean Mobility programs

GRID administers a low-income Electric Vehicle (EV) program for the CA Air Resources Board (CARB), a program for an Air Quality Management District and soon the Empower EV Program for PG&E. GRID is working to ensure that DAC-SASH participants receive accurate information on, and are referred to EV programs that can help families access another cost-saving emerging technology. This program is complementary to the DAC-SASH solar installation and in 2021 GRID is finetuning its internal process to facilitate referrals between programs and logistics coordination for DAC-SASH participants who may be purchasing an EV and/or EV charger. GRID expects this market to expand as California creates pathways to make EVs and their infrastructure more affordable and accessible.

10. Subcontractors

Similar to the administration of the SASH program, GRID utilizes staff throughout its Headquarters office and staff in its CA Affiliate offices to conduct administration, marketing, outreach, and installation services for the DAC-SASH program. Many services are centralized, such as equipment procurement, project-level invoicing, and orchestration of field inspections. Other services are conducted at the regional office level, such as development of local partnerships and targeted marketing and outreach strategies. Per the Progress Report requirements, GRID details the program's primary subcontractors below:

a) Field Inspections

Like the SASH program, the DAC-SASH program requires that at least one in every 12 installations are inspected for proper installation and operability by an independent third-party system inspector. GRID currently subcontracts with Indaspec, the Institute for Building Technology and Safety (IBTS), and the Center for Sustainable Energy (CSE) to conduct on-site field inspections throughout the IOU territories for the program.

b) Subcontractor Partnership Program

GRID's [Subcontractor Partnership Program \(SPP\)](#) was launched under the SASH program and is a proven model for engaging local installers as subcontractors while providing paid work opportunities for job trainees. Under the SPP, GRID subcontracts with vetted, for-profit companies to install specific DAC-SASH program PV systems, based on a reduced-cost structure and modified scope of work to match the structure of GRID's model. GRID's outreach staff oversees all client-facing interactions and contracting, while the subcontractor provides limited design and/or installation services. All SPP projects are inspected by a third-party, independent inspector for Quality Assurance (QA). The QA inspection verifies that the system was installed using

industry-standard best practices and meets GRID's installation quality requirements. In addition, subcontractors are required to hire at least one paid trainee onto each of their projects.

c) Public Reporting

GRID subcontracts with Energy Solutions to develop and maintain DAC-SASH data on the California Distributed Generation public reporting site, [CalDGStats](#). DAC-SASH data is automatically updated each week.

11. Program Assessment and Barriers

11.1 Assessment of Program Performance

Overall, the program's core messages have been well-received by target audiences. GRID remains concerned about some barriers to participation being a roadblock to program success and looks forward to continuing to work with stakeholders and the Energy Division to address these in 2021 and beyond.

11.2 Barriers to Participation

Low-income households face myriad barriers to both accessing solar on their own and participating in statewide and local solar programs, including financial barriers, structural barriers, and marketing and outreach barriers. GRID's holistic, community- and customer-centric approach addresses many of these barriers using strategies that

have proven to be successful in working with low-income households. For example, GRID's support can enable low-income families to overcome the financial barrier to solar access by covering the cost of the system. However, there are limitations to GRID's financial resources. In addition, there are barriers to DAC-SASH participation that are due to program eligibility requirements and cannot be overcome with program design elements. Below is a high-level overview of GRID's assessment of program barriers.

11.2.1 Eligibility requirement for income

The DAC-SASH program requires that households meet the definition of low-income that is based on the CARE/FERA statewide eligibility. The income qualification of a single statewide income level limits participation in an area such as San Diego, which has a higher cost-of-living than many areas around the state. To illustrate, nearly 50 percent of the SDG&E households who participated in SASH¹⁸ -- which uses Area Median Income (AMI) to take into account the varied cost-of-living around the state -- would not meet the income requirement for DAC-SASH. The Bay Area and Los Angeles regional markets experience a similar or higher rate of disqualification using a CARE/FERA income benchmark. In addition, most affordable housing partners work within 80% AMI income limits and therefore many of their [New Construction](#) homeowners will not qualify for the program. This is concerning as these New Construction homes are mandated to include solar and their roofs are always new, making them great candidates for supporting 25-year warrantied solar systems.

¹⁸ SASH uses 80% or less of Area Median Income (AMI) to meet the low-income threshold, which is set in PU Code 2852(a)(1) and detailed in Chapter 2 (commencing with Section 50050) of Part 1 of Division 31 of the Health and Safety Code.

11.2.2 Gap financing requirements

Gap financing is the difference between the project cost and the available DAC-SASH incentive. The financial benefit from the DAC-SASH Third-Party Ownership (TPO) arrangement that GRID expects to leverage for the majority of DAC-SASH projects helps cover some financing gaps, but roughly 20% of DAC-SASH projects cannot leverage the TPO model, and others have a higher cost due to additional expenses such as an electrical service upgrade, or a small or ground-mounted system. In these cases, securing additional gap financing is critical, as low-income participants are not expected to contribute financially to their installation. GRID is able to leverage gap financing through local grants, foundation support, in-kind donations, and philanthropic resources, but does not have access to the amount of gap financing required by all projects to make them feasible. As such, limitations on GRID's available gap funding is a barrier to DAC-SASH program participation and waiting lists are long for homeowners who would like to participate in DAC-SASH but need a new roof or other upgrades first.

11.2.3 Additional structural costs

Much of the older housing stock that qualifies for the DAC-SASH program requires additional structural upgrades, such as roof repair or replacement, or other property rehabilitation measures related to unpermitted structures, or outdated electrical systems throughout the home (beyond a main service panel upgrade). While GRID has developed some innovative partnerships to provide roof repair and replacements for low-income families, these resources are limited and place-specific. For example, GRID has partnerships with the Cities of San Francisco and Richmond to provide funding for roof repair or replacement, and has a philanthropic fund devoted to re-roofing for qualifying veterans in Los Angeles. However, the need for roof repair/replacement and other structural upgrades outpaces the resources available. As such, homeowners with these additional structural costs face barriers to participation in DAC-SASH.

11.3 Program Design Improvement

GRID worked collaboratively with stakeholders and the Energy Division to explore program changes to address these limitations in late 2019 and early 2020 via a modification of D.18-06-027. In 2020, GRID submitted a Petition for Modification (PFM) to address some of the barriers detailed in this section. GRID's PFM was addressed with Decision 20-12-003 and GRID looks forward to learning over time if the Decision will address the extent of GRID's program design concerns. When the first program evaluation takes place, GRID and other stakeholders hope to gain more insight into program participation across the state.

12. Conclusion

GRID is cautiously optimistic that Decision 20-12-003 will help the program to reach more low-income homeowners in California, but still harbors concerns about not using Area Median Income for the program's income eligibility requirement. GRID is pleased with the program's progress in completing over 900 projects and almost 3.5MW (CEC-AC) of installed capacity from program start, with almost 200 more shovel-ready projects in the pipeline. This progress is despite continued COVID-19 barriers.

The economic decline caused by the pandemic and other impacts to low-income households, highlight the need for DAC-SASH to help relieve energy burden and provide job training opportunities to disadvantaged communities. GRID looks forward to bringing the benefits of DAC-SASH to residents of disadvantaged communities in 2021 and for years to come.

13. Appendices



Appendix A

Applications in each CalEnviroScreen Disadvantaged Community Census Tract

| DAC Census Tract | # of DAC-SASH applications |
|---------------------|----------------------------|
| Alameda | 17 |
| 6001401500 | 1 |
| 6001405401 | 1 |
| 6001406201 | 1 |
| 6001407400 | 1 |
| 6001408800 | 3 |
| 6001408900 | 1 |
| 6001409200 | 1 |
| 6001409300 | 1 |
| 6001409400 | 3 |
| 6001432400 | 1 |
| 6001433200 | 1 |
| 6001437101 | 1 |
| 6001440301 | 1 |
| Butte | 12 |
| 6007001300 | 11 |
| 6007003700 | 1 |
| Contra Costa | 171 |
| 6013302005 | 1 |
| 6013305000 | 1 |
| 6013309000 | 2 |
| 6013310000 | 2 |
| 6013311000 | 11 |
| 6013313101 | 4 |
| 6013314103 | 4 |
| 6013314104 | 7 |
| 6013358000 | 4 |
| 6013364002 | 3 |

| | |
|---------------|-----------|
| 6013365002 | 3 |
| 6013366002 | 3 |
| 6013368001 | 6 |
| 6013375000 | 4 |
| 6013376000 | 8 |
| 6013377000 | 71 |
| 6013379000 | 7 |
| 6013380000 | 7 |
| 6013381000 | 11 |
| 6013382000 | 8 |
| 6013392200 | 4 |
| Fresno | 57 |
| 6019000300 | 2 |
| 6019000700 | 3 |
| 6019000901 | 4 |
| 6019000902 | 3 |
| 6019001000 | 3 |
| 6019001100 | 5 |
| 6019001410 | 1 |
| 6019001413 | 2 |
| 6019002501 | 1 |
| 6019003102 | 5 |
| 6019003702 | 1 |
| 6019003803 | 1 |
| 6019003804 | 1 |
| 6019003807 | 1 |
| 6019003808 | 1 |
| 6019004002 | 1 |
| 6019004207 | 3 |
| 6019004703 | 1 |
| 6019005202 | 1 |
| 6019005607 | 1 |
| 6019006100 | 1 |
| 6019006300 | 2 |
| 6019006502 | 2 |
| 6019006602 | 1 |

| | |
|--------------------|------------|
| 6019006604 | 1 |
| 6019007003 | 4 |
| 6019007100 | 2 |
| 6019007700 | 1 |
| 6019008502 | 1 |
| 6107004101 | 1 |
| Kern | 4 |
| 6029004101 | 1 |
| 6029006202 | 1 |
| 6029006304 | 2 |
| Kings | 16 |
| 6031000500 | 3 |
| 6031001002 | 1 |
| 6031001003 | 11 |
| 6031001100 | 1 |
| Los Angeles | 106 |
| 6037402101 | 2 |
| 6037402102 | 1 |
| 6037402200 | 3 |
| 6037402402 | 1 |
| 6037402406 | 1 |
| 6037402702 | 1 |
| 6037402706 | 1 |
| 6037402904 | 2 |
| 6037403000 | 2 |
| 6037404703 | 1 |
| 6037404901 | 2 |
| 6037404902 | 2 |
| 6037405001 | 1 |
| 6037405002 | 1 |
| 6037408138 | 1 |
| 6037408301 | 1 |
| 6037408631 | 2 |
| 6037430101 | 1 |
| 6037433503 | 1 |
| 6037500600 | 1 |

| | |
|------------|---|
| 6037502100 | 2 |
| 6037502601 | 2 |
| 6037502700 | 1 |
| 6037503000 | 1 |
| 6037503105 | 1 |
| 6037530101 | 1 |
| 6037530901 | 1 |
| 6037535605 | 1 |
| 6037536103 | 1 |
| 6037540000 | 1 |
| 6037540101 | 1 |
| 6037540102 | 1 |
| 6037540300 | 1 |
| 6037540501 | 1 |
| 6037540600 | 2 |
| 6037540800 | 8 |
| 6037541002 | 1 |
| 6037541200 | 1 |
| 6037542000 | 1 |
| 6037542103 | 1 |
| 6037542104 | 1 |
| 6037542200 | 1 |
| 6037542402 | 1 |
| 6037542601 | 1 |
| 6037542602 | 2 |
| 6037542700 | 1 |
| 6037543100 | 1 |
| 6037543201 | 1 |
| 6037543306 | 1 |
| 6037543322 | 2 |
| 6037543501 | 1 |
| 6037543604 | 2 |
| 6037543801 | 1 |
| 6037543802 | 1 |
| 6037543903 | 1 |
| 6037550100 | 1 |

| | |
|---------------|-----------|
| 6037552100 | 1 |
| 6037552301 | 1 |
| 6037552602 | 1 |
| 6037552700 | 1 |
| 6037553504 | 1 |
| 6037553602 | 1 |
| 6037553701 | 2 |
| 6037553901 | 1 |
| 6037570202 | 2 |
| 6037570204 | 1 |
| 6037570402 | 1 |
| 6037570403 | 2 |
| 6037570404 | 1 |
| 6037572302 | 2 |
| 6037573100 | 1 |
| 6037575300 | 1 |
| 6037576301 | 1 |
| 6037600400 | 1 |
| 6037601402 | 1 |
| 6037601501 | 1 |
| 6037602004 | 1 |
| 6037602600 | 2 |
| 6037603200 | 1 |
| 6037650901 | 1 |
| Madera | 4 |
| 6039000502 | 1 |
| 6039000602 | 1 |
| 6039000900 | 2 |
| Merced | 35 |
| 6047000301 | 3 |
| 6047000304 | 1 |
| 6047000504 | 1 |
| 6047000901 | 1 |
| 6047000902 | 1 |
| 6047001401 | 1 |
| 6047001902 | 2 |

| | |
|-----------------------|------------|
| 6047002000 | 7 |
| 6047002201 | 1 |
| 6047002202 | 12 |
| 6047002302 | 5 |
| Monterey | 1 |
| 6053000900 | 1 |
| Orange | 3 |
| 6059074300 | 1 |
| 6059089001 | 1 |
| 6059110302 | 1 |
| Riverside | 43 |
| 6065040101 | 1 |
| 6065040102 | 1 |
| 6065040303 | 1 |
| 6065040501 | 1 |
| 6065040607 | 2 |
| 6065041409 | 2 |
| 6065041412 | 1 |
| 6065042007 | 1 |
| 6065042404 | 1 |
| 6065042409 | 2 |
| 6065042507 | 2 |
| 6065042510 | 1 |
| 6065042512 | 1 |
| 6065042513 | 3 |
| 6065042514 | 1 |
| 6065042518 | 1 |
| 6065042519 | 1 |
| 6065042521 | 2 |
| 6065042620 | 10 |
| 6065042624 | 1 |
| 6065042706 | 2 |
| 6065042901 | 3 |
| 6065048800 | 1 |
| 6071005600 | 1 |
| San Bernardino | 128 |

| | |
|------------|----|
| 6071000208 | 1 |
| 6071000403 | 1 |
| 6071000606 | 1 |
| 6071000821 | 1 |
| 6071000826 | 1 |
| 6071000904 | 1 |
| 6071001001 | 1 |
| 6071001002 | 4 |
| 6071001101 | 1 |
| 6071001103 | 1 |
| 6071001104 | 3 |
| 6071001200 | 1 |
| 6071001305 | 1 |
| 6071001307 | 3 |
| 6071001308 | 2 |
| 6071001310 | 4 |
| 6071001312 | 2 |
| 6071001400 | 4 |
| 6071001501 | 6 |
| 6071001504 | 1 |
| 6071001706 | 2 |
| 6071001707 | 12 |
| 6071001803 | 1 |
| 6071001804 | 2 |
| 6071001806 | 1 |
| 6071001810 | 1 |
| 6071001812 | 4 |
| 6071001813 | 2 |
| 6071001906 | 2 |
| 6071002105 | 2 |
| 6071002107 | 2 |
| 6071002110 | 1 |
| 6071002111 | 1 |
| 6071002206 | 1 |
| 6071002301 | 1 |
| 6071002402 | 1 |

| | |
|------------------|-----------|
| 6071002502 | 1 |
| 6071002606 | 1 |
| 6071002704 | 1 |
| 6071002901 | 1 |
| 6071002902 | 1 |
| 6071003000 | 1 |
| 6071003200 | 2 |
| 6071003301 | 1 |
| 6071003503 | 3 |
| 6071003509 | 1 |
| 6071003607 | 2 |
| 6071003609 | 3 |
| 6071003803 | 1 |
| 6071003804 | 2 |
| 6071003900 | 1 |
| 6071004101 | 1 |
| 6071004603 | 4 |
| 6071004604 | 1 |
| 6071004900 | 1 |
| 6071005200 | 1 |
| 6071005300 | 1 |
| 6071006100 | 3 |
| 6071007109 | 1 |
| 6071007110 | 3 |
| 6071007601 | 1 |
| 6071007603 | 1 |
| 6071007604 | 4 |
| 6071008001 | 2 |
| 6071009116 | 1 |
| 6071009117 | 1 |
| 6071010025 | 3 |
| 6071012700 | 1 |
| San Diego | 35 |
| 6073002501 | 1 |
| 6073002502 | 2 |
| 6073003301 | 1 |

| | |
|----------------------|------------|
| 6073003303 | 2 |
| 6073003305 | 3 |
| 6073003403 | 2 |
| 6073003404 | 3 |
| 6073003501 | 1 |
| 6073003502 | 1 |
| 6073004100 | 1 |
| 6073004800 | 1 |
| 6073004900 | 8 |
| 6073011700 | 1 |
| 6073021100 | 7 |
| 6073021102 | 1 |
| San Francisco | 8 |
| 6075023200 | 6 |
| 6075023400 | 1 |
| 6075061200 | 1 |
| San Joaquin | 367 |
| 6077000100 | 2 |
| 6077000401 | 1 |
| 6077000402 | 1 |
| 6077000500 | 1 |
| 6077000600 | 1 |
| 6077000700 | 1 |
| 6077000801 | 4 |
| 6077000803 | 2 |
| 6077000900 | 2 |
| 6077001000 | 2 |
| 6077001300 | 7 |
| 6077001400 | 1 |
| 6077001500 | 7 |
| 6077001501 | 1 |
| 6077001600 | 1 |
| 6077001700 | 5 |
| 6077001900 | 3 |
| 6077002100 | 2 |
| 6077002201 | 2 |

| | |
|------------|----|
| 6077002202 | 1 |
| 6077002300 | 2 |
| 6077002402 | 1 |
| 6077002503 | 1 |
| 6077002701 | 1 |
| 6077002800 | 3 |
| 6077003110 | 1 |
| 6077003305 | 2 |
| 6077003308 | 1 |
| 6077003313 | 2 |
| 6077003403 | 14 |
| 6077003405 | 1 |
| 6077003407 | 5 |
| 6077003409 | 3 |
| 6077003500 | 89 |
| 6077003601 | 1 |
| 6077003700 | 6 |
| 6077003801 | 49 |
| 6077003802 | 16 |
| 6077003803 | 6 |
| 6077003804 | 1 |
| 6077003806 | 1 |
| 6077005106 | 15 |
| 6077005110 | 3 |
| 6077005114 | 9 |
| 6077005119 | 28 |
| 6077005122 | 4 |
| 6077005123 | 4 |
| 6077005126 | 2 |
| 6077005127 | 21 |
| 6077005129 | 3 |
| 6077005130 | 2 |
| 6077005132 | 1 |
| 6077005133 | 4 |
| 6077005135 | 8 |
| 6077005137 | 1 |

| | |
|--------------------|-----------|
| 6077005206 | 4 |
| 6077005302 | 1 |
| 6077005305 | 3 |
| 6077005312 | 1 |
| San Mateo | 6 |
| 6081611900 | 4 |
| 6081612000 | 2 |
| Santa Clara | 2 |
| 6085503122 | 1 |
| 6085512602 | 1 |
| Santa Cruz | 1 |
| 6087110400 | 1 |
| Solano | 6 |
| 6095250701 | 3 |
| 6095251802 | 1 |
| 6095251901 | 2 |
| Sonoma | 1 |
| 6097153200 | 1 |
| Stanislaus | 2 |
| 6099000202 | 1 |
| 6099000303 | 1 |
| Tulare | 91 |
| 6029004606 | 1 |
| 6031001003 | 1 |
| 6107000201 | 1 |
| 6107000302 | 2 |
| 6107000900 | 9 |
| 6107001003 | 34 |
| 6107001004 | 3 |
| 6107001011 | 1 |
| 6107001012 | 1 |
| 6107001302 | 6 |
| 6107001601 | 1 |
| 6107001602 | 4 |
| 6107001701 | 1 |
| 6107002202 | 1 |

| | |
|----------------|--------------|
| 6107002304 | 1 |
| 6107002800 | 2 |
| 6107002901 | 1 |
| 6107003200 | 1 |
| 6107003302 | 1 |
| 6107003400 | 2 |
| 6107003700 | 4 |
| 6107003901 | 4 |
| 6107003902 | 1 |
| 6107003904 | 1 |
| 6107004101 | 6 |
| 6107004300 | 1 |
| Ventura | 1 |
| 6111003201 | 1 |
| Yolo | 7 |
| 6087121200 | 1 |
| 6113010101 | 3 |
| 6113010102 | 2 |
| 6113010203 | 1 |
| Yuba | 2 |
| 6101050302 | 1 |
| 6115040400 | 1 |
| Total | 1,126 |

Appendix B

Summary of Program Participant Survey Results

GRID sends its post-installation survey after project construction is complete. The survey includes four questions and has space for comments or other feedback. To date

there are 162 survey responses from DAC-SASH participants. The majority of responding participants state that they would be very likely to recommend GRID to their contacts or neighbors. The four survey questions emailed to clients are:

- **Do you understand how the system works?**
 - On a 1 to 5 scale, we received on average a 3.7
- **How to tell if the system is working?**
 - On average we received a 3.5
- **What to do if the system is not working?**
 - On average we received a 3.2
- **Do you understand your NEM bills?**
 - On average we received a 3.3

To date GRID has received no formal complaints via the post-installation survey, but GRID has received constructive criticism including comments such as those below. GRID works to address this feedback whenever possible:

“Better explanation of True-up and a checklist for helping to maintain the system. And also some clarification whether or not a battery storage system would be ok to install separately. Hopefully one day this all comes in a package (solar & battery) system,” from client *in Pittsburg, CA*.

“The process from the first application to installation can be very time consuming ...really wish the methodology could be shortened and more efficient,” from client *in Richmond, CA*.

“My panels were placed to the lower portion of the roof facing west, and since the neighbor house is very close I feel that it would have been more beneficial if

the panels had been placed higher on the roof to obtain the optimal sun, especially in the winter months" *from client in Stockton, CA.*

"I love everything else about the system, but the giant bill at the end of the service year is a lot to take on. If I average it out over the year, it is the same amount I was paying before solar," *from client in Stockton, CA*

Otherwise, GRID received positive feedback such as the comments below:

"Completely satisfied and proud it was done" from a client in Visalia, California and "Just saw last power bill and yes I see the difference and I thank you for it," *from a client in Ontario, CA.*

"GRID is providing a great service to folks with solar who can't afford it, priceless! I thank you for making this dream come true for my mother. GRID process is very smooth, stress-free which is very valuable and helpful," from a client in Kerman, CA.

In Q3, 2020 GRID created a separate complaint tracking system. To date GRID has received one formal complain from a client in Richmond California, who felt that he was promised multiple GRID services or programs and was upset when a no-cost main electric panel upgrade was no longer offered by GRID. Upon analysis of the full extent of communication with the client, it is GRID's belief that this was due to communication from too many GRID different staff members. GRID is actively working to improve client communications, in particular with complex projects that include multiple services or programs, to ensure that the client understands all next steps and holds realistic expectations about what services or products they will be receiving. Please reach out to GRID if you would like more details about this client complaint.