

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

**Semi-annual Progress Report  
January 2022**

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# 1. Program Summary

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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 communities<sup>1</sup> 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 operated since 2008 and is also administered by GRID.

The 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 condition. GRID's experience has demonstrated that dedicated, carefully designed and

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<sup>1</sup> 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>

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 program to address 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

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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:<sup>2</sup> “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

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

DAC-SASH will assist low-income customers in overcoming barriers to the installation of solar energy, such as a lack of up-front capital or credit needed to finance solar.”

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.<sup>3</sup> 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](#),<sup>4</sup> 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,<sup>5</sup> which will be published by January 30 and July 30 each year and detail the progress of the prior two quarters.

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<sup>3</sup> D. 18-06-027, p. 33.

<sup>4</sup> 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.

<sup>5</sup> 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. Q3-Q4 2021 Update

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Overview: In the second half of 2021 the DAC-SASH Program posted reasonable results, with almost 840kW (CEC-AC) of solar electric capacity interconnected for the benefit of almost 215 low-income homeowners. The program's total installed capacity consists of almost 4MW (CEC-AC) and all-time over 1,130 PV systems have been installed using DAC-SASH incentives. Close to 130 projects are reserved and awaiting installation, and almost 150 applications have been submitted and are currently under review. In the latter half of 2021, GRID continued to keep general volunteers off of program installations due to the ongoing pandemic, however group job trainings took place in-person and online, depending on local conditions.

Activities: Ahead of the start of Q4, GRID submitted its first Incentives Advance to SCE based on projected interconnections in the upcoming quarters. This is a 12-month pilot and GRID is already finding it beneficial to healthy operations. Next, GRID began a workforce development partnership with LinkedIn in 2020 which ended in late 2021, a unique opportunity for GRID's IBT 200 job trainees and SolarCorps Fellows to participate in LinkedIn employment coaching events. In 2021, each GRID office continued to adapt its job training programming in a way that best suits their unique situation but fortunately most were able to return job trainees to real-world install sites. GRID hosted 28 Installation Basics Training (IBT) trainings (virtual and in-person).

To attract DAC-SASH clients, GRID's regional offices continue to gather word-of-mouth testimonials from past program participants, attend key events, sent thousands of mailers and postcards which included some of PG&E and SDG&E's leads received in



early 2021. GRID continued to implement the [2021 DAC-SASH Marketing, Education, and Outreach \(ME&O\) Plan](#) across the state, reconnecting with several more tribal liaisons and tribal homeowners. GRID has completed 25 tribal DAC-SASH projects to date, PV systems that are often paired with GRID's Tribal Solar Accelerator Fund to ensure the installation is close to fully funded. GRID will work even more diligently in 2022 to reserve and install more tribal projects in 2022, in particular in SDG&E territory. Finally, ongoing program activities include refining quality control (QC) processes as needed, to verify project qualification and document processing accuracy.

## 4. Program Budget

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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.<sup>6</sup> 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:

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<sup>6</sup> D. 18-06-027, p. 31.

**Table 1: Budget Allocations by Utility Territory**

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

**Table 2: Budget through 2021: Allocations by Program Function**

	Budget %	Budget through 2021 (\$ in millions)	Expensed Q1-Q4, 2021	Expensed prior to 2021	Remaining in 2021, Program Budget <sup>7</sup>
<b>Incentives</b>	85%	\$25,000,000	\$4,549,989	\$7,068,099	\$13,881,8912
<b>Administration</b>	10%	\$3,000,000	\$825,213	\$1,965,013	\$209,774
<b>Marketing &amp; Outreach</b>	4%	\$1,200,000	\$329,743	\$722,902	\$107,355
<b>Evaluation</b>	1%	\$300,000	Budget resides w/ CPUC		
<b>Total Program Budget</b>	<b>100%</b>	<b>\$30,000,000</b>	<b>\$5,694,945</b>	<b>\$9,806,013.51</b>	<b>\$14,199,041</b>

<sup>7</sup> 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 Q4 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	33	112	2	147	543.9	\$1.63
STEP 2: Confirmed Applications/Reservations	84	39	6	129	488.3	\$1.46
STEP 3: Installed	722	373	38	1,133	4,204.1	\$12.61
<b>Total</b>	<b>839</b>	<b>524</b>	<b>46</b>	<b>1,409</b>	<b>5,236.3</b>	<b>\$15.70</b>

Data pulled 1/25/22. \*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<sup>8</sup>**

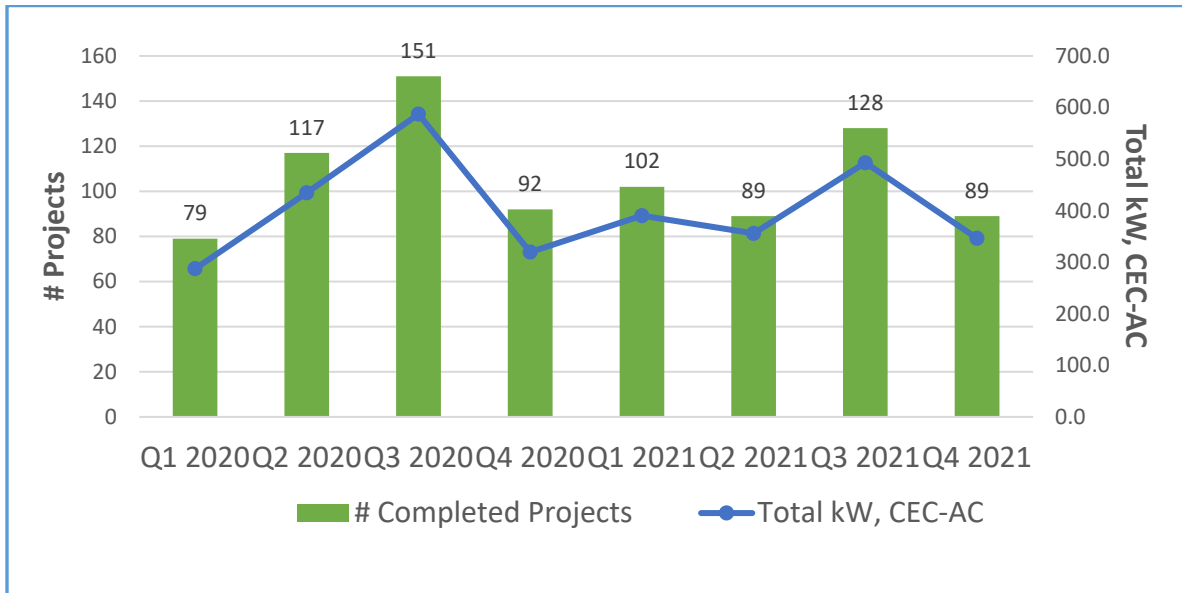
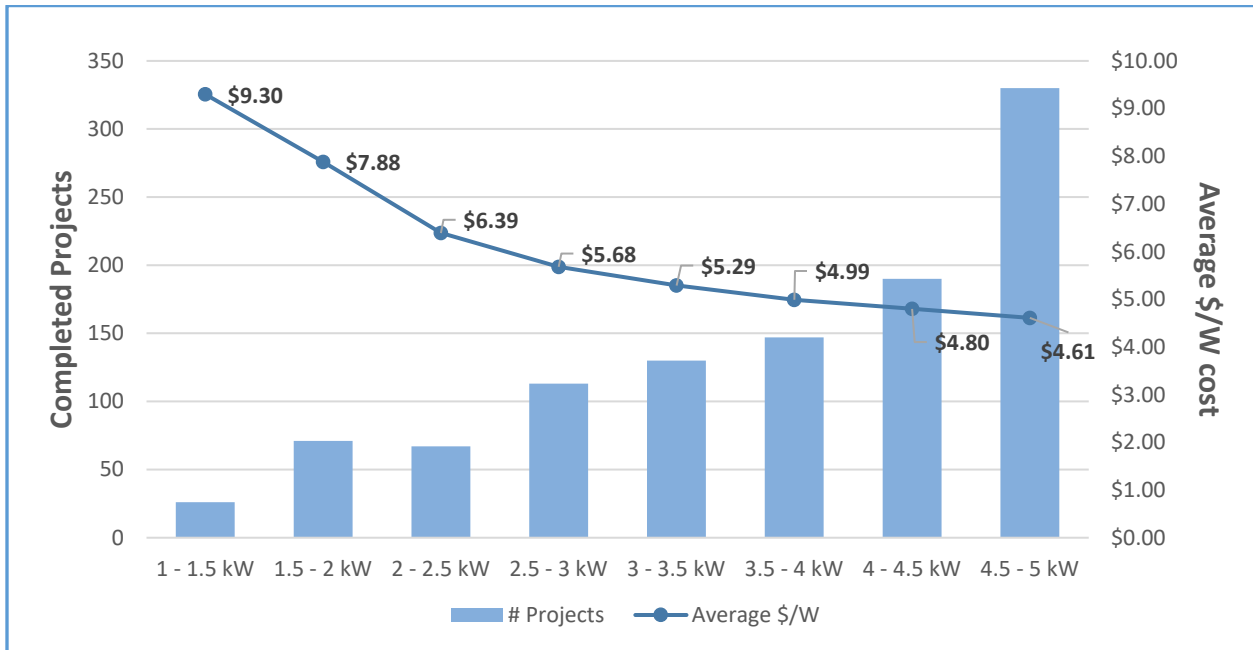


Chart 1 above illustrates the program’s progress in 2021, with over 200 projects completed and interconnected in the second half of the year. These projects represent 840kW (CEC-AC) in installed capacity and have an expected annual output of over 1.3 million kilowatt hours.

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. Projects are capped at 5kW (CEC-AC).

<sup>8</sup> For ease of viewing, only 2020 and 2021 is shown here; for 2019 please go to <https://www.californiadgstats.ca.gov/charts/li/>

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



## 6. Incentives and Project Financing

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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 \$5.05/Watt (CEC-AC) and varies by system size (see Chart 2 above). This average system cost does not include all 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 expense to provide no-cost job training and workforce development and education. The cost for DAC-SASH installations is 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.

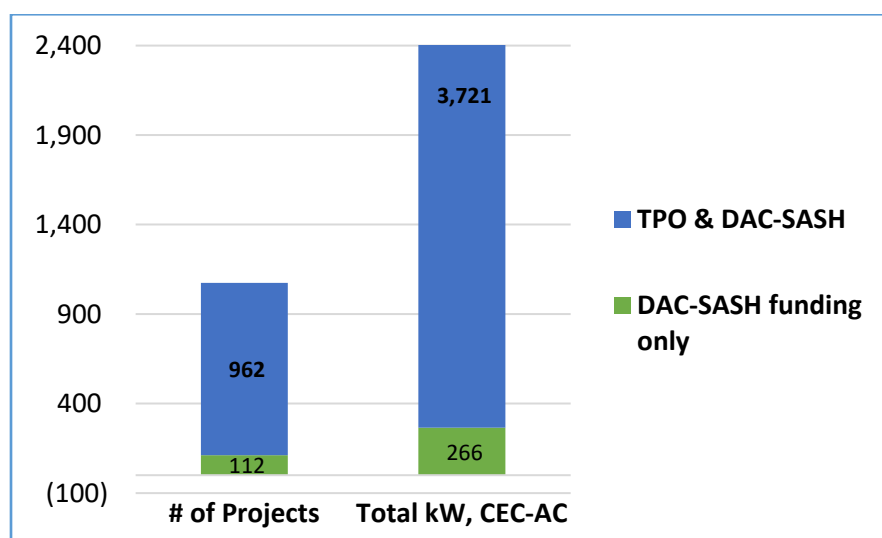
Because the incentive of \$3/W, CEC-AC covers only ~60% of the average system cost, GRID must overcome a financing gap for families by contributing the organization's own fundraising dollars or other additional resources toward covering the gap, which allows more families to go solar with the Program.



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 2022 and beyond. Gap financing remains an obstacle for most low-income families to participate in the 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 above, of the over 1,000 total DAC-SASH projects completed to date, almost 90% are third-party owned.<sup>9</sup>

<sup>9</sup> 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

## 7. Marketing and Outreach

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The Marketing, Education and Outreach (ME&O) plan for the DAC-SASH program can be accessed on GRID's website<sup>10</sup> and provides details on planned ME&O activities, key performance indicators, the program's ME&O budget, and includes sample program marketing collateral.

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 pending or completed DAC-SASH applications in 2021. It also illustrates that GRID has qualified DAC-SASH applicants over a wide range of CalEnviroScreen DACs in IOU territory.

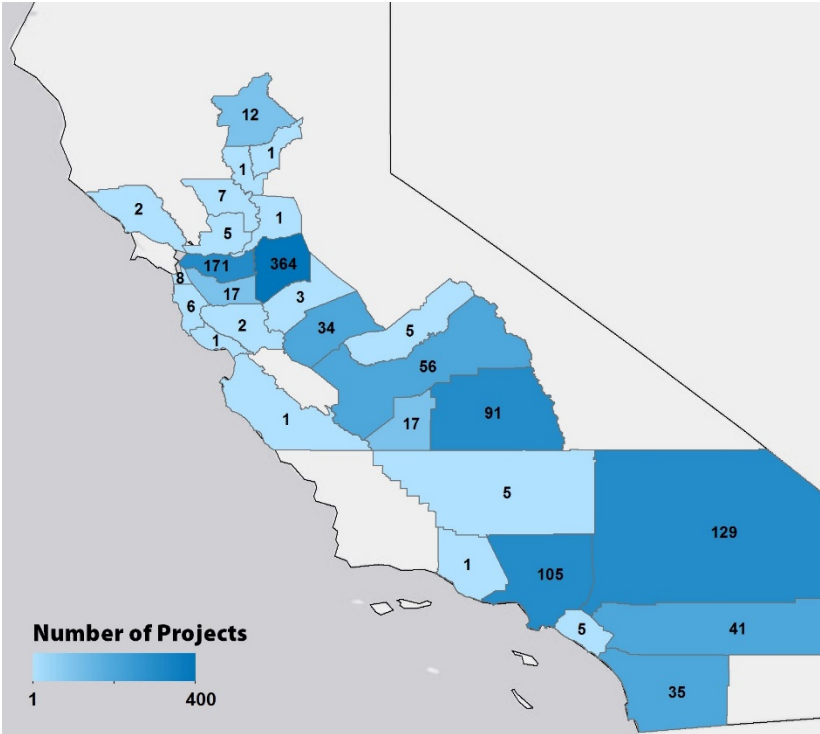
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requirements (such as projects on tribal lands), and/or a project partner/city/client that is unable or unwilling to approve a TPO ownership structure.

<sup>10</sup> <https://gridalternatives.org/what-we-do/program-administration/dac-sash>



**Map 1: Location of DAC-SASH approved applications and installations**



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 less than 30% in SCE territory under the current DAC definition.<sup>11</sup>

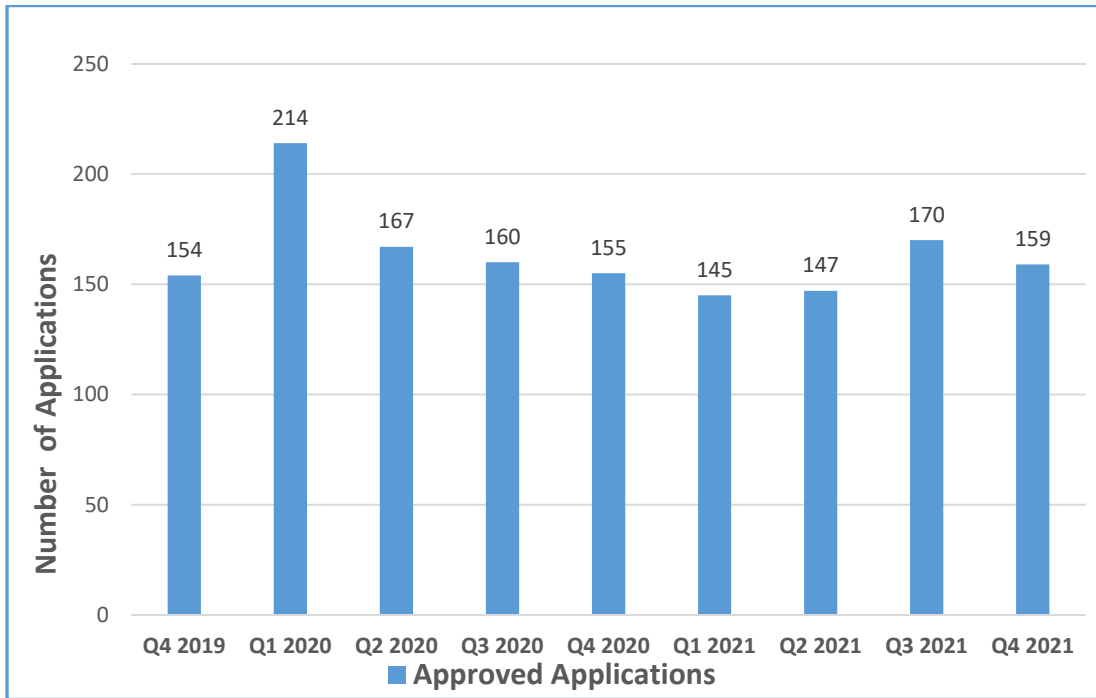
Appendix A lists the number of DAC-SASH applicants in each DAC census tract (not depicted in map due to the small size of each tract).

Chart 4 below, shows that GRID processed or approved almost 330 applications from eligible clients in the second half of 2021. Of these applications only 10 were in SDG&E’s utility territory, which highlights the challenges to identifying qualifying homes in SDG&E’s territory, as detailed in Section 11, “Barriers to Participation.”

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<sup>11</sup> SDG&E: CES DACs as % of territory = 5.3%; PG&E: CES DACs as % of territory = 15.2%; 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 in 2020 from: [www.census.gov/cgi-bin/geo/shapefiles/index.php](http://www.census.gov/cgi-bin/geo/shapefiles/index.php); and [www2.energy.ca.gov/maps/serviceareas/Electric\\_UTILITY\\_Service\\_Areas.html](http://www2.energy.ca.gov/maps/serviceareas/Electric_UTILITY_Service_Areas.html).

**Chart 4: Approved Applications by Quarter**



GRID’s marketing and outreach approach for the DAC-SASH program 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 cities or 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's clean energy utility 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, aiming for maximum impact and long-term benefit.

Client Experience: 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 come from 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 Utility referrals for Targeted ME&O<sup>12</sup>

Upon receiving the targeted customer profiles from each IOU in early 2021, GRID analyzed and organized the new data and strategized with GRID's regional Outreach teams about where and how to utilize these leads in the most impactful way in the short-term. GRID looks forward to receiving the next batch of eligible customer profiles in February 2022. In 2021 GRID prioritized customer profiles with sufficient usage to also qualify them for the program's TPO financing and will continue to qualify clients based on the readiness of their home and roof for solar installation. GRID has requested that the IOUs add a Net Metering (NEM) flag as well to the leads provided.

In Q3 and Q4: GRID continued outreaching via phone and print marketing to a portion of the PG&E and SDG&E leads, primarily with mailed postcards or letters and direct phone calls as well. The leads were selected for no Net Metered billing, annual kWh usage is over 3,000kWh, and regions where construction barriers are known to be less prevalent. A summary of leads received is below, per the requirements of D.20-12-003:

- # of customer profiles provided by IOUs: Roughly 25,650 leads that are relevant to good program ME&O were received in February 2021 (SCE shared low-income DAC leads that are past 3 years old and so are not included here).
- # of customers outreached to: Over 4,000 of the leads received have received a phone call and/or a mailer from GRID through 2021; some of these leads were

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<sup>12</sup> 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>

reached out to multiple times over the course of several months, in particular in Bay Area cities.

- # of installations resulting from outreach: 6 installations took place in 2021 and over 10 installations are currently pending; it can take 2-6 months from initial outreach and application to the installation phase of a single family project.
- Uncertainty that may depress conversion rates: GRID keeps in mind that income is self-reported for CARE and ESA, whereas GRID actively verifies income using the most recent tax returns. In addition, these leads do not provide insight on roof quality or code issues that are major barriers in some regions.

**SDG&E DAC leads** : 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 them in its system from previous marketing campaigns). To date GRID has received fewer than 20 responses, with several converted leads and one project that has been installed. GRID will follow-up in 2022 with phone banking to a portion of these leads in zip codes where GRID knows that housing stock and roof conditions are better able to support a solar system and inverter box.

**PG&E DAC leads**: Of the 11,150 customer profiles received, 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) and again in July and October these leads were sent a co-marketed letter with the CPUC's logo included. Roughly 30 leads have responded but so far only a handful have been converted into projects due primarily to clients being over income. In Q2 another 700 leads were called in the Stockton area, and then were contacted again via postcard or a CPUC-branded letter in Q3. To date there have been 25 lead responses and five installed projects in Stockton or the North Valley.

**SCE DAC leads:** Roughly 10,300 useful leads were received from SCE, counting only those customers that were enrolled in the ESA or CARE programs from 2018 forward and whose annual usage is over 3,000kWh.<sup>13</sup> GRID did not utilize this data in 2021 (as it plans to do in 2022), in part because its staff was especially focused on a SASH program deadline in its final year. Also, an existing co-marketing partnership with SCE has already been instrumental in providing high-quality leads to GRID.

## 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. 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

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<sup>13</sup> 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.

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.

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## 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.<sup>14</sup>

1. **Team Leader<sup>15</sup>:** 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, communications, job trainee and volunteer management, market development, construction, and fundraising. These are one-year paid fellowships that are

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<sup>14</sup> Additional information on these programs and requirements can be found at: [www.gridalternatives.org/programs/workforce-development](http://www.gridalternatives.org/programs/workforce-development) and in the DAC-SASH Program Handbook.

<sup>15</sup> 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.

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)
<b># of Unique Participants</b>	63	84	316	5	3	<b>471</b>	6

**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)	10,905	2,864	5,257	176	36	<b>19,238</b>	160	<b>19,398</b>
Design/Engineering (hours)	8	0	0	0	0	<b>8</b>	0	<b>8</b>
Project Coordination (hours)	970	0	0	0	0	<b>970</b>	12	<b>982</b>
<b>Total Hours</b>	<b>10,882</b>	<b>2,864</b>	<b>5,257</b>	<b>176</b>	<b>36</b>	<b>17,249</b>	<b>172</b>	<b>20,387</b>

## 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 23 California job training organizations (JTOs)<sup>16</sup> 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.

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<sup>16</sup> Active JTO partners are those that GRID has worked directly with on a DAC-SASH installation since the program’s inception.

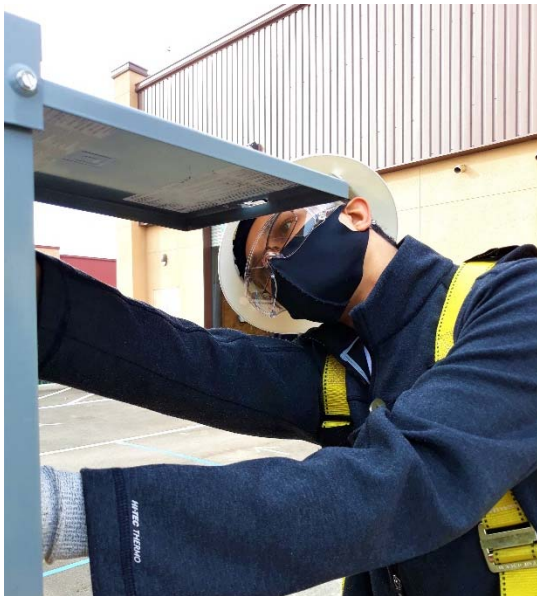
**Resume Bank/Job Board:** GRID maintains an online Resume Bank/Job Board to promote economic development in disadvantaged communities through job training and local hiring initiatives. This platform connects job seekers and employers and was expanded to more easily match qualified trainees or job candidates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

GRID estimates that over 230 participants (all types, including volunteers) that have worked on a DAC-SASH project 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 over time over 190 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

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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 refer and ideally enroll eligible homeowners into the program and to work collaboratively to improve data transfer and standardize information GRID receives about ESAP enrollment. DAC-SASH PV systems are typically sized based on past usage and also take into consideration presumed energy savings from ESAP measures taken.

**Table 6: Referrals to ESAP and Enrollment Percentage**

	Total Referred	Enrolled <sup>17</sup>	% Enrolled in ESAP
<b>PG&amp;E</b>	1,096	353	32%
<b>SCE</b>	799	298	37%
<b>SDG&amp;E</b>	37	8	22%
<b>Total</b>	1,932	659	<b>34%</b>

Table 6 summarizes the number of DAC-SASH participants that have been referred to the IOUs for enrollment into ESAP through Q4 2021 or have been successfully enrolled.<sup>18</sup> 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 qualified homeowners, such as the Weatherization Assistance Program<sup>19</sup> and the Low-Income Weatherization Program.

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<sup>17</sup> In January 2022, GRID did not receive updates from PG&E and SDG&E in order to determine how many of its referred leads were enrolled or not.

<sup>18</sup> GRID refers all ESAP-eligible DAC-SASH applicants to the ESA program. Some applicants 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.

<sup>19</sup> [www.benefits.gov/benefit/1844](http://www.benefits.gov/benefit/1844)

## 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**

	<b>Total Applications</b>	CARE Enrolled	FERA Enrolled	<b>Total Enrolled</b>	<b>% Enrolled</b>
PG&E	1,040	831	10	841	81%
SDG&E	58	44	0	47	81%
SCE	801	619	9	628	78%
<b>Total</b>	<b>1,900</b>	1,497	19	<b>1,516</b>	<b>80%</b>

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, 80% of DAC-SASH and potential clients are enrolled in one of these assistance programs.



### **9.3 The Self-Generation Incentive Program (SGIP)**

SGIP provides incentives for energy storage, among other technologies. In late 2019, Decision 19-09-027 updated the program 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 initiated a pilot in late 2020 to begin development of a DAC-SASH PV + storage pairing for its highest-need, resiliency clients. In 2021 it began working in earnest with a partner called Swell and its equipment procurement team, integrating battery storage into its PV model, ensuring that battery storage systems can be delivered at no cost and that long-term warranty coverage and battery replacement are included.

### **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 potentially the Empower EV Program for PG&E soon as well. GRID works 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 a DAC-SASH solar installation and in 2021 GRID continues to finetune its internal process to facilitate referrals between programs and logistics coordination for DAC-SASH participants who may be purchasing an EV or EV charger. Currently there are over 20 DAC-SASH participants interested in or who have received an EV charger as well. GRID expects this market to expand as California creates pathways to make EVs and their infrastructure more affordable and accessible.

## 10. Subcontractors

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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 \(SPP\)](#) 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 in the Inland Empire, Los Angeles and North Valley (Stockton/Sacramento area) oversee 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**

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### **11.1 Assessment of Program Performance**

Overall, the program's core messages have been well-received by target audiences. GRID continues to be concerned about barriers to participation being a roadblock to program success and looks forward to working with stakeholders and the Energy Division to ideally address these barriers in a substantive way in 2022, as the program's first evaluation takes place.

### **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 SASH<sup>20</sup> -- 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 in particular because New Construction homes are mandated to include solar and possess new roofs, making them great candidates for supporting 25-year warranted solar systems.

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<sup>20</sup> 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 10 to 20% of DAC-SASH projects cannot leverage the TPO model, and other projects 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 sufficient gap financing for all projects. As such, limitations on GRID's available gap funding are a barrier to program participation and waiting lists are long for homeowners who would like to participate 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 far outpaces the resources available. 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 2020 via a modification of D.18-06-027. In 2020 GRID submitted its Petition for Modification (PFM) to address some of the barriers detailed in this section. GRID's PFM was addressed with Decision 20-12-003 which added tribal lands to the program's geographic eligibility. With the first program evaluation taking place in 2022, GRID looks forward to gaining more insight into potential future program changes, adjustments or additions in the future.

## 12. Conclusion

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GRID looks forward to participating in the program's first evaluation with third party evaluator Evergreen Economics in 2022. GRID is pleased with the program's progress in completing over 1,130 projects and almost 4MW (CEC-AC) of installed capacity from program start, with 130 more shovel-ready projects in the pipeline. This progress is despite continued COVID-19 impediments or slowdowns.

Economic and health impacts caused by the pandemic to low-income households, highlight the perhaps even greater 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 2022 and for years to come.

# 13. Appendices

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## Appendix A

### Applications in each CES Disadvantaged Community (DAC) Census Tract

(Close to 1,400 applications total through Q4 2021)

DAC Census Tract	# of DAC-SASH Applications
<b>Alameda</b>	<b>21</b>
06001401500	1
06001401700	1
06001405401	1
06001406201	1
06001407400	1
06001408800	2
06001408900	3
06001409200	1
06001409300	1
06001409400	2
06001409500	1
06001432400	2
06001433200	2
06001437101	1
06001440301	1
<b>Butte</b>	<b>13</b>
06007001300	12
06007003700	1
<b>Contra Costa</b>	<b>191</b>
06013302005	1
06013305000	1
06013309000	4
06013310000	2
06013311000	11
06013313101	4
06013314103	4
06013314104	6
06013358000	3
06013364002	2
06013365002	5
06013366002	4



06013368001	8
06013375000	5
06013376000	8
06013377000	75
06013379000	9
06013380000	7
06013381000	13
06013382000	12
06013392200	7
<b>Fresno</b>	<b>82</b>
<hr/>	
06019000200	1
06019000300	2
06019000602	2
06019000700	5
06019000901	6
06019000902	7
06019001000	4
06019001100	7
06019001410	1
06019001413	2
06019002300	1
06019002501	1
06019003102	5
06019003702	2
06019003803	1
06019003804	1
06019003807	1
06019003808	1
06019003809	1
06019003811	1
06019004002	1
06019004003	1
06019004006	1
06019004207	3
06019004703	1
06019005000	1
06019005202	1
06019005607	1
06019006100	1

06019006300	2
06019006502	2
06019006602	1
06019006604	1
06019007003	4
06019007100	2
06019007700	1
06019008501	1
06019008502	3
06019008600	1
06107004101	1
<b>Inyo</b>	<b>35</b>
06027000400	19
60270000200	14
6027000400	2
<b>Kern</b>	<b>6</b>
06029003202	1
06029004101	1
06029005003	1
06029006202	1
06029006304	2
<b>Kings</b>	<b>17</b>
06031000500	4
06031000800	1
06031001002	1
06031001003	10
06031001100	1
<b>Lake</b>	<b>1</b>
06033000400	1
<b>Los Angeles</b>	<b>131</b>
06037402101	2
06037402102	2
06037402200	4
06037402402	1
06037402406	2
06037402702	1
06037402706	1
06037402904	3
06037403000	2

06037404703	2
06037404901	2
06037404902	2
06037405001	2
06037405002	1
06037405201	1
06037407201	1
06037407901	2
06037407902	2
06037408138	1
06037408301	1
06037408401	1
06037408631	2
06037430101	1
06037432402	1
06037433103	1
06037433503	1
06037481603	1
06037500600	1
06037502100	2
06037502601	2
06037502700	1
06037503000	1
06037503105	1
06037530005	1
06037530101	1
06037530901	1
06037535605	1
06037536103	1
06037540000	1
06037540101	1
06037540102	1
06037540300	1
06037540501	2
06037540600	2
06037540800	9
06037541002	1
06037541200	1
06037542000	1

06037542103	1
06037542104	1
06037542200	1
06037542402	1
06037542601	1
06037542602	2
06037542700	1
06037543100	1
06037543201	1
06037543306	2
06037543322	3
06037543501	1
06037543604	2
06037543801	1
06037543802	1
06037543903	1
06037544002	1
06037550100	1
06037551800	1
06037552100	1
06037552301	1
06037552602	1
06037552700	1
06037553504	2
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06037553901	1
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06037570402	1
06037570403	2
06037570404	1
06037572302	1
06037573100	1
06037575300	1
06037576301	1
06037600400	1
06037601402	1
06037601501	1

06037602004	1
06037602600	2
06037603200	1
06037650901	1
<b>Madera</b>	<b>6</b>
06039000203	1
06039000502	1
06039000602	1
06039000900	3
<b>Mendocino</b>	<b>1</b>
06045010700	1
<b>Merced</b>	<b>42</b>
06047000301	3
06047000304	1
06047000504	1
06047000901	1
06047000902	1
06047001008	2
06047001401	1
06047001902	7
06047002000	7
06047002201	1
06047002202	12
06047002302	5
<b>Monterey</b>	<b>2</b>
06053000900	2
<b>Ontario</b>	<b>1</b>
06071001504	1
<b>Orange</b>	<b>6</b>
06059011602	1
06059052439	1
06059074300	1
06059074602	1
06059089001	1
06059110302	1
<b>Riverside</b>	<b>83</b>
06027000400	1
06065040101	1
06065040102	1

06065040303	1
06065040501	1
06065040607	3
06065041409	2
06065041412	1
06065042007	2
06065042404	5
06065042409	3
06065042505	1
06065042507	6
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06065042801	1
06065042901	3
06065043401	2
06065043517	2
06065046200	2
06065048800	4
06065048902	1
06071005600	1
<b>San Bernardino</b>	<b>144</b>
06065040301	1
06071000208	1
06071000403	1

06071000606	1
06071000821	1
06071000826	1
06071000904	1
06071001001	2
06071001002	3
06071001101	2
06071001103	1
06071001104	3
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06071004900	1
06071005200	2
06071006100	4
06071006203	1
06071007110	3
06071007601	1
06071007603	1
06071007604	4
06071008001	3
06071009116	1
06071009117	1
06071009500	1
06071009502	1
06071010025	4
06071012002	1
06071012400	1
<b>San Diego</b>	<b>46</b>
06073002501	1
06073002502	2
06073003301	2



06073003303	2
06073003305	5
06073003403	2
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06073003502	1
06073003602	1
06073004100	1
06073004800	2
06073004900	11
06073011700	1
06073013205	1
06073021100	4
06073021101	1
06073021102	1
6073021100	4
<b>San Francisco</b>	<b>6</b>
<hr/>	
06075023103	1
06075023200	3
06075023400	1
06075061200	1
<b>San Joaquin</b>	<b>411</b>
<hr/>	
06077000100	2
06077000401	1
06077000500	1
06077000600	1
06077000700	1
06077000801	3
06077000803	2
06077000900	2
06077001000	3
06077001300	5
06077001400	1
06077001500	8
06077001501	2
06077001600	1
06077001700	5
06077001900	3
06077002100	2

06077002201	3
06077002202	2
06077002300	2
06077002401	2
06077002402	3
06077002503	1
06077002701	1
06077002702	1
06077002800	4
06077003110	1
06077003305	2
06077003308	2
06077003313	2
06077003403	15
06077003405	2
06077003406	2
06077003407	7
06077003409	3
06077003500	96
06077003503	1
06077003601	1
06077003700	6
06077003801	52
06077003802	17
06077003803	6
06077003804	2
06077003805	1
06077003806	2
06077005106	18
06077005110	4
06077005114	9
06077005119	29
06077005122	7
06077005123	5
06077005126	3
06077005127	21
06077005129	4
06077005130	2
06077005132	1

06077005133	4
06077005135	10
06077005137	2
06077005206	4
06077005302	1
06077005305	3
06077005312	2
<b>San Mateo</b>	<b>6</b>
06081611900	2
06081611901	1
06081612000	3
<b>Santa Clara</b>	<b>3</b>
06085503122	1
06085504602	1
06085512602	1
<b>Santa Cruz</b>	<b>1</b>
06087110400	1
<b>Solano</b>	<b>6</b>
06095250701	3
06095251802	1
06095251901	2
<b>Sonoma</b>	<b>1</b>
06097153200	1
<b>Stanislaus</b>	<b>2</b>
06099000202	1
06099000303	1
<b>Tulare</b>	<b>111</b>
06029004606	1
06031001003	1
06047001902	1
06107000201	1
06107000204	1
06107000302	3
06107000900	9
06107000901	1
06107001003	38
06107001004	4
06107001011	4
06107001012	2

06107001302	7
06107001601	1
06107001602	3
06107001701	1
06107002202	1
06107002800	2
06107002901	1
06107003001	1
06107003200	1
06107003302	1
06107003400	2
06107003700	6
06107003901	4
06107003902	1
06107003904	2
06107004101	6
06107004103	1
06107004300	1
06107004302	1
06107004500	2
<b>Ventura</b>	<b>1</b>
06111003201	1
<b>Yolo</b>	<b>9</b>
06087121200	1
06113010101	3
06113010102	2
06113010103	1
06113010203	2
<b>Yuba</b>	<b>2</b>
06101050302	1
06115040400	1
<b>GRAND TOTAL</b>	<b>1,387</b>

## 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 a place for comments or other feedback. To date there are 208 survey responses from DAC-SASH participants or a 19% response rate. 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 2.92
- **How to tell if the system is working?**
  - On average we received 3.45
- **What to do if the system is not working?**
  - On average we received 3.3
- **Do you understand your NEM bills?**
  - On average we received 3.3

The average score for the first question has decreased since July 2021 and GRID will work to improve in this area. GRID has received constructive criticism including comments such as those below. GRID continually works to address feedback received wherever 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*.

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*.

For the program's annual survey, to date 200 program participants have responded or 18% response rate. Again, the majority of responding participants state that they would be very likely to recommend GRID to their contacts or neighbors.

In late 2020 GRID created a separate complaint tracking system. To date GRID has received three formal complaints (meaning they were escalated several times), all related to less than optimal communication and/or miscommunication. 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 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 these client complaints.