## PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

#### ENERGY DIVISION

RESOLUTION E-5360 December 19, 2024

# <u>R E S O L U T I O N</u>

Resolution E-5360. Order to Pacific Gas and Electric, Center for Sustainable Energy®, Southern California Edison Company, and Southern California Gas Company to Change Storage System Sizing in the Self-Generation Incentive Program

#### PROPOSED OUTCOME:

• Changes the Self-Generation Incentive Program's storage system sizing rules and procedures to encourage right-sized systems and spread funds over more households before the Residential Solar and Storage Equity budget opens.

#### SAFETY CONSIDERATIONS:

There are no safety considerations associated with this resolution.

#### ESTIMATED COST:

There are no costs associated with this resolution.

By the California Public Utilities Commission's own motion.

#### **SUMMARY**

The Commission issues this Resolution in response to Decision 24-03-071<sup>1</sup> and the forthcoming opening of the new Residential Solar and Storage Equity (RSSE) budget in the Self-Generation Incentive Program (SGIP).

In sum, this Resolution:

<sup>&</sup>lt;sup>1</sup> D.24-03-071, <u>https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M527/K963/527963349.PDF</u>

- Replaces the 10 kilowatt (kW) load justification threshold with a 15 kilowatt-hour (kWh) load justification threshold for single family residential storage projects;
- Replaces the 5 kW per tenant unit load justification threshold with a 12.5 kWh per tenant unit load justification threshold for multifamily residential projects;
- Changes the residential storage system sizing methodology for systems above 15 kWh from sizing to peak kW demand in the past 12 months to:
  - Sizing storage paired with solar generation to the average daily excess solar generation in a summer calendar month; or
  - Sizing a standalone storage system to the average daily energy consumption during the 4-9pm peak demand window during a summer calendar month; and
- Changes the resiliency modular sizing policy in Equity Resiliency Budget from kW to kWh and applies to select RSSE projects meeting resiliency criteria;
- Institutes a 30 kWh incentive cap for all single family household projects in all residential SGIP budgets.
- Changes the threshold between Small Residential Storage and Large-Scale Storage budgets from 10 kW to 30 kWh;
- Institutes a maximum 60-day pause period in affected SGIP budgets to implement the changes for waitlisted and future SGIP projects.

Table 1. Impacts of Resolution on 3G11 buuget Categories							
	Current Practice in SGIP		Resolution: Moving Forward in SGIP				
				1	1		
SGIP	10 kW Load	Size	15 kWh	Size residential	30 kWh	Other	
Budget	Justification	storage	(single	storage to average	Incentive	Changes	
Category	Threshold	to	family) or	daily excess solar	Cap for		
		annual	12.5 kWh per	generation (if	single		
		peak	tenant unit	or average daily	family		
		demand	(multifamily)	energy	projects		
		(kW)	Load	consumption from			
			Justification	4-9 pm (kWh) (if			
			Threshold	standalone			
				storage)			
Residential	Yes	Yes	Yes	Yes	Yes	Added	
Solar and						Resiliency	
Storage						Module	
Equity						Oversizing	
Non-	Yes	Yes	No	No	No		
Residential							

Table 1. Impacts of Resolution on SGIP Budget Categories

Storage Equity						
Equity Resiliency	Yes	Yes	Yes	Yes	Yes	Resiliency Module Oversizing in kWh
Small Residential Storage	Yes	Yes	Yes	Yes	Yes	Residential projects under and at 30 kWh
Large- Scale Storage	Yes	Yes	Yes, if residential. No change for commercial.	Yes, if residential. No change for commercial.	No	Residential projects over 30 kWh
San Joaquin Valley Residential	Yes	Yes	Yes	Yes	Yes	
San Joaquin Valley Non- Residential	Yes	Yes	No	No	No	
Generation	No	No	No	No	No	

These changes will allow incentivized projects to be appropriately sized for customer bill reduction, peak demand reduction, and serve critical customer resiliency needs while spreading the SGIP funds to more projects.

# BACKGROUND

The SGIP currently requires no load justification for single family residential and nonresidential projects under 10 kW and multifamily projects under 5 kW per tenant unit. For projects above 10 kW, the storage size must be justified by sizing the storage system to the peak demand, in kW, of the host customer over the past 12 months. Multifamily peak demand can be based on both tenant load and common area load. Currently, there is no cap on the size of storage projects. For projects relying on future load from electrification measures in the load justification, the load must materialize by the time of submitting the Incentive Claim Form (ICF). If the host customer installs additional storage capacity above the load justified size, or if the future load growth does not materialize by ICF, the capacity above the justified size does not receive an SGIP incentive.<sup>2</sup>

Decision (D.) 24-03-071 Ordering Paragraph 31<sup>3</sup> authorized the SGIP program administrators (PAs; Pacific Gas and Electric Company, Center for Sustainable Energy®, Southern California Edison Company, and Southern California Gas Company) to submit a joint Tier 2 Advice Letter to update the storage system sizing requirements to kWh to align the storage sizing methodology with the storage incentive structure which is measured in dollars per kWh:

"The [new] system sizing cap should continue to reflect the Commission intention to incentivize energy storage capacity at a reasonable level based on onsite customer energy usage with reasonable anticipated growth due to electrification measures. The system sizing cap should be designed to avoid incentivizing oversized systems. PAs may propose as a part of their system sizing rules, an overall incentive cap for projects."<sup>4</sup>

On August 5, 2024, the SGIP PAs filed SCE AL 5347-E to open the Residential Storage and Equity budget (RSSE) with \$252 million in incentives. Among other issues, the AL addressed a load justification threshold for incentivized solar systems in the RSSE budget. This AL was timely protested and is being addressed in a forthcoming draft resolution.

On September 20, 2024, the SGIP PAs held the Quarter 3 SGIP workshop where the SGIP evaluator presented possible storage sizing methodologies based on historic SGIP data and stakeholders provided feedback.<sup>5</sup> The options presented included sizing storage to 1) absorb all solar generation; 2) absorb solar generation equal to consumption during solar generating hours; 3) absorb solar generation net of consumption during solar generating hours; 4) enable solar self-consumption and minimize import of electricity and 5) meet energy consumption during 4-9 pm.

To date the SGIP PAs have not submitted a joint Advice Letter proposing an updated storage sizing policy and methodology. The PAs were authorized, but not ordered to

<sup>&</sup>lt;sup>2</sup> SGIP Handbook 2024 at 52.

<sup>&</sup>lt;sup>3</sup> D.24-03-071, <u>https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M527/K963/527963349.PDF.</u>

<sup>&</sup>lt;sup>4</sup> *Id*. at 84.

<sup>&</sup>lt;sup>5</sup> SGIP Quarter 2 Workshop Slides, <u>https://selfgenca.com/documents/workshops/2024/q3</u>

file an Advice Letter on this topic. However, given the passage of time, the immanency of the opening of the new SGIP RSSE budget, and the addition of incentives for solar to the program and interaction of solar and storage sizing and incentive issues, the Commission issues this resolution to update storage sizing rules and procedures for load justification.

### DISCUSSION

The Commission has reviewed the SGIP measurement and evaluation data collected for SGIP Impact Evaluation reports to determine that the residential storage system sizing methodology and load justification threshold must be reformed before the new RSSE budget opens. The primary reasons for this conclusion are:

- 1) Changing from measuring storage sizing based on kW to kWh better aligns with how SGIP incentives are calculated.
- 2) The current storage size load justification threshold of 10 kW (~25 kWh) appears to have resulted in oversized battery projects historically.
- 3) 15 kWh is a reasonable load justification threshold where storage systems at or under this size would require no load justification.
- 4) An incentive cap of 30 kWh of storage capacity in single family projects in residential budget categories in combination with a 15 kWh load justification threshold best serves the goals of incentivizing energy storage capacity at a reasonable level based on onsite customer energy usage with reasonable anticipated growth due to electrification measures while avoiding oversizing of storage systems.
- 5) This policy brings appropriate fiscal prudency to the sizing of incentivized storage and enables the program to help more customers receive incentives.

We next discuss each topic in more depth.

## 1. Load Justification Threshold

This Resolution replaces the current 10 kW load justification threshold with a 15 kWh load justification threshold for all single family projects in residential SGIP storage budgets. Storage systems up to 15 kWh would not require load justification and storage systems over 15 kWh would require load justification. SGIP data shows that 46 percent of single family residential SGIP projects have installed a storage system under 15 kWh since 2020.<sup>6</sup> A 10 kW battery with a discharge duration of 2.5 hours<sup>7</sup> equates to a 25

<sup>&</sup>lt;sup>6</sup> Data accessed on 10/14/2024 from SGIP Data hosted on CaliforniaDGStats.

<sup>&</sup>lt;sup>7</sup> Average discharge duration from residential storage systems in the SGIP from 2020-2022. Data accessed on 10/14/2024 from SGIP Data hosted on <u>CaliforniaDGStats</u>.

kWh capacity. Figure 1 demonstrates that many residential projects in the SGIP install right to the 10 kW load justification limit where no load justification is required (the blue bar at (26-28]).<sup>8</sup>



Figure 1. kWh capacity of residential storage systems installed in the SGIP since 2020.9

The 2024 *Tracking the Sun* report found that 70 percent of paired solar generation and storage systems installed in the US have a storage system capacity of under 13.2 kWh.<sup>10</sup> This storage system size aligns with the blue bar in Figure 1 at (12, 14] and 46 percent of residential SGIP systems fall under this threshold. Additionally, a separate study has found that a 10 kWh storage system paired with solar generation can provide sufficient critical resiliency for many households in California.<sup>11</sup> For households with needs above 15 kWh the developer and host customer can use the updated storage sizing methodology and load justification to gain incentives for a larger storage system.

To encourage appropriate sizing of storage systems, the Commission finds this evidence reasonable to set the load justification threshold at 15 kWh to allow for system modularity that does not fit within the 13.2 kWh size found by *Tracking the Sun* and within SGIP. For example, in the current storage market, modular storage is offered in 5, 9.6, 13.2, 13.6, and 14.4 kWh module sizes by the major storage manufacturers

<sup>11</sup> Gorman, W. et al. (2023). <u>County-level assessment of behind-the-meter solar and storage to mitigate long</u> <u>duration power interruptions for residential customers</u>. Applied Energy.

<sup>&</sup>lt;sup>8</sup> Two Tesla Powerwall 2 storage system is 26.4 kWh.

<sup>&</sup>lt;sup>9</sup> Data accessed on 10/14/2024 from SGIP Data hosted on CaliforniaDGStats.

<sup>&</sup>lt;sup>10</sup> Barbose, G., Darghouth, N., O'Shaughnessy, E., and Forrester, S. (2024). *Tracking the Sun*. LBNL.

(89 percent of SGIP residential projects since 2020)<sup>12</sup> in the SGIP. We find that 15 kWh would accommodate most storage modular configurations within the 15 kWh load justification threshold. We find that customers who require batteries larger than 15 kWh can follow the load justification process to receive incentives for a larger storage system. A load justification threshold set higher than average customer needs encourages over-sized storage systems, particularly for a program that covers most if not all of the equipment costs. This approach will help streamline applications for projects at or below the 15 kWh size.

This timely change is needed before the opening of the RSSE, which will offer to pay for virtually the full cost of a storage and solar generation system. This change is also needed for existing residential storage budgets for the same reasons. This proposal creates reasonable checks and balances for fiscal prudency on storage sizing and prevents unnecessary oversizing of storage systems. Many host customer needs can be accommodated by the load justification threshold of 15 kWh.

For multifamily, the Commission finds it reasonable to use a 12.5 kWh per tenant unit load justification threshold to replace the current 5 kW per tenant unit load justification threshold. This threshold is found by multiplying the current 5 kW threshold by the average 2.5 hour discharge duration<sup>13</sup> found in residential storage systems in the SGIP. Other than changing from kW to kWh there is no change to the storage load justification threshold for multifamily storage projects.

## 2. Storage Sizing Methodology

This Resolution replaces the current storage system sizing methodology for all residential SGIP budgets from sizing to peak kW demand in the past 12 months to:

- a. Sizing storage paired with solar generation to the average daily excess solar generation in a summer calendar month; or
- b. Sizing a standalone system to the average daily energy consumption during 4-9 pm during a summer calendar month.

A summer calendar month is defined here as a month between June and October following the peak demand events reported by the CAISO.<sup>14</sup> A developer should

<sup>&</sup>lt;sup>12</sup> Data Accessed on 10/14/2024 from SGIP Data hosted on <u>CaliforniaDGStats</u>.

<sup>&</sup>lt;sup>13</sup> Average discharge duration from residential storage systems in the SGIP from 2020-2022. Data accessed on 10/14/2024 from SGIP Data hosted on <u>CaliforniaDGStats</u>.

<sup>&</sup>lt;sup>14</sup> <u>CAISO</u> Peak Load History 1998 through 2023 and CAISO Peaks for October 2024.

submit data for a full month, i.e. data from June 1 to June 30, not from June 15 to July 15. From the 2021-2022 SGIP Impact Evaluation, average daily residential storage utilization was 45 percent of kWh capacity.<sup>15</sup> The Commission finds that the current storage system sizing methodology is oversizing storage systems and must be changed. As one of the SGIP goals is to reduce greenhouse gas emissions<sup>16</sup> and it has been shown that the best way to reduce greenhouse gas emissions is to charge the storage system from paired solar generation,<sup>17</sup> the Commission finds it reasonable that storage systems be sized to absorb the average daily excess solar generation during a summer month in the last year. Additionally, Figure 2 shows that the actual daily discharge would be served by the kWh capacity justified by sizing storage to the average daily excess solar generation (option 3). The sizing of the solar generation to onsite load is being addressed separately in a forthcoming draft resolution.



Figure 2. Summary of the kWh capacity storage resulting from the proposed system sizing methodologies from the SGIP evaluator that were presented at the Quarter 3 SGIP Workshop.<sup>18</sup> The kWh bins represent the size of actual SGIP projects and what the storage system would have been sized to based on the various sizing methodologies. Option 2 is storage sized to absorb solar generation equal to consumption during solar generating hours, option 3 is storage sized to absorb excess solar generation during solar generating hours, option 4 is storage sized to enable solar self-consumption, and option 5 is storage sized to meet energy consumption during 4-9 pm.

For standalone storage systems, there is no solar generation occurring so a different residential storage sizing methodology is needed. The SGIP evaluator presented at the Quarter 3 SGIP workshop that sizing the storage system to meet on-peak energy consumption results in a similarly sized storage system as sizing storage to excess solar generation (comparing option 5 to option 3 kWh capacity in Figure 2). As another goal

<sup>&</sup>lt;sup>15</sup> 2021-2022 SGIP Impact Evaluation at 196.

<sup>&</sup>lt;sup>16</sup> Pub. Util. Code Section 379.6(a)(1).

<sup>&</sup>lt;sup>17</sup> 2021-2022 SGIP Impact Evaluation at 4.

<sup>&</sup>lt;sup>18</sup> SGIP Quarter 3 Workshop Slides, <u>https://selfgenca.com/documents/workshops/2024/q3</u>

of the SGIP is to reduce customer demand during the peak grid hours of 4-9 pm,<sup>19</sup> the Commission finds it reasonable to size standalone storage systems to the daily average energy consumption during the hours of 4-9 pm in a summer month.

All residential storage systems above 15 kWh for single family or above 12.5 kWh per tenant unit for multifamily would be required to submit a load justification to their Program Administrator following the residential storage system sizing methodology. Multifamily must include load from both the tenant units and common area if it will be served by the storage system. The project will only receive SGIP incentives up to the kWh size determined in the load justification. For example, if a 26.4 kWh system is installed and the load justification is at 17 kWh, the maximum incentive in the SGIP is the incentive rate for that budget multiplied by 17 kWh. Developers need to help their customers by designing appropriately sized projects.

## **Illustrative Example of Residential Storage Sizing Methodologies**

## Storage Paired with Solar Generation

Storage Size (kWh) =(Estimated solar generation (kWh) over a summer calendar month – energy consumption over the same calendar month (kWh)) days of the calendar month

The customer would provide the developer with the monthly kWh energy use which can be found on a monthly energy bill or downloaded Green Button data. The developer would use the forthcoming Expected Performance Based Buydown (EPBB) calculator in the SGIP application to get the estimated monthly kWh solar generation based on the capacity and location of the customer's existing or proposed solar system.

## Standalone Storage

$$Storage Size (kWh) = \frac{Sum \ of \ energy \ consumption \ during \ 4 \ to \ 9 \ pm \ over \ a \ summer \ calendar \ (kWh)}{month} = \frac{Sum \ of \ energy \ consumption \ during \ 4 \ to \ 9 \ pm \ over \ a \ summer \ calendar \ (kWh)}{days \ of \ the \ calendar \ month}$$

The customer would provide the developer with the monthly kWh energy use which can be found on the downloaded Green Button data. The developer would determine the energy consumption from 4 to 9 pm.

<sup>&</sup>lt;sup>19</sup> Pub. Util. Code Section 379.6(a)(1).

In D.20-01-021 OP 30, "equity resiliency projects and projects using the resiliency incentive... receive incentives for a system that is sized above peak load if this is necessary due to modular component sizes to accommodate the customer's peak load, if the project applicant demonstrates proof of this need before the incentive is paid."<sup>20</sup> The Commission finds it reasonable to continue the policy of resiliency modular oversizing in the Equity Resiliency Budget in kWh. The Commission reiterates the importance of SGIP PAs reviewing submitted oversizing ad-hoc letters to ensure more than 50 percent of the capacity of the additional module is needed and documented in load justification. For example, if a host customer has a justified load of 17 kWh and the manufacturer's smallest module is 15 kWh, the 2 kWh of extra load is less than 50 percent of the 15 kWh module size; therefore, SGIP should not cover a 30 kWh system. SGIP should only incentivize the smallest kWh system that meets the justified load offered by the manufacturer. To evaluate the amount of modular oversizing occurring, the Commission finds it prudent for the SGIP database to collect and report on a project's justified load in addition to the installed capacity already collected for all SGIP projects.

As the RSSE is intended for low-income host customers who typically cannot afford the upfront cost of a storage system, the Commission finds it reasonable to extend the updated resiliency modular oversizing policy to RSSE customers who meet one or more of the existing resiliency criteria of the Equity Resiliency Budget:<sup>21</sup> they live in a high fire threat district, have experienced two or more Public Safety Shutoff (PSPS) events, have experienced one PSPS event and one power outage from an actual wildfire, or have experienced five or more Enhanced Powerline Safety Setting events.

## 3. Storage System Incentive Cap

This Resolution establishes a 30 kWh storage incentive cap for all single family projects in all SGIP residential budgets. As the SGIP equity budgets are designed to incentivize most, if not all, of the cost of a storage system, the Commission finds it reasonable to place a cap on the maximum storage system size that can receive incentives to ensure the funds are able to reach as many households as possible. For SGIP non-equity single family residential budgets, the Commission found that 93% of residential SGIP projects in the Small Residential Storage and Large-Scale Storage fall under 30 kWh.<sup>22</sup> Thus we

<sup>&</sup>lt;sup>20</sup> D.20-01-021 at 106.

<sup>&</sup>lt;sup>21</sup> SGIP Handbook 2024 at 25.

<sup>&</sup>lt;sup>22</sup> Projects completed since 2020. Data Accessed on 10/14/2024 from SGIP Data hosted on <u>CaliforniaDGStats.</u>

also extend the cap on SGIP incentives of 30 kWh to all non-equity residential single family projects.

Table 2 demonstrates that if all projects in the RSSE put in a 30 kWh storage system paired with a 7.5 kW solar system, 4,480 host customers could be reached. Nearly twice as many customers could benefit if host customers put in a 15 kWh storage system at the load justification threshold paired with a 5 kW solar system. If no cap is instituted, even fewer host customers could be reached as larger and more expensive storage systems would use large amounts of the RSSE budget.

	<b>_</b>		/	
Storage Size	Max RSSE	Paired Solar	Max RSSE	Total RSSE
(kWh)	Storage	Generation <sup>23</sup>	Solar	Projects (all
	Incentive	(kW)	Incentive	paired)
	(\$1.10/Wh)		(\$3.10/W)	
15	\$16,500	5	\$15,500	7,875
30	\$33,000	7.5	\$23,250	4,480

Table 2. Illustrative Example of Incentive Amount for RSSE Projects

From Figure 2, the actual daily discharge of the larger storage system sizes (the 40 kWh and 53 kWh bins) could have been amply covered by a 26 kWh storage system. A 30 kWh storage system paired with solar generation was found to provide sufficient critical resiliency that included heating and cooling loads.<sup>24</sup>

Therefore, the Commission finds a 30 kWh storage incentive cap for all single family household projects in the SGIP residential budgets to be reasonable. These projects will still be allowed to install storage capacity above this limit, but the SGIP will only provide incentives for up to 30 kWh of the capacity.

# 4. Threshold between Small Residential Storage and Large-Scale Storage

Currently, the threshold for a residential project to be considered Large-Scale Storage instead of Small Residential Storage is set at 10 kW. In the Small Residential Storage, 67.7 percent of projects fall below 15 kWh and 32.2 percent of projects fall between 15-30

<sup>&</sup>lt;sup>23</sup> Paired Solar Generation was put at the proposed 5 kW load justification threshold as a conservative estimate from SCE AL 5347-E and at 7.5 kW to represent 150 percent oversizing for future expected electrification as we would expect these to be the most commonly installed solar generation sizes.
<sup>24</sup> Gorman, W. et al. (2023). <u>County-level assessment of behind-the-meter solar and storage to mitigate long duration power interruptions for residential customers</u>. Applied Energy.

kWh.<sup>25</sup> The intent of this resolution is to spread SGIP funds to more projects. The Small Residential Storage has an incentive of \$0.15 per Wh while the Large-Scale Storage has an incentive of \$0.25-0.30 per Wh. The Large-Scale Storage budget also funds nonresidential projects. As of December 11, 2024, the Small Residential Storage budget has \$6,729,000 with CSE waitlisted and Large-Scale Storage has \$10,597,000 with CSE and SCE waitlisted.<sup>26</sup> Therefore, the Commission finds it reasonable to establish the new threshold between the budgets at 30 kWh. Combined with the 30 kWh incentive cap, this functionally means that the Large-Scale Storage budget will no longer fund singlefamily residential projects and will be reserved fully for multifamily residential and non-residential projects.

## 5. Implementation of the Resolution's Storage Sizing Updates

The Generation, Non-Residential Storage Equity, and San Joaquin Valley Non-Residential budgets are not affected by this resolution.

Projects on the SGIP waitlist have not been reviewed by SGIP PAs, have not reserved SGIP funds, and have no guarantee that the project will receive funds. Therefore, the Commission requires that projects submitted to an SGIP waitlist before the resolution is approved shall follow the resolutions' storage sizing process, with an exception to the 30 kWh incentive cap, if the project enters the reservation request form (RRF) stage. This process will ensure that long waitlisted budgets, like the Equity Resiliency Budget, will incentivize right-sized projects and reach as many households as possible. Following the resolution's rules, all waitlisted projects will remain eligible for SGIP, but the incentive amount available to the project might be changed. At a minimum, all projects that clear the waitlist can be incentivized for up to 15 kWh and may be incentivized for more based on the load justified by the storage sizing methodologies. Waitlisted residential projects submitted to the Large-Scale Storage budget under 30 kWh will be moved to the Small Residential budget and projects over 30 kWh will remain in the Large-Scale Storage budget. The Commission finds it reasonable to exempt currently waitlisted projects from the 30 kWh incentive cap provided they can document their load justification.

After the resolution is approved, any project submitted to SGIP must follow all of the resolution's sizing rules.

<sup>&</sup>lt;sup>25</sup> Projects completed since 2020. Data Accessed on 10/14/2024 from SGIP Data hosted on <u>CaliforniaDGStats.</u>

<sup>&</sup>lt;sup>26</sup> Accessed 12/11/2024, <u>https://www.selfgenca.com/home/program\_metrics/</u>.

To ensure a smooth transition from the existing residential storage sizing method and process and a smooth opening of the RSSE, the SGIP PAs should develop and publish on the SGIP selfgen website a simple spreadsheet and/or tool for load justification that developers will fill out and submit on behalf of host customer applicants when a storage system is above 15 kWh. This spreadsheet will help to standardize the process and reduce burden on both the applicant and the SGIP PAs verifying the load justification. Alternatively, the load justification process could be automated in the application. Clear instructions to developers should be included.

To familiarize developers with the new process, the SGIP PAs shall hold one or more educational webinars to walk developers through the new load justification process and sizing methodology. This webinar shall be recorded and posted online for any future applicants to reference.

## **COMMENTS**

Public Utilities Code section 311(g)(1) provides that this Resolution must be served on all parties and subject to at least 30 days public review. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. A 5-day reply to comments period was added. Accordingly, this draft resolution was mailed to parties for comments on November 14, 2024.

California Energy Storage Alliance (CESA), California Solar & Storage Association (CALSSA), CSE, PG&E, SCG, and Tesla filed timely comments on the draft resolution on December 4, 2024. CESA, CALSSA, CSE, SCG, and Tesla filed timely reply comments on December 9, 2024.

We now discuss comments for each issue followed by Commission resolution of each issue.

## 1. Load Justification Threshold

CALSSA, CESA, CSE and Tesla request that the load justification threshold be raised to 20-30 kWh to provide sufficient resiliency for at least 24 hours of whole-home backup

power.<sup>27</sup> CESA and Tesla find that the daily average household consumption ranges from 14 to 27 kWh per day across a range of sources.<sup>28</sup> SCG disagrees that the threshold should be raised as the comments do not consider the impacts to SGIP's other program goals and will result in oversized systems and less projects being completed.<sup>29</sup>

The Commission finds it unreasonable to define resiliency as providing whole-home backup as suggested by the comments. As SCG correctly points out, individual customer resiliency is one of many goals in the SGIP and AB 209 legislative directives.<sup>30</sup> We disagree with comments that seek a higher load justification threshold, because oversizing systems for peak summer whole-home backup will likely result in significant system underutilization for most of the year, as the system's capacity will far exceed the actual needs outside of those specific circumstances. This will result in fewer full discharges, reducing the effectiveness of the system and failing to maximize the environmental and consumer benefits of the SGIP program.<sup>31</sup>

If a household has the load to justify a larger storage system, the SGIP applicant can follow the new storage sizing methodology and load justification to receive a larger incentivized capacity. We also reject the request to set the load justification threshold at 30 kWh, as that would obviate the need for any kind of load justification at all.

Tesla argues for a higher load justification threshold by claiming that the average system cost per Wh for storage reported in DGStats for the Small Residential Storage budget is higher than the RSSE incentive until systems are above 25-30 kWh.<sup>32</sup> CALSSA claims that smaller systems may exceed the RSSE incentive while larger systems will not.<sup>33</sup>

The Commission rejects the arguments of Tesla and CALSSA, because they are requesting that the load justification threshold be based on project economics and not whether the customer has sufficient load to justify the larger system size. We also

<sup>&</sup>lt;sup>27</sup> CALSSA Comments at 1-2. CESA Comments at 2. CSE Reply Comments at 2. Tesla Comments at 2.
<sup>28</sup> CESA Comments at 3. Tesla Comments at 3. Analysis done on data from Uplight, *Disaggregated Load Profiles for Low Income Customers – Project Update;* The Nonprofit Institute at the University of San Diego, Residential Energy Use; California Energy Commission, 2019 California Residential Appliance Saturation Study (July 2021); and the Energy Information Administration Table CE2.1 2020.

<sup>&</sup>lt;sup>29</sup> SCG Reply Comments at 3.

<sup>&</sup>lt;sup>30</sup> 379.10(a).

<sup>&</sup>lt;sup>31</sup> SGIP 2021-2022 Impact Evaluation at 4: Residential storage projects first observed net GHG emissions decreases in SGIP starting in 2019 and have found greater GHG reductions each successive year.
<sup>32</sup> Tesla Reply Comments at 2.

<sup>&</sup>lt;sup>33</sup> CALSSA Reply Comments at 2.

dismiss Tesla and CALSSA's economic concern, because historic project cost data in the program shows that in the Small Residential Storage budget, 46 percent of projects under 15 kWh and 67 percent of projects between 15-30 kWh would be fully covered by the RSSE incentive.<sup>34</sup> The Commission further finds that increasing the load justification threshold to 20 or 30 kWh would reduce the total number of projects served by the RSSE as shown in Table 2.

CALSSA, CESA, and Tesla find that the draft resolution incorrectly interprets the cited Applied Energy study. CALSSA, CESA, CSE, and Tesla emphasized that the cited Applied Energy study on resiliency found that 10 kWh storage paired with solar was insufficient in most places to cover all critical loads when heating and cooling were considered.<sup>35</sup>

We note that the Applied Energy study found that a household in the Los Angeles area with a PV system sized to 100% onsite load and 10 kWh of storage could meet all critical loads, including heating and cooling, during a 3-day outage. As LADWP has \$32 million for SGIP incentives in the Los Angeles area, the Commission maintains that 15 kWh is a reasonable threshold to trigger load justification. The Finding of Fact 8 and relevant discussion have been modified to represent these findings.

CSE and PG&E argue that the lower load justification threshold will increase PA administrative burden and costs.<sup>36</sup> CSE and PG&E request that low-income projects be subject to a 30 kWh load justification threshold to remove the burden from the host customer and to prevent a host customer being left with an unexpected bill if the load to justify the storage system size does not materialize by incentive payment.<sup>37</sup>

The Commission clarifies that this resolution does not alter the existing SGIP practice on future load growth which has to be documented at the time of incentive payment request. The SGIP PAs and developers must make sure host customers are informed of all SGIP incentive requirements. The Commission finds that the stated intent of this resolution is to right-size systems in all residential budget categories and therefore rejects PG&E's proposal. In addition, requests for a 30 kWh load threshold would obviate the need for load justification.

<sup>&</sup>lt;sup>34</sup> Projects completed from 2020-2024. Data Accessed on 12/09/2024 from SGIP Data hosted on <u>CaliforniaDGStats.</u>

<sup>&</sup>lt;sup>35</sup> CALSSA Comments at 2. CESA Comments at 3. CSE Comments at 4. Tesla Comments at 3.

<sup>&</sup>lt;sup>36</sup> CSE Comments at 3. PG&E Comments at 4.

<sup>&</sup>lt;sup>37</sup> CSE Reply Comments at 3. PG&E Comments at 4.

SCG supports the 15 kWh threshold for residential projects. For ease of implementation and to limit confusion, SCG requests that non-residential projects continue to use the current 10 kWh load justification threshold as the sizing methodology for non-residential projects remains in kW.<sup>38</sup>

The Commission finds it reasonable to keep the non-residential storage systems on the current sizing system to avoid confusion. OP 1 and relevant sections of the resolution have been modified as such.

CSE requests that Finding of Fact 9 be modified from "15 kWh load justification threshold would accommodate most storage modular configurations from major storage manufacturers in the SGIP" as CSE finds that 74% of the SGIP-approved paired and integrated storage systems are above 15 kWh.<sup>39</sup>

The Commission finds that the CSE calculation is misleading as the SGIP-approved equipment list includes many entries by the same manufacturer and systems made for large-scale applications. The Commission maintains that the major manufacturers in SGIP, accounting for 89 percent of residential storage projects since 2020, have a modular unit that fits within the 15 kWh load justification threshold as discussed at page 6 of this resolution. This additional analysis has been added for clarification. The load justification threshold does not restrict what systems customers can install, rather it sets the kWh threshold that can be incentivized without load justification.

## 2. Storage Sizing Methodology

PG&E and Tesla request storage systems above the load justification threshold be sized to a host customer's average daily summer electricity consumption.<sup>40</sup> Tesla contends that neither of the proposed storage sizing methodologies account for resiliency.<sup>41</sup> SCG disagrees with Tesla and finds the proposed alternative should be rejected for only considering customer resiliency, instead of balancing all SGIP goals as the resolution does.<sup>42</sup> PG&E finds that the resolution's storage sizing methodology would "create a perverse system of incentives by rewarding customers who ignore price signals from Net Energy Metering (NEM), Net Billing Tariff (NBT) and Time Of Use (TOU) rates."<sup>43</sup>

<sup>&</sup>lt;sup>38</sup> SCG Comments at 3.

<sup>&</sup>lt;sup>39</sup> CSE Comments at 3.

<sup>&</sup>lt;sup>40</sup> PG&E Comments at 2. Tesla Comments at 5.

<sup>&</sup>lt;sup>41</sup> Tesla Comments at 5.

<sup>&</sup>lt;sup>42</sup> SCG Reply Comments at 1.

<sup>&</sup>lt;sup>43</sup> PG&E Comments at 2.

The Commission clarifies that the sizing to excess solar is not related to the amount of solar exported to the grid, as PG&E's comments suggest, but to the amount of solar generation minus the on-site consumption during a month. The Commission rejects the proposal by Tesla and PG&E as the SGIP is not intended to incentivize whole-home backup.

CALSSA and PG&E find that the proposed storage sizing methodology does not allow for future electrification.<sup>44</sup>

The Commission rejects CALSSA and PG&E's arguments and clarifies that this resolution does not alter the existing SGIP rules surrounding future electrification nor limit the ability of solar to size to 150% of historical load, as allowed by NBT, for electrification. Solar sizing for RSSE is being addressed in a forthcoming resolution.

CSE requests that storage sizing remains unchanged from the current process due to their concern of a high administrative and developer burden to incorporate any changes.<sup>45</sup> CSE adds that SGIP is entering the sunset period so the impact of these changes will not be great. SCG finds that the new storage sizing methodology and load justification threshold will lead to administrative streamlining for projects that do not require load justification.<sup>46</sup>

The Commission finds that these changes will lead to more projects being completed as shown in Table 2. We also find that the changes will help streamline the processing of projects at or below the 15 kWh load justification threshold. The Commission rejects CSE's request to not change the storage sizing methodology.

CSE requests that if the storage system sizing is changed, the storage be sized to selfconsumption during a summer or winter month. CSE finds that sizing to excess solar does not capture high evening loads and would not capture resiliency needs for customers with high heating loads in winter.<sup>47</sup> SCG disagrees with CSE's sizing proposal as SCG finds it will lead to oversizing systems beyond what is needed to maximize solar generation to onsite load and does not consider SGIP goals beyond customer resiliency.<sup>48</sup>

<sup>&</sup>lt;sup>44</sup> CALSSA Comments at 2. PG&E Comments at 3.

<sup>&</sup>lt;sup>45</sup> CSE Comments at 1.

<sup>&</sup>lt;sup>46</sup> SCG Comments at 3.

<sup>&</sup>lt;sup>47</sup> CSE Comments at 6.

<sup>&</sup>lt;sup>48</sup> SCG Reply Comments at 2.

The Commission appreciates that providing correct storage sizing for all seasons is important. However, SGIP evaluations have shown that residential storage systems are utilized more in the summer.<sup>49</sup> Therefore, the Commission rejects CSE's proposal.

CSE requests clarification on what is meant by a 'summer calendar month.'50

The Commission clarifies a summer month is defined as a month between June to October when peak grid demand typically occurs.<sup>51</sup> By calendar month, a developer would need to submit data for a full month. For example, a developer would need to submit data from June 1 to June 30, not from June 15 to July 15. The resolution has been edited to provide this definition.

SCG supports the proposed sizing methodologies to "prevent oversizing SGIP incentivized systems, mitigate sub-optimal energy storage performance, enhance program outcomes, and provide an equitable distribution of incentives to the most customers."<sup>52</sup> SCG adds that "changing residential system sizing from kW to kWh will mitigate the risk of using derating as a mechanism to fully incentivize oversized systems that have had the kW capacity derated for the purposes of meeting SGIP eligibility requirements."<sup>53</sup>

SCG requests that the example incentive calculation on page 9 of the resolution be modified to read that SGIP will only incentivize systems sized at or below the justified load as this is how storage systems are currently incentivized in SGIP.<sup>54</sup> In reply comments, CESA and Tesla request that the SCG proposal be rejected as it would unnecessarily limit a customer's choice to add capacity beyond what SGIP incentivizes.<sup>55</sup>

We point out that currently, "SGIP does not prohibit customers from installing additional energy storage equipment at a property that would cause the total installed rated capacity at the site to be greater than the system sized according to SGIP

<sup>53</sup> Id.

<sup>&</sup>lt;sup>49</sup> 2021-2022 SGIP Impact Evaluation at 160.

<sup>&</sup>lt;sup>50</sup> CSE Reply Comments at 3.

<sup>&</sup>lt;sup>51</sup> CAISO Peak Load History 1998 through 2023 and CAISO Peaks for October 2024.

<sup>&</sup>lt;sup>52</sup> SCG Comments at 4.

<sup>&</sup>lt;sup>54</sup> SCG Comments at 5.

<sup>&</sup>lt;sup>55</sup> CESA Reply Comments at 2. Tesla Reply Comments at 3.

requirements."<sup>56</sup> In other words, if a customer wants to install more capacity than the program will incentivize the customer may do so, but the customer will be responsible for the costs above the incentivized capacity. Therefore, the Commission finds that the provided example is correct and rejects SCG's request.

CSE requests further clarification that non-residential projects in SGIP will continue to be sized to the annual peak demand in kW.<sup>57</sup>

In accepting SCG's request to leave non-residential systems on the 10 kW load justification threshold, this resolution does not change any aspect of how non-residential projects are treated in SGIP. The Commission has made the needed changes throughout to reflect this.

# 3. Storage System Incentive Cap

SCG supports the 30 kWh cap for single family households in equity budgets.<sup>58</sup> PG&E and Tesla support the 30 kWh cap for any single family household project in SGIP.<sup>59</sup> CSE requests the 30 kWh cap be removed as it places an unneeded barrier to the RSSE and other equity budgets. CSE finds that existing SGIP rules encourage right-sized systems for resiliency. If the Commission moves forward with the cap CSE recommends that the 30 kWh cap be applied to all budget categories, not just equity budgets to "ensure that this rule applies equally to all budget categories rather than only targeting those with the greatest need." <sup>60</sup>

The Commission maintains that equity budgets need a kWh cap as the incentive rates are designed to cover most of the storage system costs. From Figure 2, all SGIP single family residential systems sized above 30 kWh are utilizing less than 40% of the kWh capacity on the average summer day. The Commission finds that since 2020, 93 percent of the non-equity budget residential projects fall under 30 kWh.<sup>61</sup> Therefore, the Commission finds it reasonable to apply the 30 kWh cap for single-family residential projects to all residential budgets and has modified OP 5 and relevant sections of the resolution to read as such.

<sup>&</sup>lt;sup>56</sup> SGIP Handbook 2024 at 54.

<sup>&</sup>lt;sup>57</sup> CSE Comments at 5.

<sup>&</sup>lt;sup>58</sup> SoCalGas at 5.

<sup>&</sup>lt;sup>59</sup> PG&E Comments at 1. Tesla Comments at 1.

<sup>&</sup>lt;sup>60</sup> CSE Comments at 7.

<sup>&</sup>lt;sup>61</sup> Data Accessed on 10/14/2024 from SGIP Data hosted on CaliforniaDGStats.

# 4. Implementation of the Resolution's Storage Sizing Updates: Timeline and Waitlisted Projects

SCG requests that the resolution's implementation pause period be increased to 60 days as this will provide sufficient time to update the SGIP database, provide stakeholders with guidance on the new policies, and have the SGIP PAs ready to review and accept applications.<sup>62</sup> CSE finds that it will take till mid-March 2025 for the resolution changes to be implemented in the SGIP database and for the RSSE to open. CSE requests that there be no timeline for the length of the implementation pause period.<sup>63</sup> CALSSA finds that having this resolution implementation align with the 45 day pause period proposed in the SCE AL 5347-E et al. to open the RSSE is reasonable.<sup>64</sup>

The Commission finds that a longer implementation timeline of 60 days is reasonable. The Commission encourages the SGIP PAs to consider creative solutions to roll out the changes faster and not take the entire 60 days. We reiterate that the changes to storage sizing and load justification must be in place by the time of the RSSE budget opening even if this is less than 60 days. The Commission has modified OP 9 and the relevant sections of the resolution to reflect this change.

SCG requests that the Commission clarify if the 1,200 projects on the waitlist in SGIP should follow the current storage sizing rules or the resolution's storage sizing rules. Of the waitlisted projects, SCG found that 58% are above the 15 kWh load justification threshold and 17% are sized above the 30 kWh incentive cap.<sup>65</sup> SCG notes that applying the new rules could result in confusion and change the eligibility of waitlisted applications, but would extend funds in the Equity Resiliency Budget to more projects. CSE argues that it is standard practice in the SGIP and all CPUC programs to only apply new program rules to projects submitted after implementation. Therefore, CSE requests that waitlisted projects not be subject to the rules of the resolution.<sup>66</sup> CALSSA finds that host customers and developers have already spent many hours on projects in the SGIP waitlist. Therefore, CALSSA requests that waitlisted projects be subject to the sizing rules in effect at the time of submission.<sup>67</sup>

<sup>&</sup>lt;sup>62</sup> SCG Comments at 6.

<sup>&</sup>lt;sup>63</sup> CSE Comments at 2.

<sup>&</sup>lt;sup>64</sup> CALSSA Reply Comments at 1.

<sup>&</sup>lt;sup>65</sup> SCG Comments at 6.

<sup>&</sup>lt;sup>66</sup> CSE Reply Comments at 4.

<sup>&</sup>lt;sup>67</sup> CALSSA Reply Comments at 1.

The Commission clarifies that SGIP waitlisted projects have not been reviewed by SGIP PAs, have not reserved SGIP funds, and have no guarantee that the project will receive funds. To ensure Equity Resiliency Budget funds are going to right-sized projects and reaching as many households as possible, the Commission clarifies that residential projects submitted to the SGIP waitlist before the resolution is approved should follow the resolution's storage sizing and load justification rules, with an exception to the 30 kWh incentive cap. Following the resolution's rules, all waitlisted projects will remain eligible for SGIP, but the incentive amount available to the project might be changed. At a minimum, all projects that clear the waitlist will be incentivized for 15 kWh and may be incentivized for more based on the load justified by the storage sizing methodologies. This strikes a balance of accommodating projects that can demonstrate a load above 30 kWh and right-sizing projects. The resolution has been modified at OP 7 and in the discussion section to make this clarification.

## 5. Other Topics

# a. Threshold between the Small Residential Storage and Large-Scale Storage Budgets

Currently in SGIP, residential projects sized 10 kW or less apply to the Small Residential Storage budget and residential projects larger than 10 kW apply to the Large-Scale Storage budget. SCG requests that the threshold between the budgets be changed to 15 kWh to align with the new load justification threshold.<sup>68</sup> CALSSA, CESA and CSE request that the threshold between budgets be changed to 30 kWh to align with the current 10 kW threshold. CSE finds that if the threshold were set to 15 kWh, around 54% of previously submitted SGIP projects to the Small Residential (\$0.15 per Wh) would go to the Large-Scale Storage budget (\$0.25-0.30 per Wh).<sup>69</sup>

As the intent of this resolution is to spread the SGIP funds to more projects, the Commission finds it unreasonable to move more residential projects to the Large-Scale Storage budget which has a higher incentive rate. The Commission finds that the threshold between the two budgets should be set at 30 kWh to match the current 10 kW threshold. The relevant changes to the resolution have been made and OP 6 added.

<sup>&</sup>lt;sup>68</sup> SCG Comments at 7.

<sup>&</sup>lt;sup>69</sup> CALSSA Reply Comments at 2. CESA Reply Comments at 1. CSE Comments at 5.

## b. Use of the Term 'Oversizing'

CESA and Tesla disagree that SGIP systems discharging 45% of energy on a daily basis have been 'oversized' as this finding discounts resiliency and storage participation in event day programs.<sup>70</sup>

The Commission clarifies that 'oversizing' is being used in the SGIP context to refer to a system that is not being fully utilized. This is not a value statement on what size of system a customer wants to install and for what purpose, simply a determination on what SGIP should incentivize. No changes have been made.

#### c. Incorrect Footnote

CSE requests that the link to the SGIP resources page for the forthcoming EPBB calculator be removed as the EPBB calculator is planned to be integrated into the application and will not be available until the RSSE opens.<sup>71</sup>

The Commission finds CSE's request reasonable and has deleted the referenced footnote.

## d. Oversizing for System Modularity

SCG requests removing the modular oversizing rule in the Equity Resiliency Budget and Resiliency Adder as the rule is based in kW and incentivizes oversized systems.<sup>72</sup> CALSSA and CSE request that the modular oversizing in the Equity Resiliency Budget be extended to the kWh sizing methodology and be added to the RSSE as a low-income customer will have to settle for an undersized system if available product sizes do not match their justified load.<sup>73</sup> PG&E does not comment on the existing process. PG&E requests that all residential projects gain an additional 5 kWh buffer to add resiliency for host customers to account for modular system sizes and the new storage sizing methodology.<sup>74</sup>

Currently, SGIP allows projects in the Equity Resiliency Budget or receiving the Resiliency Adder to oversize a system to the next modular system size to meet on-site demand, in kW. The applicant must submit an "ad-hoc letter explaining the need for the larger system to cover the customer's previous 12-month annual peak demand

<sup>&</sup>lt;sup>70</sup> CESA Comments at 4. Tesla Comments at 4.

<sup>&</sup>lt;sup>71</sup> CSE Comments at 6-7.

<sup>&</sup>lt;sup>72</sup> SCG Comments at 5.

<sup>&</sup>lt;sup>73</sup> CALSSA Comments at 2. CSE Reply Comments at 4.

<sup>&</sup>lt;sup>74</sup> PG&E Comments at 2.

before the incentives are paid."<sup>75</sup> The Commission clarifies that the Resiliency Adder is for non-residential projects only and will not be impacted by this resolution. The Commission finds that the modular system oversizing policy should remain in the Equity Resiliency Budget and be modified to kWh. The Handbook shall be updated to reflect that modular oversizing can only be approved if more than 50 percent of the capacity of the additional module is needed and documented in load justification. With this change the modular sizing policy is extended to the RSSE under limited resiliency circumstances.<sup>76</sup> The relevant modifications were made to this resolution and OP 4 added.

The "Commission intention [is] to incentivize energy storage capacity at a reasonable level based on onsite customer energy usage with reasonable anticipated growth due to electrification measures."<sup>77</sup> Adding an arbitrary 5 kWh buffer separate from the onsite load and existing future load growth process in SGIP does not align with D.24-03-071. Therefore, the Commission finds PG&E's request unreasonable. No changes have been made.

## **FINDINGS**

- 1. On March 21, 2024, the CPUC issued Decision 24-03-071 *Decision Implementing Assembly Bill 209 and Improving Self-Generation Incentive Program Equity Outcomes* (Decision)
- 2. The Decision authorized the SGIP program administrators (PAs; Pacific Gas and Electric Company, Center for Sustainable Energy®, Southern California Edison Company, and Southern California Gas Company) to reform the storage sizing methodology, load justification threshold, and introduce an incentive cap.
- 3. The Decision Ordering Paragraph 31 stated:

"The [new] system sizing cap should continue to reflect the Commission intention to incentivize energy storage capacity at a reasonable level based on onsite customer energy usage with reasonable anticipated growth due to electrification measures. The system sizing cap should be designed to avoid incentivizing oversized systems. PAs may propose as a part of their system sizing rules, an overall incentive cap for projects."

<sup>&</sup>lt;sup>75</sup> SGIP Handbook 2024 at 54.

<sup>&</sup>lt;sup>76</sup> Id. at 25.

<sup>77</sup> D.23-03-071 at 84.

- 4. The Decision directed the SGIP PAs to open a new Residential Solar and Storage Equity budget (RSSE) to cover most, if not all, of the costs of a residential storage system or a solar generation-paired storage system.
- 5. On August 5, 2024, the SGIP PAs filed SCE AL 5347-E to open the RSSE.
- 6. On September 20, 2024, the SGIP PAs held a Quarter 3 SGIP workshop where stakeholders discussed storage sizing options presented by the SGIP evaluator.
- 7. Over 46 percent of residential storage systems in the SGIP are under 15 kWh.
- 8. A 10 kWh residential storage paired with solar generation is sufficient to provide critical resiliency for many households in California.
- 9. A 15 kWh load justification threshold would accommodate most storage modular configurations from major storage manufacturers in the SGIP.
- 10. It is reasonable to use a load justification threshold of 15 kWh for all single family residential storage systems in the SGIP to achieve goals of resiliency, avoiding oversizing of storage systems, and reaching more host customers.
- 11. For multifamily, it is reasonable to use a load justification threshold of 12.5 kWh of storage per tenant unit to align the sizing methodology with the incentive rate.
- 12. Evaluation of the SGIP has shown that residential storage systems use an average of 45 percent of kWh capacity daily.
- 13. The primary SGIP goals are to increase the deployment of distributed storage systems, reduce greenhouse gas emissions, reduce ratepayer costs, increase individual customer resiliency, and to reduce peak demand on the grid.
- 14. Evaluation of the SGIP has shown that charging storage from solar generation and discharging during on-peak hours is the best way to reduce greenhouse gas emissions.
- 15. It is reasonable to size residential storage systems paired with solar generation to the average daily excess solar generation during a summer calendar month.
- 16. It is reasonable to size residential standalone storage systems to the average daily energy consumption during 4-9 pm during a summer calendar month.
- 17. It is reasonable to transition the modular oversizing to meet the justified load in Equity Resiliency Budget projects to the new kWh sizing methodologies.
- 18. It is reasonable to apply the modular oversizing to meet the justified load to the RSSE for customers who provide proof of resiliency eligibility.
- 19. Evaluation Reports for SGIP have shown that residential customers with storage systems larger than 30 kWh dispatched 17 kWh daily on average. These customers could have been served by a system smaller than 30 kWh to meet daily use.
- 20. A 30 kWh residential storage system paired with solar generation is sufficient for critical resiliency in areas with high heating and cooling loads.

- 21. It is reasonable to establish a 30 kWh storage system incentive cap for single family projects in SGIP budgets to achieve fiscal prudence by avoiding oversizing storage systems and reaching more residential host customers.
- 22. Since 2020, 99.9 percent of projects in the Small Residential Storage projects have been under 30 kWh, it is reasonable to use a 30 kWh threshold between the Small Residential Storage and Large-Scale Storage budgets.
- 23. It is reasonable to require waitlisted projects that are not guaranteed SGIP funds to follow the new storage sizing rules with an exception to the 30 kWh incentive cap.
- 24. It is reasonable for the SGIP PAs to implement these changes before the RSSE opens and to notify the SGIP proceeding Service List when the changes are implemented.
- 25. To ensure a smooth transition while incorporating these changes, the SGIP PAs shall release a simple spreadsheet or other tool for developers to use for load justification and hold a webinar to demonstrate how to use the tool and apply the new method.

## THEREFORE IT IS ORDERED THAT:

- 1. SGIP PAs shall replace the storage system 10 kW load justification threshold with a 15 kWh load justification threshold for single family household residential projects in all SGIP storage budgets.
- 2. SGIP PAs shall replace the multifamily storage system 5 kW per tenant unit load justification threshold with a 12.5 kWh per tenant unit load justification threshold in all SGIP storage budgets.
- 3. SGIP PAs shall replace the residential storage sizing methodology for storage systems above 15 kWh from sizing to the peak demand in the past 12 months in kW to:
  - a) Sizing a storage system paired with solar generation to the average daily excess solar generation during a summer calendar month in kWh; and
  - b) Sizing a standalone storage system to the average daily energy consumption during the 4-9pm window during a summer calendar month in kWh.SGIP PAs shall collect and report the justified load for all projects in the SGIP database.
- 4. SGIP PAs shall update the resiliency modular oversizing policy in the Equity Resiliency Budget to kWh. The SGIP PAs shall update the handbook to read that

more than 50 percent of the capacity of the additional module is needed based on load justification. The SGIP PAs shall apply the resiliency modular oversizing policy to the Residential Solar and Storage Equity budget for host customers who meet one or more of the existing resiliency criteria of the Equity Resiliency Budget.

- 5. SGIP PAs shall establish a 30 kWh incentive cap for all single family projects in the SGIP.
- 6. SGIP PAs shall replace the 10 kW threshold for residential projects between the Small Residential Storage and Large-Scale Storage budgets with a 30 kWh threshold.
- 7. The changes ordered in this Resolution are effective in SGIP immediately as of the date of this Resolution. Projects on an SGIP waitlist when the Resolution is approved will be subject to these changes, with an exception to the 30 kWh incentive cap, if the project advances to the reservation request form stage.
- 8. The SGIP PAs shall pause applications in all affected SGIP budget categories from the date of this Resolution. The SGIP PAs shall notice this pause to the selfgen website, to the SGIP Service List and to all SGIP developers.
- 9. Within 60 days from the date of this Resolution, or when the RSSE budget opens which ever is sooner, the SGIP PAs shall file a Tier 1 Advice Letter and issue an announcement on the selfgen website to update the SGIP Handbook and SGIP application in accordance with the changes ordered in this Resolution. The SGIP application pause will end on the effective date of the Tier 1 Advice Letter. The PAs are encouraged to implement the changes in this resolution sooner then 60 days
- 10. SGIP PAs shall develop a simple spreadsheet or tool for developers to use for the new residential load justification methodology.
- 11. SGIP PAs shall hold one or more webinars, noticed to the SGIP Service List, to educate developers on the new storage sizing methodology, load justification threshold, and how to use the new tool for the residential sizing methodology before the RSSE budget opens. The webinar(s) shall be recorded and posted on the selfgen website afterwards.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a conference of the Public Utilities Commission of the State of California held on December 19, 2024; the following Commissioners voting favorably thereon:

<u>/s/ RACHEL PETERSON</u> Rachel Peterson Executive Director

> ALICE REYNOLDS President

DARCIE HOUCK JOHN REYNOLDS KAREN DOUGLAS MATTHEW BAKER Commissioners