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**Renew Home Comments on the Demand Side Grid Support  
Program Guidelines, Fifth Edition**

*Additional submitted attachment is included below.*

# Renew Home

March 16, 2026

California Energy Commission  
Docket Unit MS-4  
715 P Street  
Sacramento, CA 95814

**RE: Docket No. 22-Renew-01**

## **Renew Home Comments on the Demand Side Grid Support Program Guidelines, Fifth Edition**

California Energy Commission and Staff:

Renew Home thanks the CEC for the opportunity to comment on the fifth edition of the Demand Side Grid Support (DSGS) Guidelines. Renew Home, founded in April 2024, operates over 140 residential demand response programs across the United States, including the OhmConnect product, which has over 200,000 CAISO market-registered users in California. Renew Home manages over 5 million smart thermostats nationwide, representing over 4 GW of flexible capacity, making it the largest residential virtual power plant (VPP) platform in the US.

Renew Home's primary interest in DSGS is Option 4, the Emergency Load Flexibility VPP Pilot. Our comments accordingly focus on this option. We submit the following recommendations to improve Option 4:

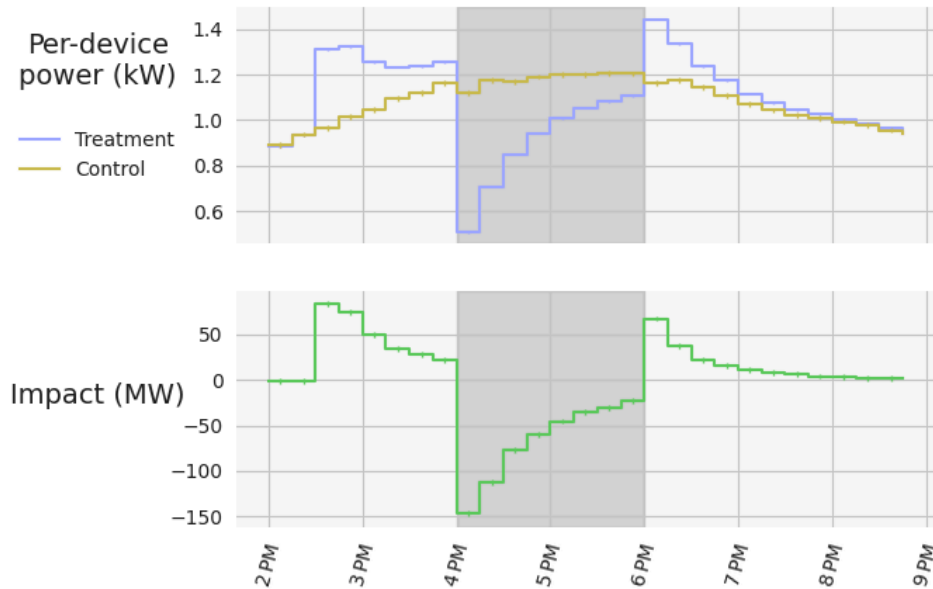
1. Allow participant-level data to be shared with the evaluator, as opposed to the CEC.
2. Implement Randomized Controlled Trials for Option 4 settlement.
3. Increase the cap on Option 4 committed capacity to 150 MW for August–October.
4. Shift the “acknowledgement and agreement” requirement from participants to aggregators
5. Allow customers within the PG&E service territory to participate.
6. Align the standard of confidence for past and current participation conflicts.

Each of these recommendations is described in additional detail below. These recommendations are informed by our growing experience implementing load shift events like those envisioned under Option 4.

Renew Home ran a 2-hour test event in California on September 2, 2025 from 4–6pm. The test event included over 260,000 homes across Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E) territories in the treatment group, plus 28,000 homes in the control group. The average temperature over the event was 91.8°F and 84.8°F in SCE and SDG&E, respectively, reflecting moderately warm but not extreme conditions. We applied 90 minutes of pre-cooling to maximize load impacts during the event.

The graph below shows the results from the SCE service territory in two ways. The top panel shows the per-device estimated power draw for the treatment and control groups. For consistency with the DSGS guidelines, we applied a 2.5 kW connected load assumption per thermostat. The bottom shows the aggregate impact, or the difference in the treatment and control groups multiplied by the treatment group. The event averaged 64 MW of load reduction over the 2-hour period. Users in the SDG&E service territory brought an additional 20 MW.

## Renew Home SCE-Area Test Event, September 2, 2025



The detailed recommendations reference these results throughout.

### 1. Allow participant-level data to be shared with the evaluator, as opposed to the CEC

Renew Home requests that aggregators be permitted to submit the Enrolled Participant Report and Option 4 Performance Report to the evaluator (Olivine, Inc., in this case), as opposed to “to the CEC,” as written. In turn, the evaluator will be permitted to share de-identified or aggregated data with the CEC.

Renew Home is committed to protecting user data and minimizing the sharing of Personally Identifiable Information (PII), in line with applicable privacy policies for our and our partners' users. Both customer addresses (specifically, identifying locations where Nest thermostats are installed and used) and individual thermostat runtime data are PII. We understand the importance of verification and have created a secure process for sharing PII for the purposes of enrolling customers and verifying performance to third-party evaluators who have executed a Data License Agreement (DLA) with Renew Home. Accordingly, we recommend changes to the Enrolled Participant Report (Chapter 2, Section D.1) and Option 4 Performance Report (Chapter 2, Section D.4 and Chapter 6, Section A.) to indicate these reports may be submitted to the third-party evaluator.

Renew Home's DLA would allow the evaluator to share all information from the Enrolled Participation Report with the CEC except for addresses, allowing the evaluator to fulfill the role of independent oversight and eligibility verification on behalf of CEC, consistent with the spirit of the guidelines. Similarly, the DLA would allow the evaluator to share the statistical measures derived from the Option 4 Performance Report, such as the mean, median, standard deviation, variance, and quantiles of 15-minute HVAC runtime and the incremental load reduction of each

aggregation. Collectively, these data should fulfill the CEC's need for analysis while strictly controlling access to PII of customers.

## 2. Implement Randomized Controlled Trials for Option 4 settlement

Renew Home strongly urges the CEC to adopt Randomized Controlled Trials (RCTs) for Option 4 measurement and settlement. With sufficient control group size, RCTs are more accurate than the existing weather-matching baselines included in the guidelines. They are also unbiased, meaning they do not systematically over- or under-estimate the actual impact.

We suggest the following parameters for control group selection, which should be re-evaluated following the 2026 program year:

- The minimum control group for each aggregation is 250 users.
- The aggregator may elect a higher control group size, which is submitted along with the nominated per-device load reduction commitment.
- The number of participants in the control group is subtracted from total device enrollment submitted in each subsequent month.
- Control groups are selected entirely at random and independently for each event by the aggregator.

In the test RCT event shown above, the treatment (purple) and control (yellow) group estimated load are nearly identical up until the start of pre-cooling, showing these groups are identical on average. Each of the pre-cooling, event, and snapback periods, begin with a large initial impact (negative or positive) and decrease consistently over time. These results are consistent with expected behavior of smart thermostat setback schedules and are very difficult to reproduce using day- or weather-matching baselines, particularly in 15-minute intervals.

While this test event included both a very large treatment group and a very large control group (approximately 10% of the total population), a smaller control group is feasible for DSGS implementation. The test event results included error bars on both the per-device load and aggregate load impacts; these errors are so small as to be nearly invisible in the figure, suggesting the experiment could have tolerated significantly smaller control groups sizes. Renew Home's internal analysis suggests 250–300 is generally sufficient and suggests the lower end of this range with the option to allow aggregators to increase the control group size to improve precision at the expense of treatment group size.

## 3. Increase the cap on Option 4 committed capacity to 150 MW for August–October

The test event also shows that Renew Home itself may be able to meet the entirety of the updated 75 MW cap on committed capacity. The test event averaged over 80 MW of load reduction during the 2-hour test event, using the same connected load assumption (2.5 kW) as DSGS. While we recognise the current budget constraint faced by the CEC, 75 MW is insufficient for a nascent program poised for significant growth. Accordingly, we recommend not limiting its growth to 100 MW in the latter half of the season, August–October, and considering a higher future cap contingent on the amount of funding.

Multiple factors may reduce Renew Home’s ultimate capacity commitment to Option 4, such as the timing of Option 4 events, duration of Option 4 events, lack of availability in some California utility service territories, customer eligibility, and the existence of multiple thermostats at some households. On the other hand, the test event occurred on a moderate but not hot day, suggesting that performance could be higher under the planning temperature and mitigating the factors above that would decrease overall capacity. Regardless, it is entirely possible that Renew Home’s contribution alone could meet or nearly meet the cap. Even if our committed capacity is slightly less, 75 MW is insufficient to create a robust marketplace for multiple Option 4 aggregators.

The proposed 75 MW cap might have been appropriate for 2025, when enrollment was relatively low (a peak capacity of 18.1 MW<sup>1</sup>). However, Option 4 may be primed for growth, like Option 3’s growth trajectory from 10 MW to 240 MW between October 2023 and 2024, then to 768 MW by October 2025.<sup>2,1</sup>

#### **4. Shift the “acknowledgement and agreement” requirement from participants to aggregators**

Option 4 participant enrollment (Chapter 5, Section B) requires “acknowledgement and agreement” from the participant that the information submitted is accurate and complete. However, Renew Home plays a larger role in validating the accuracy and completeness of the submitted data than the end-use participant, rendering this requirement unnecessary. We recommend placing this requirement on the aggregator rather than the participant.

The critical piece of information needed from participants is the street address. Users typically provide their address as part of their smart home ecosystem setup as this is required for proper functioning of the smart thermostat and smart home app. Accordingly, users have strong incentives unrelated to DSGS to provide accurate information and user submitted addresses can be considered overwhelmingly reliable once validated for proper format.

In contrast, the remaining information, including utility distribution company, equipment type, connected load assumption, current and past DR participation, are all provided by Renew Home based on information available to us. Renew Home can acknowledge and agree to the accurateness and completeness of this information, similar to the requirement in the enrolled participation report for Option 4, which requires the aggregator to provide an “Indication that the DSGS provider has remote control...of each participant device to dispatch the device, is not dispatching the device for a conflicting program, and has no knowledge or awareness that each participant is enrolled or participating in a conflicting program” (Chapter 2, Section D).

Aggregators such as Renew Home can take responsibility for verifying the accuracy and completeness of the submitted information instead of the customer, further streamlining the program and reducing the number of touch points required for participant enrollment.

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<sup>1</sup> <https://dsgs.olivineinc.com/faq/#acc-w21g721-2>

<sup>2</sup> <https://efiling.energy.ca.gov/GetDocument.aspx?tn=259585&DocumentContentId=95719>

## 5. Allow customers within the PG&E service territory to participate

Customers of the Pacific Gas & Electric (PG&E) utility distribution customers should be allowed to participate in DSGS Option 4. DSGS is intended to be a statewide program, and excluding this service territory is unfair to the PG&E's enormous population of customers across northern California, who fund programs like DSGS with tax dollars and carbon fees.

PG&E represents a huge, untapped population of smart thermostat load flexibility. Renew Home also included PG&E in the statewide test event, and these 190,000 users demonstrated an additional 64 MW over the two-hour event – an increase of 75% relative to SCE and SDG&E alone.

Renew Home understands that the PG&E service territory was initially excluded to avoid competition with and confusion between Option 4 and the Automated Response Technology (ART) program, which was also nascent when Option 4 was launched. However, ART and Option 4 target fundamentally different user populations. Renew Home operates tens of thousands of users under ART, and we plan to continue prioritizing enrollment into ART and other resource adequacy-eligible participation pathways. DSGS is better suited for customers who are either unwilling or unable to complete the enrollment or meet the minimum participation requirements of other market-integrated programs. With low-friction enrollment and smaller temperature offsets, particularly if our other recommendations are adopted, we believe Option 4 is a better fit for these customers.

## 6. Align the standard of confidence for past and current participation conflicts

Renew Home requests that CEC align the standard of confidence for past participation in resource adequacy (RA) programs with the standard of confidence for current participation conflicts. Chapter 2, Section F states that aggregators must provide an “indication that each participant device was not enrolled in a resource adequacy program in the 2024–2026 calendar years.” In contrast, the provision directly preceding this one states the aggregator “has no knowledge or awareness that each participant is enrolled or participating in a conflicting program.” That is, the standard of confidence for *past* enrollment is stronger than the standard for *current* enrollment.

We request CEC edit this RA provision to read: “Indication that the aggregator has no knowledge or awareness that each participant device was ~~not~~ enrolled in a resource adequacy program in the 2024–2026 calendar years.”

Renew Home understands the importance of ensuring DSGS does not undermine the RA program by moving resources from RA to DSGS. We will continue to prioritize RA-eligible programs such as PG&E's ART program, SCE's SEP program, and SDG&E's forthcoming CBP-Res program, in addition to direct CAISO PDR participation. However, the provision as currently constructed creates a legal risk to inadvertently and infrequently enrolling a customer who had previously used their device for DR purposes. Additionally, we believe conflicts to *current* DR participation are just as important to safeguard against, and accordingly should

require the same level of confidence. We believe the standard of confidence required for current program conflict is equally sufficient for past conflicts with RA.

## **Conclusion**

Renew Home thanks CEC for its continued support and leadership on demand response and load flexibility in California. We hope to be a constructive partner to CEC and the state of California.

Respectfully,

Will Baker

Director of Market Innovation  
Renew Home, LLC