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

Semi-annual Progress Report
July 2020

GRID ALTERNATIVES

PUBLIC UTILITIES COMMISSION · EUREKA · STATE OF CALIFORNIA

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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 communities[1] 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 condition. GRID's experience has demonstrated that dedicated, carefully designed and executed low-income solar programs can overcome these barriers and provide not only access, but also meaningful community co-benefits. GRID has designed the DAC-SASH program to build off the success of the existing SASH program in broadly addressing the primary barriers to solar access for this market segment.

[1] Disadvantaged communities for the DAC-SASH program are currently defined as census tracts scoring in the top 25% statewide on the CalEnviroScreen 3.0 map. Homeowners in one of 22 addition 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

GRID's program model represents a holistic approach for a very hard-to-reach population. GRID's model for DAC-SASH, based on 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 focusing on JTOs located in disadvantaged communities and targeting job trainees residing in disadvantaged communities for the DAC-SASH 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 disadvantaged communities (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]

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

"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 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 over the last decade 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 subsequently awarded to GRID Alternatives (GRID, or PA) on January 4, 2019.

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). Homeowners must also meet income qualifications as denoted by the income guidelines of either the California Alternate Rates for Energy (CARE) program or the Family Electric Rate Assistance (FERA) program. Complete details for the DAC-SASH program, including eligibility and application processes, can be found in the DAC-SASH Program Handbook.

[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.

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 calendar quarters. GRID includes sections in this report to comply with the reporting requirements, such as including information on application and installation progress, job training outcomes, energy efficiency education and referrals, subcontractors, and GRID's assessment of program barriers and ideas for program design modifications.

3. Q1-Q2 2020 Update

Overview: In the first half of 2020, the DAC-SASH Program posted strong results with over 700 kW, CEC-AC of solar electric capacity interconnected for the direct benefit of nearly 200 CA low-income homeowners. This outcome is particularly notable given the acute impacts of the COVID-19 pandemic on GRID's standard operations, and the broad modifications GRID implemented in its processes to allow for safe installations during this unprecedented time.

As of June 30, 2020, the program's total installed capacity has almost doubled from the prior reporting period in January 2020, to a cumulative 1.7 MW (CEC-AC) capacity of installed projects. Through Q2 2020, 484 PV systems have been installed using DAC-SASH incentives, 100 projects are reserved and awaiting installation or interconnection, and 89 applications have been submitted and are under review.

Activities: The Commission approved Resolution E-5020 on September 12, 2019, which authorized the DAC-SASH Program Handbook and Program Implementation Plan (PIP).[6] Since then, GRID has been ramping up the program in earnest statewide. Ongoing activities that began in 2019 and continued throughout Q1 and Q2 2020 include: increasing marketing and

[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.

[6] The DAC-SASH Program Handbook stipulates that projects interconnected in 2019 qualify for DAC-SASH funding, provided the project meets all program requirements and was completed (interconnected) after January 1, 2019. Handbook at pg. 12

outreach efforts in DACs, refining the resume bank and job board, partnering with community-based organizations to enhance outreach efforts across the state , strengthening and/or creating partnerships with job training organizations (JTO) within DACs, setting up an annual financial audit, and refining quality control (QC) processes to verify project qualification and document processing accuracy. In Q1 2020, GRID fully implemented the program's public data reporting requirements on CalDGStats (including charts and maps), and has been working to implement the 2020 DAC-SASH Marketing, Education, and Outreach (ME&O) Plan across the state, approved by the Commission in December 2019.

To attract DAC-SASH clients, GRID's regional offices are implementing strategies that have proven successful previously with the SASH program, such as galvanizing word-of-mouth testimonials from past program participants. Direct referrals from existing clients have proven to be one of GRID's best marketing tools for acquiring new clients. Another strategy that has proven to be successful is co-marketing, such as an endorsement letter co-branded with DAC-SASH marketing collateral with a city, county, or utility. Given the narrow geographic and income eligibility requirements for DAC-SASH, as detailed in Section 11, Program Assessment, Barriers, and Planned Modifications, GRID's outreach teams are challenged in certain areas of the IOU territories to identify qualified homeowners. GRID submitted a Petition for Modification (PFM) of D.18-06-027 in April 2020 to address some of these barriers, including proposing to modify program rules to allow participation from CA's tribal population, as tribes are categorically excluded from qualifying because they are not considered disadvantaged on the CalEnviroScreen map.[7] The PFM is pending at the Commission.

COVID-19 Impacts: GRID followed, and continues to follow, and adapt to all federal, state and local guidance and directives from relevant authorities in order to execute DAC-SASH solar

[7] Census tracts range in population from a minimum of 1,200 to a maximum of 8,000 individuals per census tract, with the average being 4,000. Tribes in California range in size from five to 5,000 members, with most tribes significantly smaller than the average census tract population. Currently none of CA's 109 federally-recognized tribes are in the CalEnviroScreen that qualify for DAC-SASH. www2.census.gov/geo/pdfs/education/CensusTracts.pdf; Census website notes 352,000 tribal members and 109 federally-recognized tribes with 78 additional petitioning for recognition. www.courts.ca.gov/3066.htm.

installations, as well as marketing and outreach activities, that are safe for its clients, community members, and installation staff. Because solar is considered an essential service by the state,8 GRID continued offering the benefits of the DAC-SASH program to participants, albeit with modifications to comply with relevant orders. with the homeowner, and temporarily eliminated volunteers and group job training on-site. Specifically 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 will be in effect until July 10, 2021. To date, GRID has not used the waiver but will report in future semi-annual progress reports as to any application of this waiver. YTD in 2020, GRID has experienced a ~30% reduction in production of DAC-SASH systems and a ~20% increase in project costs due to the impacts of COVID-19 on its operations.[9]

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

[8] www.energy.ca.gov/news/2020-04/state-clarifies-solar-photovoltaic-and-energy-storage-installers-essential#:~:text=The%20California%20Energy%20Commission%20(CEC,photovoltaic%20and%20energy%20storage%20installers.

[9] Additional costs related to COVID include: Installation crew(s) in quarantine due to COVID exposure, with GRID paying them to quarantine; Shifting staff to eliminate job training in groups and all volunteers this spring, and on an as-needed basis moving forward. This is an additional cost to pay more f/t, salaried staff; Providing personal protective equipment, portable restrooms, and warehouse and office cleaning; Inefficiencies in warehouse and geographic logistics due to COVID-19; Inefficiencies in obtaining Safe Harbor equipment due to supply chain interruptions; Additional staff training and compliance requirements.

public purpose funds.[10] The total $120M program will be funded by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) according to 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 2020 ($ in millions)	$8.74	$9.20	$2.06	$20.00
Remaining Program Budget (2021-2030) ($ in millions)	$43.70	$46.00	$10.30	$100.00
Total Program Budget ($ in millions)	**$52.44**	**$55.20**	**$ 12.36**	**$120.00**

Table 2: Budget through 2020: Allocations by Program Functions

	Budget %	Budget through 2020 ($ in millions)	Expensed in Q1-Q2 2020	Expensed prior to 2020	Remaining in 2020, Program Budget[11]
Incentives	85%	$17,000,000	$2,114,751	$2,083,998	$12,801,251
Administration	10%	$2,000,000	$771,843	$755,648	$472,508
Marketing & Outreach	4%	$800,000	$253,471	$269,933	$276,596
Evaluation	1%	$200,000	Budget resides w/ CPUC		
Total Program Budget	**100%**	**$20,000,000**	**$3,140,065**	**$3,109,579**	**$13,550,356**

[10] D. 18-06-027, p. 31.

[11] Unused funds will roll over to the subsequent calendar year, and any funds not allocated to specific projects or program 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 2020 based on the application inspection's 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	52	2	89	329.3*	$0.99*
Step 2: Confirmed Applications/Reservations	60	40	0	100	386.2	$1.16
Step 3: Installed	327	142	15	484	1,726.9	$5.18
Total (all applications and installs)	**422**	**234**	**17**	**673**	**2,442.4**	**$7.33**

Data pulled 7/14/20. *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. System designs are not completed until the Applicant is confirmed to meet all other program requirements, but typically >90% of projects in Step 1 will move forward to Confirmed or Reserved status.

Chart 1: Completed Projects by Quarter

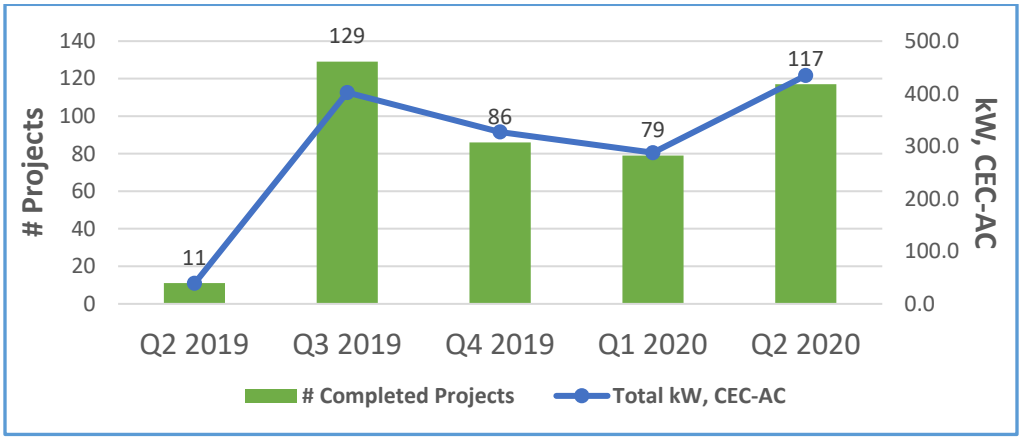
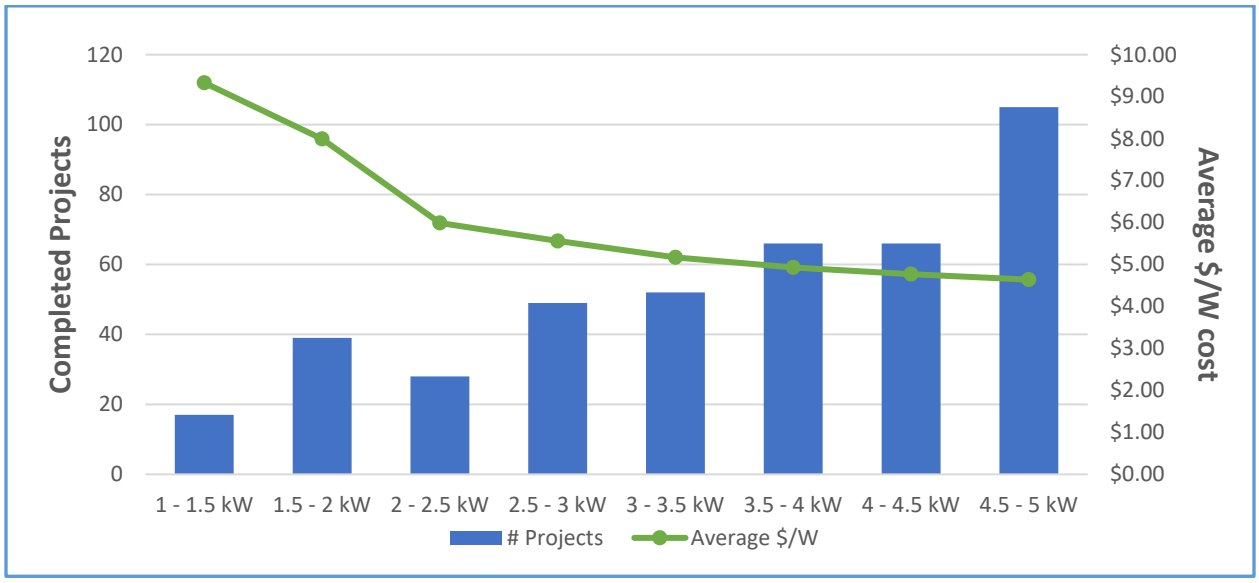


Chart 1 above illustrates the program's progress in 2020, with almost 200 projects completed and interconnected in the first half of the year. These projects represent 720 kW, CEC-AC in installed capacity and have an expected annual output of 1.1 million kilowatt hours, CEC-AC.

Chart 2 below indicates that almost 70% of all installed DAC-SASH PV-systems are 3kW (CEC-AC) or larger, with an average DAC-SASH installed project system size of 3.7kW (CEC-AC) and the average expected annual kWh is 5,328 kWh. Where the system size is not constrained by roof space, DAC-SASH system 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, and is capped at 5kW (CEC-AC).

Chart 2: Completed Projects by System Size



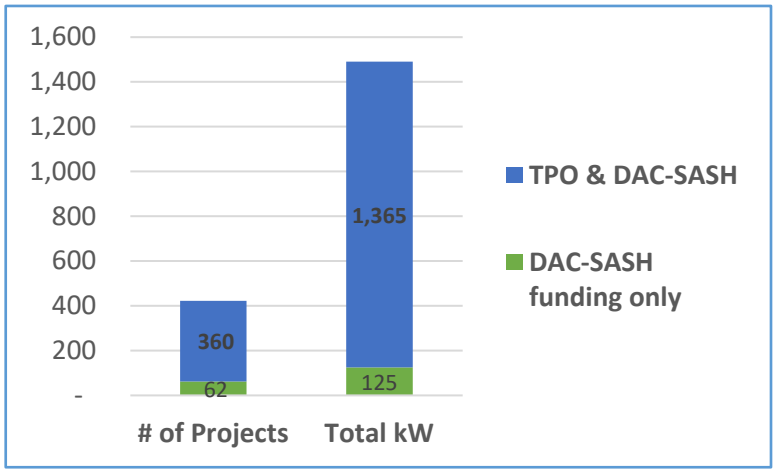
6. Incentives and Project Financing

The DAC-SASH program offers one, non-declining incentive level of $3/W (CEC-AC) for all projects. GRID's average cost to install DAC-SASH systems through 2020 was $5.14 per Watt (CEC-AC), and varied by system size as demonstrated in 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 of $5.14/W, CEC-AC, GRID must overcome the gap financing obstacle for families by contributing the organization's own non-profit fundraising dollars or additional resources toward covering the gap between the available incentive and the project costs, thereby allowing more families to go solar with the DAC-SASH Program than otherwise would have been able to do so.

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. GRID's long-standing partnerships with major equipment manufacturers including Enphase Energy and SMA Solar help cover many DAC-SASH clients' gap funding requirements, and GRID expects to utilize philanthropic and in-kind contributions from donors and sponsorships to augment gap financing efforts in 2020 and beyond. Given a depressed economy in many disadvantaged communities, and the inability for most households to assume more debt, 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 unique "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, including 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 outlined and 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 422 total DAC-SASH projects completed, over 80% are third-party owned[12] and over 90% of the total DAC-SASH capacity installed.

[12] ~20% of GRID's projects cannot leverage the TPO model because of system size being too small to meet the TPO provider's requirements, the equipment that may be donated does not meet the TPO provider's requirements, there are deed or land ownership documentation that does not meet the TPO provider's requirements, and/or the project funder, partner, city, or client is unable or unwilling to approve a TPO ownership structure.

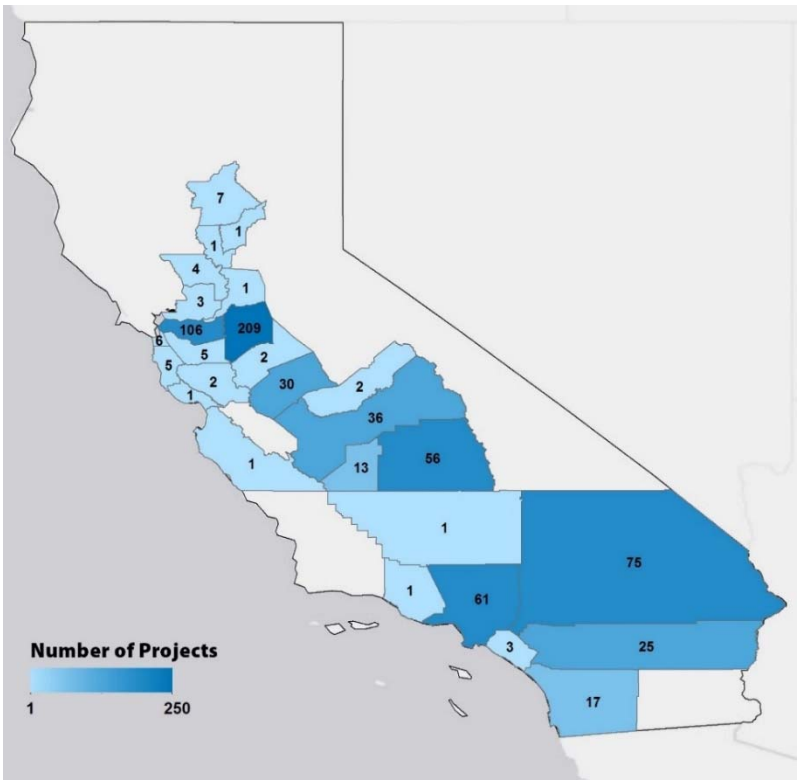
7. Marketing and Outreach

At the end of 2019, GRID completed a comprehensive 2020 Marketing, Education and Outreach (ME&O) plan for the DAC-SASH program that can be accessed on GRID's website.[13] The 2020 DAC-SASH ME&O plan provides full details on planned ME&O activities, key performance indicators, the ME&O budget, and includes sample marketing collateral that GRID has developed for the program. As part of the reporting requirements for the program, GRID will assess progress toward achievement of its ME&O KPIs and submit an updated ME&O plan in December of each calendar year, beginning in 2020. GRID provides a simplified overview of its marketing strategies in its semi-annual reports, summarized below.

GRID Alternatives currently 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 2020. It also illustrates that GRID has qualified DAC-SASH applicants over a wide range of CalEnviroScreen DACs in the IOU territories.

[13] https://gridalternatives.org/sites/default/files/DAC%20SASH%20MEO%20Plan%202020_Final_12.20.19.pdf

Map 1: Location of DAC-SASH applicants and Installations



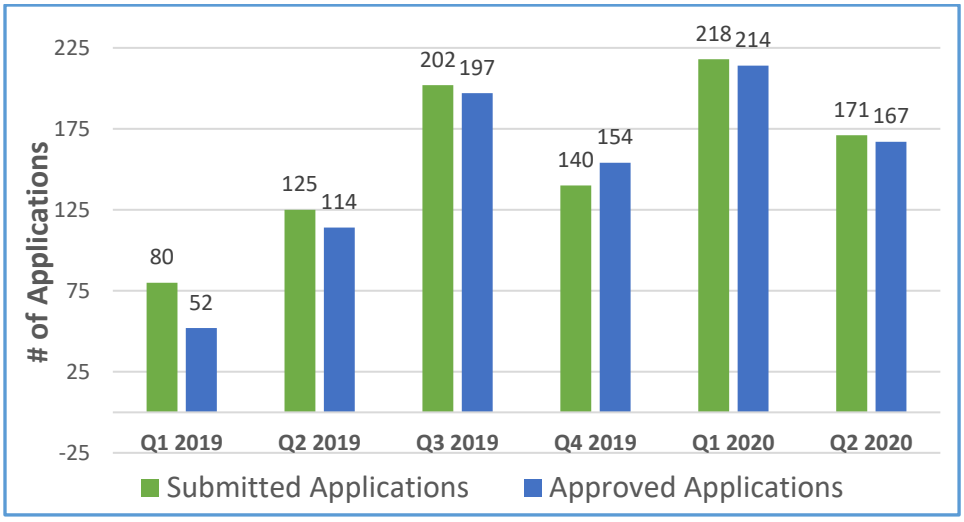
It is important to note that much of the IOU territory that would otherwise be eligible for the program is not considered a DAC. To illustrate, the percentage of each IOU territory that is also in a DAC is fairly low, with 5% in SDG&E, 15% in PG&E, and 30% in SCE territory under the current DAC definition.[14]

In Appendix A, a table 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 and approved over 380 applications from eligible DAC -SASH clients in the first half of 2020. Of these applications, 5 were in SDG&E's utility territory, 203 in PG&E territory, and 173 in SCE territory. These results highlight the barriers in identifying qualifying homes in SDG&E's territory, as further detailed in Section 11, Barriers to Participation.

[14] 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. Experience with income-qualifying single-family programs has shown GRID that 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, explaining and showing investment in long-term household and community benefit is a crucial and essential component of the program. To this end, GRID combines direct, in-community, in-language outreach and education with community and local government partnerships to ensure program information reaches eligible households through a trusted source. In new markets and regions, development of partnerships 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. Once a client has been approved for participation, they receive dedicated, ongoing support from outreach and construction staff 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, GRID provides ongoing education and engagement, system online monitoring, and access to phone support and troubleshooting to clients throughout the expected life of the solar electric system, ensuring maximum impact and long-term program 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.

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-paid jobs in California's thriving solar industry. Every project is a classroom in the field for local job seekers, many coming from the same disadvantaged communities that the DAC-SASH 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 robust and impactful workforce development outcomes in 2020 and beyond.

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 opportunity for an eligible job trainee.[15]

1. Team Leader[16]: GRID Alternatives' Team Leader Program[17] 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 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

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

16 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 eligibility.

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 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 prior experience and personal objectives.

To align with the industry standards, the categories below are relevant job task analysis categories for job trainees participating in the DAC-SASH 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, according to program requirements.

Table 4: Unique Participants in Job Training Programs

	SolarCorps	IBT Trainees	Job Training Students	Interns	Team Leaders	Total Internal	Sub-contractor Program (SPP)
# of unique participants	39	70	294	3	3	409	2

Table 5: Job Training Hours by Volunteer Opportunity or Work Type

Type of work	SolarCorps	IBT Trainees	Job Training Students	Interns	Team Leaders	SPP trainees	Total
Directly Worked on Installation (hours)	4,885	2,720	4,547	80	36	16	12,398
Design/Engineering (hours)	0	0	0	0	0	0	0
PM/Coordination (hours)	248	0	0	0	0	12	260
Total Hours	3,097	2,720	4,547	80	36	28	12,658

8.2 Workforce Development Initiatives

In addition to the program's project-level job training requirements outlined above, GRID Alternatives has incorporated additional, "green job" training and workforce development components into the DAC-SASH 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)[18] 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 will have the opportunity for paid work alongside professional installers on installations with DAC-SASH subcontractors. One of the biggest challenges for "green job" training is providing sufficient job placement opportunities for job trainees, ideally

[18] JTOs are included that are considered to be active JTO partners, ie. that GRID has worked directly with them on a DAC-SASH installation since the program's inception.

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. The installer subcontractors use the installations as an extended interview, committing to hire job trainees if they perform well and the company has open, entry-level solar PV installer positions.

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 is in the process of expansion for DAC-SASH, to more easily match qualified trainees/job candidates with job opportunities. The Resume Bank and Job Board provides 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. Based on experience and industry best practices, GRID will work with JTO partners to emphasize the importance of including "soft skills" training - such as computer/digital literacy, resume and interviewing skills, etc. - into its solar curriculum in order to enhance an individual's overall employability. GRID will ensure 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 direct connections facilitated by 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 in the existing low-income solar rebate programs, and will continue to do so with DAC-SASH.

The Installation Basics Training (IBT) program awards trainees with certificates for industry-relevant skills learned under the supervision of GRID's professional solar installation staff. GRID's Installation Basics Training (IBT) program provides job trainees with valuable hands-on training, support for development of a skillset solicited by employers, and access to potential employment opportunities. IBT trainees earn certificates by demonstrating competency in specific skills while working on installations. GRID currently offers 11 Skills Certificates that cover a variety of array and electrical skills. To earn all 11 Skills Certificates, IBTs 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. Graduates of the IBT program may advance to Team Leader status to further their technical skills and gain leadership experience.

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 lead 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 also 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 also

leave with better knowledge about the solar industry and the DAC-SASH Program that can motivate them to be solar advocates in their own communities.

Focus on JTOs and Job Trainees located in DACs. GRID is focused on involving JTO partners and job training participants 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, or ~60%. These are several of GRID's active JTO partners, for example, including:

- Future Build (Pittsburg): working with GRID since 2017
- Los Angeles Trade Technical College (Los Angeles): since 2011
- Fresno Workforce Connection (Fresno): since 2019

In addition, GRID tracks DAC-SASH participants and estimates that more than 200 participants on DAC-SASH projects (all types, including volunteers) reside in a CalEnviroScreen DAC.

Robust Data 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 111 DAC-SASH job training or volunteer participants have secured longer-term paid employment after working on a DAC-SASH project. 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 specifically 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 & the 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, tailored education sessions can be effective in driving behavioral changes that both reduce energy consumption and increase utility cost savings at the household level.

GRID works with the Energy Savings Assistance Program (ESAP) administrators to enroll eligible homeowners into the program, and with the IOUs to streamline ESAP enrollment for DAC-SASH clients. In Q1-Q2 2020, GRID worked collaboratively with the IOUs to improve data transfer and standardize information GRID receives about ESAP enrollment. Per the DAC-SASH program structure, all PV-systems are sized based on client usage and in consideration of presumed energy savings from ESAP.

Table 6: Referrals to ESAP and

	Total Referred	Enrolled	% Enrolled
PG&E	541	211	39%
SCE	381	155	41%
SDG&E	14	2	14%
Total	936	368	39%

Table 6 above summarizes the number of DAC-SASH participants that have been referred to the IOUs for enrollment into the ESAP through Q2 2020 and/or have been successfully enrolled. [19]

In addition to ESAP referrals and enrollment, GRID plans to explore strategic partnerships with the IOUs and other federal, state, and local programs that provide additional efficiency services to qualified homeowners, such as the Weatherization Assistance Program[20] and the Low-Income Weatherization Program (LIWP).

9.2 CA Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) 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

	Total Applications	CARE Enrolled	FERA Enrolled	Total Enrolled	% Enrolled
PG&E	514	403	6	409	80%
SCE	394	282	3	285	72%
SDG&E	27	20	0	20	74%
Total	935	705	9	714	76%

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.

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

[20] 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. GRID has been working with the SGIP Program Administrators (PAs) and the Energy Division to develop a streamlined SGIP enrollment processes for DAC-SASH participants, as well as explore co-marketing between the two programs. GRID is also working with its primary TPO partner, Sunrun, and its equipment procurement and policy team, to explore integrating battery storage into its PV-model and ensuring the storage systems can be delivered to the households at no cost, and that long-term warranty coverage and battery replacement are included. GRID is initiating a pilot in Q3 of 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 currently administers a low-income Electric Vehicle (EV) program for the CA Air Resources Board (CARB) and another program for an Air Quality Management District. GRID ensures that DAC-SASH participants receive accurate information on, and are referred to these EV programs that can help families access another cost-saving emerging technology. Again, this program is complementary to their DAC-SASH solar installation. GRID is currently finetuning its internal processes to better facilitate referrals between programs and installation/logistics coordination for DAC-SASH participants who may be purchasing or considering purchasing an EV and/or EV charger. Although to date only a handful of clients have been able to participate in both DAC-SASH and one of the EV programs, GRID expects this market to expand as CA continues to create pathways to make EVs and EV 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 under 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 DAC-SASH Semi-Annual 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 DAC-SASH program.

b) Subcontractor Partnership Program

GRID's Subcontractor Partnership Program (SPP) was launched statewide 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 fully-vetted, for-profit companies to install a portion of the 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 continue to oversee all client-facing interactions and contracting, and the subcontractors provide limited design and/or installation services. All SPP projects are inspected by a third-party, independent inspector for Quality Assurance (QA). The QA inspection will verify that the system was installed using industry-standard best practices, and meets all of GRID's installation quality requirements. In addition, subcontractors will be required to hire at least one paid trainee onto each of their DAC-SASH SPP 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. Initial DAC-SASH data was made live on their website on January 31, 2020 and fully integrated with customizable charts and maps in Q2, 2020.

11. Program Assessment, Barriers, and Planned Modifications

11.1 Assessment of Program Performance

Overall, GRID is pleased with the design and implementation of the DAC-SASH program statewide thus far. GRID worked collaboratively with the Energy Division and SCE to develop new invoicing, budgeting, and reporting processes for the program, including a monthly narrative report of administrative activities. GRID has ramped up outreach and marketing efforts statewide, and the program's core messages have been well-received by the target audiences. GRID planned to continue focusing on posting strong workforce development outcomes and creating an impactful program with valuable co-benefits in communities, but some of these efforts were scaled back in Q2 2020 and for the remainder of 2020, due to COVID-19. This includes all volunteer opportunities, solar spring break trips for high school students, and more. GRID is concerned about some barriers to program participation (detailed in the subsequent section) being a roadblock to program success. GRID looks forward to working with stakeholders and the Energy Division to address these barriers and continue to improve the program in 2020 and beyond.

11.2 Barriers to Participation

As has been detailed in numerous reports and programs, including the Low-Income Barriers report,[21] low-income households face myriad barriers to both accessing solar on their own and

[21] Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities, California Energy Commission, December 2016. Available at https://ww2.energy.ca.gov/sb350/barriers_report/,

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 resources and GRID may be unable to apply gap financing to all systems, as detailed below in Section ii. Gap Financing Requirements. In addition, there are barriers to DAC-SASH participation that are due to the program eligibility, and that cannot be overcome with program design elements. GRID provides a high-level overview of its assessment of program barriers:

11.2.1 Eligibility requirements for geography and income

The DAC-SASH program requires that properties are located in the CalEnviroScreen (CES) DACs on a statewide basis; and, that households meet the definition of low-income that is based on the CARE/FERA statewide eligibility. Both of these requirements can be constricting and jeopardize program success, as is evident through a case study of the SDG&E service territory, detailed below.

The exclusive use of the CES to set the parameters for DACs has created challenges for client recruitment in SDG&E's service territory due to the size of the potential market. In SDG&E, only 37 census tracts are in the CES compared to 356 census tracts in PG&E and 655 census tracts in SCE.[22] The 37 census tracts in SDG&E that meet the CES qualification represent less than five percent of all of SDG&E's territory. Within those 37 census tracts, the rate of homeownership is lower than in other census tracts, further limiting market potential. GRID estimates there are <

[22] Statewide in CA there are 8,040 census tracts; and 2,007 that are DACs in the CES. There are 1,048 tracts that are entirely in the IOUs and a CES DEC. https://oehha.ca.gov/calenviroscreen/maps-data.

3,000 low-income homes in SDG&E that meet the geographic eligibility for DAC-SASH,[23] however, GRID expects that at least half of these will not be eligible because they will not be owner-occupied, or may not be solar-suitable due to shading, or have a need for structural improvements such as a roof repair/replacement.[24]

In addition to these pronounced geographic limitations in SDG&E, the income qualification of a single statewide income level further 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[25] -- which uses an Area Median Income to take into account the widely varied cost-of-living around the state -- would not meet the income requirement for DAC-SASH. Notably, other areas of the state such as the Bay Area and Los Angeles regional markets experience a similar or higher rate of disqualifications using a statewide CARE/FERA income benchmark.

After accounting for these factors and conducting additional market assessments based on this data and our experience with program adoption rates, GRID has determined that there are not sufficient homeowners who meet the definition of low-income and reside in the CES in SDG&E with solar-suitable homes to use the allotted incentive funds.

The geographic and income program requirements are a barrier to participation in many other parts of the IOU territories. For example, currently no CA tribes in the IOUs meet the geography requirement because tribes are categorically excluded from the CalEnviroScreen as it is based on census-level geography that is misaligned with tribal reservations and tribal lands'

23 Considers 200% Federal Poverty Limit or lower, 1 unit detached and 1 unit attached owner-occupied units. https://www.energy.gov/eere/slsc/maps/lead-tool.

24 GRID's database indicates that for clients with an accepted SASH application from 2016-2018, on average 35% do not continue with an installation, typically due to the home not being solar suitable. In the Los Angeles region, the percentage is nearly 65%. GRID expects similar results in DAC-SASH.

25 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.

population. In addition, very few homeowners in high cost-of-living areas including San Francisco and Los Angeles will qualify using a statewide CARE/FERA income limit.

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 will help cover some financing gaps, but many DAC-SASH projects cannot leverage the TPO model,[26] and others may be a higher cost due to additional expenses such as an electrical service upgrade, a smaller system, or a ground mount. In these cases, securing additional gap financing is critical to serving target households, as low-income participants are not expected to contribute financially to their installation. GRID is able to leverage additional 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 for all qualifying low-income homeowners across the state. As such, limitations on GRID's gap funding availability is a barrier to DAC-SASH program participation.

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 have been place-specific. For example, GRID has partnerships with the Cities of San Francisco and Richmond to provide funding for roof repair/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 supply of resources to accommodate these costs. As such, homeowners with these additional structural

[26] ~20% of GRID's projects cannot leverage the TPO model because of system size being too small to meet the TPO provider's requirements, the equipment that may be donated or available does not meet the TPO requirements, there is deed or land ownership documentation that does not meet the TPO requirements, and/or the funder, partner, city, or client is unable or unwilling to approve a TPO ownership structure.

costs face barriers to DAC-SASH program participation as most low-income families are unable to self-finance such expenses.

11.3 Program Design Improvement and Planned Changes

As detailed in Section i. Eligibility requirements for geography and income, above, the program's eligibility for geography and income are narrow and jeopardize the success of the program. 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 April 2020, GRID submitted a Petition for Modification (PFM) to address some of the barriers and challenges detailed in this section. The PFM is currently pending at the Commission.

12. Conclusion

GRID appreciates the interest and involvement of stakeholders and the Commission in the design and implementation of the DAC-SASH program. GRID hopes that the refinements and improvements it recommended in its April 2020 PFM will allow the program to reach maximum impact throughout CA communities, including on tribal lands. With less than one year since the Commission approved the Program Implementation Plan and Program Handbook on September 12, 2019, GRID is pleased with the program's progress in completing nearly 500 projects and 2MW (CEC-AC) of installed capacity, with several hundred more shovel-ready projects in the pipeline. GRID appreciates the guidance from the state, Governors' office, and local County Health Officials in prescribing guidelines to allow for safe installations during the unprecedented COVID-19 pandemic. Despite the challenges and adaptations required to continue work under COVID-19, the current economic decline, high unemployment, and disproportionate impacts that are being felt by low-income households, point to the need for DAC-SASH to help relieve energy burden and provide job training and workforce opportunities. GRID looks forward to continuing to bring the benefits of DAC-SASH to households and residents of disadvantaged communities for the rest of 2020, and for years to come.

13. Appendices

Appendix A

Applications in each CalEnviroScreen Disadvantaged Community (DAC) Census Tract

Project County	DAC Census Tract	# of DAC-SASH Applications
Alameda	6001401500	1
Alameda	6001405401	1
Alameda	6001408800	1
Alameda	6001409400	2
Butte	6007001300	7
Contra Costa	6013302005	1
Contra Costa	6013309000	2
Contra Costa	6013310000	2
Contra Costa	6013311000	5
Contra Costa	6013313101	3
Contra Costa	6013314103	3
Contra Costa	6013314104	3
Contra Costa	6013358000	3
Contra Costa	6013364002	1
Contra Costa	6013365002	4
Contra Costa	6013366002	1
Contra Costa	6013368001	3
Contra Costa	6013375000	2
Contra Costa	6013376000	3
Contra Costa	6013377000	57
Contra Costa	6013379000	2
Contra Costa	6013380000	3
Contra Costa	6013381000	5
Contra Costa	6013382000	2
Contra Costa	6013392200	2
Fresno	6019000300	2
Fresno	6019000700	4
Fresno	6019000800	1
Fresno	6019000901	4
Fresno	6019000902	3
Fresno	6019001000	2
Tulare	6019001100	4
Fresno	6019001413	1

Fresno	6019002400	1
Fresno	6019002501	1
Fresno	6019003102	3
Fresno	6019004207	1
Fresno	6019006300	1
Fresno	6019006502	2
Fresno	6019006602	1
Fresno	6019006604	1
Fresno	6019007003	2
Fresno	6019007700	1
Fresno	6019008502	1
Kern	6029005204	1
Kings	6031000500	2
Kings	6031000800	1
Kings	6031001002	1
Kings	6031001003	8
Kings	6031001100	1
Los Angeles	6037402200	1
Los Angeles	6037402402	1
Los Angeles	6037402406	1
Los Angeles	6037402706	1
Los Angeles	6037402904	2
Los Angeles	6037403000	1
Los Angeles	6037404703	1
Los Angeles	6037404901	1
Los Angeles	6037404902	1
Los Angeles	6037405002	1
Los Angeles	6037408138	1
Los Angeles	6037433503	1
Los Angeles	6037500600	1
Los Angeles	6037502100	1
Los Angeles	6037502700	1
Los Angeles	6037503000	1
Los Angeles	6037503105	1
Los Angeles	6037530101	1
Los Angeles	6037530901	1
Los Angeles	6037535605	1
Los Angeles	6037536103	1
Los Angeles	6037540000	1

Los Angeles	6037540102	1
Los Angeles	6037540300	1
Los Angeles	6037540501	1
Los Angeles	6037540600	2
Los Angeles	6037540800	1
Los Angeles	6037541002	1
Los Angeles	6037541200	1
Los Angeles	6037542000	1
Los Angeles	6037542103	1
Los Angeles	6037542104	1
Los Angeles	6037542200	1
Los Angeles	6037542402	1
Los Angeles	6037542601	1
Los Angeles	6037542602	1
Los Angeles	6037542700	1
Los Angeles	6037543100	1
Los Angeles	6037543201	1
Los Angeles	6037543322	2
Los Angeles	6037543604	1
Los Angeles	6037543801	1
Los Angeles	6037543802	1
Los Angeles	6037550100	1
Los Angeles	6037552100	1
Los Angeles	6037552301	1
Los Angeles	6037553602	1
Los Angeles	6037553701	2
Los Angeles	6037570202	1
Los Angeles	6037570204	1
Los Angeles	6037570403	2
Los Angeles	6037570404	1
Los Angeles	6037572302	1
Los Angeles	6037600400	1
Los Angeles	6037601402	1
Los Angeles	6037602600	1
Los Angeles	6037650901	1
Madera	6039000602	1
Merced	6047000301	2
Merced	6047000304	1
Merced	6047000901	1

Merced	6047000902	1
Merced	6047001401	1
Merced	6047002000	7
Merced	6047002201	1
Merced	6047002202	12
Merced	6047002302	5
Monterey	6053000900	1
Orange	6059074300	1
Orange	6059110302	1
Riverside	6065040102	1
Riverside	6065040607	2
Riverside	6065042007	2
Riverside	6065042300	1
Riverside	6065042404	1
Riverside	6065042506	1
Riverside	6065042507	2
Riverside	6065042513	2
Riverside	6065042514	1
Riverside	6065042519	1
Riverside	6065042521	1
Riverside	6065042620	5
Riverside	6065042624	1
Riverside	6065042706	2
Riverside	6065042901	1
Riverside	6065048800	1
San Bernardino	6071000208	1
San Bernardino	6071000403	1
San Bernardino	6071000826	1
San Bernardino	6071000904	1
San Bernardino	6071001101	1
San Bernardino	6071001103	1
San Bernardino	6071001104	1
San Bernardino	6071001310	2

San Bernardino	6071001311	1
San Bernardino	6071001501	2
San Bernardino	6071001706	1
San Bernardino	6071001707	7
San Bernardino	6071001806	1
San Bernardino	6071001812	2
San Bernardino	6071001813	2
San Bernardino	6071002105	1
San Bernardino	6071002107	1
San Bernardino	6071002606	1
San Bernardino	6071002902	1
San Bernardino	6071003200	2
San Bernardino	6071003503	3
San Bernardino	6071003607	1
San Bernardino	6071003700	1
San Bernardino	6071003803	1
San Bernardino	6071003804	2
San Bernardino	6071004101	1
San Bernardino	6071004301	1
San Bernardino	6071004603	4
San Bernardino	6071004604	1
San Bernardino	6071004700	2

San Bernardino	6071004900	1
San Bernardino	6071005200	2
San Bernardino	6071005300	2
Riverside	6071005600	1
San Bernardino	6071006100	6
San Bernardino	6071007110	3
San Bernardino	6071007601	1
San Bernardino	6071007603	1
San Bernardino	6071007604	4
San Bernardino	6071009116	1
San Bernardino	6071009117	1
San Bernardino	6071010025	2
San Bernardino	6071010802	1
San Bernardino	6071012400	1
San Diego	6073002502	1
San Diego	6073003301	1
San Diego	6073003305	2
San Diego	6073003403	2
San Diego	6073003404	1
San Diego	6073003501	1
San Diego	6073004100	1
San Diego	6073004800	1
San Diego	6073004900	5
San Diego	6073011700	1
San Diego	6073022000	1
San Francisco	6075023200	5
San Francisco	6075023400	1
San Joaquin	6077000500	1
San Joaquin	6077000801	2

San Joaquin	6077000900	1
San Joaquin	6077001300	2
San Joaquin	6077001400	1
San Joaquin	6077001500	1
San Joaquin	6077001600	1
San Joaquin	6077001700	5
San Joaquin	6077001900	2
San Joaquin	6077002202	1
San Joaquin	6077002300	1
San Joaquin	6077002402	1
San Joaquin	6077002503	1
San Joaquin	6077002701	1
San Joaquin	6077002800	2
San Joaquin	6077003110	1
San Joaquin	6077003313	1
San Joaquin	6077003403	8
San Joaquin	6077003405	2
San Joaquin	6077003407	2
San Joaquin	6077003409	2
San Joaquin	6077003500	60
San Joaquin	6077003601	2
San Joaquin	6077003700	5
San Joaquin	6077003801	31
San Joaquin	6077003802	12
San Joaquin	6077003803	4
San Joaquin	6077005106	4
San Joaquin	6077005110	3
San Joaquin	6077005114	5
San Joaquin	6077005119	14
San Joaquin	6077005123	3
San Joaquin	6077005126	1
San Joaquin	6077005127	11
San Joaquin	6077005129	1
San Joaquin	6077005130	2
San Joaquin	6077005133	3
San Joaquin	6077005135	4
San Joaquin	6077005206	3
San Joaquin	6077005302	1
San Joaquin	6077005305	2

San Mateo	6081611900	3
San Mateo	6081612000	2
Santa Clara	6085503113	1
Santa Clara	6085512602	1
Santa Cruz	6087110400	1
Solano	6095251802	1
Solano	6095251901	2
Stanislaus	6099000202	1
Stanislaus	6099000303	1
Yuba	6101050302	1
Tulare	6107000900	6
Tulare	6107001003	16
Tulare	6107001004	4
Tulare	6107001302	2
Tulare	6107001601	1
Tulare	6107001602	1
Tulare	6107001701	1
Tulare	6107002202	1
Tulare	6107002800	2
Tulare	6107003200	3
Tulare	6107003400	3
Tulare	6107003700	5
Tulare	6107003901	4
Tulare	6107003902	1
Tulare	6107004101	5
Ventura	6111003201	1
Yolo	6113010101	3
Yolo	6113010203	1
Yuba	6115040400	1

Appendix B

Summary of Program Participant Survey Results

GRID has in place a post-installation survey that is sent out after all project construction is complete. It includes four important questions and has a space for comments or other feedback. To date there are 39 survey responses from DAC-SASH participants, hailing from all over the state where GRID works. All responding participants stated that they would be highly likely to recommend GRID to their contacts or neighbors. The list of formal survey questions, emailed to clients include:

- Do you understand how the system works?
    - On a 1 to 5 scale, we received on average a 3.8
- How to tell if the system is working?
    - On average we received a 3.6
- What to do if the system is not working?
    - On average we received a 3.3
- Do you understand your NEM bills?
    - On average we received a 3.2

To date GRID has received no complaints via the post-installation survey. GRID has received some helpful constructive criticism, including a comment that the "Aesthetic designs can be improved" for our systems, one mild complaint regarding a GRID subcontracted electrician, and a client who asked that we be sure to "follow up in 30 days to inspect the system to make sure it is working." Aside from these, GRID received all positive feedback such as the comment, "Thank you GRID ! You guys made my life easier with my electricity bill, thank you so much for making life less stressful" from a client in Pomona, California.

In Q1 and Q2 GRID began working to create a more formalized complaint system that has been delayed due to the pandemic and resulting staff furloughs. It may not be fully implemented until the end of Q3 2020, but GRID plans to begin reporting out formal complaints in the subsequent edition of the DAC-SASH Semi-Annual Progress Report, in January 2021, if any arise.