Evaluation of Single-Family Affordable Solar Housing and Disadvantaged Communities Single-Family Affordable Solar Housing Programs

Public Webinar – Draft Research Plan
January 27, 2022

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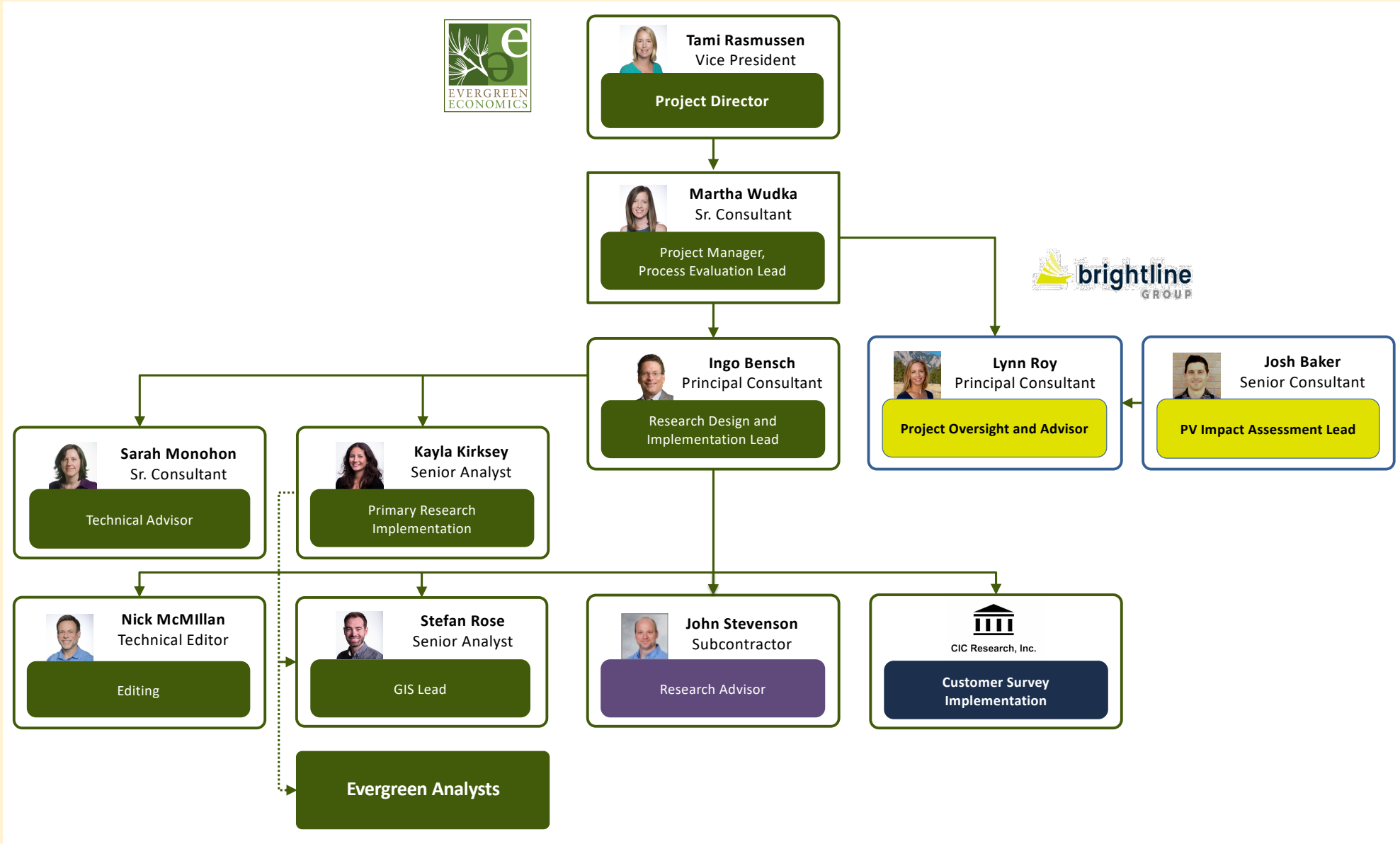


Study Objectives

DAC-SASH

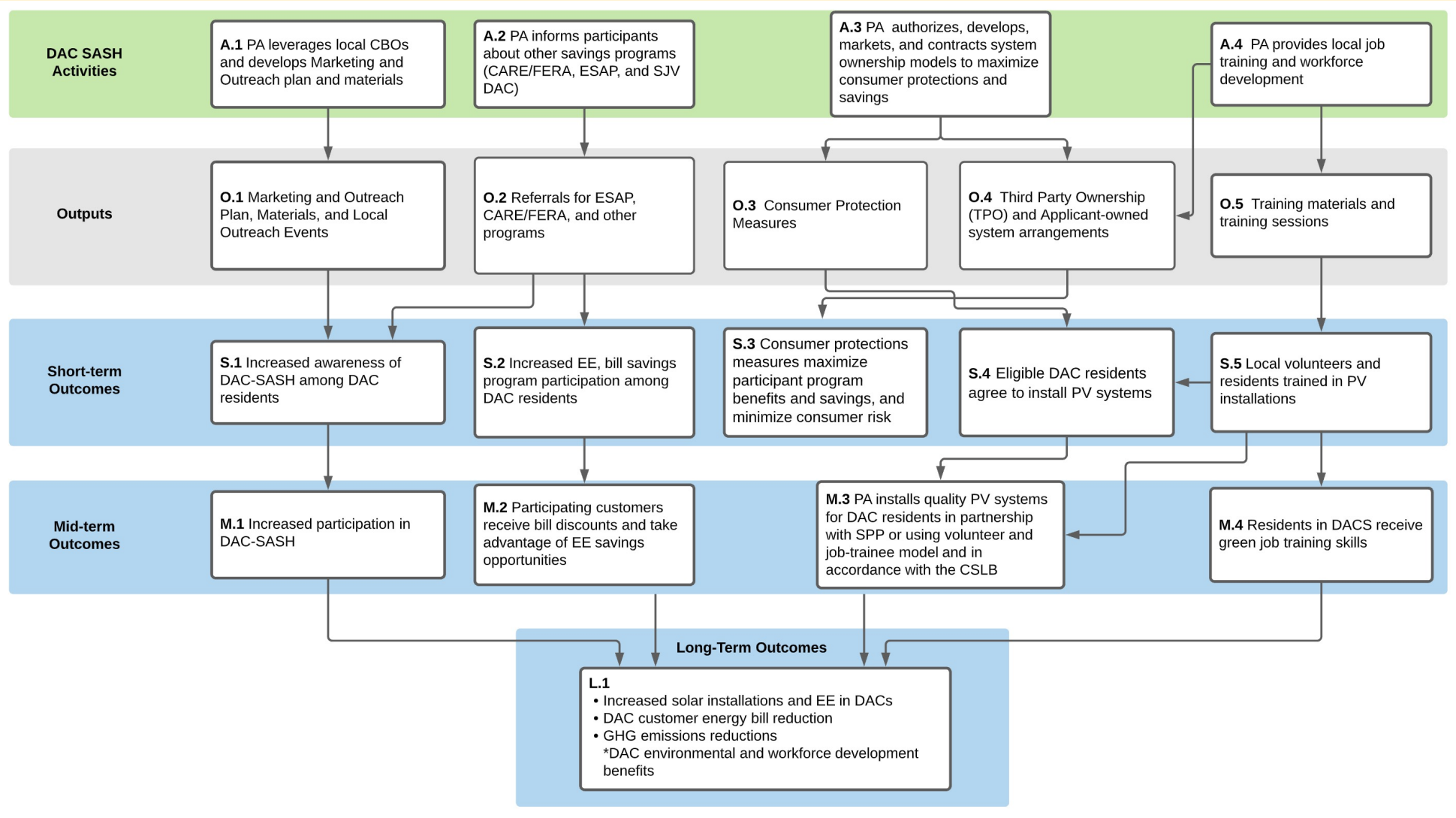
- Independently measure and verify program's impacts.
- Document performance of the PA, a summary of administrative costs, and recommendations for improvement.
- Develop a program theory and logic model.
- Document and establish comprehensive program metrics and goals.
- Establish/verify data collection protocols necessary for program evaluation to be conducted in future independent evaluations.

SASH

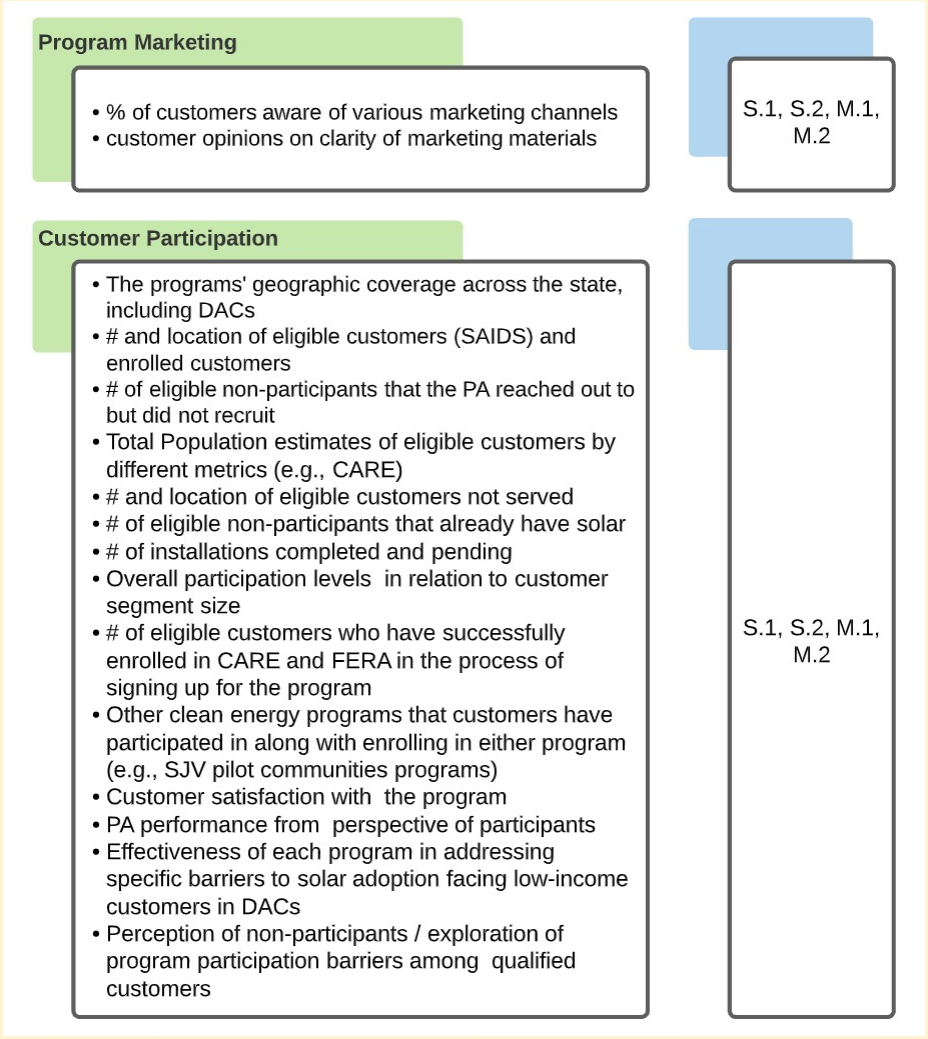
- Independently measure and verify program's impacts.
- Document performance of the PA, a summary of administrative costs, and recommendations for improvement.

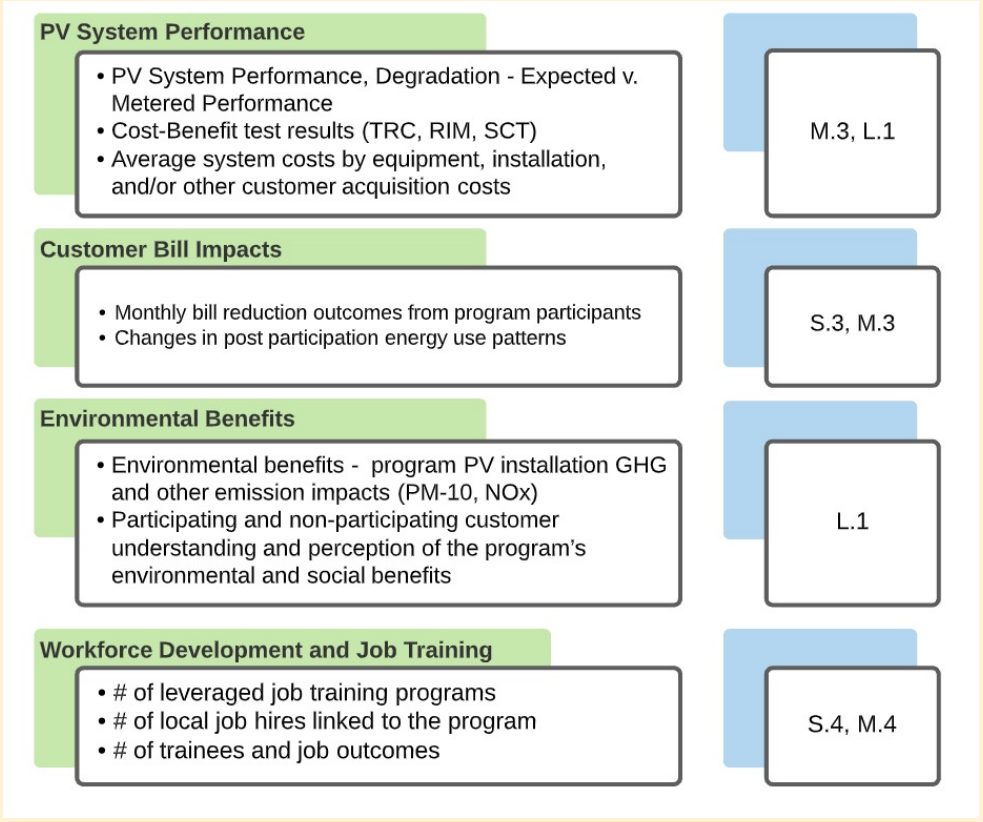
Each program will have own report

Logic Model and Metrics



Logic Model and Metrics





Study Research Questions

- **Program administration:** How effective is program administration? What have the programs spent to-date by category? Have there been issues related to underutilizing budget (for DAC-SASH only) or other issues with tracking administrative costs?

Study Research Questions

- **Program marketing:** How effective has program marketing been? Has the PA made use of customer data provided by the IOUs, and has that impacted program enrollment?

Study Research Questions

- **Customer participation:** What are the characteristics of participants v. eligible non-participants? What are the main barriers to participation? Are customers satisfied with the programs? How effective are the programs in driving enrollment in other related programs? What is the size of the total eligible customer pool? How many out of program / market adoptions are happening among the eligible population?

Study Research Questions

- **PV system performance:** Have systems degraded over time since installation? What factors contribute to such degradation? How cost-effective was the SASH program?

Study Research Questions

- **Customer bill impacts:** What is the average monthly bill reduction outcome for program participants? Are there any measurable changes in energy usage post-participation?

Study Research Questions

- **Environmental benefits:** What environmental benefits are the programs creating as a result of installed projects? Are participating customers aware of the programs' environmental benefits?

Study Research Questions

- **Workforce development:** What job training programs are being leveraged? How many local jobs are being created? What are the longer-term job outcomes for trainees?

Study Tasks Overview

Task 1	Task 2	Task 3
Project Initiation Meeting	Detailed Research Plan and Schedule	Conduct Public Webinar

Task 4	Task 5	Task 6
Program Material Review	Research and Analysis	Monthly Status Reports and Interim Drafts

Task 7	Task 8
Draft Results and Report	Public Webinars and Response to Comments

Tasks 1-3: Project Planning

Completed or in-progress: project initiation meeting, draft research plan, public webinar

- Draft research plan (including program logic model)
- Public webinar: January 27
- Public comments due: February 7
- https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/solar-in-disadvantaged-communities/sash-dac-sash-draft-research-plan-v3-011122_fordistribution.docx
- https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/solar-in-disadvantaged-communities/sash-dac-sash-eval-research-plan-comment-template_011122.xlsx
- Final research plan: March 2

Task 4: Program Material Review

In-progress

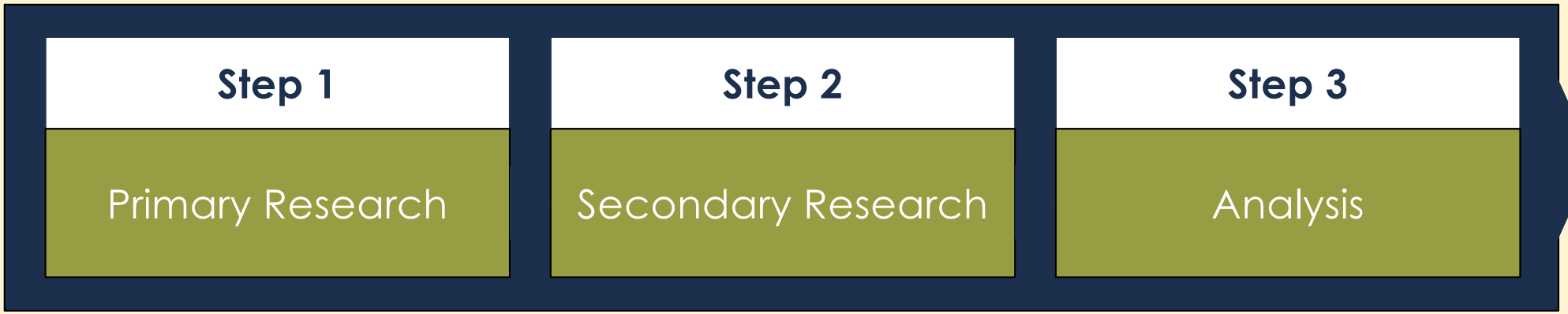
- Requested program documents from PA / GRID
- Document review in January and February

Task 4: Program Material Review

Material to Review

- Program organizational and management structure
- Program information systems, including the various PA workflow management system
- Existing PA database for applicable information
- Training events and tracking information
- ME&O efforts and plans and a list of partnering organizations
- Accounting and disbursement methods, including contractor payment/compensation processes
- Data processing and record retention
- Program costs

Task 5: Conduct Research



Primary Research

Customer surveys (web and phone) will cover:

- Environmental/social benefits
- Program marketing and enrollment effectiveness
- Awareness / activity in other related programs
- Effectiveness in addressing participation barriers
- Customer satisfaction

Primary Research

Initial Sample Allocation for Customer Surveys (update based on program data)

	DAC-SASH	DAC-SASH	SASH 1.0	SASH 2.0	Total
Participants	Projected number of participants through 2021	1,329	5,264	4,458	11,051
	Target Completes: Capped based on assumption of 10% response rate	133	100	150	383
Eligible Non-Participants	Aware of Program	100		100	200
	Unaware of Program	100		100	200
	Total Number of Target Survey Completes	333	100	350	783

Primary Research

Interviews with PA and Stakeholders

- GRID – 8 regional offices (8)
- IOUs (3)
- M&O Partners (CBOs, 5)
- CPUC Tribal Liaison (1)
- Solar Companies (TPO partner, Sunrun and others)
- Trainee attendees who completed installations
- Trainee attendees who did not complete an installation

Primary Research

Example stakeholder topics:

- Use of IOU customer data
- Promotion of other programs
- Effectiveness in addressing barriers
- Incentives (DAC-SASH only)
- Geographic ability (DAC-SASH only)
- Feasibility of 'open contractor' model (DAC-SASH only)

Primary Research

Web Survey with Trainees

- Training value in career progress;
- Job outcomes;
- Experience with installations;
- Interactions with GRID; and
- Geographic specific training differences

Primary Research

Web Survey with Trainees

	Unique Participants		Target Web Survey Completions	
Trainee Type	**DAC-SASH**	**SASH**	**DAC-SASH**	**SASH**
Team Leader	3	2,700 trainees since 2019	1	100
Interns	3		1	
SolarCorps Fellow	51		5	
Job Training Student	297		30	
Installation Basics Training Participant	73		7	
Design and Construction Intern	Unknown		Unknown	
Trainee that has completed work under a subcontractor through the Subcontractor Partnership Installation Program	4	267 (may be included in number above)	1	

Primary Research

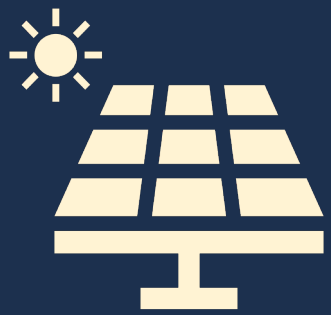
In-Person Field Visits

- On-site solar installations (installers, trainees, and customers)
- Trainings (trainers and trainees)
- Marketing and Outreach events (M&O orgs and perspective participants

Primary Research

On-Site PV System Verification Visits

- PV module model/manufacturer
- Inverter model/manufacturer
- Array size
- Tilt and azimuth
- Performance degradation (shading, soiling, etc.)



Secondary Data & Analysis

Metric Category	Secondary Data		
	Program Documents	PA Program Tracking Data	IOU CIS and Billing Data
Program administration	S	S	
Program marketing	S		
Customer participation	S	S	S
PV system performance (impacts and cost-effectiveness)	S	P	
Customer bill impacts			P
Environmental benefits	S	P	
Workforce development and job training	S	S	

Geographic and population (e.g., Census) data; IOU CARE and NEM flags

Estimates of market adoptions and eligible population (based on IOU data and Census/ RASS)

Optional PV system metered data; secondary data for cost benefit assessment

Secondary data on environmental benefits

Optional modeling of job impacts

Task 6: Monthly Reporting

- Regular check-in meetings and project status reporting to Energy Division
- Internal Evergreen team calls

Task 7: Draft and Final Reports

Separate reports (one for SASH; one for DAC-SASH)

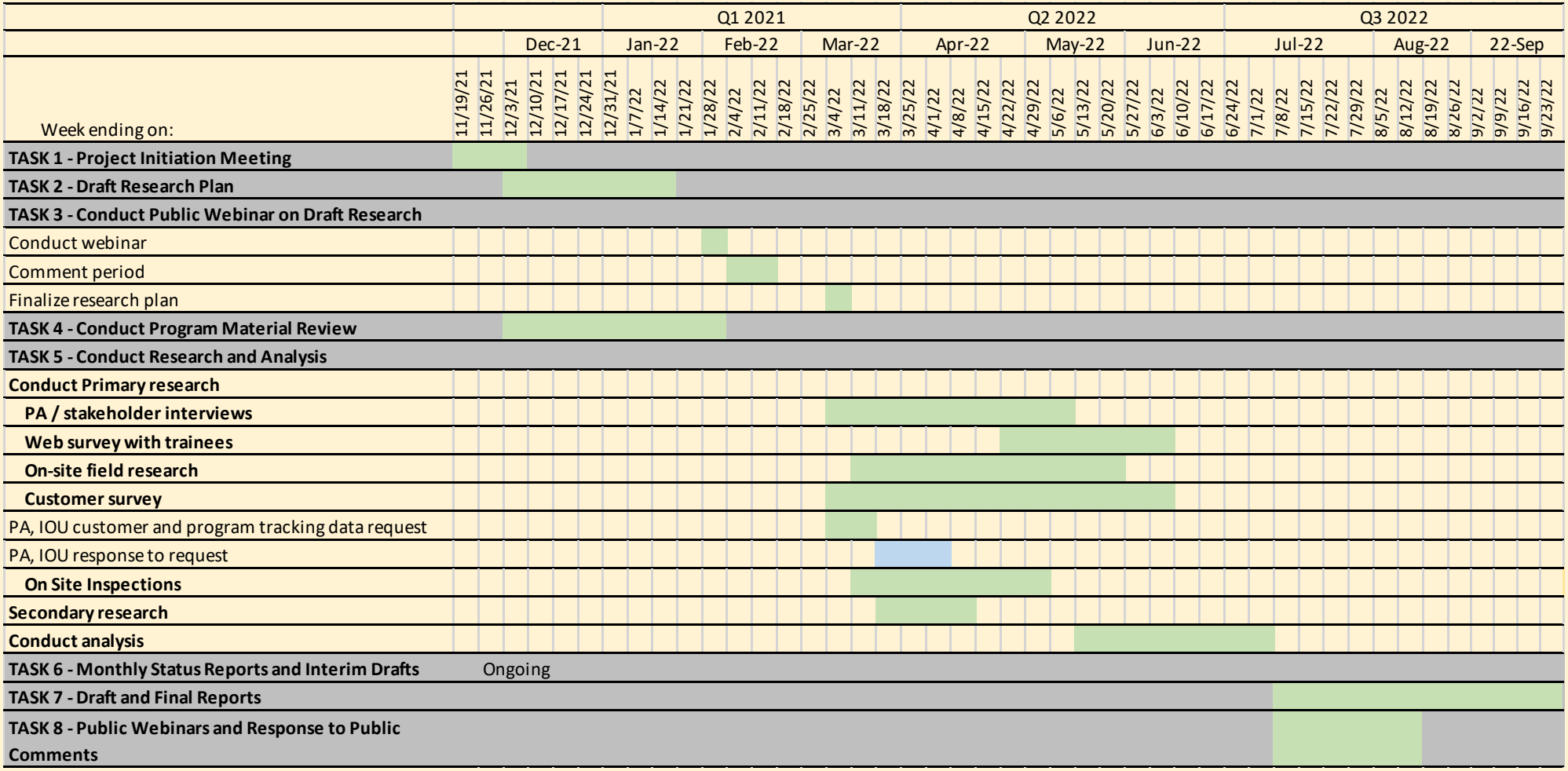
- Executive summary
- Introduction
- Methodology
- Analysis findings and recommendations
- Appendices

Task 8: Public Webinar

Draft Report findings to be presented to stakeholders

- Meeting summary memo
- Comments addressed in Final Report

Project Schedule



Discussion / Questions