
Self-Generation Incentive Program (SGIP)

Quarterly Workshop

Friday, June 22nd 2018

PG&E's Pacific Energy Center, San Francisco, CA

Hosted by Pacific Gas & Electric Company (PG&E), SoCalGas, Southern California Edison (SCE), and Center for Sustainable Energy (CSE)



Safety & Housekeeping

Safety

- CPR Trained?
- Earthquake – duck and cover
- AED
- Emergency Exits

Housekeeping

- Bathrooms
- Garbage, recycling
- Beverages



Introductions

SoCalGas: Rosie Magana, Mike Yee, Adrian Martinez

CSE: Rebecca Feuerlicht, Matt Meyer, Joe Bick

SCE: Jim Stevenson, Vicky Velazquez

PG&E: Brian Bishop, Ron Moreno, Stephanie Yang

AESC: Dara Salour, Ron Ishii

Energy Solutions: Andrea Vas

Energy Division: Mary Claire Evans



Agenda

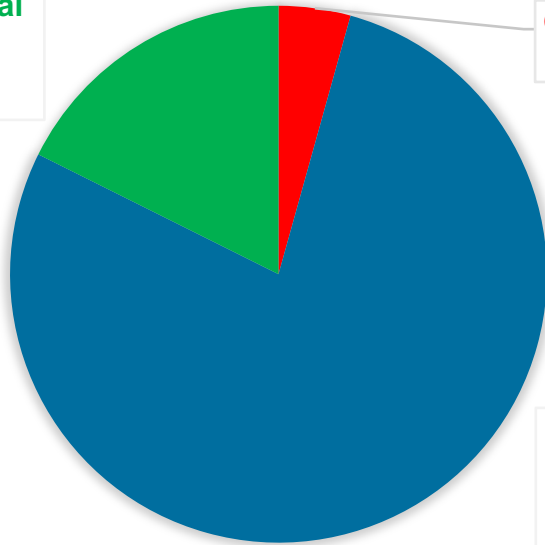
- **Welcome and Introductions**
- **Safety and Housekeeping**
- **Program Adoption Data**
- **GHG Signal WG Proposal**
- **Itron Program Recommendations from PA Evaluation**
- **Developer Eligibility**
- **Equity Budget**
- **Energy Solutions Topics**
- **Application Best Practices**
- **Stakeholder Questions**



Program Adoption Data: 2017 & 2018 Application Capacity

CAPACITY IN MEGAWATTS: 213.77 MW

Small Residential
Storage, 37.98
MW

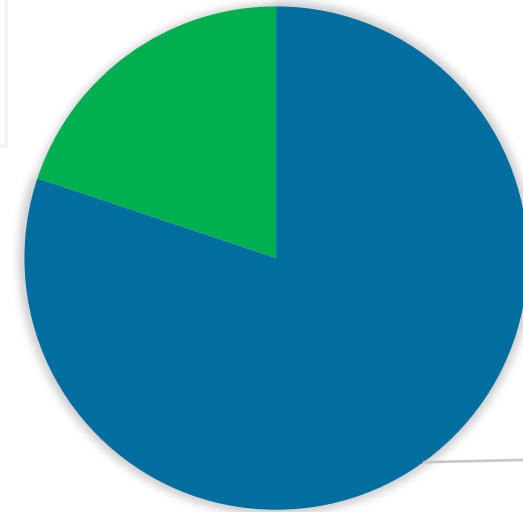


Generation,
9.24 MW

Large-Scale
Storage,
166.54 MW

ENERGY STORAGE CAPACITY: 438.79 MWh

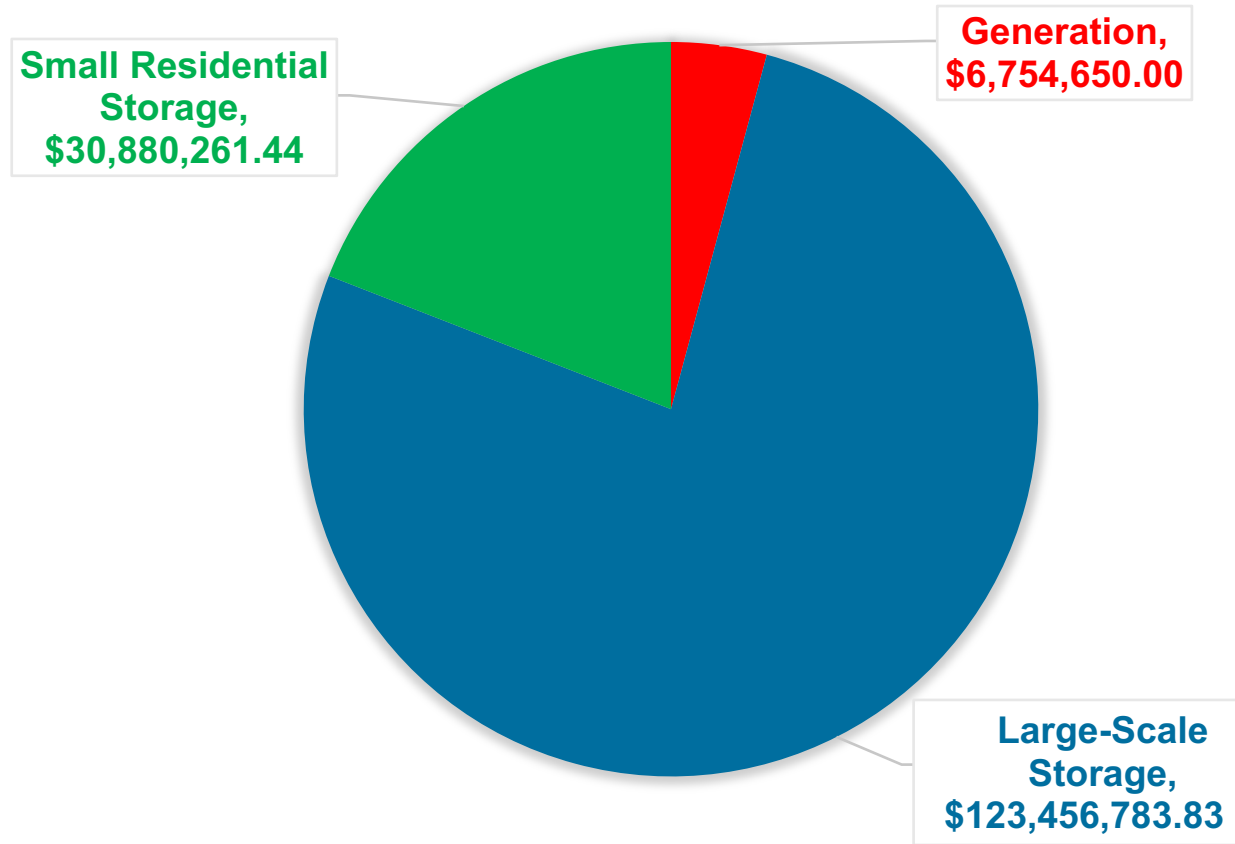
Small
Residential
Storage, 87.60
MWh



Large-Scale
Storage,
351.19 MWh

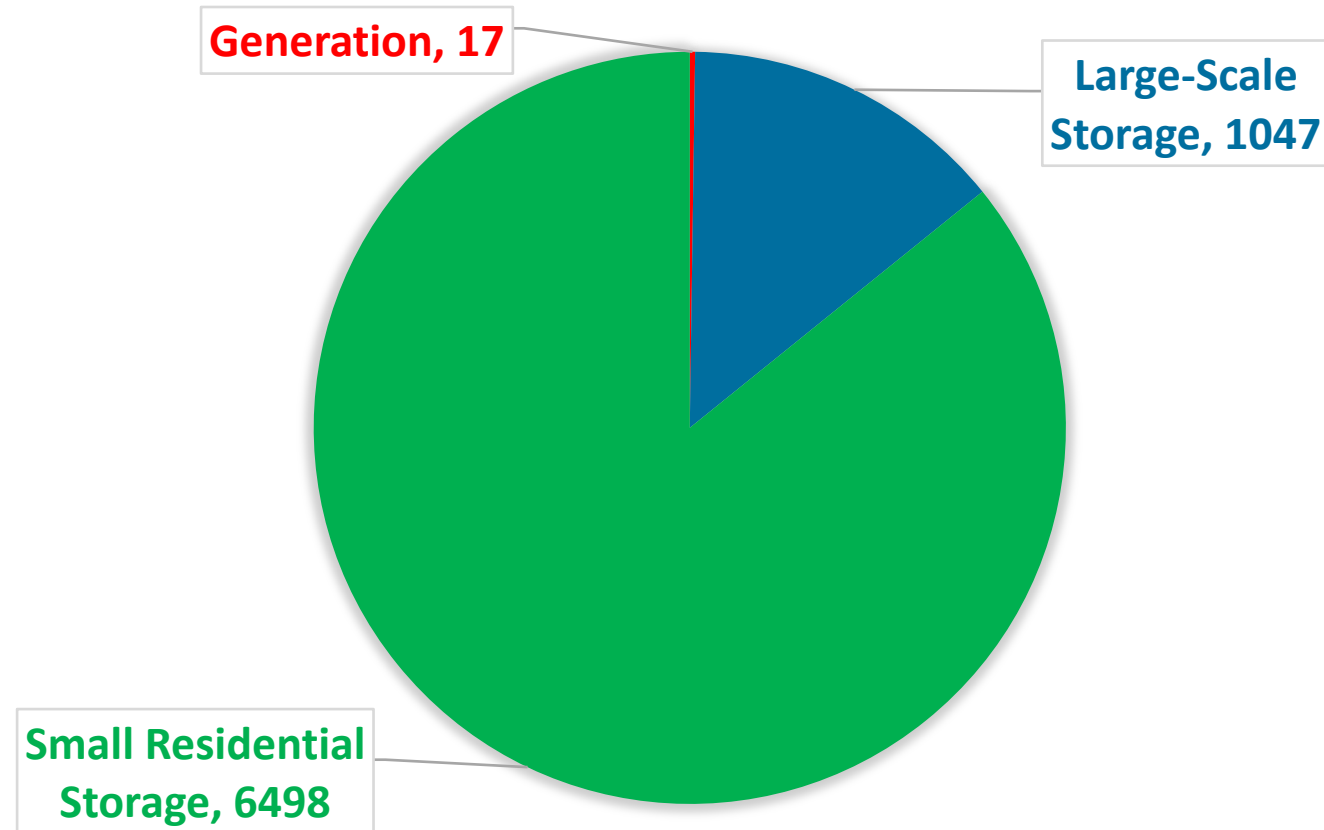
Program Adoption Data: 2017 & 2018 SGIP Incentives

TOTAL 2017 & 2018 INCENTIVES: \$161,091,695.27



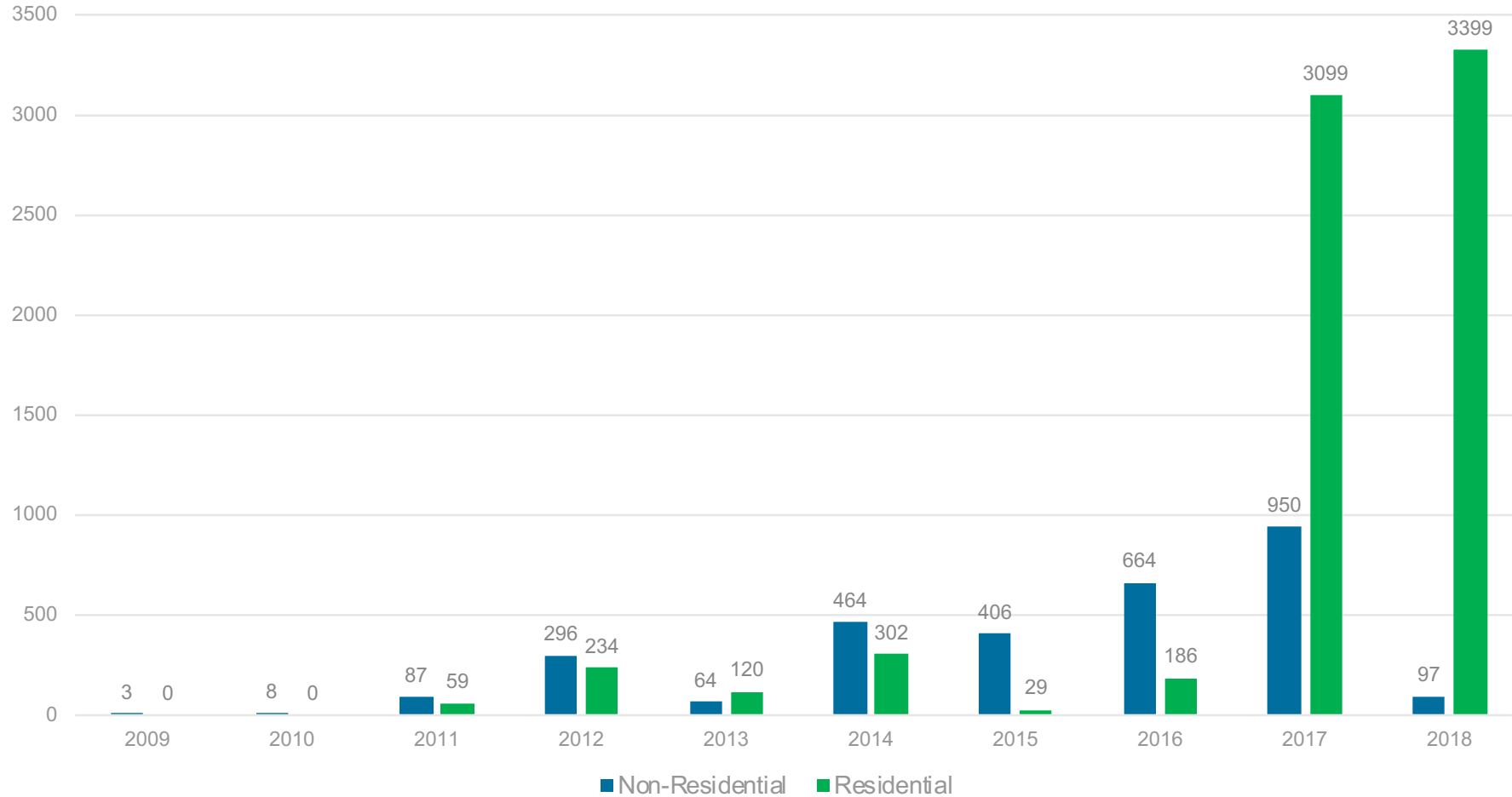
Program Adoption Data: 2017 & 2018 Application Volume

APPLICATIONS RECEIVED SINCE 2017 SGIP OPENING: 7562



Program Adoption Data: Annual Application Volume

Number of Applications Each Year Statewide: 2009 - Present



Incentive Step Timelines: Small Residential Energy Storage

CSE



CSE	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	1	5/1/2017	171
Step 2	6/5/2017	39	7/14/2017	380
Step 3	1/11/2018	2	1/12/2018	420
Step 4	2/26/2018	1	2/26/2018	485
Step 5	4/24/2018	58	Waitlist	585
Total #				2041

Edison



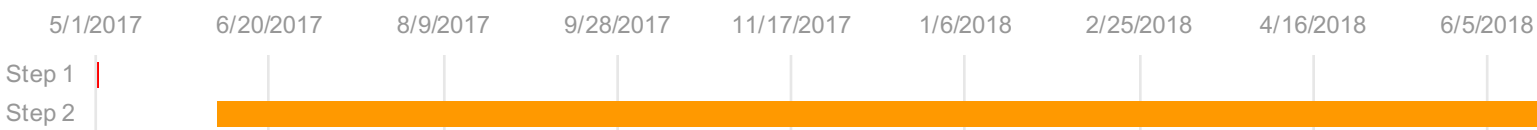
Edison	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	2	5/2/2017	329
Step 2	6/5/2017	302	4/3/2018	1007
Step 3	5/7/2018	45	Open	510
Total #				1846

PG&E



PG&E	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	5	5/5/2017	423
Step 2	6/5/2017	322	4/13/2018	1210
Step 3	5/14/2018	38	Open	595
Total #				2228

SoCalGas



SoCalGas	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	1	5/1/2017	99
Step 2	6/5/2017	381	Open	284
Total #				383

Incentive Step Timelines : Large-Scale Energy Storage

CSE



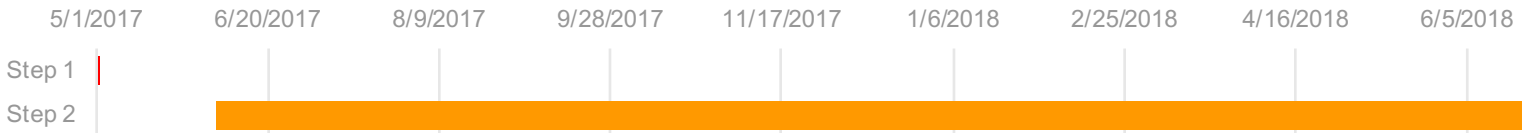
CSE	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	1	5/1/2017	45
Step 2	6/5/2017	338	5/9/2018	177
Step 3	6/11/2018	10	Open	1
Total #				223

Edison



Edison	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	1	5/1/2017	66
Step 2	6/5/2017	51	7/25/2017	271
Step 3	1/11/2018	161	Open	26
Total #				363

PG&E



PG&E	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	1	5/1/2017	68
Step 2	6/5/2017	381	Open	308
Total #				376

SoCalGas



SoCalGas	Start Date	Days Open	End Date	# of Apps
Step 1	5/1/2017	4	5/4/2017	37
Step 2	6/5/2017	240	1/30/2018	48
Step 3	3/5/2018	108	Open	0
Total #				85

Current Step and Available Funds

Small Residential Storage Budget as of 6/21/2018

	CSE	SCE	SoCalGas	PG&E
Step Status	Waitlist	Open	Open	Open
Active Step	5	3	2	3
Days in Step	58	45	381	38
Allocated Funds	\$1,038,273.71	\$2,175,162.52	\$1,519,958.07	\$2,751,889.56
Available Funds	\$986.54*	\$1,377,137.84	\$53,184.35	\$2,075,035.69

https://www.selfgenca.com/home/program_metrics/



Current Step and Available Funds

Large-Scale Storage Budget as of 6/21/2018

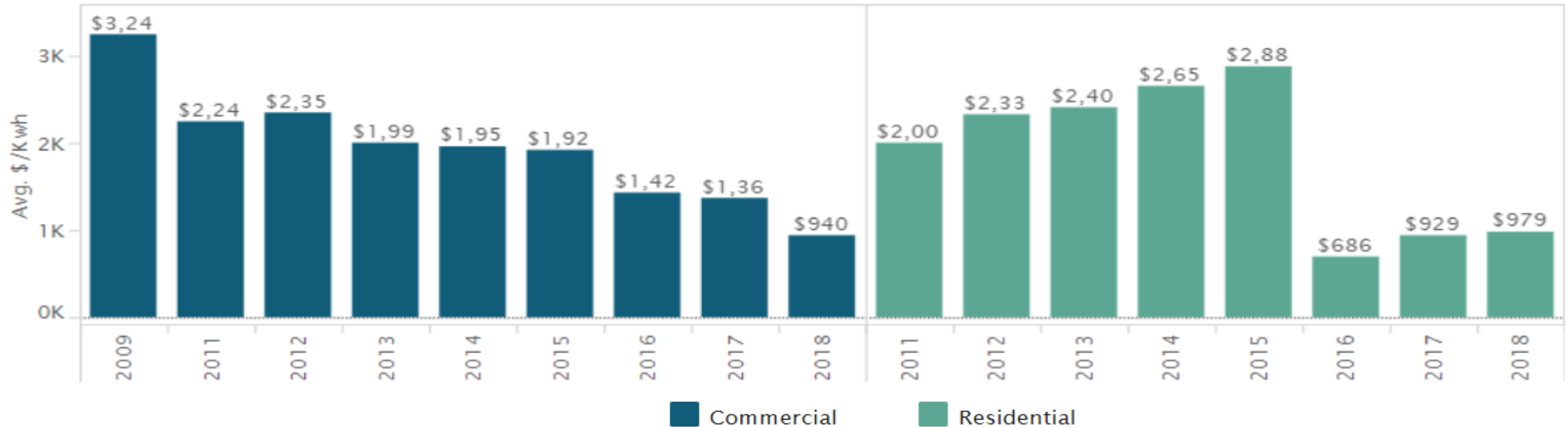
	CSE	SCE	SoCalGas	PG&E
Step Status	Open	Open	Open	Open
Active Step	3	3	3	2
Days in Step	10	161	108	381
Allocated Funds	\$11,600.00	\$4,027,448.25	\$0	\$34,212,348.92
Available Funds	\$13,148,704.83	\$36,958,194.12	\$7,711,883.83	\$16,270,684.21

https://www.selfgenca.com/home/program_metrics/



SGIP Goal: Market transformation for distributed energy resource (DER) technologies

Average Cost per Kilowatt Hour (\$/kWh) [4]



- More SGIP stats, interactive data, and charts can be found at: <https://energycenter.org/sgip/statistics>



SGIP Greenhouse Gas Signal Working Group



FILED
12/29/17
09:47 AM

On December 29, 2017, the CPUC issues a ruling to form a Working Group to develop a proposal for a GHG signal for systems participating in SGIP to ensure projects reduce GHGs. The goals were:

- Develop a proposal for a GHG signal
- Develop operational requirements for SGIP energy storage systems based on the GHG emissions of the electric grid.
- Develop a verification mechanism to ensure GHG tracking and close monitoring of system performance.
- Consider an enforcement mechanism to be used in the event that a system's operation results in net GHG emissions on an annual basis.

CR6/sf3 12/29/2017

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.

Rulemaking 12-11-005

ASSIGNED COMMISSIONER'S RULING (1) ESTABLISHING AN ENERGY STORAGE GREENHOUSE GAS SIGNAL WORKING GROUP (2) ENTERING A SUMMARY OF THE NOVEMBER 15, 2017 ENERGY STORAGE WORKSHOP INTO THE RECORD

This ruling establishes a working group to develop recommended changes to the Self-Generation Incentive Program (SGIP) to improve greenhouse gas (GHG) emission reductions from energy storage systems. In addition, this ruling enters a summary of the Energy Division staff workshop held on November 15, 2017 into the record. This ruling does not affect any existing SGIP rules and does not address any petitions for modification filed in this proceeding.



SGIP Greenhouse Gas Signal Working Group

2016 Energy Storage Report Findings Which Triggered CPUC Order:

- Storage dispatch behavior led to an increase in GHG emissions for 176 of 181 non-PBI projects and 66 of 78 PBI projects.
- Capacity factor was low: 2.3% for non-PBI; 8.1% for PBI. Goal: 10%
- RTE was low: 44% for non-PBI; 74% for PBI. SGIP Goal: 69.6% 1st year.
- Inefficiency: AES increases energy consumption relative to baseline; parasitic losses can be significant as systems are currently used.
- PBI have a clear signature. Summer discharge 3pm-8pm. Winter discharge later hours. Non-PBI charge across all hours.
- Residential projects are mainly performing backup duty, and data acquisition is hard.

2017 Storage Report is expected to yield similar findings and will include better Resi data



SGIP Greenhouse Gas Signal Working Group

Working Group Meetings and Objectives

Weekly and Biweekly meetings were held until June 2018

- Early goals included determining project scope, questions, group priorities
- Group decided to perform modeling, not set up pilots, as this would best accomplish goals.
- Very diverse stakeholders: storage developers, manufacturers, ORA, Energy Division, IOUs, environmental groups, non-profits.

→Group decided on a work plan quickly, efficiently!

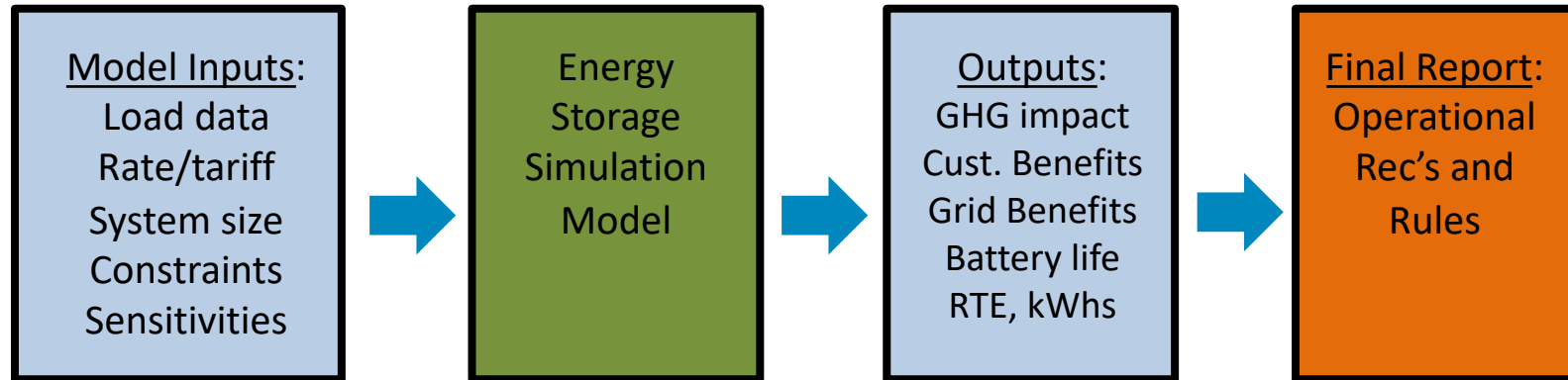
AESC appointed Project Manager

- AESC organized meetings and structured agendas with support from PG&E.
- PG&E was ordered to host the meetings.
- AESC tasked with setting up NDAs with 6 modelers, running analysis and writing the Final Report. Modelers: Enernoc, Tesla, AMS, Stem, CPS, Avalon.
- ALL PARTIES tasked with contributing, editing, providing ideas and comments.



SGIP Greenhouse Gas Signal Working Group

Working Group Modeling Process: model potential solutions to determine which scenarios were most promising. Model results would inform team recommendations for program reform.



- GHG Signal Working Group organized modeling efforts quickly but modeling took a very long time. First time such a diverse group modeled this data?
- Model runs were executed 2/12 through mid-March. Tweaks through April.
- End of May and early June 2018; report-writing
- Final Report Submitted June 15th, 2018

SGIP Greenhouse Gas Signal Working Group

GHG Signal Working Group Key Takeaways

Residential storage systems under *old rates*:

- When paired w/ solar, combination of GHG signal and higher SCRTE 85% guarantees reductions.
- Without solar, highly unlikely to reduce GHGs.

Residential storage systems under *new rates*:

- When paired w/ solar, with or w/o GHG signal and SCRTE of 85%, almost always reduce GHGs.
- Without solar, with GHG signal, almost always reduce GHGs but SCRTE 85% is very important.

Commercial storage systems under *old rates*:

- When paired, receiving GHG signal w/ 85% SCRTE, achieved GHG reduction 82% of time. Without GHG signal, reduced GHGs only 24% of time regardless of SCRTE.
- Without solar, appears highly unlikely to reduce GHGs.

Commercial storage systems under *new rates*:

- With solar, receiving GHG signal, reduce GHGs 85% of the time and 100% of time w/ SCRTE 85%. If not using GHG signal but high SCRTE, reduce GHGs 86% of time.
- Without solar, using GHG signal, unlikely to reduce GHGs even w/ high SCRTE (only 44% of time).



2017 SGIP Program Administrator Evaluation

- ◆ The SGIP measurement and evaluation plan calls for “an annual review of the administrative performance of each PA.
- ◆ The reports are to include, at minimum, “a survey of program participants regarding the PAs’ clarity and timeliness of oral and written communications, their accessibility, their helpfulness to applicants submitting and processing applications, and the clarity and helpfulness of their websites”.
- ◆ Itron was hired to conduct an evaluation based on feedback from SGIP host customers and applicants from PY 2017. Itron’s recommendations for improvement are described herein.
- ◆ The “*2017 SGIP Program Administrator Performance Evaluation Report*” was filed to the service list June 20, 2018.



Itron Program Recommendations - Timeliness

- ◆ **Lower the threshold for host customer signatures when changes are made to the application.**
 - Applicants commented that “*if there's a small clerical issue,*” such as a new email address or other minor application detail, customers should not need to sign-off. By lowering the threshold for required signatures, repeated back-and-forth communications between the applicant and host customer can be reduced and the overall application timeline shortened.
- ◆ **Consider simplifying steps and requirements for small residential storage projects.**
 - Applicants and host customers expressed the desire for a more simplified application process for small residential storage projects. The California Solar Initiative (CSI) general market program is an example of a similar rebate program with a more streamlined application procedure.
- ◆ **Other?**



Itron Program Recommendations - Accessibility

- ◆ **Create a customer-facing section of the SGIP portal that shows project status and includes simplified information regarding project procedures and timelines.**
 - A few host customers and applicants suggested creating more transparency by “*show[ing] end customers the SGIP process flow and a dashboard of where they stand in the process.*” A dedicated space within the SGIP application portal for customers would allow each customer to check on the status of their application directly, without having to rely on their applicant for that information.
- ◆ **Communicate expected timelines and important program information directly to host customers at the outset of each application.**
 - When an application is submitted, initial email communications to the host customer should include an estimate of when the host customer would receive the upfront incentive and, if applicable, begin PBI payments. Communicating this information directly to the host customer at the outset of the application ensures customers understand the program process and helps maintain reasonable expectations of program timelines.
- ◆ **Other?**



Itron Program Recommendations - Helpfulness

- ◆ **Require developers to complete training materials on SGIP processes and requirements as a prerequisite for addition to the approved developer list.**
 - An approved developer could be required to complete training and/or have managed a minimum number of applications in the prior program year.
- ◆ **Continue to provide more examples, videos, and other training to clarify documentation expectations associated with application and document submittal on the statewide portal.**
 - Applicants noted that it can be difficult to know precisely how project documentation is to be filled out and most applicants had at least one application flagged by the PA for missing information. PAs should continue to develop new guidance and training materials. PAs should continue to identify opportunities for documentation templates to provide to applicants such as the PMP template.
- ◆ **Other?**



SGIP Developer Eligibility



DEVELOPER ELIGIBILITY

SGIP Handbook Section 3.2.7

Developer Cap

Any single Developer is limited to 20% of the SGIP incentive funding for a given budget category in each statewide incentive step. The Developer cap will be calculated separately for generation projects, large scale energy storage projects, small residential energy storage projects, and equity budget projects. Applicants may not submit applications for Developers in excess of the statewide Developer cap for the active step, and ***Program Administrators shall not issue conditional reservations to projects by a Developer that has already applied for reservations in a given step that exceed 20%.*** The Developer cap will be established by budget step and posted prior to program opening. The Developer cap will remain fixed for each budget step once the step is opened even if total available funds change. Please see Section 4.1.5 for the definition of a Developer.

- Funding is limited
- Established to prevent any one entity to monopolize the incentives.



DEVELOPER ELIGIBILITY

Exclusive list of an SGIP energy storage project's development activities

1. Approaching or communicating with the host customer about the project and learning about its needs and energy profile (i.e., customer acquisition or developing leads)
2. Developing the specifications for a system based on the customer's needs and interests
3. Soliciting bids from multiple manufacturers for the specified system
4. Gaining the customer's commitment to purchase or lease the specified system, usually but not necessarily by signing a purchase order with a customer or other form of agreement
5. Purchasing the specified system from the manufacturer to fulfill the obligation to provide a system to the customer
6. Securing permits for the system on behalf of the customer
7. Securing interconnection permission for the system on behalf of the customer
8. Submitting SGIP applications
9. Liaising with the SGIP administrators on incentive reservations
10. Liaising with the SGIP administrators on data reporting requirements
11. Supplying project data to SGIP evaluators
12. Physically constructing the system at the customer's premises
13. Installing the system at the customer's premises



DEVELOPER ELIGIBILITY

- *Acceptance by the Program Administrators of the Developer Eligibility Application does not guarantee that a participant qualifies as a Developer of any given project.*
 - ❖ *At Reservation Request the applicant will be required to identify development activities for that project.*
 - ❖ *The Program Administrators will review RRF and confirm developer.*
 - ❖ *Documentation at all stages of the application must confirm developer is performing substantial amount of development activities.*
 - ❖ *If Developer did not perform stated activities, the Incentive Reservation may be cancelled.*



DEVELOPER ELIGIBILITY

Homeowners have applied for Developer status. Whether they are approved, or not, depends on their statements on the Developer Application that they are fulfilling a substantial amount of the Developer activities.

- Even with an approved Developer Key, during the Reservation Request (RRF), the applicant must identify who is performing the developer activities. If the identified Developer is not performing a substantial amount of the developer activities for that application, then the Reservation Request is rejected.
- The RRF will be approved, and incentive reservation issued, based on information provided. If at any time during the RRF, PPM, or ICF stage it is found that the developer did not perform developer activities as indicated, then the application is cancelled.



DEVELOPER ELIGIBILITY

There have been occurrences where the Host Customer is working with an established Developer, but just wants to submit the SGIP application on their own, this does not qualify them to be their own developer. The Host Customer can be the Applicant, but must use the Developer Key of the Developer who has been developing their project. (*Ref: SGIP Handbook, Sections 4.1.5 and 4.1.5.1*)

During the Developer Eligibility Application process, we normally will ask a Homeowner who has been working with them on their installation. Most of the time they identify a major Developer, and we have to reject their Developer Application.



EQUITY BUDGET



SGIP Equity Budget – Important Dates and Events

- Equity Budget (Residential Storage Equity and Non-Residential Storage Equity) is currently open in three territories:
 - ❖ Southern California Edison
 - ❖ Southern California Gas
 - ❖ San Diego Gas and Electric (PA: Center for Sustainable Energy)
- The Equity Budget will not open for Pacific Gas and Electric until funds are fully exhausted in their Step 2 Large-Scale Category.
- SCE, SCG, and CSE opened their Equity Budget respectively on January 11, 2018, March 5, 2018, and June 11, 2018.
- Both SCE and SCG did not receive an Equity Budget application within the first three months after their respective opening dates.
 - ❖ SCE and SCG each filed information-only Advice Letters as required by Ordering Paragraph (OP) 2 and defined in Conclusion of Law (COL) 12 of D.17-10-004, which required us to increase the incentive rate by \$0.05/Wh for each Equity Budget category .
 - ❖ CSE has not received an Equity Budget application since their opening date.



SGIP Equity Budget – Current Budget

Residential Storage Equity	CSE	SCE	SCG
Step 3 Available Funds	\$405,924.66	\$1,216,470.43	\$276,147.64
Non-Residential Storage Equity			
Step 3 Available Funds	\$3,653,321.99	\$10,948,233.85	\$2,485,328.76



SGIP Equity Budget – Current Incentive Rates

	CSE	SCE	SCG	PG&E
Large-Scale Storage	Step 3	Step 3	Step 3	Step 2
Energy Storage**	\$0.35/Wh	\$0.35/Wh	\$0.35/Wh	\$0.40/Wh
Energy Storage + ITC**	\$0.25/Wh	\$0.25/Wh	\$0.25/Wh	\$0.29/Wh
Small Residential Storage	Step 5	Step 3	Step 2	Step 3
Energy Storage**	\$0.25/Wh	\$0.35/Wh	\$0.40/Wh	\$0.35/Wh
Residential Storage Equity	Step 3	Step 3	Step 3	Step 3
Energy Storage <= 10kW**	\$0.35/Wh	\$0.40/Wh	\$0.40/Wh	\$0.35/Wh
Energy Storage > 10kW + ITC**	\$0.25/Wh	\$0.30/Wh	\$0.30/Wh	\$0.25/Wh
Non-Residential Storage Equity	Step 3	Step 3	Step 3	Step 3
Energy Storage**	\$0.35/Wh	\$0.40/Wh	\$0.40/Wh	\$0.35/Wh
Energy Storage + ITC**	\$0.25/Wh	\$0.30/Wh	\$0.30/Wh	\$0.25/Wh
Generation	Step 1	Step 1	Step 1	Step 1
Wind	\$0.90/W	\$0.90/W	\$0.90/W	\$0.90/W
Other Generation	\$0.60/W	\$0.60/W	\$0.60/W	\$0.60/W
Max Biogas Adder*	\$0.60/W	\$0.60/W	\$0.60/W	\$0.60/W



SGIP ONLINE DATABASE WORKSHOP

J U N E 2 1 , 2 0 1 8

AGENDA

PRESENTED BY
ANDREA VAS
ENERGY SOLUTIONS



FREQUENTLY ASKED QUESTIONS



RECENT FEATURE RELEASES



UPCOMING FEATURES



OPEN Q&A



A photograph of the Golden Gate Bridge in San Francisco, California, taken during sunset. The bridge's towers and suspension cables are silhouetted against a warm, orange and yellow sky. The water of the bay is visible in the foreground, and the hills of the city are in the background. A white rectangular box with a thin border is centered over the image, containing the text "FREQUENTLY ASKED QUESTIONS" in white, uppercase, sans-serif font.

FREQUENTLY ASKED QUESTIONS

SUPPORT INTAKE

FREQUENTLY ASKED QUESTIONS



HOST CUSTOMERS ARE CONFUSED

APPLICATION FEE

STATUS OF APPLICATION

LENGTH OF REVIEW PERIOD

NEXT STEPS



WHO IS THE DEVELOPER



PA REFERRALS

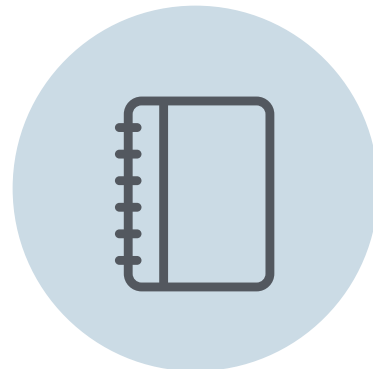


A row of wind turbines is shown against a sky with soft, golden-hour clouds. The turbines are arranged in a line, receding into the distance. The largest turbine is in the foreground on the left, and several smaller ones are visible further back. The overall mood is serene and clean.

RECENT FEATURE RELEASES

RECENT
FEATURE RELEASES

- WAITLIST FUNCTIONALITY
- ~~LOCK “PROPOSED SYSTEM INFORMATION” PANEL~~
- MOVE “INTERCONNECTION DATE” FIELD TO UTILITY PANEL
- MONTHLY PBI PERFORMANCE REPORT



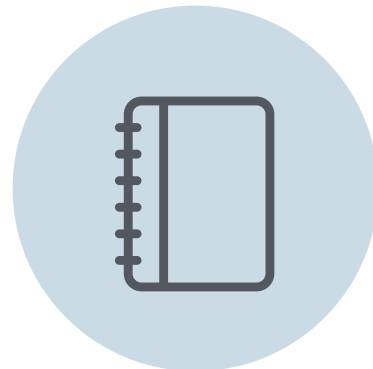
A scenic view of a beach at sunset. The sky is a warm, golden-orange color, and the ocean is calm. In the foreground, there are several concrete pillars or structures, some with rectangular cutouts. A long, narrow strip of water or sand runs across the middle ground, leading towards the beach. The text "UPCOMING FEATURES" is overlaid in a white, rounded rectangular box in the center of the image.

UPCOMING FEATURES

SNEAK PEAK

UPCOMING FEATURES

- ① USE HOST NAME FOR “COMPANY NAME” (Residential Apps)
- ② AD-HOC DOCUMENTS WILL HAVE AN APPROVAL STATUS
- ③ IMPROVED RESOURCES PAGE
- ④ HIGHLIGHTED CHANGES





THANK YOU

A V A S @ E N E R G Y - S O L U T I O N . C O M

Best Practices

- ◆ Application Fee Checks, include SGIP ID and Project Site Address
- ◆ Utility Bill
 - ◆ Match name for both Host Customer and Utility Customer on record
 - ◆ Submit a complete utility bill (all pages)



Best Practices

Executed Contract

- ◆ Contract outlines terms and ownership
- ◆ Matching site address and utility customer
- ◆ SGIP Energy Storage 10 year service warranty requirement (Section 5.4.2.3)
- ◆ Energy Storage costs matching Total Eligible Project Costs (TEPC)
- ◆ Type of storage equipment being installed
- ◆ Signatures
- ◆ Only pertinent SGIP information



Best Practices

Energy Storage Preliminary Monitoring Plan (PMP) Template

- ◆ Available at selfgenca.com/home/resources
- ◆ Section 5.4.1.5 outlines PMP requirements in detail (page 49)

Proof of Project Milestone (PPM)

- ◆ Initiate Energy Efficiency Audit prior to or immediately after receiving Conditional Reservation Letter
- ◆ Notify your PA if there are any major changes to the project (e.g. equipment) prior to drafting the PPM



Best Practices

ICF Requirements

- ◆ Total Eligible Project Cost is updated on the ICF form and matches Total Eligible Project Cost on the Cost Affidavit and Breakdown Worksheet
- ◆ Ensure that the Payee information is accurate. Incentive checks will be made out to the payee name and mailed to the payee address exactly as indicated on the ICF form.
- ◆ Permission to Operate (PTO) letter from the Utility specific to project site and Energy Storage equipment
- ◆ Building Permit Inspection Report contains customer address and inspector signature



Best Practices

◆ Final Monitoring Schematic

- ◆ An electrical single line diagram that includes the energy storage system, the inverter, metering points, the utility meter, the load panel
- ◆ For projects paired with on-site solar, the diagram must call out the location of the CTs for both the energy storage system and the PV system

◆ Discharge Data Requirement

- ◆ Upload the site specific discharge data to the SGIP database when submitting the ICF package
- ◆ This reduces the number of reviews for the PAs and limits the back and forth during the final ICF approval and inspection process



Best Practices

- ◆ Reach out to Program Administrators prior to submitting or resubmitting applications with any questions you may have

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Southern California Edison
sgipgroup@sce.com
(626) 302-0610

Center for Sustainable Energy
sgip@energycenter.org
(858) 244-1177

SoCalGas
selfgeneration@socalgas.com



Stakeholder Q & A



Stakeholder Q & A

1. Will there be discussions about moving funds from one category to another based upon consumer-demand? For instance, since small residential storage seems to be the most active step and large-scale commercial the least active (at least in SCE territory) it would greatly benefit early-adopters (small residential) to continue the incentives to stimulate more and more energy storage adoption.
2. Step 3 reservations have taken approx 4-6 weeks for review. Is there anything we can do for quicker reservation confirmations?
3. When will the Sampling of Inspections begin?

