Self-Generation Incentive Program (SGIP)

Quarterly Workshop

Friday, September 15th 2017
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)
Agenda

Program Adoption Data
Document, Application and other Technical Issues
Energy Solutions Tips & Tricks
Data Metering, Charge & Discharge Events
Regulatory Update
Residential batteries; backup only issue
Q&A
2017 Applications as of Sept 12, 2017

Number of Active Applications: 3225

- Generation, 10
- Large Scale Energy Storage, 819
- Small Residential Storage, 2396
Total 2017 Incentives Requests Statewide

- **Generation**
  - $6,734,250
- **Large-scale Storage**
  - $120,278,183
- **Small Residential Scale**
  - $15,542,779

2017 Applications as of Sept 12, 2017
2017 Applications as of Sept 12, 2017

Total 2017 Capacity Statewide (MW)

- Large Scale Storage: 166.3MW
- Small Residential Storage: 15.5MW
- Generation: 8.8MW

Total 2017 Capacity Statewide: 201.6MW
Applications as of Sept 12, 2017

Number of Applications by Program Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Non-Res</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>197</td>
<td>228</td>
</tr>
<tr>
<td>2015</td>
<td>17</td>
<td>150</td>
</tr>
<tr>
<td>2016</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>2017</td>
<td>819</td>
<td>2396</td>
</tr>
</tbody>
</table>
Applications as of Sept 12, 2017

Energy Storage Capacity (MW)

- **2014**: Residential 1.1, Non-Res 50.9
- **2015**: Residential 0.1, Non-Res 39.8
- **2016**: Residential 0.0, Non-Res 13.9
- **2017**: Residential 15.5, Non-Res 166.3

Categories: Residential, Non-Residential
## Generation Budget

<table>
<thead>
<tr>
<th></th>
<th>CSE</th>
<th>SCE</th>
<th>SCG</th>
<th>PG&amp;E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step Status</strong></td>
<td>Open</td>
<td>Open</td>
<td>Open</td>
<td>Open</td>
</tr>
<tr>
<td><strong>Active Step</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Step Opening Date</strong></td>
<td>May 1, 2017</td>
<td>May 1, 2017</td>
<td>May 1, 2017</td>
<td>May 1, 2017</td>
</tr>
<tr>
<td><strong>Days in Step</strong></td>
<td>134</td>
<td>134</td>
<td>134</td>
<td>134</td>
</tr>
<tr>
<td><strong>Authorized Collections</strong></td>
<td>$5,718,173.52</td>
<td>$13,464,605.80</td>
<td>$3,796,734.23</td>
<td>$16,757,415.49</td>
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<tr>
<td><strong>Reallocations</strong></td>
<td>$4,611.00</td>
<td>$0</td>
<td>$2,560,000.00</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Authorized Rollover</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td><strong>Allocated Funds</strong></td>
<td>$912,000.00</td>
<td>$967,500.00</td>
<td>$0</td>
<td>$5,476,500.00</td>
</tr>
<tr>
<td><strong>Available Funds</strong></td>
<td>$4,810,784.52</td>
<td>$12,497,105.80</td>
<td>$1,236,734.23</td>
<td>$11,280,915.49</td>
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</table>
# Current as of: September 12, 2017

**Large Storage Budget**

<table>
<thead>
<tr>
<th></th>
<th>CSE</th>
<th>SCE</th>
<th>SCG</th>
<th>PG&amp;E</th>
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</thead>
<tbody>
<tr>
<td><strong>Step Status</strong></td>
<td>Open</td>
<td>Will Open Soon</td>
<td>Open</td>
<td>Open</td>
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<tr>
<td><strong>Active Step</strong></td>
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<td>3</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>Step Opening Date</strong></td>
<td>June 5, 2017</td>
<td>TBD</td>
<td>June 5, 2017</td>
<td>June 5, 2017</td>
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<tr>
<td><strong>Days in Step</strong></td>
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<td>TBD</td>
<td>99</td>
<td>99</td>
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<tr>
<td><strong>Authorized Collections</strong></td>
<td>$14,336,533.78</td>
<td>$34,226,537.27</td>
<td>$9,872,805.77</td>
<td>$43,925,956.50</td>
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<tr>
<td><strong>Reallocations</strong></td>
<td>$247,255.00</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td><strong>Authorized Rollover</strong></td>
<td>$836,783.31</td>
<td>$1,247,930.68</td>
<td>$382,682.90</td>
<td>$2,315,372.34</td>
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<td><strong>Allocated Funds</strong></td>
<td>$12,369,468.09</td>
<td>$0</td>
<td>$3,825,056.00</td>
<td>$31,172,492.62</td>
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<tr>
<td><strong>Available Funds</strong></td>
<td>$3,051,104.00</td>
<td>$35,474,467.95</td>
<td>$6,430,432.76</td>
<td>$15,068,836.22</td>
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## Small Storage Budget

<table>
<thead>
<tr>
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<th>CSE</th>
<th>SCE</th>
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<th>PG&amp;E</th>
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</thead>
<tbody>
<tr>
<td><strong>Step Status</strong></td>
<td>Will Open Soon</td>
<td>Open</td>
<td>Open</td>
<td>Open</td>
</tr>
<tr>
<td><strong>Active Step</strong></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Step Opening Date</strong></td>
<td>TBD</td>
<td>June 5, 2017</td>
<td>June 5, 2017</td>
<td>June 5, 2017</td>
</tr>
<tr>
<td><strong>Days in Step</strong></td>
<td>TBD</td>
<td>99</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td><strong>Authorized Collections</strong></td>
<td>$1,982,160.05</td>
<td>$4,817,399.17</td>
<td>$1,362,819.84</td>
<td>$6,044,159.38</td>
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<tr>
<td><strong>Reallocations</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Authorized Rollover</strong></td>
<td>$89,408.92</td>
<td>$74,864.53</td>
<td>$44,925.00</td>
<td>$47,911.32</td>
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<tr>
<td><strong>Allocated Funds</strong></td>
<td>$0</td>
<td>$2,494,491.78</td>
<td>$686,689.38</td>
<td>$3,093,169.10</td>
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<tr>
<td><strong>Available Funds</strong></td>
<td>$2,071,568.97</td>
<td>$2,397,771.92</td>
<td>$721,055.46</td>
<td>$2,998,901.60</td>
</tr>
</tbody>
</table>

Current as of: September 12, 2017
Common Application Errors

• Unidentifiable Application Fee Checks
• Reservation Request Form
  • PV system details not provided on RRF
  • PV costs included in the Total Eligible Project Costs (TEPC)
  • CA Manufacturer Adder and Status
  • ITC (Investment Tax Credit)
  • Acceptable signatures on program documents
• Executed Contract and Warranty
• Energy Efficiency Audit
• Preliminary Monitoring Plan (PMP) Resources
Common Application Errors: Unidentifiable Application Fee Checks

- **Application Fee Checks** must be linked to a specific project. Please include one or more of the following to help the PA identify to which project the check should be applied:
  - Host Customer Name as it appears on the utility bill and Reservation Request Form
  - Site Address as it appears on the utility bill and Reservation Request Form
  - SGIP Project ID if possible, ex) SCE-SGIP-2017-0000 OR Draft ID (located on the print version of the RRF)
Common Application Errors: PV System Details Not Provided

Is there, or will there be by the time of inspection, other self-generation or storage equipment onsite? *
- Yes
- No

Is the system anticipated to be charged at least 75% from renewables? *
- Yes
- No

Check the box to confirm that the system will be operated in accordance with the program’s minimum hours requirement. *

Notes

Equipment Details - Energy Storage

Other Onsite System Information

<table>
<thead>
<tr>
<th>Technology</th>
<th>Make/Model</th>
<th>Project Code</th>
<th>Installed</th>
<th>Energy Storage Capacity</th>
<th>Total Rated Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photovoltaic</td>
<td>Manufacturer / Model</td>
<td>2016</td>
<td>kWh</td>
<td>10 kW</td>
<td>Non-Incentivized Systems</td>
</tr>
</tbody>
</table>

Previous SGIP Generator Capacity: 0 kW
Previous SGIP Storage Capacity: 0 kWh

(+/-) Add More SGIP Incentivized Equipment

(+/-) Add Onsite Equipment
Common Application Errors: PV System Costs, CA Manufacturer, & ITC

Other Onsite System Information

Utility Information

Project Finance

Project Costs

Total Eligible Project Costs (TEPC) *

$ 1,000

Ineligible Project Costs

$ 20,000

Claiming Eligibility for the 20% CA Manufacturer Adder? *
To receive the adder, at least 50% of equipment costs must be attributed to an approved SGIP CA manufacturer. The eligible manufacturer must be approved by the ICF stage to retain the adder.

- Yes  - No

Are you or any affiliated entity taking the Federal Investment Tax Credit (ITC) for this project? *

- Yes  - No
Common Application Errors: CA Manufacturer & ITC

- CA Manufacturer Status and 20% adder being claimed for companies NOT approved as CA Manufacturer
  - The adder should only be claimed for manufacturers that meet the SGIP CA Manufacturer requirements. The adder will be removed by the PA if the manufacturer listed on the application does not meet the requirements.
Common Application Errors: CA Manufacturer & ITC

- ITC must be entered as a percentage (XX%), NOT a decimal (.XX) in order to calculate correctly.
  - The PA will adjust the calculation if entered incorrectly, which could impact the incentive rate.
Common Application Errors: Host Customer and Signatures

• Acceptable signatures on program documents
  • Only the utility customer of record (the customer listed on the utility bill) is authorized to claim an incentive through SGIP. If a person other than the utility customer is listed as the Host Customer, a letter of explanation must be provided to the PA (SGIP Handbook V.2 Section 4.1.1)
  • SoCalGas does NOT accept electronic signatures of any kind
  • PGE, SCE, and CSE accept wet signatures and verifiable e-signatures only (e.g. DocuSign, VeriSign)
Common Application Errors: Incomplete Utility Information

• Incomplete Electric Utility Bills and Load
  • “All applications must include a copy of a recent electric utility bill indicating the account number, meter number, Site address, and Host Customer name” (SGIP Handbook V.2 p. 42).
  • Insufficient or incomplete load documentation is provided. The Applicant must provide the previous 12 months of utility bills or, in some territories, load documentation provided directly by the utility.
  • Center for Sustainable Energy required a 3rd Party Letter of Authorization be executed at RRF to verify certain utility details. This form must be fully initialed and signed by the customer prior to submitting the RRF.
Common Application Errors: Executed Contract

• Contract must clearly identify the scope of work and equipment costs

• 10 Year Service Warranty is often insufficient
  • “All storage systems are required to include a minimum 10 year service warranty” (SGIP Handbook V.2 pg. 46).
  • There is often no reference to the required preventative maintenance agreement and performance guarantee.
  • If utilizing a manufacturer warranty, these must be provided as well as a sufficient installation warranty.
Common Application Errors

• Preliminary Monitoring Plan (PMP)
  • The majority of PMPs to date have not been sufficient in meeting the new SGIP requirements.
  • The PAs have created a **PMP Template** and a **PMP Template with Examples** to help guide Applicants/Developers in creating their individual project PMPs.
    • Find the “Energy Storage Preliminary Monitoring Plan Template” @ https://www.selfgenca.com/home/resources/
  • Refer to Section 5.4.1 of the SGIP Handbook for PMP requirements.
Equipment Specifications

• The Program Administrators have created a Technical Working Group Committee consisting of technical leads and administrators from each PA territory, and SGIP’s statewide consultant, AESC. The goal of the Committee is to streamline technical reviews, ensure statewide consistency, and provide unified messaging to applicants/manufacturers.

• Technical Working Group Committee meets weekly to review and discuss manufacturer specifications submitted for multiple applications, consider new SGIP equipment for eligibility, and discuss other technical issues.

• The single biggest issue preventing equipment specification approval is missing component specifications that verify energy capacity and power capacity ratings at a specific discharge duration.

  • “Manufacturer equipment specifications for all major components of the system, such as the storage component, as well as the inverter, DC-DC converter, controller and/or additional system components when applicable, are required. Rated capacity (kW), energy capacity (kWh), and round trip efficiency for the storage system must be provided.” (pg. 44)

• The equipment specifications submitted with each project must justify the values on the RRF and the ES Sizing Worksheet.
SGIP ONLINE DATABASE WORKSHOP
SMALL RESIDENTIAL STORAGE

SUM OF INCENTIVES REQUESTED

STEP 1

STEP 2

INCENTIVES ($ MILLIONS)

1-May 21-May 10-Jun 30-Jun 20-Jul 9-Aug 29-Aug 18-Sep

SMALL RESIDENTIAL STORAGE

BUDGET
LARGE-SCALE STORAGE

SUM OF INCENTIVES REQUESTED

[Graph showing incentives requested over time with two steps]

1. Step 1
2. Step 2
SUM OF INCENTIVES REQUESTED

STEP 1

GENERATION

INCENTIVES ($MILLIONS)

1-May 21-May 10-Jun 30-Jun 20-Jul 9-Aug 29-Aug 18-Sep

$45

$40

$35

$30

$25

$20

$15

$10

$5

$0

GENERATION

BUDGET
TIPS & TRICKS
OPTIMIZE SYSTEM CONFIGURATION AND INCENTIVE OPTIONS

AVAILABLE FOR GENERATION AND STORAGE

FIND IT IN THE RESOURCES PAGE UNDER SECTION 8
USER ACCOUNT MANAGEMENT

- One account for each employee or family member. Don’t share passwords.
- Support staff cannot provide information unless registered.
- Change your password with the “Forgot Password?” link.
- Remember to deactivate user accounts.
OPTIMIZE

DRAFT APPLICATIONS

- Recycle unused drafts – simply replace the information
- "Copy from" option – avoid re-entering contact information
- Upload a new, signed RRF/PPM/ICF form if you change something on the application
- Download full export from dashboard
COMMUNICATIONS RECORD

- Download any time available to all company/household users
- Confirm missing information list
- Respond in your email server keep the @selfgenca.com email cc’d
DOCUMENT UPLOADS

- Upload documents any time or status inform your PA via email
- Each upload is a new version, only newest version is reviewed
- Merge multiple PDF's together or compress files into a .zip file
THANK YOU

AVAS@ENERGY-SOLUTION.COM
Is the metering system generating status signals when the energy storage system is charging or discharging?

Do you meter at more granular level than 15 minutes?

Is there a threshold for idle power consumption and if so what is that threshold?
Filed August 25, 2017

Comments due on September 18, 2017

Expected decision results on September 28, 2017 at the CPUC’s Business Meeting

The Energy Division (ED) proposed a revised definition of developer used in SGIP based on Step 1 results

Defines what are considered “Developer Activities”

Addresses multiple developers participating in a single project

Proposed ED to share oversight with SGIP PA’s on developer eligibility
Assigned Commissioner’s Ruling on June 2, 2017 introduced the change of establishing a disadvantaged community budget for SGIP

Proposed Decision Filed August 25, 2017

Opening Comments were due to CPUC on September 14, 2017

Expected decision results on September 28, 2017 at the CPUC’s Business Meeting
Disadvantaged Communities continued

◆ SGIP PA’s comments were to clarify eligibility language and time extension for implementation

◆ Proposed Changes to SGIP:
  – 25% of collected funds for energy storage projects shall be reserved for the new SGIP Equity Budget for projects located in Disadvantaged Communities (DAC’s)
  – This change to be effective beginning Energy Storage Step 3
  – DAC’s have been identified as these type of entities located in any census tract that ranks in the statewide top 25% most affected census tracts (CalEnviroScreen):
    ◆ state and local government agencies
    ◆ educational institutions
    ◆ non-profits
    ◆ small businesses
    ◆ low-income residents (regardless if they are located in a DAC)
SGIP’s founding Decision 01-03-073, March 27, 2001: (Appendix, pg 23)

The self-generation incentives provided through these programs are intended to:

- encourage the deployment of distributed generation in California to reduce the peak electric demand;\(^\text{12}\)
- give preference to new renewable energy capacity; and
- ensure deployment of clean self-generation technologies having low and zero operational emissions

Footnote 12:

“For this reason, self-generators installed primarily as backup or emergency power are not eligible for the program.”
Residential battery backup-only issue

CPUC Resolution E-4717, May 21, 2015:

- “Since 2012 the SGIP program administrators (PAs) have received many residential AES applications and have observed that some are marketed solely as backup systems and may be installed with the intent to use them solely for this purpose.” (pg 2)

- “Applicants whose reservations are confirmed following the approval date of this advice letter (AL) shall be required to fill out and sign an “Affidavit” which spells out system operating and data reporting requirements.”
CPUC Decision 16-06-055, June 23, 2016:

- SGIP Handbook Section 5.3.3 *Operational Requirements*

- Commercial systems are required to discharge a minimum of 130 full discharges per year. Residential systems are required to discharge a minimum of 52 full discharges per year. A “full discharge” is the equivalent of discharging the SGIP-incentivized energy capacity, whether it is during a single or multiple discharges.
Residential battery backup-only issue

Residential Affidavit: Fulfill either of the two following conditions --

**Option A**: the Host Customer is on a **TOU tariff**, dynamic tariff (e.g. PG&E’s SmartRate or SDG&E’s Reduce Your Use), or agrees to integrate load through the California Independent System Operator’s Proxy Demand Response, or equivalent tariff, prior to receiving the SGIP incentive and for five (5) years thereafter. Note that in the event that the Host Customer changes to a non-TOU tariff or is no longer enrolled in a demand reduction program, the energy storage System Owner is required to notify the Program Administrator within 30 days of change, and will be subject to Option B for the required five year period.

**Option B**: the Host Customer and/or System Owner agrees, for a minimum period of **five (5) years**, to discharge the energy storage system in an amount equivalent to **52 complete cycles** per year of the incentivized energy capacity, which is defined as two hours of discharge at the SGIP incentivized power capacity rating, with discharges occurring **during peak hours** or peak day events (such as those called by PG&E’s SmartRate program or SDG&E’s Reduce Your Use), of the applicable IOU service territory.