



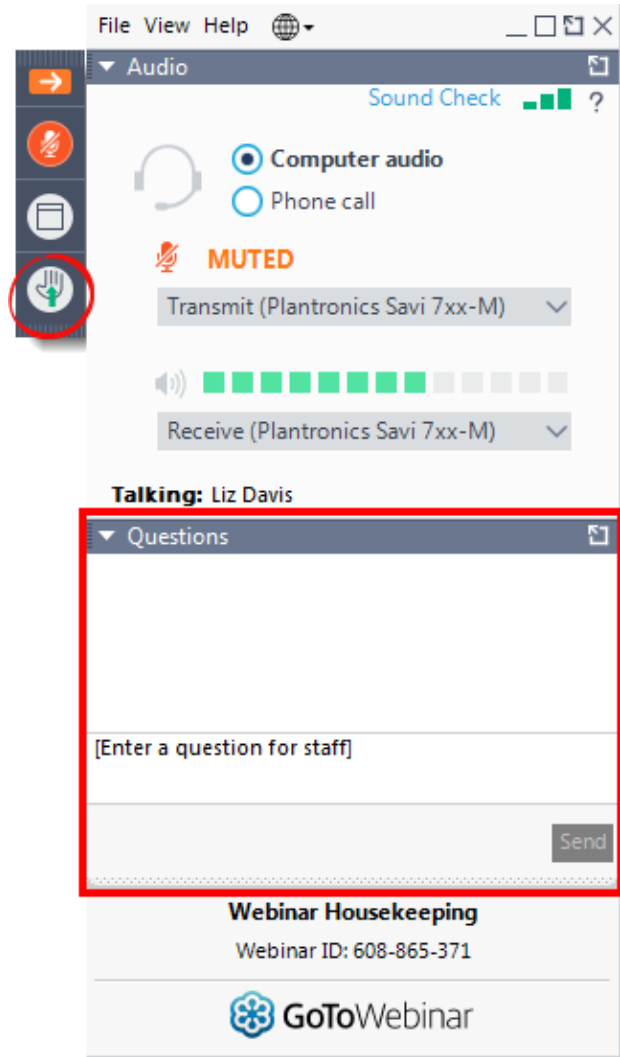
# Update on the California SGIP Energy Storage Incentive

**May 9, 2018**

Presenter: Andrea Woodall, Center for Sustainable Energy

Moderator: Todd Olinsky-Paul, Clean Energy Group/ Clean Energy States Alliance

# Housekeeping




Use the orange arrow to open and close your control panel.

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## Questions:

- Type in questions and comments via the “Questions” panel.
- Raise your hand to be unmuted for verbal questions. 

This webinar is being recorded. Slides and a webinar recording will be sent to you via email within 48 hours.

Celebrating 15 Years of State Leadership



**Clean Energy**  
States Alliance



[www.cesa.org](http://www.cesa.org)

# Energy Storage Technology Advancement Partnership (ESTAP) ([bit.ly/ESTAP](http://bit.ly/ESTAP))

ESTAP is supported by the U.S. Department of Energy Office of Electricity and Sandia National Laboratories, and is managed by CESA.

## ESTAP Key Activities:

### 1. Disseminate information to stakeholders

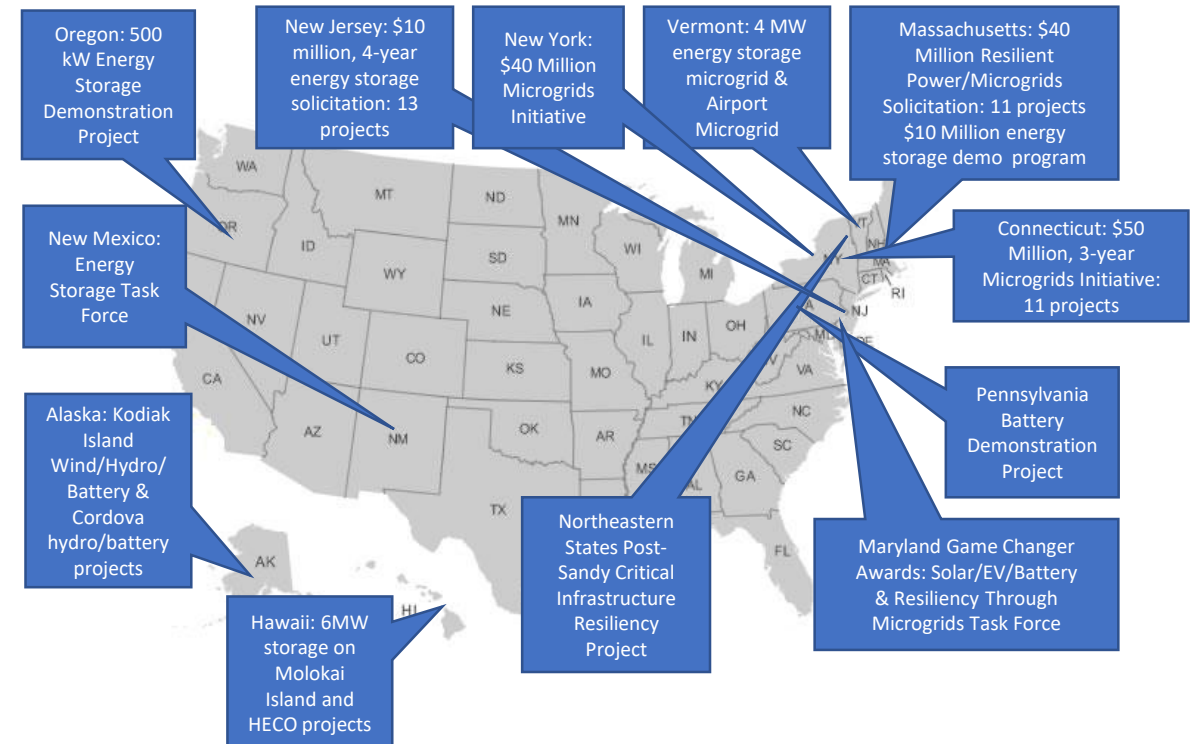
- ESTAP listserv >5,000 members
- Webinars, conferences, information updates, surveys.

### 2. Facilitate public/private partnerships to support joint federal/state energy storage demonstration project deployment

### 3. Support state energy storage efforts with technical, policy and program assistance

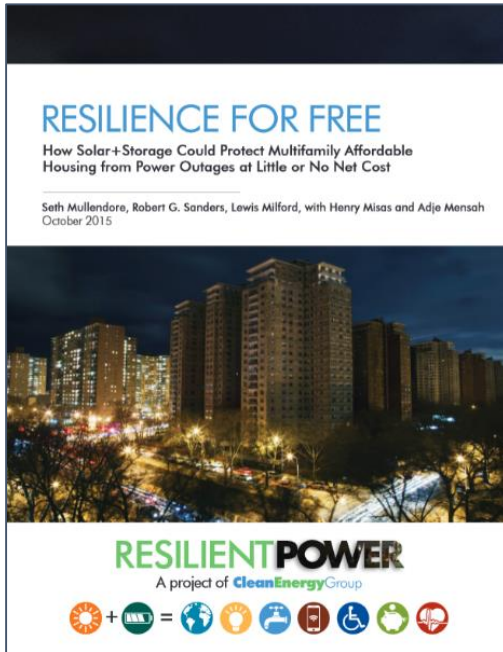


## ESTAP Project Locations:



# RESILIENT POWER

A project of **CleanEnergy**Group



[www.cleangroup.org](http://www.cleangroup.org)

[www.resilient-power.org](http://www.resilient-power.org)



# RESILIENTPOWER

A project of **CleanEnergyGroup**

[www.resilient-power.org](http://www.resilient-power.org)

## Supporting 50+ Projects

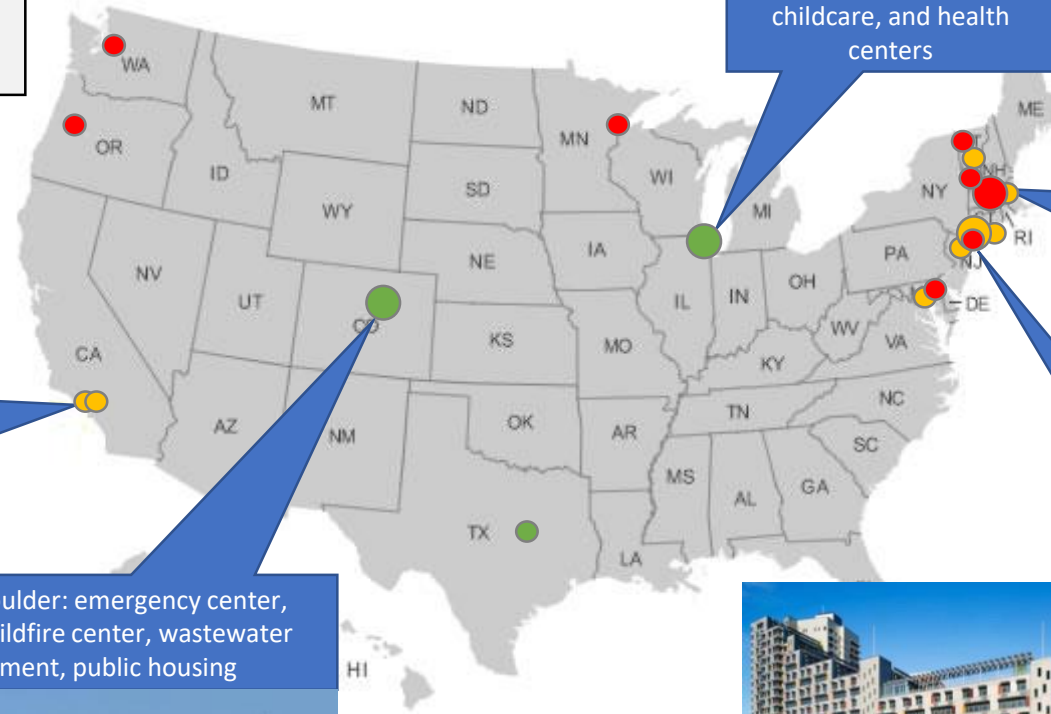
- Affordable Housing
- Critical Facilities
- Both



California Multifamily Affordable Housing: AB 693 150,000 units



City of Boulder: emergency center, shelter, wildfire center, wastewater treatment, public housing



Chicago Housing Authority: 1,900 public housing units; senior, childcare, and health centers



Massachusetts Community Clean Energy Resiliency Initiative: 11 communities, 28 projects



New York/New Jersey: 9 multifamily affordable housing projects, community shelter

# Update on the California SGIP Energy Storage Incentive

- **Andrea Woodall**, Project Manager, Self-Generation Incentive Program, Center for Sustainable Energy (Presenter)
- **Todd Olinsky-Paul**, Project Director, Clean Energy States Alliance (Moderator)



# Self-Generation Incentive Program (SGIP)

May 9, 2018

Andrea Woodall, Project Manager, Center for Sustainable Energy



Our Mission:

Accelerate the transition  
to a sustainable world  
powered by clean energy

# We Are Experts In...



Renewable  
Energy

Building  
Performance

Energy Efficiency

Clean  
Transportation

# Our Services...



Program  
Management



Technical  
Assistance



Workforce  
Training

# Energy Storage Growth in California

# Key Drivers of Growth in Energy Storage



## State

- Greenhouse gas emissions reductions
- Renewable integration



## Utilities & Grid Operator

- Defer transmission and distribution upgrades
- Avoid new fossil fuel “peaker plants”



## Customer

- Reduce electricity costs
- Electric service reliability

# Primary Customer-Sited Use Cases and Benefits

- Load shifting/peak shaving
  - Reduce monthly demand charges by offsetting peak demand
- Provides reliable power to critical systems
  - Includes power quality and backup power
- Facilitates renewable energy integration
  - Time shifting generation
  - Firming variable generation

# Developing Market: Residential (Solar+Storage)

- Unlike commercial entities, residential customers do not have demand charges. However new solar customers are now on time-of-use pricing (TOU).
- Existing Markets:
  - Backup Power
  - Solar self-consumption/TOU load-shifting
- Future Markets:
  - Aggregated Demand Response
- SGIP now has a carve-out for residential sector



# **The Role of Incentives: Self-Generation Incentive Program (SGIP)**



# Self-Generation Incentive Program (SGIP)

- SGIP provides cash incentives for the installation of clean and efficient distributed generation and storage technologies installed on the customer's side of the utility meter.
- SGIP has incentivized distributed generation technologies since 2001, and energy storage since 2009.
- Utility ratepayer-funded and overseen by the CPUC.
- Today, SGIP is primarily an energy storage incentive program.

# SGIP Goals



**GHG**  
r e d u c t i o n



**GRID**  
s u p p o r t

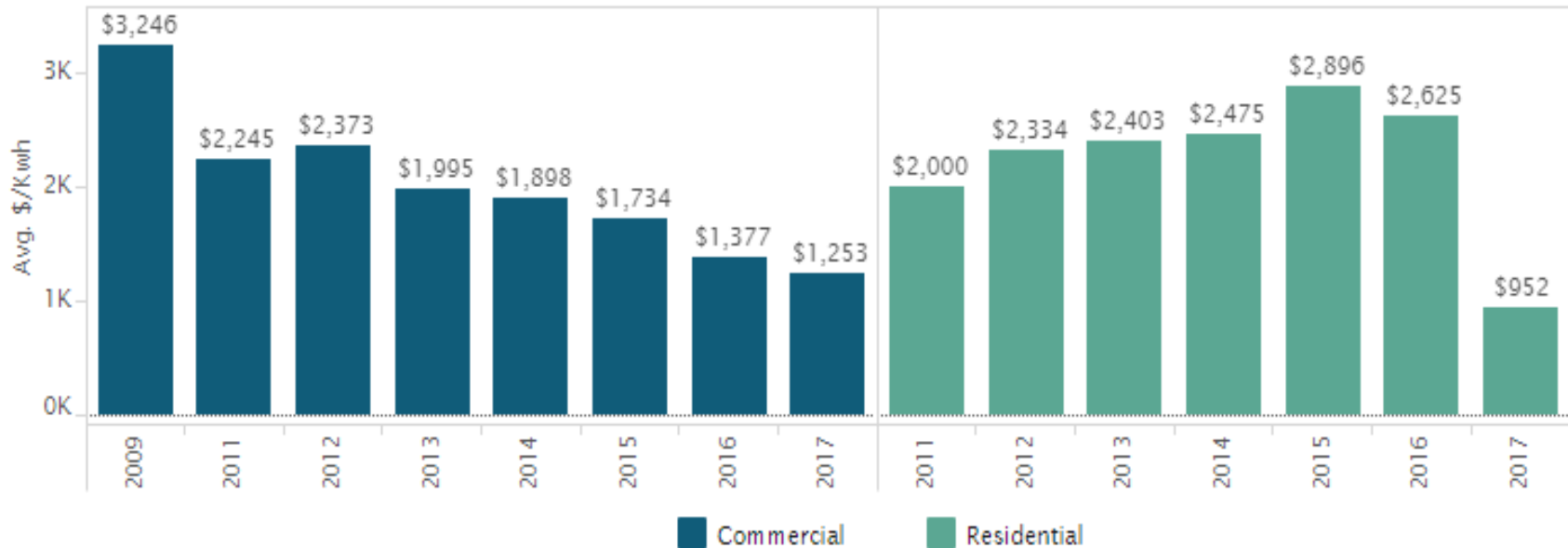


**MARKET**  
t r a n s f o r m a t i o n



# Energy Storage Costs are Declining

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

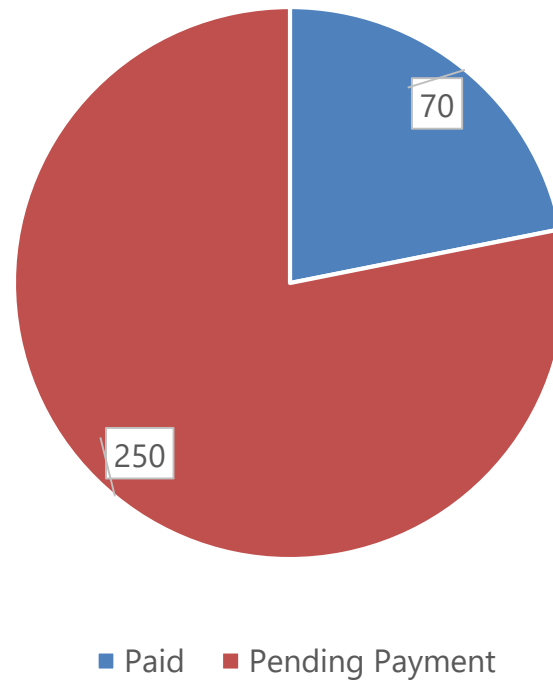


<http://energycenter.org/sgip/statistics>

- The SGIP incentive will offset roughly 50% of project costs for applications that have been submitted this year.
- Current incentive rates and available funding can be found at [https://www.selfgenca.com/home/program\\_metrics/](https://www.selfgenca.com/home/program_metrics/)

# SGIP Rated Capacity

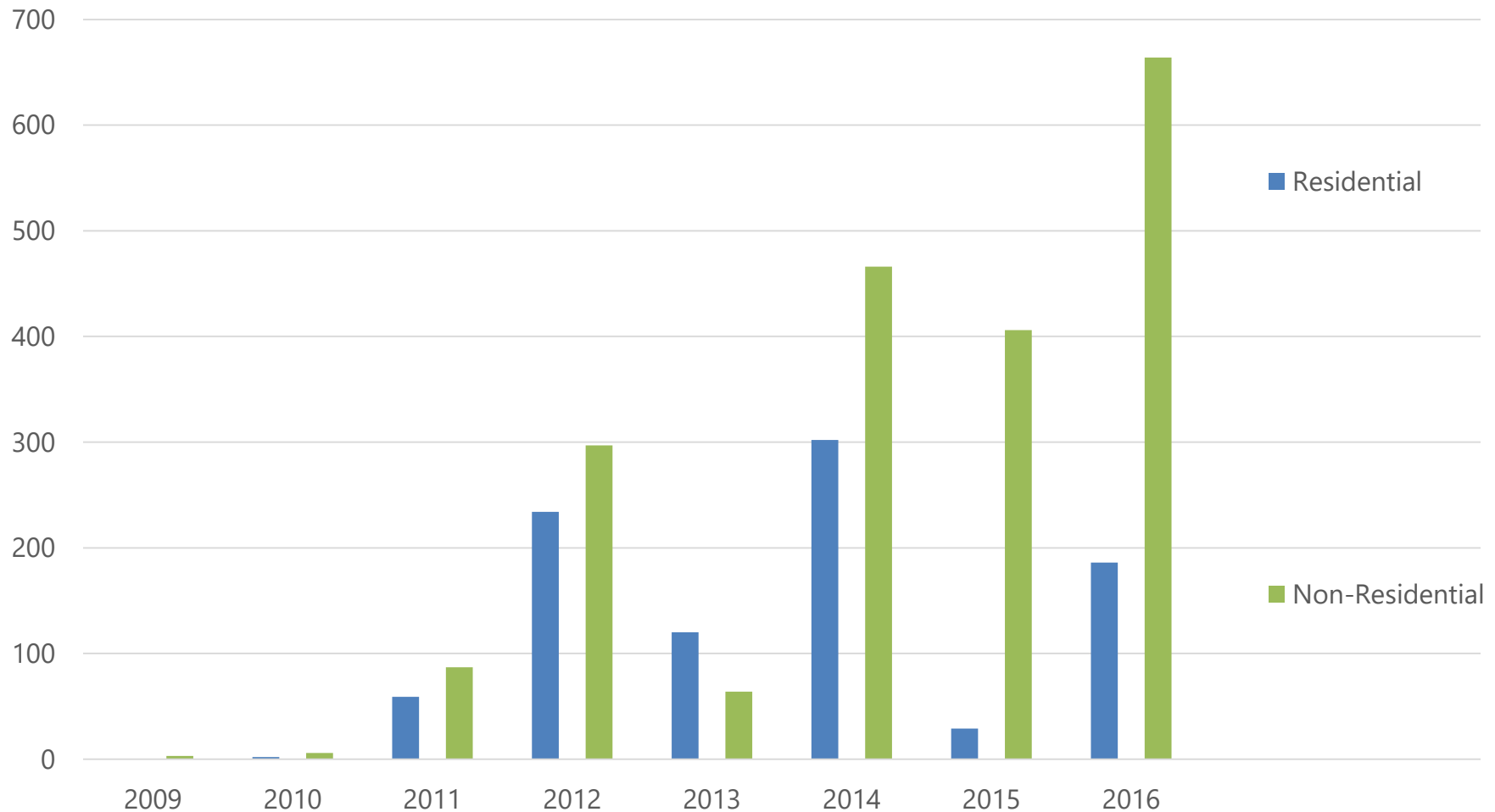
Energy Storage Rated Capacity (MW) Reserved and Paid to Date\*



\*Source SGIP Public Report 5/7/2018

# Energy Storage Applications Received

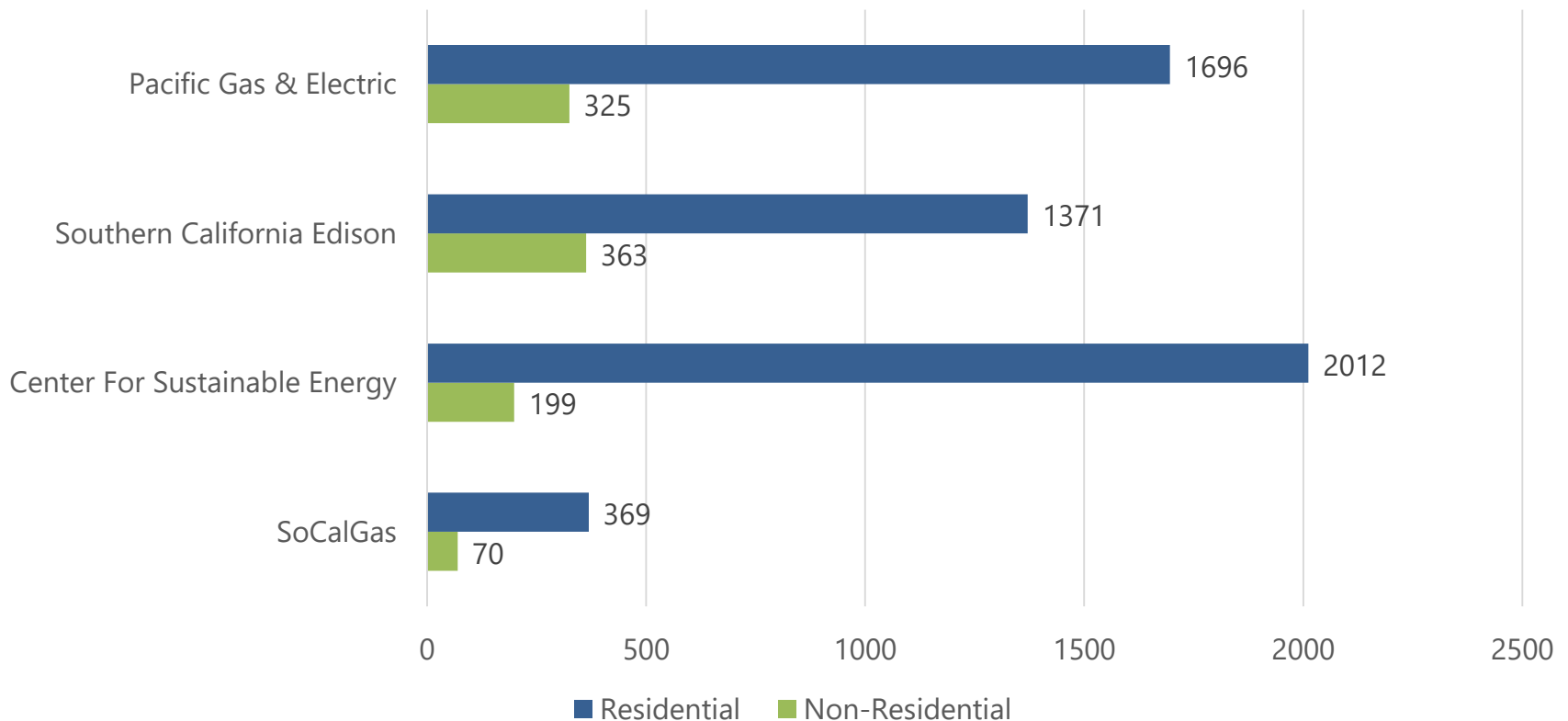
Number of Applications Each Year Statewide: 2009-2016



\*Source SGIP Public Report 3/21/2018

# Energy Storage Applications Received

Non-Residential and Residential Applications Received by Territory: 2017-2018



\*Source SGIP Public Report 3/21/2018

# SGIP Incentive Rates per Step

	Step 1	Step 2	Step 3	Step 4	Step 5
<b>Energy Storage General Budget</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>
Large Storage (>10 kW)	\$0.50	\$0.40	\$0.35	\$0.30	\$0.25
Large Storage Claiming ITC	\$0.36	\$0.29	\$0.25	\$0.22	\$0.18
Residential Storage (<=10 kW)	\$0.50	\$0.40	\$0.35	\$0.30	\$0.25

# SGIP Incentive Rates per Step

	Step 1	Step 2	Step 3	Step 4	Step 5
<b>Energy Storage Equity Budget</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>	<b>\$/Wh</b>
Non-residential Equity	N/A	N/A	\$0.35	\$0.30	\$0.25
Non-residential Equity Claiming ITC	N/A	N/A	\$0.25	\$0.22	\$0.18
Residential Equity <sup>18</sup>	N/A	N/A	\$0.35	\$0.30	\$0.25
Residential Equity Claiming ITC (>10 kW) <sup>19</sup>	N/A	N/A	\$0.25	\$0.22	\$0.18



# SGIP Application Process

- 1. Reservation Request Package (RRF) – All Projects**
  - Submit RRF paperwork to receive a conditional reservation
- 2. Proof of Project Milestone (PPM) – 3-step Only**
  - Submit contract and supporting documentation within 90 or 240 days (commercial or government/non-profit) of conditional reservation
- 3. Incentive Claim Package (ICF)**
  - Submit final paperwork to claim your rebate after system has been installed and interconnected. Project may be subject to inspection before payment.

# SGIP Application Process

## 4. Inspection

- Discharge data test to verify reserved energy capacity for payment
  - 1 week of operational data
  - Continuous Discharge Data Test Package (Field or Factory)
- Schedule site visit with an SGIP inspector to complete the project

# SGIP Equity Budget Update

# SGIP Equity Budget

- **CPUC Decision 17-10-004** establishes that 25% of the funds collected for energy storage shall be reserved for the SGIP Equity Budget and awarded to projects that meet specific criteria.
- If no reservations are confirmed in either the residential or non-residential Equity Budgets during any rolling three month period in a given territory, while 5 or more general market energy storage projects secure confirmed reservations in the same time period, the incentive rate will increase by \$0.05/Wh. In no event shall the incentive exceed \$0.50/Wh.

# SGIP Equity Budget

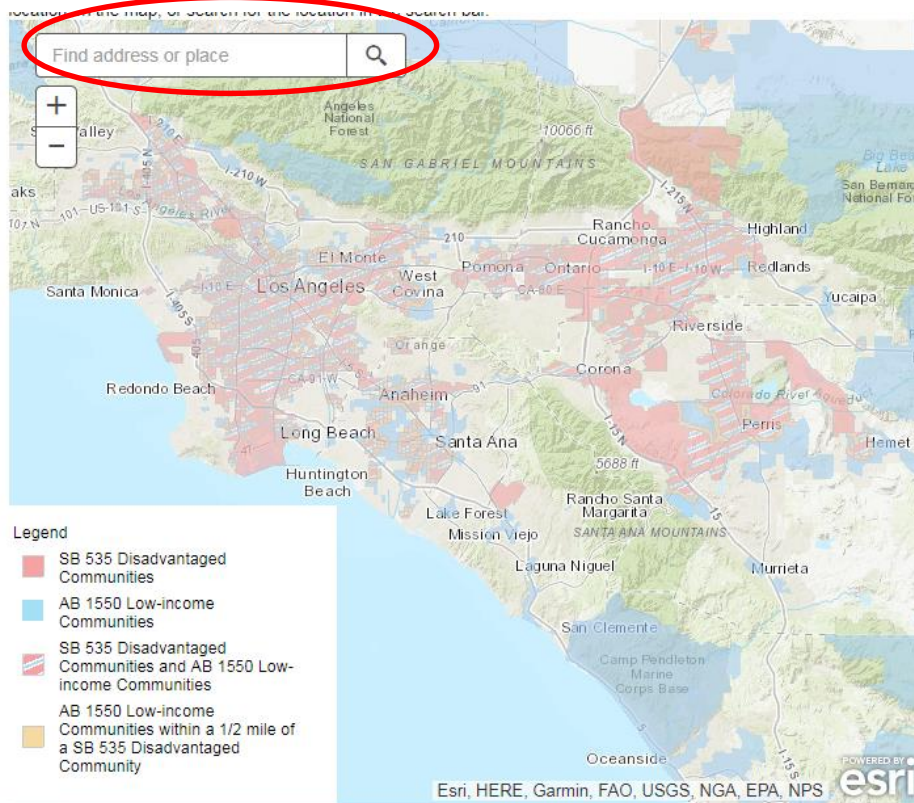
- **In 2017 the CPUC established that 25% of SGIP energy storage funds shall be reserved for the SGIP Equity Budget and awarded to projects that meet specific criteria.**
- Objectives:
  - 1) Bring positive economic and workforce development opportunities to the state's most disadvantaged communities;
  - 2) Help reduce or avoid the need to operate conventional gas facilities in these communities, which are exposed to some of the poorest air quality in the state; and
  - 3) Ensure that low-income customers, and non-profit or public sector organizations in disadvantaged or low-income communities have access to energy storage resources incentivized through SGIP.

# SGIP Equity Budget Eligibility

- **Non-Residential Eligibility Criteria:**
  - Non-residential: The project site must be located in a disadvantaged or low-income community **and** meet one of the following customer criteria:
    - State or local government agency
    - Educational institution
    - Non-profit organization
    - Small Business, defined as a business or manufacturer, including affiliates, with average annual gross receipts of \$15 million or less, over the last three tax years.

# SGIP Equity Budget Eligibility

- To check for eligibility based on location:  
<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm>
- Type in the project site address and the map will display disadvantaged community, low-income community, or both.



**AB 1550 Information**

Census Tract: 6073004100  
**Disadvantaged Community: Yes**  
**Low-income Community: Yes**  
**Low-income Buffer Region: No**

[Zoom to](#)

# SGIP Equity Budget Eligibility

- **Residential Eligibility Criteria**

- **Multi-Family:** A multi-family residential building of at least five rental housing units that is operated to provide deed-restricted low-income residential housing, and is either located in a disadvantaged community, or is a building where at least 80% of the households have incomes at or below 60% of the area median income.
- **Single-Family:** Single-family low-income residences that are sold at an affordable housing cost to a lower income household that is subject to a resale restriction or equity sharing agreement.



# SGIP Lessons Learned

# Program Goals

*Clear, obtainable goals are central to a successful program.*

- Base program goals on needs.
- Goals must be well defined and specific.
- Ensure harmony between program goals and operational requirements.
- Do not create program requirements that conflict with customer tariffs.

# Program Flexibility

*When designing program rules, allow for flexibility.*

- Energy storage technologies are rapidly evolving.
  - Price decline
  - New markets and use cases
  - Technological advancements
- Needs of the grid are changing and evolving over time.
  - Solar overgeneration
  - Electric vehicles

# Program Continuity

*Long term effectiveness relies on a stable, predictable program that meets growing demand with minimal disruptions.*

- Market transformation approach
- Program “starts and stops” are detrimental to emerging market development.
- A clear signal of sustained support will enable the market and build consumer confidence.

# Major Takeaways

- Clear, obtainable goals are central to a successful program.
- Not all energy storage systems are created equal.
- Incentive design should depend on program goals.
- When designing program rules, allow for flexibility and ensure continuity.

**Andrea Woodall**

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Thank you!



Center for  
Sustainable Energy®

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[facebook.com/cleanenergystates](https://facebook.com/cleanenergystates)  
@CESA\_news on Twitter



# Jump Start

How Activists and Foundations Can  
Champion Battery Storage to Recharge  
the Clean Energy Transition

Published April 2018

Link: [bit.ly/CEG-JumpStart](https://bit.ly/CEG-JumpStart)

