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# Demand Response Potential for California SubLAPs and Local Capacity Planning Areas

## An Addendum to the 2025 California Demand Response Potential Study

**April 1, 2017**

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## Introduction

The 2025 California Demand Response Potential Study Phase 2 Report[1] was released on March 1, 2017, and described a range of pathways for Demand Response (DR) to support a clean, stable, and cost-effective electric grid for California. One of the Report's key findings was that while there appears to be very low future value for *untargeted* DR Shed aimed at system-wide peak load conditions, there could be significant value for **locally focused Shed resources.** Although the dynamics of renewable capacity expansion have reduced the pressure to build new thermal generation in general, there are still transmission constrained areas of the state where load growth needs to be managed with the addition of **new local capacity**, which could include DERs and/or DR.

This Addendum to the Phase 2 Report presents a breakdown of the expected future "Local Shed" DR potential at a finer geographic resolution than what is available in the original report, with **results summarized by SubLAP and Local Capacity Area (LCA)**.

## Scope of Addendum

**Overall Coverage, Technology, and Scenarios same as Phase 2 Report**

As was the case in the rest of the DR Potential Study, the scope of the analysis here is confined to the service territories of the three major Investor-owned Utilities in California: Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E). The end-uses, sectors, scenarios and DR technology options presented here are fully harmonized with the assumptions from the DR Potential Study Phase 2 Report.

**New Model Run**

Developing the results for this Addendum required re-running the DR-PATH model that underlies the DR Potential Study at a finer level of geographic detail than what was used for the Phase 2 Report, at the SubLAP level instead of by utility service area. Because the technology inputs include some randomization, these new individual model run results are not exact matches of the previously reported-on systemwide runs but taken together the overall results should be the same. A check of the output confirms that the new runs have reasonably similar overall outcomes as what was presented in the Phase 2 report, with the expected variability in estimates from randomization of the inputs.

**Not an In-depth Study**

This Addendum summarizes the DR potential with local areas under consideration but does not include analysis of the "causes" of variability between SubLAPs or local capacity areas. Instead, it is designed as a data resource to inform other work and policy development. The bulk of the material is carefully formatted summary tables and figures for each SubLAP that are designed to support policy

[1] The Phase 2 report forms the basis for understanding the results presented in this addendum and is available at the citation below. Please review the report to understand the full context of these results.

*Peter Alstone, Jennifer Potter, Mary Ann Piette, Peter Schwartz, Michael A. Berger, Laurel N. Dunn, Sarah J. Smith, Michael D. Sohn, Arian Aghajanzadeh, Sofia Stensson, Julia Szinai, Travis Walter, Lucy McKenzie, Luke Lavin, Brendan Schneiderman, Ana Mileva, Eric Cutter, Arne Olson, Josh Bode, Adriana Ciccone, Ankit Jain (2017)* ***2025 California Demand Response Potential Study Final Report on Phase 2 Results: Charting California's Demand Response Future.*** *Completed by LBNL, E3, and Nexant for California Public Utilities Commission. Available online: http://www.cpuc.ca.gov/General.aspx?id=10622*

and market analysis, and there are more detailed results available in a companion ".csv" data file that accompanies this document. There is also a more detailed output data file available that is described at the end of this Addendum. The file enables deeper views into model results and is appropriate for pivot table or similar analysis; it includes all of the outputs for the range of scenarios and cases that were defined as input options in our study.

**DR Service Product: "Local Shed"**

There is only one DR service type included in the Addendum: **Shed DR that is fully dispatchable in 20 minutes or less ("Local Shed")**. The rationale for this is that meeting local reliability needs depends on Shed DR, while Shift and Shimmy services are more applicable to system-scale requirements. The 20-minute screen is meant to make resources useful in contingency situations that happen at the SubLAP scale, and the assumptions we made for this model run define that only fully automated technology options are included in the analysis. We note that there are some partially manual industrial and residential DR pathways that do not meet this 20-minute requirement as we have defined it, but which could add 10-20% to the overall resource mix if they were included. It is ultimately up to resource planners to formulate appropriate requirements for dispatch speed of local capacity resources depending on the needs of the grid in the area to be served.

The dispatch speed is a characteristic of the inputs to DR-PATH related to technology performance. Each end-use technology, combined with a particular signal and actuation path has a particular estimated time from dispatch to full response (e.g., on the order of seconds to less than a minute for HVAC with a Wi-Fi high-speed internet connection and automated set point control). We estimated the response time for all of the technology options included in the model, and those that can provide Shed response in less than 20 minutes were available as options in the model runs we present.

**Geographic Areas by SubLAP and LCA**

SubLAPs are "sub-Load Aggregation Points" that are defined by the California Independent System Operator based on (relatively) continuous geographic areas that do not include significant transmission constraints within the area. They are useful because they are essentially the most granular level of geographic detail where one might consider thinking about generation capacity planning for reliability. The market functions for SubLAPs are twofold: Aggregations of DR and other distributed energy resources must fall within a single SubLAP, and the SubLAPs are the basis for assigning congestion revenue rights.[2] The SubLAPs are further aggregated into "Local Capacity Areas" that are useful to overall capacity planning.

Table 1 summarizes the SubLAPs, their name, and the corresponding Local Capacity Area for each. It is important to note that the specific boundaries for SubLAPs are always subject to change, and the definitions used to locate DR resources for this analysis is based on information we received from CAISO and the Utilities in mid-2016 (concurrent with the SmartMeter data query that was the basis for our model inputs). The boundaries for SubLAPs have since been updated, and there are notes included with the table on which SubLAPs are affected. The details on this update are documented on the CAISO website.[3] It was not possible to do a simple crosswalk to update the original input data because the SubLAP updates often involve both new boundaries and renaming / combining areas.

[2] CAISO (2016) Market Performance and Planning Forum Presentation https://www.caiso.com/Documents/Agenda-Presentation-MarketPerformance-PlanningForum_Mar17_2016.pdf

[3] For example, see http://www.caiso.com/Documents/2017Sub-LoadAggregationPointRealignmentMappingSpreadsheetPosted.html and http://www.caiso.com/Documents/Sub-LoadAggregationPointRealignmentDiscussionWebConference9-1-16.html

**Table 1:** The 23 SubLAPs included in this analysis, descriptive names, and the corresponding Local Capacity Area.

| SubLAP ID | SubLAP Name | Local Capacity Area |
|---|---|---|
| PGF1 | Fresno | Greater Fresno |
| PGFG | Geysers | North Coast / North Bay |
| PGNB | North Bay | North Coast / North Bay |
| PGNC | North Coast | North Coast / North Bay |
| PGHB | Humboldt | Humboldt |
| PGLP # | Los Padres | Kern |
| PGNV % | North Valley | Sierra |
| PGSA % | Sacramento Valley | Sierra |
| PGSI % | Sierra | Sierra |
| PGEB | East Bay | Greater Bay |
| PGP2 | Peninsula | Greater Bay |
| PGSB | South Bay | Greater Bay |
| PGSF | San Francisco | Greater Bay |
| PGSN % | San Joaquin | Greater Bay |
| PGST | Stockton | Stockton |
| PGCC | Central Coast | Unspecified Local Area |
| SCEN | SCE Northeast | Big Creek / Ventura |
| SCNW | SCE Northwest | Big Creek / Ventura |
| SCEC | SCE Core | LA Basin |
| SCEW | SCE West | LA Basin |
| SCLD | SCE Low | LA Basin |
| SCHD | SCE High | Unspecified Local Area |
| SDG1 | San Diego | San Diego |
| noSLAP | None Specified | Unspecified Local Area |

**Notes** for SubLAPS with significant changes to name and/or boundaries between 2016 and 2017:
# PGLP was split into PGKN (Kern) and PGZP (ZP26)

**%** What used to be PGNV, PGSA and PGSN have been regrouped into PGNP (North of Path 15) for the locations on the western side of the Central Valley, with locations on the northeastern side of the Valley and in the mountains added to PGSI (Sierra).

## Results totals by LCA

The results overall indicate that the DR resources in California's local capacity planning areas are unique in many cases, with a large diversity between SubLAPs and LCA in terms of scale (from 10's of MW in Humboldt to 1000's in the SCE Core area) and the mix of resources. Some areas have the majority of potential from a single sector while others are balanced between residential, commercial, or industrial sites. These first-order trends reflect the projected population, economy, and building stock of California in 2025. Table 2 summarizes the expected resources available by LCA in 2025.

The current transmission constraints in California have the largest effect on the San Diego, L.A. Basin, and Big Creek / Ventura LCA[4]. It is notable that a significant fraction, about 50%, of the overall resource is located in one of these three current-day constrained areas, suggesting a significant opportunity for Shed DR to serve local needs immediately. Depending on the trajectory of transmission line development and power plant operations and lifetimes, the need for Shed resources in locally constrained areas will change over time, and other LCA could have important constraints that emerge and could be mitigated with DR as well.

**Table 2:** Total Local Shed resource expectation in 2025, by Local Capacity Area, for the Medium DR market and technology scenario. These results use a cost accounting framework that is based on access to both revenues from ISO energy market participation and site-level technology installation co-benefits (e.g. energy efficiency). In the model, it is possible for site-level benefits to "pay" the full cost of technology, enabling some apparent DR potential at an effective cost of $0 (which is why there are non-zero resource estimates in that column). More detail on the cost accounting frameworks is in the Phase 2 Report. Versions of this table with four different cost accounting frameworks are available in Dataset 2 in this Addendum.

| Local Capacity Area | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| Unspecified Local Area | 6 | 110 | 170 | 340 | 420 |
| Greater Bay | 25 | 540 | 850 | 1700 | 2000 |
| Greater Fresno | 55 | 380 | 590 | 1000 | 1200 |
| North Coast / North Bay | 1.4 | 41 | 73 | 220 | 300 |
| Humboldt | 0.31 | 5.5 | 7.4 | 17 | 24 |
| Kern | 43 | 320 | 430 | 680 | 780 |
| Sierra | 12 | 150 | 230 | 600 | 720 |
| Stockton | 9.6 | 120 | 170 | 350 | 420 |
| LA Basin** | 200 | 1000 | 1700 | 3500 | 4200 |
| Big Creek / Ventura** | 23 | 180 | 300 | 660 | 810 |
| San Diego** | 1.4 | 71 | 180 | 680 | 890 |
| *TOTAL* | *380* | *2900* | *4700* | *9700* | *12000* |

** areas that are currently experiencing transmission constraints that lead to capacity expansion needs.

[4] Note: these LCA were unaffected by the recent SubLAP renaming process, thus the results from our "2016" SubLAP input data would not change for those areas.

## Maps: SubLAPs and Local Capacity Areas

The Local Capacity Area map is from the California Energy Commission.

The maps of SubLAPs included here are based on resources from each utility. For PG&E we include both the 2016 map that matches the labeling used in the input datasets used to develop the results for the Phase 2 report (and this Addendum), and a 2017 map with updated area definitions. Higher definition maps are available from PG&E and SCE.

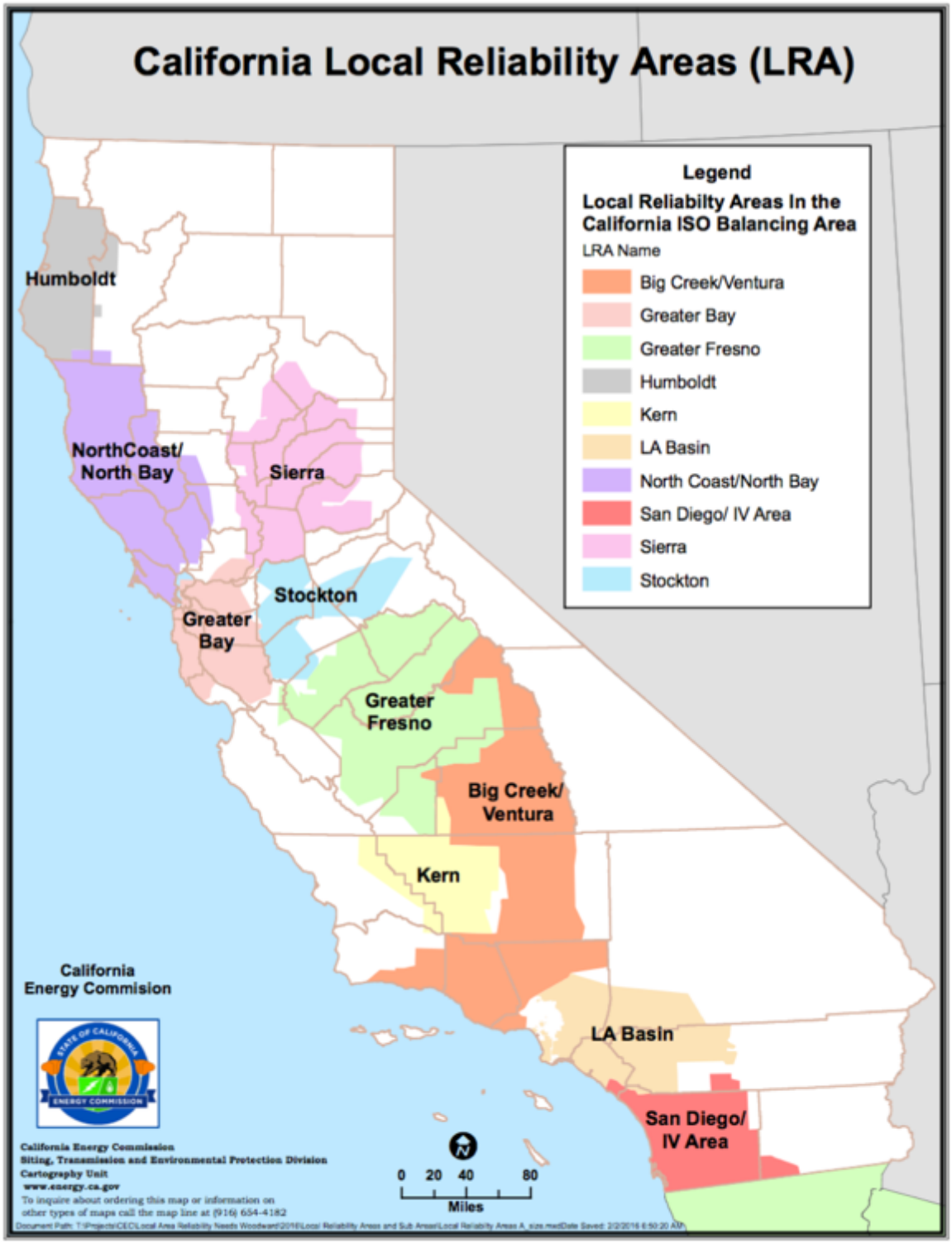
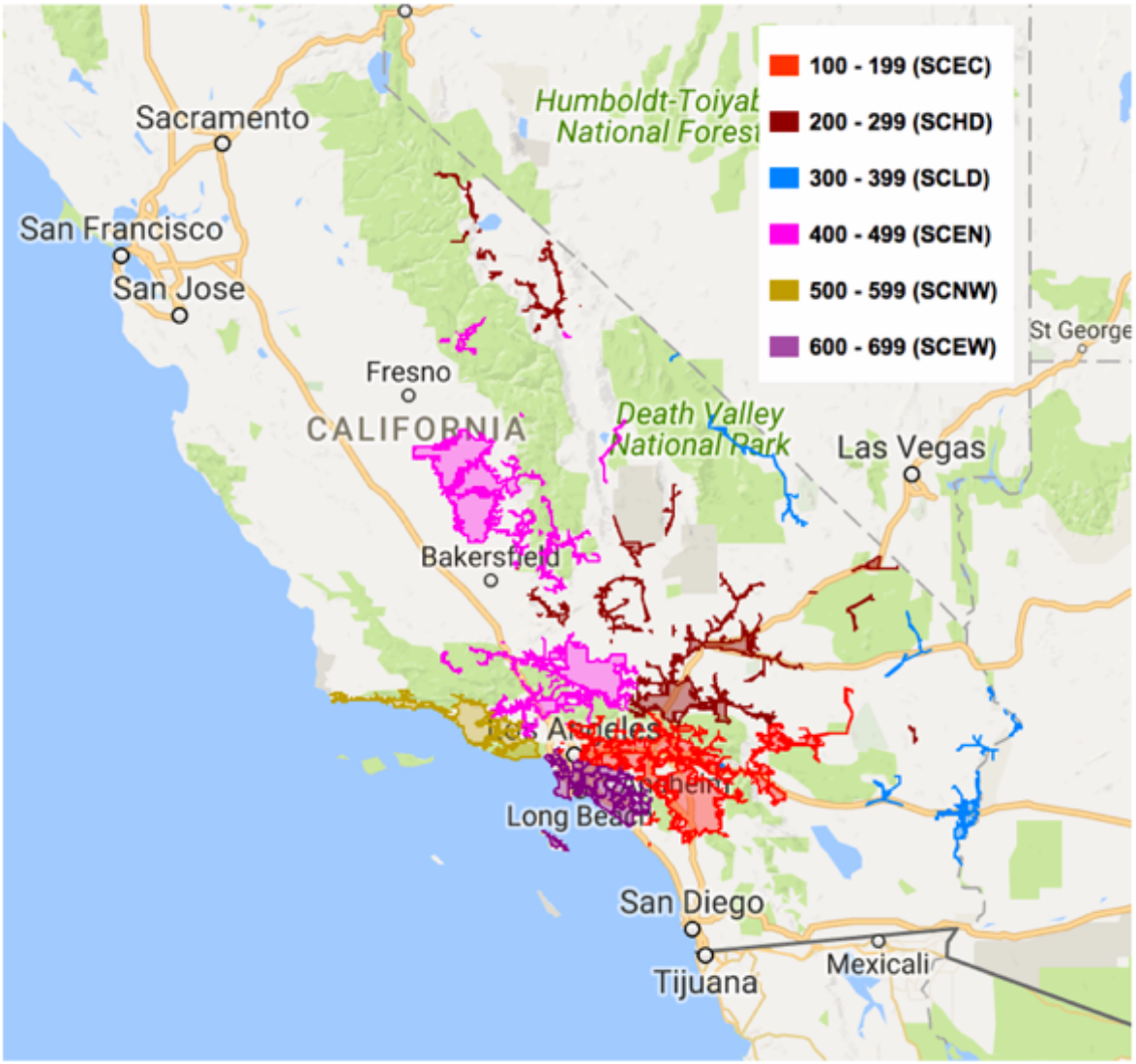


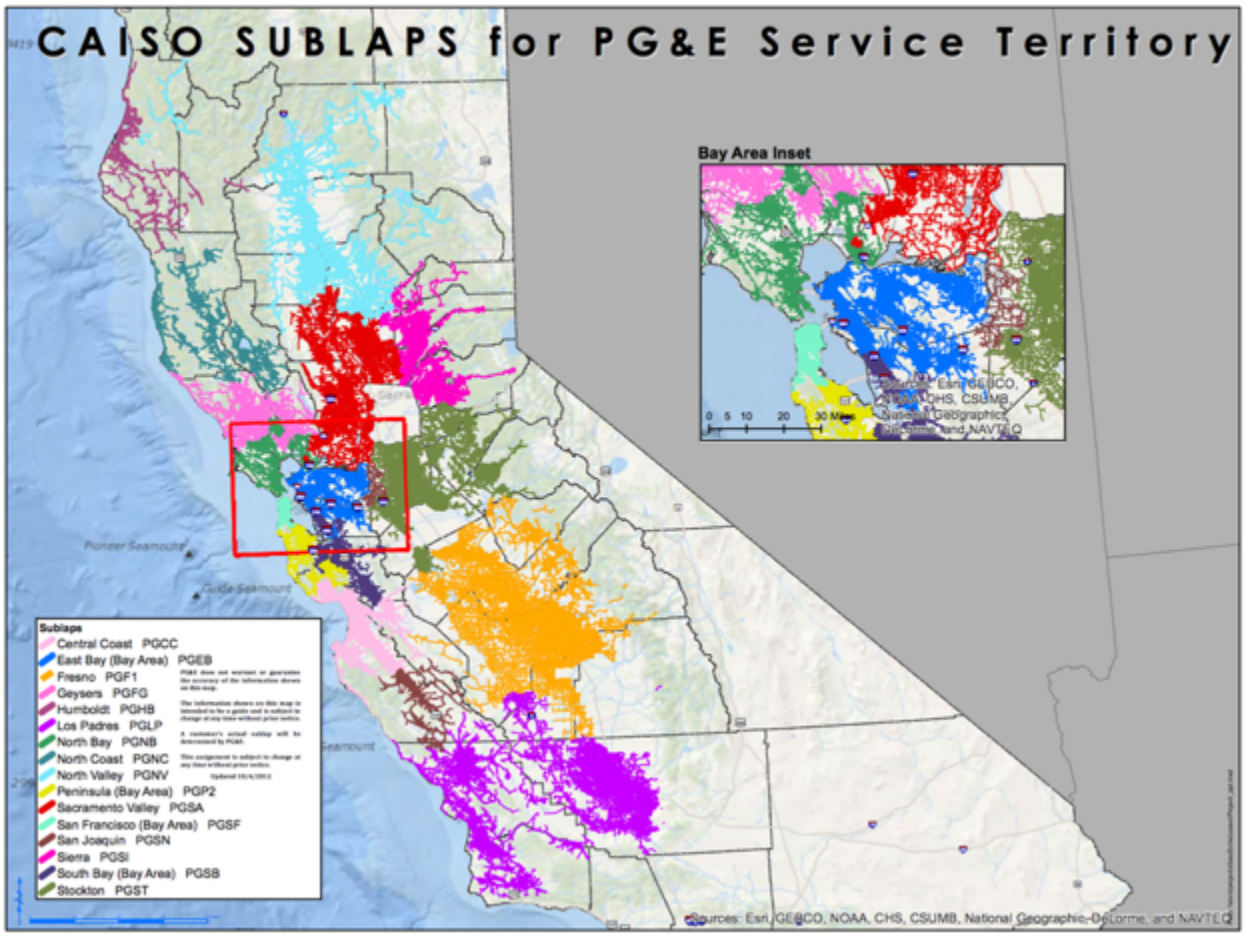

*Figure 1: California Local Reliability Areas (from California Energy Commission)*

**SCE SubLAPs**, from online maps available circa March 2017 at:
https://www.sce.openadr.com/dr.website/scepr-event-blockview.jsf;jsessionid=36221C595D0142AE494BE83B9FFE9612.aku-sf-sce-app1

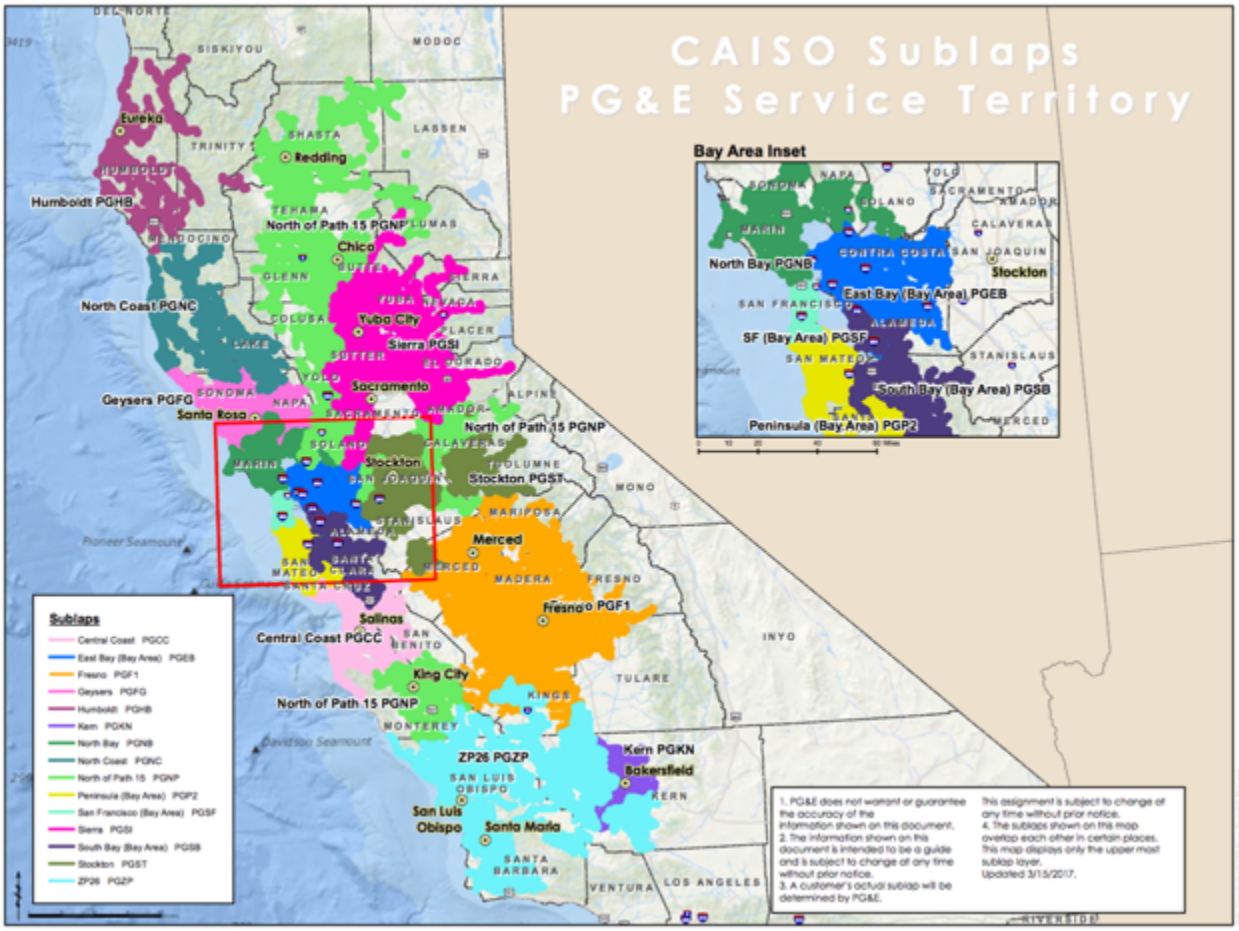



**SDG&E Service Territory** is itself a single SubLAP, SDG1.

**PG&E SubLAPs** Circa **2016** (used in this study):



**PG&E SubLAPs** Circa **2017** (NOT used in this study, for reference only):



## Dataset 1: DR Potential Results by SubLAP

The set of figures and tables below summarize the expected availability of **local shed resources** for each SubLAP.

**What is included for each SubLAP**

Each includes a set of supply curves, by sector, for the "**Net ISO market revenue + Site level Co-benefits**" cost accounting case (i.e., the total cost of the resources minus expected revenue in the CAISO wholesale market and any expected site-level co-benefits from technology adoption). The supply curve figures are all for the year 2025.

Next is a set of tables for the total available resource in the SubLAP across a range of price levels, for both 2020 and 2025.

The final table is a breakdown of the 2025 expected potential by end-use category. The end-use categories include a set of abbreviations for electric vehicle load control: BEV (battery-electric), and PHEV (plug-in hybrid electric).

**Notes on Results Presentation**

All of the results are for Rate Mix #3 and assume a "Mid-AAEE" trajectory for EE deployment in California.

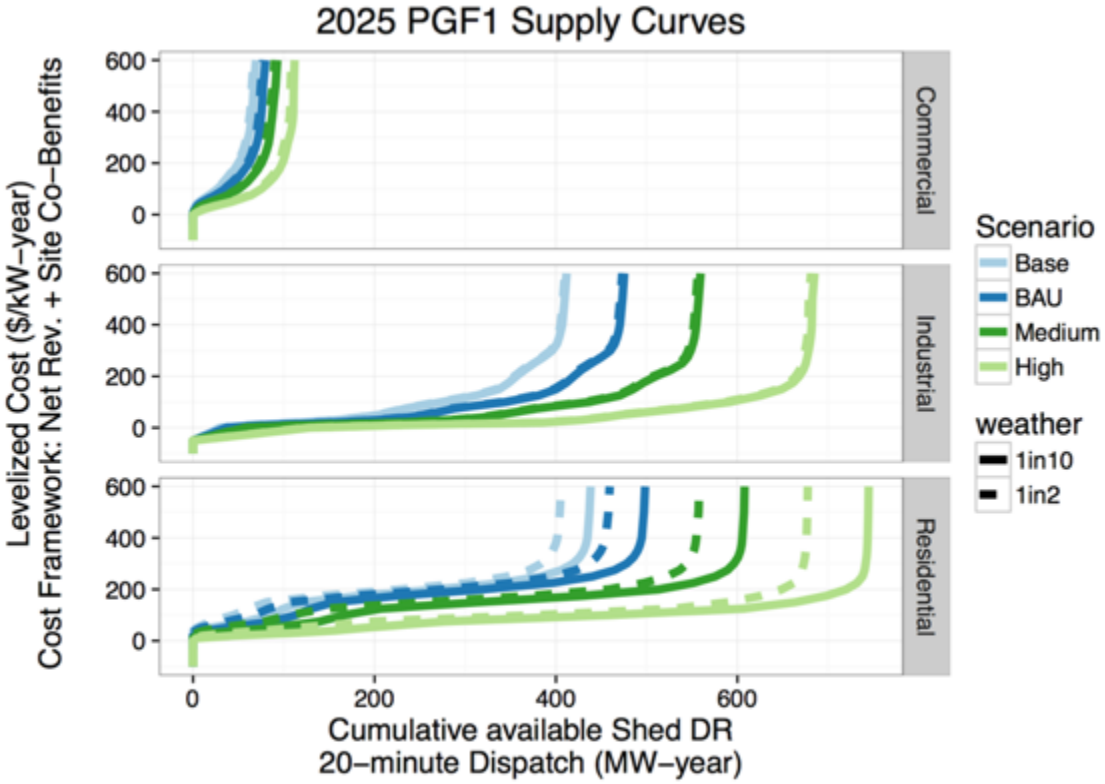
The results in the figures and tables are all representative of the mean ("average") result from 30 stochastically-varied technology input scenarios. More details on the model structure and how these stochastic "Monte Carlo" runs are defined are available in the Phase 2 Report.[5]

Numeric estimates of the results in these tables are reported to two significant figures. In other words, there are two digits of precision, e.g., reporting 540 instead of 543.12. For estimates less than 1 kW in a given aggregation we report a zero.

[5] Alstone et al. (2017), full citation on page 1.

## SubLAP PGF1

# Fresno




SubLAP PGF1 is in Local Capacity Area: Greater Fresno

| **2020 PGF1 Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 240 | 410 | 590 | 910 |
| **Net Tot. with ISO Revenue** | 44 | 270 | 440 | 600 | 930 |
| **Net Rev. + Site Co-Benefits** | 44 | 290 | 470 | 700 | 1000 |
| **Net Rev. + Site + Dist. Co-Benefits** | 410 | 500 | 570 | 710 | 1000 |

| **2025 PGF1 Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 310 | 520 | 700 | 1200 |
| **Net Tot. with ISO Revenue** | 55 | 350 | 560 | 710 | 1200 |
| **Net Rev. + Site Co-Benefits** | 55 | 380 | 590 | 1000 | 1200 |
| **Net Rev. + Site + Dist. Co-Benefits** | 490 | 600 | 680 | 1100 | 1200 |

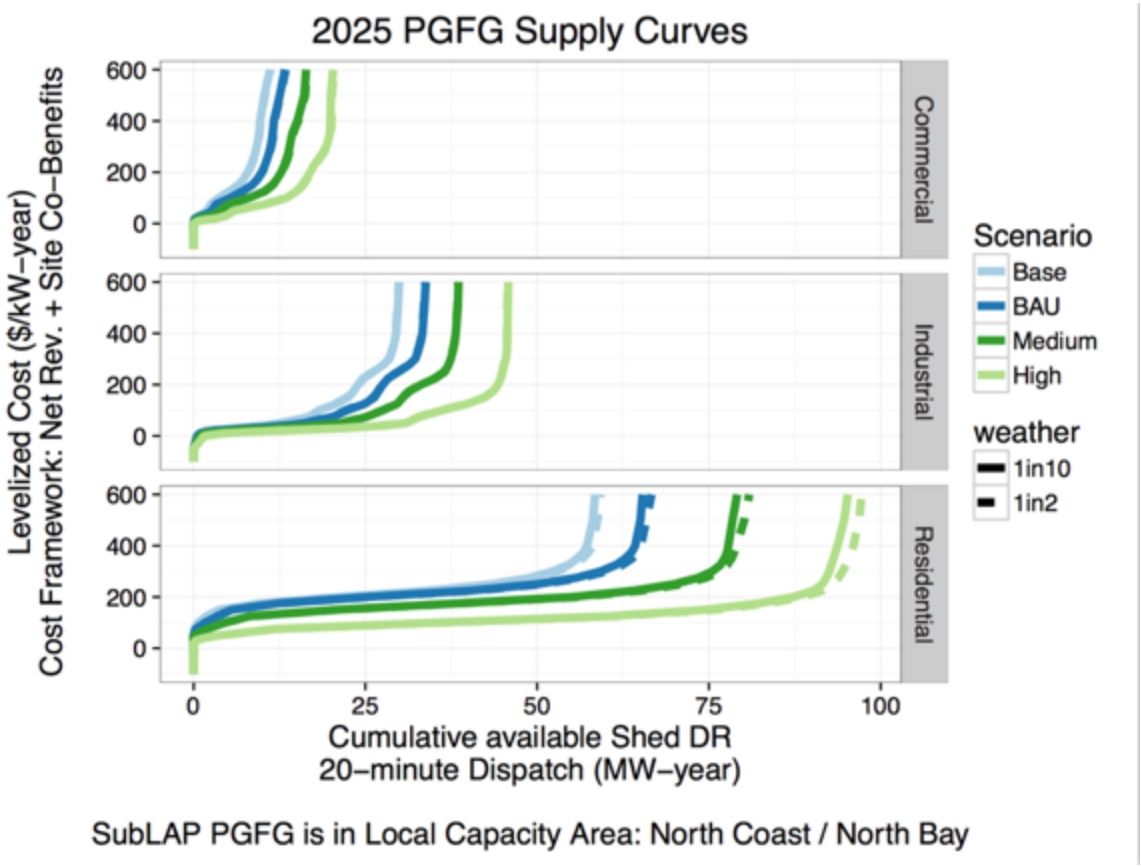
| **2025 PGF1 by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0.00027 | 0.2 | 2 |
| **Commercial bev** | 0 | 0 | 0.0057 | 0.05 | 0.07 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 3.6 | 14 | 22 | 28 |
| **Commercial lighting** | 0 | 14 | 24 | 38 | 41 |
| **Commercial phev** | 0 | 0 | 0.016 | 0.17 | 0.21 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 2 | 12 | 13 | 13 |
| **Industrial battery** | 0 | 0 | 0.088 | 14 | 50 |
| **Industrial process** | 28 | 160 | 190 | 200 | 210 |
| **Industrial pumping** | 27 | 180 | 240 | 290 | 300 |
| **Residential battery** | 0 | 0 | 0 | 310 | 390 |
| **Residential bev** | 0 | 0.35 | 1.6 | 1.9 | 2 |
| **Residential hvac** | 0 | 29 | 100 | 150 | 160 |
| **Residential phev** | 0 | 0.03 | 2.2 | 3.4 | 3.9 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 2.2 |


***Fresno*** *(Photo: Wikipedia user:JMora24)*[6]

[6] There are photographs of a town or regional feature included for each SubLAP, as a graphic marker and to provide color to otherwise repetitive tables and figures. All of the images are either in the Public Domain or were available online with appropriate Creative Commons licenses attached for reuse in public documents like this one, and we thank the photographers and agencies who provided them.

SubLAP PGFG

## Geysers




SubLAP PGFG is in Local Capacity Area: North Coast / North Bay

| **2020 PGFG Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 16 | 27 | 42 | 88 |
| **Net Tot. with ISO Revenue** | 0.68 | 20 | 29 | 42 | 92 |
| **Net Rev. + Site Co-Benefits** | 0.68 | 21 | 31 | 51 | 110 |
| **Net Rev. + Site + Dist. Co-Benefits** | 25 | 33 | 39 | 53 | 110 |

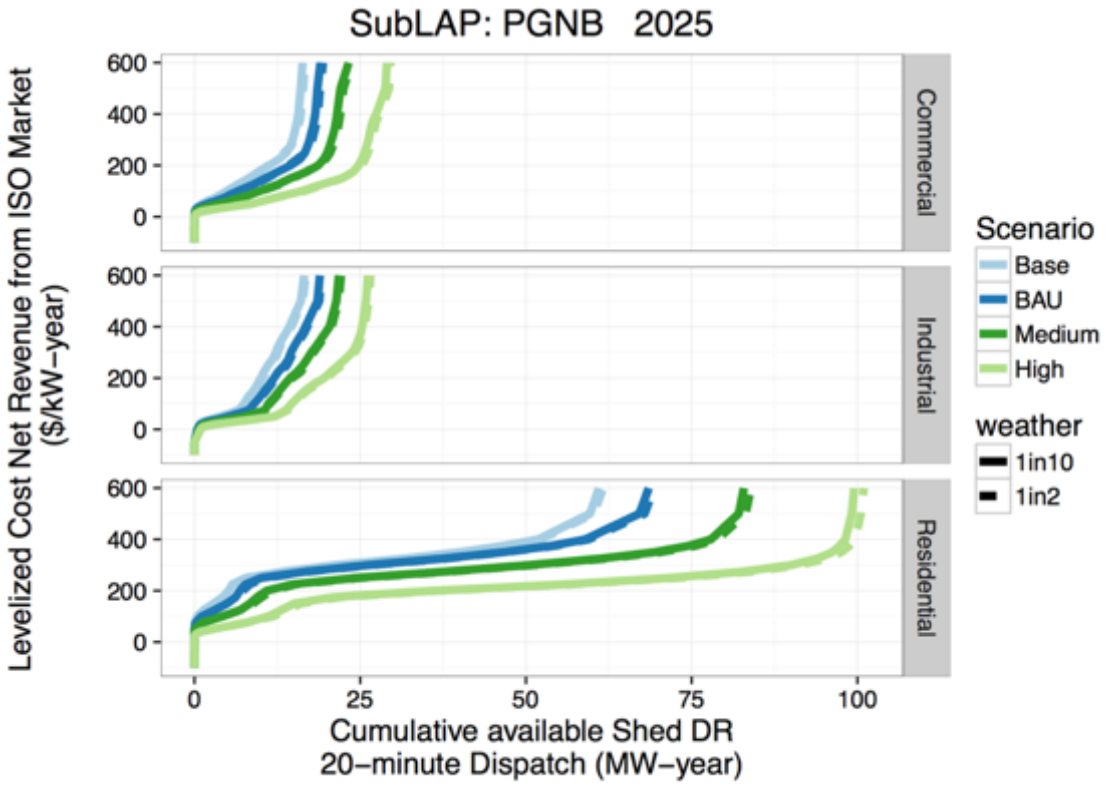
| **2025 PGFG Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 20 | 35 | 52 | 130 |
| **Net Tot. with ISO Revenue** | 0.74 | 24 | 38 | 53 | 130 |
| **Net Rev. + Site Co-Benefits** | 0.74 | 25 | 40 | 100 | 130 |
| **Net Rev. + Site + Dist. Co-Benefits** | 31 | 42 | 49 | 100 | 130 |

| **2025 PGFG by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.0031 | 0.86 |
| **Commercial bev** | 0 | 0 | 0.0031 | 0.042 | 0.097 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.0013 | 1.1 | 1.7 | 3.7 | 4.4 |
| **Commercial lighting** | 0 | 2.7 | 6.4 | 8.9 | 9.6 |
| **Commercial phev** | 0 | 0 | 0.0041 | 0.13 | 0.25 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0 | 0 | 0 | 0.0013 |
| **Industrial battery** | 0 | 0 | 0 | 2 | 6.8 |
| **Industrial process** | 0.74 | 19 | 24 | 27 | 27 |
| **Industrial pumping** | 0 | 2.7 | 3.7 | 4.2 | 4.4 |
| **Residential battery** | 0 | 0 | 0 | 46 | 66 |
| **Residential bev** | 0 | 0.14 | 1.1 | 1.5 | 1.5 |
| **Residential hvac** | 0 | 0 | 0 | 1.7 | 3.7 |
| **Residential phev** | 0 | 0 | 3.4 | 6.8 | 7.9 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.22 |

***Santa Rosa*** *(Photo: Joseph McCarty)*

SubLAP PGNB

## North Bay




SubLAP PGNB is in Local Capacity Area: North Coast / North Bay

| **2020 PGNB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 5.4 | 16 | 31 | 80 |
| **Net Tot. with ISO Revenue** | 0.52 | 8.2 | 17 | 32 | 84 |
| **Net Rev. + Site Co-Benefits** | 0.52 | 10 | 19 | 40 | 100 |
| **Net Rev. + Site + Dist. Co-Benefits** | 17 | 25 | 30 | 44 | 100 |

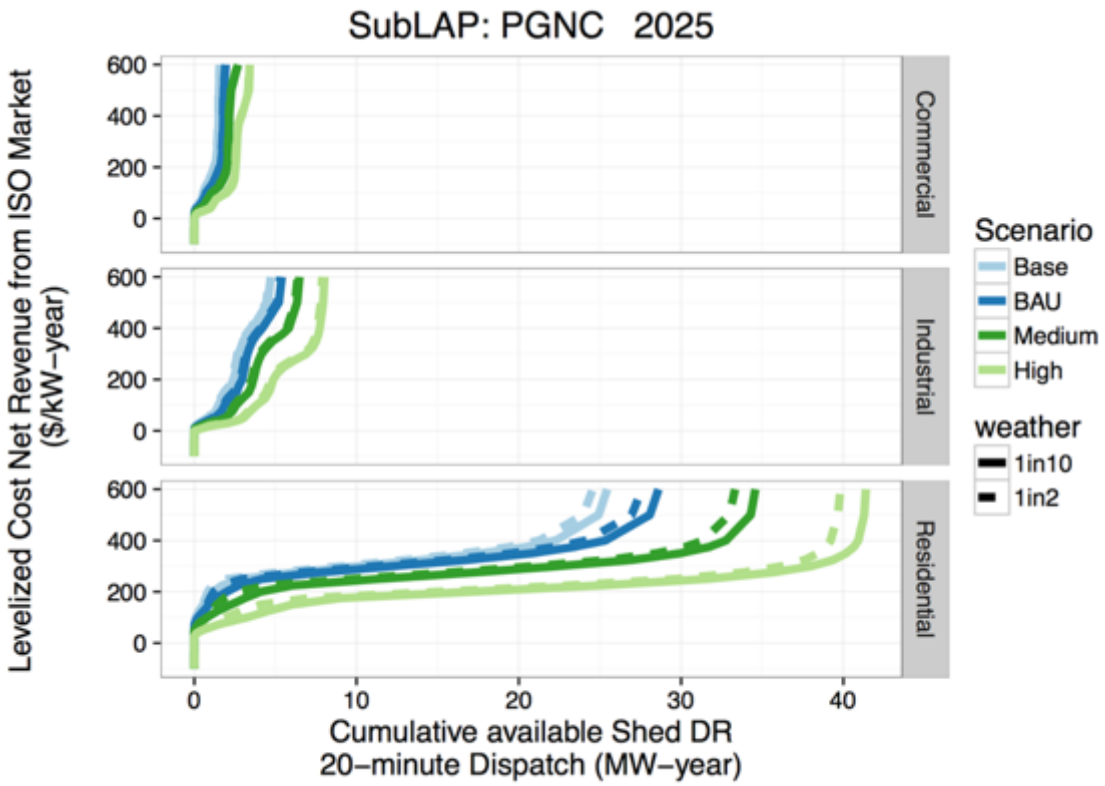
| **2025 PGNB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 7.8 | 23 | 43 | 120 |
| **Net Tot. with ISO Revenue** | 0.62 | 11 | 26 | 45 | 120 |
| **Net Rev. + Site Co-Benefits** | 0.62 | 13 | 28 | 91 | 130 |
| **Net Rev. + Site + Dist. Co-Benefits** | 23 | 33 | 41 | 95 | 130 |

| 2025 PGNB by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.035 | 1.2 |
| **Commercial bev** | 0 | 0 | 0.0048 | 0.047 | 0.077 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 0.92 | 3.3 | 6.1 | 7.2 |
| **Commercial lighting** | 0 | 4.6 | 8.7 | 13 | 14 |
| **Commercial phev** | 0 | 0 | 0.019 | 0.31 | 0.47 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.00036 |
| **Commercial refrigeration** | 0 | 0 | 0.0015 | 0.0016 | 0.002 |
| **Industrial battery** | 0 | 0 | 0.00028 | 0.87 | 3 |
| **Industrial process** | 0.62 | 7.3 | 10 | 14 | 16 |
| **Industrial pumping** | 0 | 0.5 | 0.97 | 1.2 | 2.2 |
| **Residential battery** | 0 | 0 | 0 | 44 | 67 |
| **Residential bev** | 0 | 0.081 | 1.7 | 2.4 | 2.5 |
| **Residential hvac** | 0 | 0 | 0 | 1.8 | 3.6 |
| **Residential phev** | 0 | 0 | 3 | 7.5 | 8.9 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.13 |

***San Rafael*** *(Photo: US Army Corps)*

SubLAP PGNC

## North Coast




SubLAP PGNC is in Local Capacity Area: North Coast / North Bay

| **2020 PGNC Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 1.2 | 2.6 | 5.4 | 25 |
| **Net Tot. with ISO Revenue** | 0.00028 | 1.7 | 2.8 | 5.6 | 27 |
| **Net Rev. + Site Co-Benefits** | 0.00058 | 2 | 3.2 | 10 | 33 |
| **Net Rev. + Site + Dist. Co-Benefits** | 3 | 4.2 | 5 | 11 | 33 |

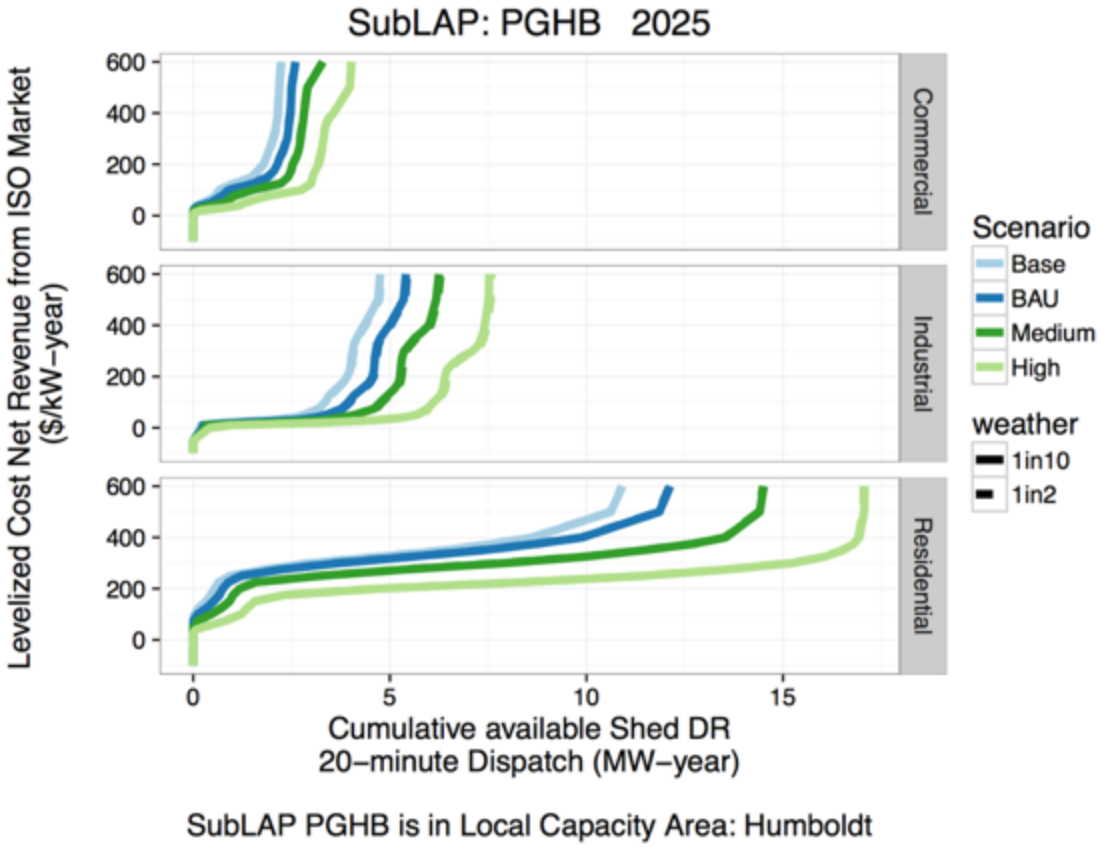
| **2025 PGNC Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 1.8 | 3.9 | 7.7 | 39 |
| **Net Tot. with ISO Revenue** | 0.0019 | 2.4 | 4.3 | 8.1 | 39 |
| **Net Rev. + Site Co-Benefits** | 0.0026 | 2.7 | 4.7 | 29 | 41 |
| **Net Rev. + Site + Dist. Co-Benefits** | 4 | 5.5 | 6.7 | 30 | 42 |

| 2025 PGNC by End-Use (Cost framework: Net ISO Revenue + Site-level co-benefits) DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.017 | 0.31 |
| **Commercial bev** | 0 | 0 | 0 | 0 | 0 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.0019 | 0.14 | 0.2 | 0.5 | 0.55 |
| **Commercial lighting** | 0 | 0.43 | 0.94 | 1.3 | 1.3 |
| **Commercial phev** | 0 | 0 | 0 | 0.0073 | 0.013 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0.18 | 0.19 | 0.19 | 0.19 |
| **Industrial battery** | 0 | 0 | 0 | 0.72 | 2.3 |
| **Industrial process** | 0 | 0.92 | 1.2 | 2.1 | 2.3 |
| **Industrial pumping** | 0 | 1 | 1.4 | 1.5 | 1.7 |
| **Residential battery** | 0 | 0 | 0 | 20 | 28 |
| **Residential bev** | 0 | 0.014 | 0.11 | 0.14 | 0.14 |
| **Residential hvac** | 0 | 0 | 0 | 1 | 3.1 |
| **Residential phev** | 0 | 0.0047 | 0.68 | 1.2 | 1.4 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.11 |

***Mendocino*** *(Photo: David McSpadden)*

SubLAP PGHB

## Humboldt




SubLAP PGHB is in Local Capacity Area: Humboldt

| **2020 PGHB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 3.5 | 4.9 | 7.3 | 14 |
| **Net Tot. with ISO Revenue** | 0.25 | 4 | 5.2 | 7.3 | 15 |
| **Net Rev. + Site Co-Benefits** | 0.25 | 4.6 | 5.7 | 8.5 | 19 |
| **Net Rev. + Site + Dist. Co-Benefits** | 5.2 | 6.5 | 7.1 | 8.7 | 19 |

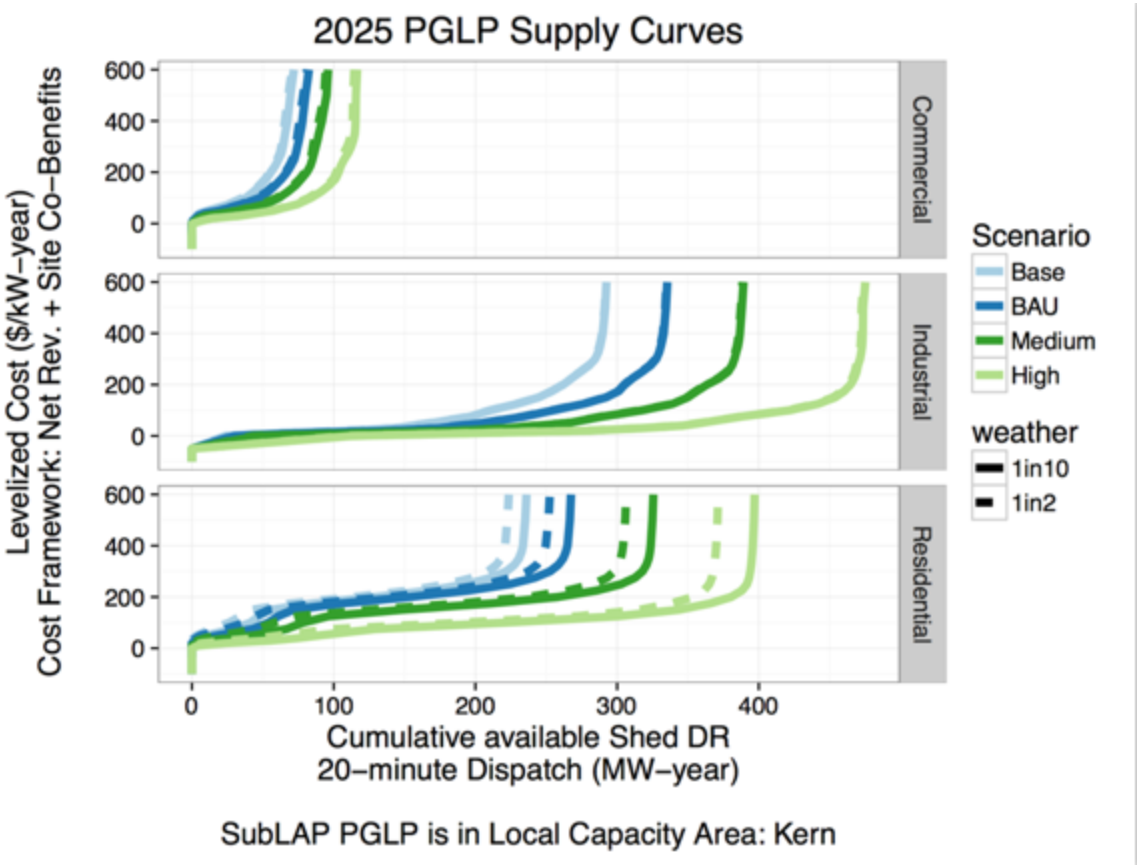
| **2025 PGHB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 4.4 | 6.3 | 8.8 | 22 |
| **Net Tot. with ISO Revenue** | 0.31 | 4.9 | 6.8 | 9 | 22 |
| **Net Rev. + Site Co-Benefits** | 0.31 | 5.5 | 7.4 | 17 | 24 |
| **Net Rev. + Site + Dist. Co-Benefits** | 6.3 | 7.8 | 8.6 | 17 | 24 |

| 2025 PGHB by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| Commercial battery | 0 | 0 | 0 | 0.0028 | 0.32 |
| Commercial bev_work | 0 | 0 | 0 | 0 | 0 |
| Commercial hvac | 0 | 0.037 | 0.14 | 0.18 | 0.27 |
| Commercial lighting | 0 | 0.92 | 1.9 | 2.4 | 2.5 |
| Commercial phev_work | 0 | 0 | 0 | 0 | 0 |
| Commercial refrigeration | 0 | 0 | 0 | 0 | 0 |
| Industrial battery | 0 | 0 | 0 | 0.24 | 0.93 |
| Industrial process | 0.31 | 2.7 | 2.9 | 2.9 | 2.9 |
| Industrial pumping | 0 | 1.8 | 2.1 | 2.4 | 2.4 |
| Residential battery | 0 | 0 | 0 | 7.4 | 13 |
| Residential bev | 0 | 0.0058 | 0.05 | 0.076 | 0.08 |
| Residential hvac | 0 | 0 | 0 | 0 | 0 |
| Residential phev | 0 | 0 | 0.44 | 1.1 | 1.3 |
| Residential poolpump | 0 | 0 | 0 | 0 | 0.023 |

***Humboldt Bay*** *(Photo: US Army Corps)*

SubLAP PGLP

## Los Padres




| **2020 PGLP Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 200 | 320 | 430 | 600 |
| **Net Tot. with ISO Revenue** | 35 | 220 | 340 | 430 | 610 |
| **Net Rev. + Site Co-Benefits** | 35 | 250 | 360 | 480 | 660 |
| **Net Rev. + Site + Dist. Co-Benefits** | 310 | 380 | 420 | 490 | 660 |

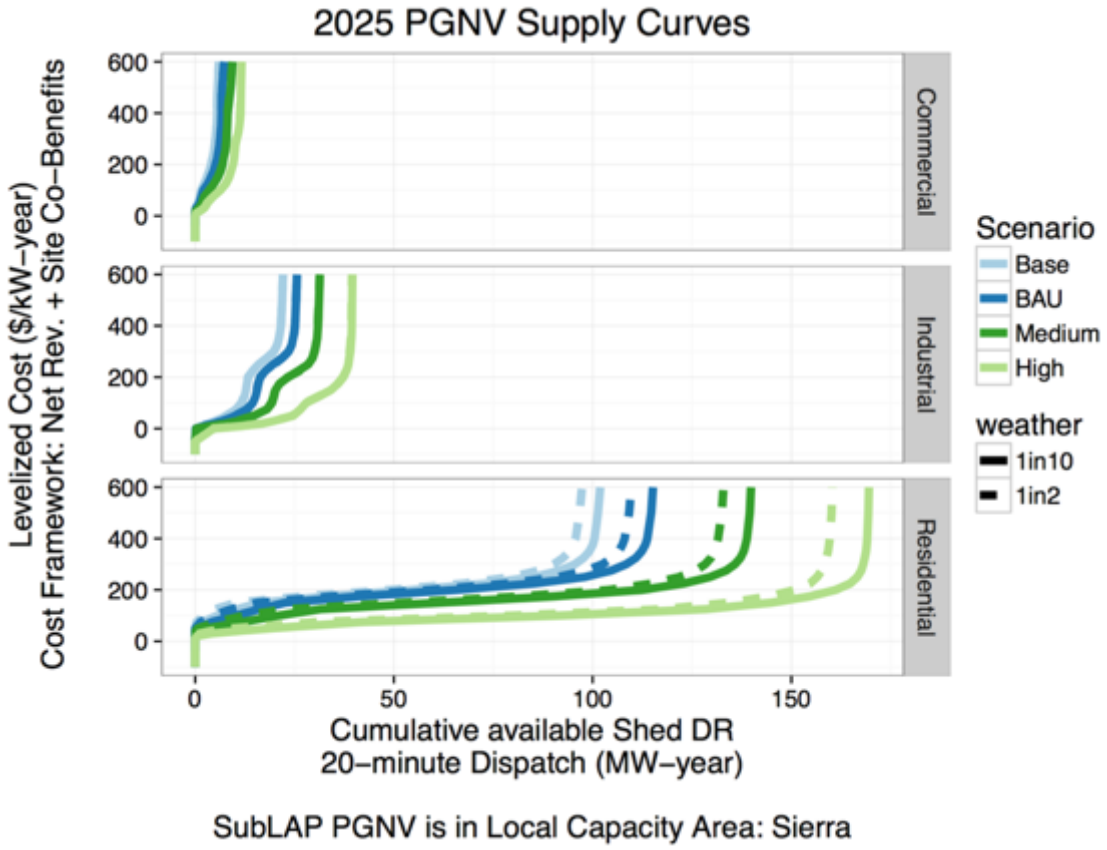
| **2025 PGLP Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 240 | 400 | 500 | 760 |
| **Net Tot. with ISO Revenue** | 43 | 280 | 410 | 510 | 760 |
| **Net Rev. + Site Co-Benefits** | 43 | 320 | 430 | 680 | 780 |
| **Net Rev. + Site + Dist. Co-Benefits** | 370 | 450 | 490 | 690 | 780 |

| 2025 PGLP by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0.0013 | 0.33 | 3 |
| **Commercial bev** | 0 | 0 | 0.01 | 0.044 | 0.058 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 3.3 | 17 | 21 | 25 |
| **Commercial lighting** | 0 | 25 | 34 | 47 | 49 |
| **Commercial phev** | 0 | 0 | 0.035 | 0.31 | 0.41 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 4.9E-05 |
| **Commercial refrigeration** | 0 | 4 | 9.7 | 12 | 12 |
| **Industrial battery** | 0 | 0 | 0.0086 | 6.9 | 24 |
| **Industrial process** | 11 | 120 | 130 | 140 | 140 |
| **Industrial pumping** | 32 | 150 | 190 | 220 | 220 |
| **Residential battery** | 0 | 0 | 0.25 | 160 | 220 |
| **Residential bev** | 0 | 0.22 | 1.1 | 1.5 | 1.5 |
| **Residential hvac** | 0 | 20 | 54 | 70 | 76 |
| **Residential phev** | 0 | 0.051 | 2.7 | 4.5 | 5.1 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.98 |

***San Luis Obispo*** *(Photo: Kjetil Ree)*

SubLAP PGNV

## North Valley




SubLAP PGNV is in Local Capacity Area: Sierra

| **2020 PGNV Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 8.7 | 20 | 40 | 120 |
| **Net Tot. with ISO Revenue** | 0.17 | 10 | 22 | 41 | 120 |
| **Net Rev. + Site Co-Benefits** | 0.17 | 12 | 24 | 64 | 140 |
| **Net Rev. + Site + Dist. Co-Benefits** | 24 | 31 | 37 | 68 | 140 |

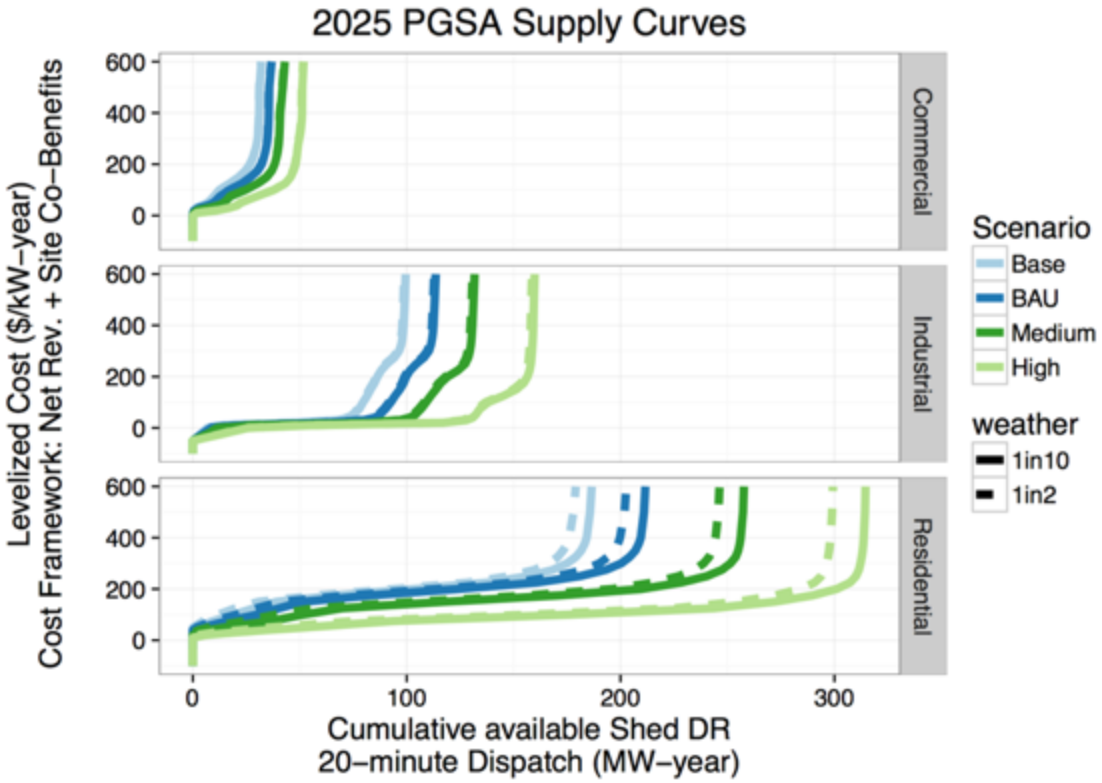
| **2025 PGNV Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 12 | 29 | 52 | 160 |
| **Net Tot. with ISO Revenue** | 0.21 | 15 | 32 | 55 | 160 |
| **Net Rev. + Site Co-Benefits** | 0.21 | 17 | 35 | 130 | 170 |
| **Net Rev. + Site + Dist. Co-Benefits** | 29 | 39 | 48 | 140 | 170 |

| **2025 PGNV by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.0051 | 0.14 |
| **Commercial bev** | 0 | 0 | 0 | 0 | 0 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 0.22 | 0.7 | 1.4 | 2.2 |
| **Commercial lighting** | 0 | 1.5 | 2.8 | 5.4 | 5.7 |
| **Commercial phev** | 0 | 0 | 0.0018 | 0.0081 | 0.01 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0 | 0 | 0.0022 | 0.0025 |
| **Industrial battery** | 0 | 0 | 0 | 2.3 | 7.9 |
| **Industrial process** | 0.21 | 3.3 | 4.5 | 5.3 | 6.7 |
| **Industrial pumping** | 0 | 12 | 15 | 16 | 16 |
| **Residential battery** | 0 | 0 | 0 | 78 | 99 |
| **Residential bev** | 0 | 0.033 | 0.16 | 0.19 | 0.2 |
| **Residential hvac** | 0 | 0.56 | 12 | 26 | 31 |
| **Residential phev** | 0 | 0.0078 | 0.43 | 0.66 | 0.74 |
| **Residential poolpump** | 0 | 0 | 0 | 0.0019 | 0.52 |

***Mount Shasta*** *(Photo: Daniel Schwen)*

SubLAP PGSA

## Sacramento Valley




SubLAP PGSA is in Local Capacity Area: Sierra

| **2020 PGSA Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 89 | 130 | 180 | 310 |
| **Net Tot. with ISO Revenue** | 9.1 | 98 | 130 | 180 | 320 |
| **Net Rev. + Site Co-Benefits** | 9.1 | 100 | 140 | 220 | 340 |
| **Net Rev. + Site + Dist. Co-Benefits** | 120 | 150 | 170 | 230 | 340 |

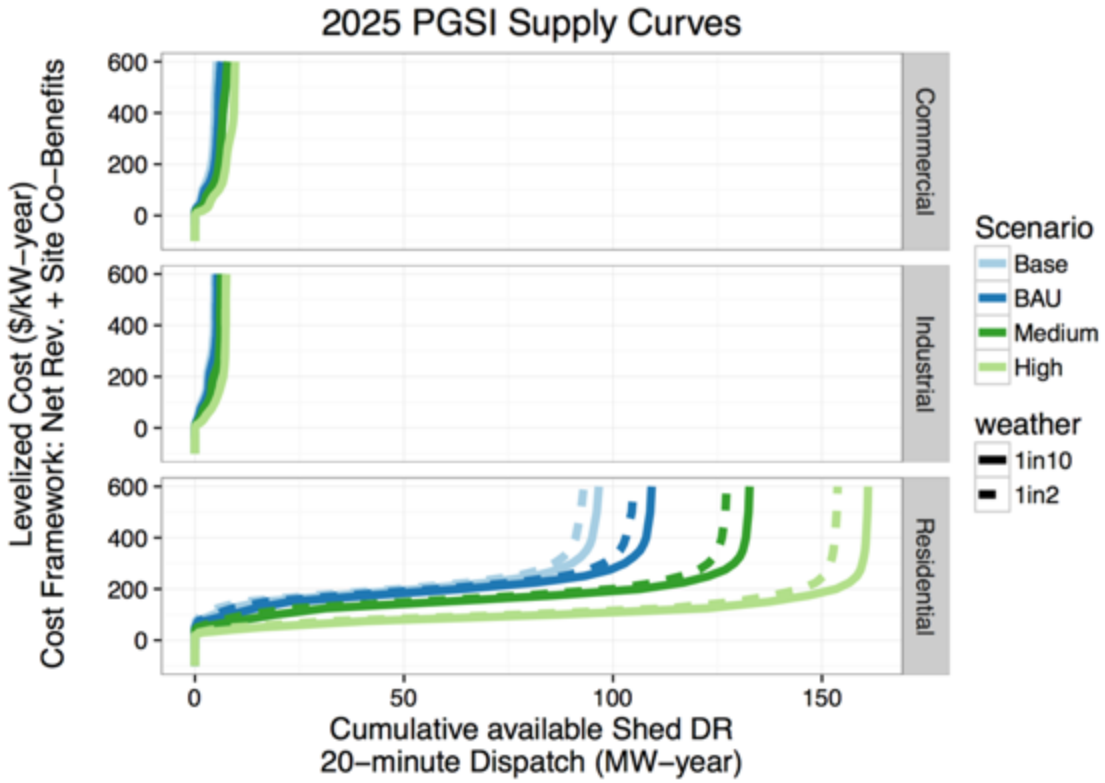
| **2025 PGSA Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 110 | 160 | 210 | 400 |
| **Net Tot. with ISO Revenue** | 11 | 120 | 160 | 210 | 400 |
| **Net Rev. + Site Co-Benefits** | 11 | 120 | 170 | 350 | 410 |
| **Net Rev. + Site + Dist. Co-Benefits** | 140 | 180 | 200 | 360 | 420 |

| **2025 PGSA by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.036 | 0.71 |
| **Commercial bev** | 0 | 0 | 0 | 0.003 | 0.0043 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.0033 | 3.4 | 5.4 | 12 | 13 |
| **Commercial lighting** | 0 | 11 | 19 | 25 | 26 |
| **Commercial phev** | 0 | 0 | 0.027 | 0.36 | 0.46 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0.011 | 0.2 | 0.58 | 0.86 |
| **Industrial battery** | 0 | 0 | 0.0023 | 3.4 | 14 |
| **Industrial process** | 7.7 | 75 | 77 | 80 | 81 |
| **Industrial pumping** | 3.7 | 28 | 31 | 34 | 35 |
| **Residential battery** | 0 | 0 | 0.21 | 130 | 170 |
| **Residential bev** | 0 | 0.31 | 1.3 | 1.6 | 1.7 |
| **Residential hvac** | 0 | 7.1 | 32 | 52 | 62 |
| **Residential phev** | 0 | 0.072 | 5.6 | 8.3 | 9.3 |
| **Residential poolpump** | 0 | 0 | 0 | 0.0013 | 0.95 |

***Davis*** *(Photo: Flickr user:arlen)*

## SubLAP PGSI

# Sierra




SubLAP PGSI is in Local Capacity Area: Sierra

| **2020 PGSI Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 1.3 | 7.3 | 25 | 95 |
| **Net Tot. with ISO Revenue** | 0.0099 | 2 | 9.7 | 26 | 99 |
| **Net Rev. + Site Co-Benefits** | 0.0099 | 2.9 | 10 | 50 | 110 |
| **Net Rev. + Site + Dist. Co-Benefits** | 11 | 16 | 22 | 52 | 110 |

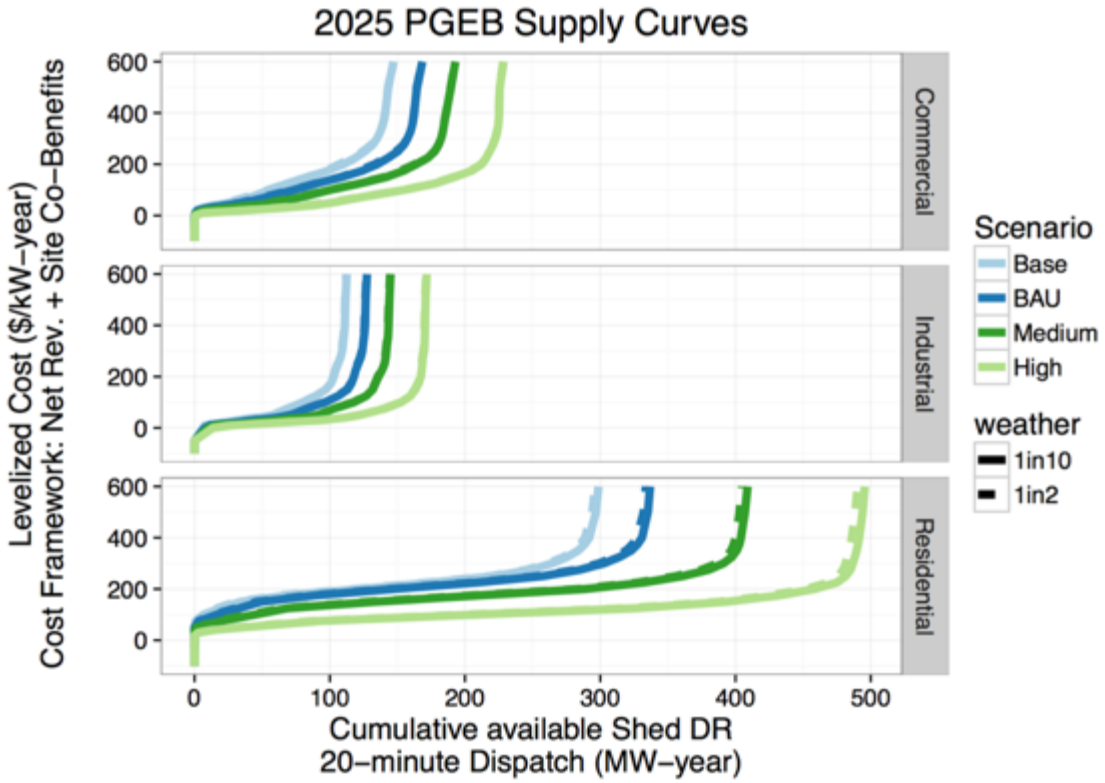
| **2025 PGSI Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 2.1 | 15 | 35 | 130 |
| **Net Tot. with ISO Revenue** | 0.016 | 3.5 | 17 | 38 | 140 |
| **Net Rev. + Site Co-Benefits** | 0.016 | 4.4 | 19 | 110 | 140 |
| **Net Rev. + Site + Dist. Co-Benefits** | 15 | 23 | 31 | 110 | 140 |

| **2025 PGSI by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.0068 | 0.15 |
| **Commercial bev** | 0 | 0 | 0.0027 | 0.011 | 0.015 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 0.31 | 0.51 | 0.94 | 1.4 |
| **Commercial lighting** | 0 | 2 | 3.1 | 4.7 | 5 |
| **Commercial phev** | 0 | 0 | 0.0055 | 0.05 | 0.065 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0 | 0 | 0 | 0 |
| **Industrial battery** | 0 | 0 | 0.12 | 0.67 | 1.7 |
| **Industrial process** | 0 | 0.98 | 2.2 | 2.6 | 3.2 |
| **Industrial pumping** | 0.016 | 0.61 | 0.84 | 1.2 | 1.2 |
| **Residential battery** | 0 | 0 | 0 | 73 | 93 |
| **Residential bev** | 0 | 0.2 | 0.83 | 1 | 1.1 |
| **Residential hvac** | 0 | 0.2 | 8.5 | 21 | 27 |
| **Residential phev** | 0 | 0.08 | 2.9 | 4.4 | 5 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.55 |

***Truckee*** *(Photo: Don Graham)*

SubLAP PGEB

## East Bay




SubLAP PGEB is in Local Capacity Area: Greater Bay

| **2020 PGEB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 73 | 160 | 280 | 510 |
| **Net Tot. with ISO Revenue** | 7.7 | 94 | 180 | 290 | 530 |
| **Net Rev. + Site Co-Benefits** | 7.7 | 110 | 190 | 350 | 600 |
| **Net Rev. + Site + Dist. Co-Benefits** | 170 | 230 | 270 | 370 | 600 |

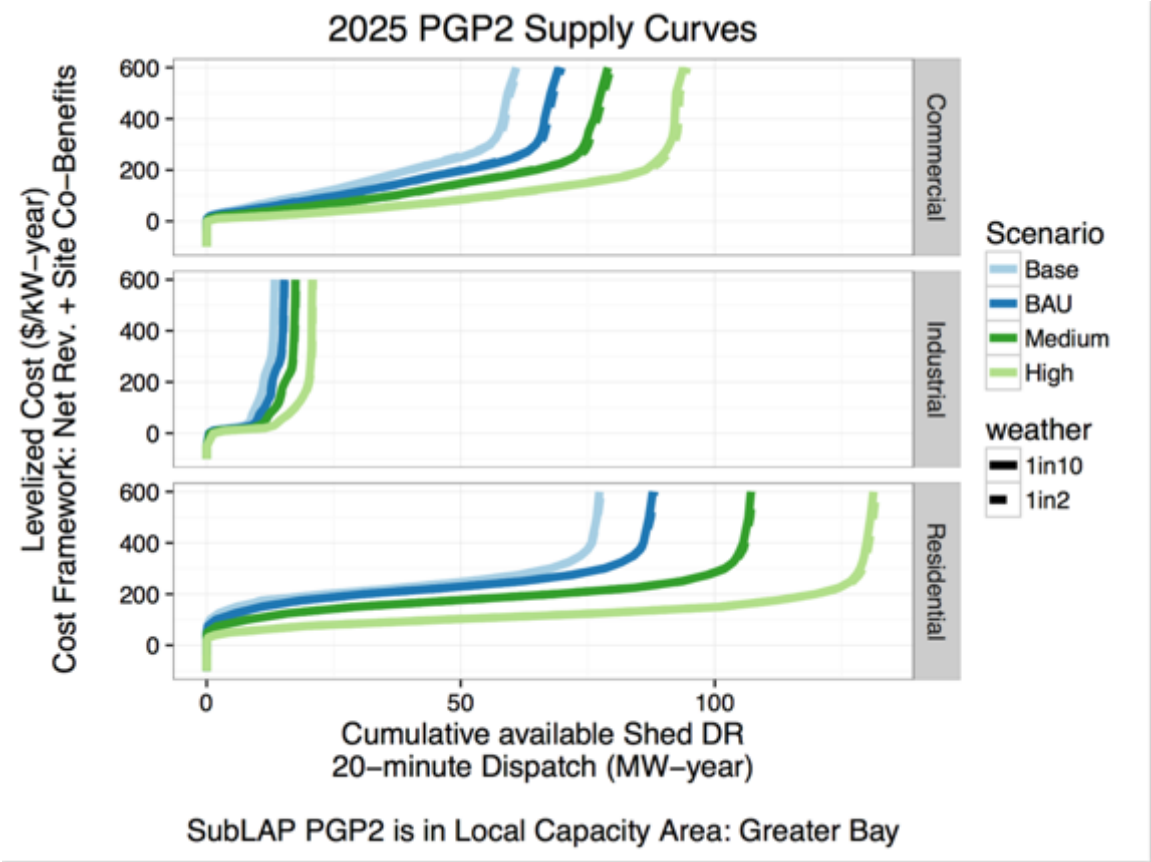
| **2025 PGEB Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 100 | 220 | 350 | 700 |
| **Net Tot. with ISO Revenue** | 9.7 | 130 | 240 | 360 | 710 |
| **Net Rev. + Site Co-Benefits** | 9.7 | 150 | 260 | 580 | 730 |
| **Net Rev. + Site + Dist. Co-Benefits** | 200 | 280 | 340 | 600 | 730 |

| 2025 PGEB by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.15 | 3.8 |
| **Commercial bev** | 0 | 0 | 0.022 | 0.24 | 0.39 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.011 | 12 | 33 | 55 | 71 |
| **Commercial lighting** | 0 | 42 | 66 | 100 | 110 |
| **Commercial phev** | 0 | 0 | 0.1 | 1.2 | 1.7 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.0045 |
| **Commercial refrigeration** | 0 | 0.96 | 1.1 | 1.3 | 1.3 |
| **Industrial battery** | 0 | 0 | 2.5 | 8.2 | 14 |
| **Industrial process** | 9.7 | 90 | 110 | 130 | 130 |
| **Industrial pumping** | 0.047 | 0.61 | 0.82 | 1.4 | 1.6 |
| **Residential battery** | 0 | 0 | 0 | 210 | 300 |
| **Residential bev** | 0 | 1.1 | 8.3 | 11 | 11 |
| **Residential hvac** | 0 | 0 | 11 | 29 | 43 |
| **Residential phev** | 0 | 0.14 | 20 | 36 | 41 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 1.1 |

***Berkeley*** *(Photo: Kyle Harmon)*

SubLAP PGP2

## Peninsula




| **2020 PGP2 Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 13 | 31 | 69 | 130 |
| **Net Tot. with ISO Revenue** | 0.54 | 16 | 36 | 72 | 140 |
| **Net Rev. + Site Co-Benefits** | 0.54 | 22 | 41 | 81 | 160 |
| **Net Rev. + Site + Dist. Co-Benefits** | 43 | 57 | 70 | 92 | 160 |

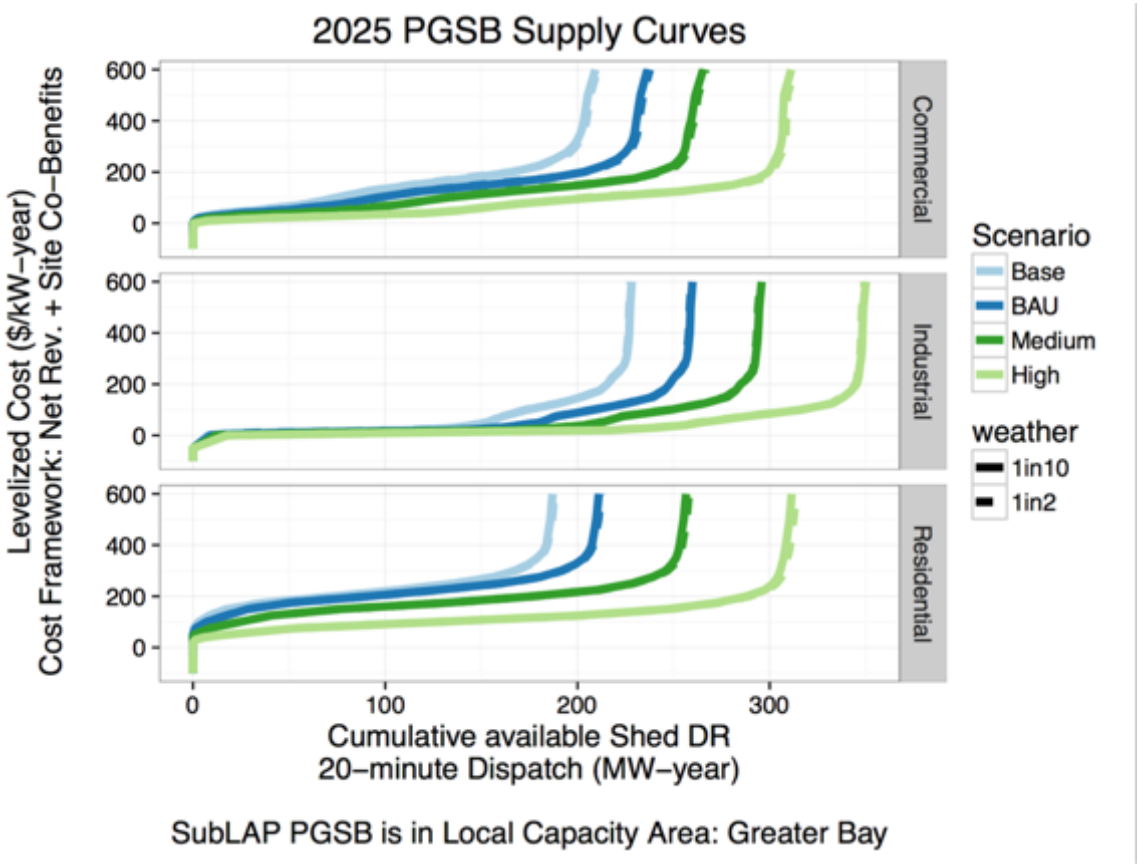
| **2025 PGP2 Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 17 | 46 | 96 | 190 |
| **Net Tot. with ISO Revenue** | 0.68 | 21 | 52 | 99 | 190 |
| **Net Rev. + Site Co-Benefits** | 0.68 | 28 | 59 | 150 | 200 |
| **Net Rev. + Site + Dist. Co-Benefits** | 53 | 74 | 91 | 160 | 200 |

| 2025 PGP2 by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.065 | 2 |
| **Commercial bev** | 0 | 0 | 0.011 | 0.15 | 0.24 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 1.8 | 11 | 18 | 27 |
| **Commercial lighting** | 0 | 15 | 27 | 45 | 47 |
| **Commercial phev** | 0 | 0 | 0.05 | 0.69 | 0.91 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.0039 |
| **Commercial refrigeration** | 0 | 0 | 0 | 0 | 2.0E-04 |
| **Industrial battery** | 0 | 0 | 0 | 0.6 | 2.1 |
| **Industrial process** | 0.64 | 11 | 13 | 14 | 14 |
| **Industrial pumping** | 0.044 | 0.8 | 0.91 | 0.95 | 0.96 |
| **Residential battery** | 0 | 0 | 0 | 42 | 74 |
| **Residential bev** | 0 | 0.12 | 4.3 | 7.3 | 7.8 |
| **Residential hvac** | 0 | 0 | 0 | 1.9 | 3.6 |
| **Residential phev** | 0 | 0 | 3.6 | 17 | 20 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.058 |

**Redwood City** (Photo: Wikipedia user:Coolcaesar)

SubLAP PGSB

## South Bay




| **2020 PGSB Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 190 | 290 | 470 | 630 |
| **Net Tot. with ISO Revenue** | 9.7 | 210 | 310 | 480 | 640 |
| **Net Rev. + Site Co-Benefits** | 9.7 | 240 | 320 | 510 | 680 |
| **Net Rev. + Site + Dist. Co-Benefits** | 300 | 390 | 440 | 530 | 680 |

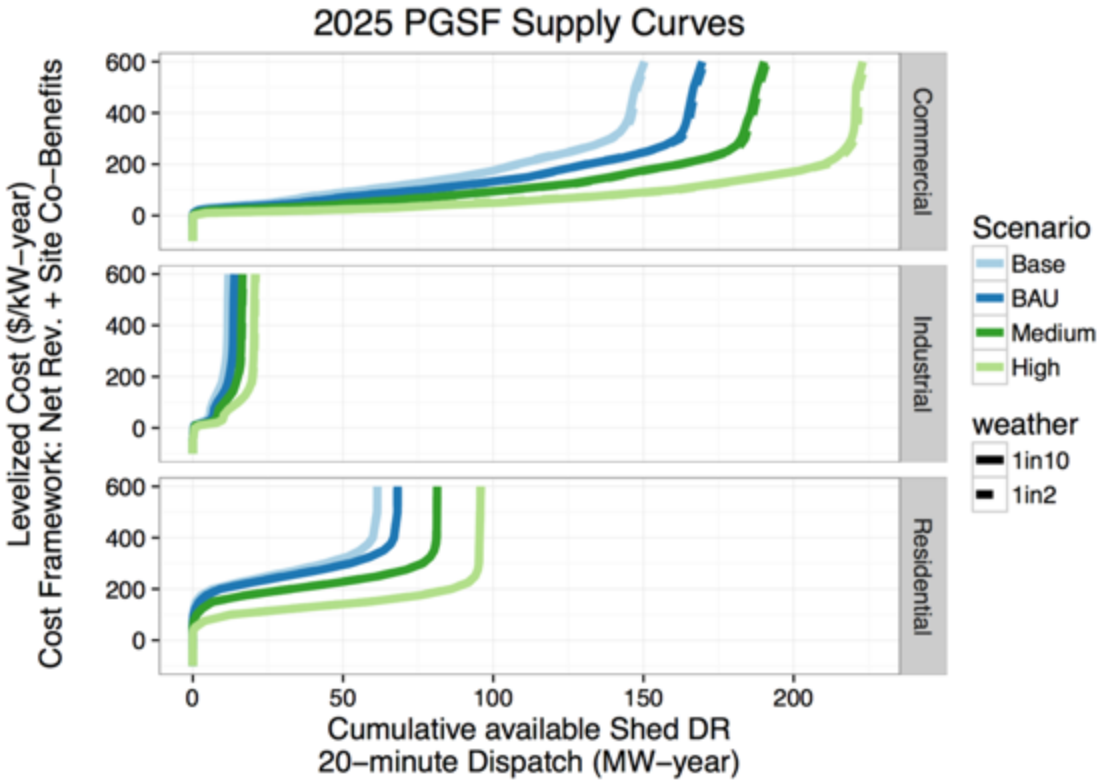
| **2025 PGSB Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 230 | 370 | 560 | 790 |
| **Net Tot. with ISO Revenue** | 12 | 260 | 390 | 570 | 790 |
| **Net Rev. + Site Co-Benefits** | 12 | 290 | 400 | 700 | 810 |
| **Net Rev. + Site + Dist. Co-Benefits** | 330 | 450 | 520 | 720 | 810 |

| 2025 PGSB by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.31 | 5.4 |
| **Commercial bev** | 0 | 0 | 0.022 | 0.27 | 0.42 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.039 | 29 | 52 | 110 | 120 |
| **Commercial lighting** | 0 | 46 | 78 | 130 | 130 |
| **Commercial phev** | 0 | 0 | 0.14 | 1.8 | 2.4 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.0088 |
| **Commercial refrigeration** | 0 | 1.7 | 1.9 | 2.2 | 2.2 |
| **Industrial battery** | 0 | 0 | 0.0062 | 1.8 | 8.9 |
| **Industrial process** | 12 | 210 | 240 | 270 | 280 |
| **Industrial pumping** | 0.11 | 5.9 | 6.7 | 8.3 | 8.3 |
| **Residential battery** | 0 | 0 | 0 | 120 | 190 |
| **Residential bev** | 0 | 0.64 | 9 | 13 | 13 |
| **Residential hvac** | 0 | 0 | 0 | 4.4 | 8.7 |
| **Residential phev** | 0 | 0.05 | 15 | 35 | 42 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.37 |

***San Jose*** *(Photo: Flickr:the_tahoe_guy)*

SubLAP PGSF

## San Francisco




SubLAP PGSF is in Local Capacity Area: Greater Bay

| **2020 PGSF Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 15 | 69 | 140 | 210 |
| **Net Tot. with ISO Revenue** | 0.36 | 28 | 79 | 150 | 210 |
| **Net Rev. + Site Co-Benefits** | 0.36 | 47 | 92 | 150 | 240 |
| **Net Rev. + Site + Dist. Co-Benefits** | 91 | 120 | 140 | 170 | 240 |

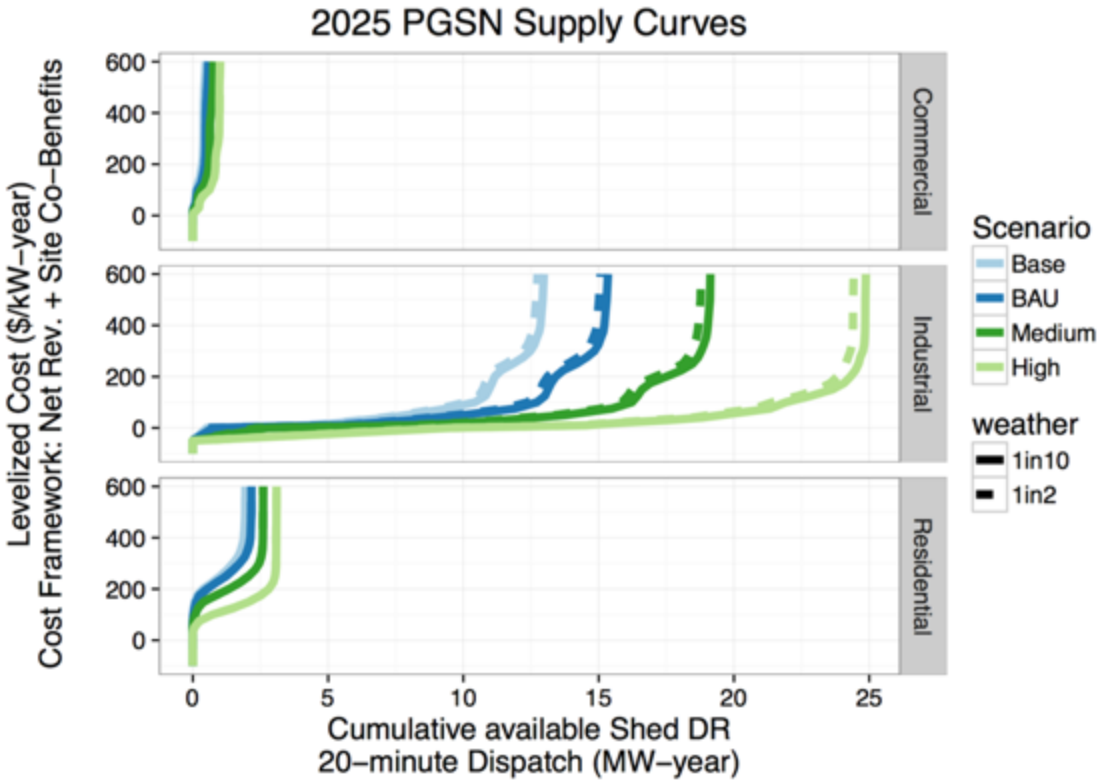
| **2025 PGSF Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 26 | 97 | 170 | 270 |
| **Net Tot. with ISO Revenue** | 0.43 | 45 | 110 | 170 | 270 |
| **Net Rev. + Site Co-Benefits** | 0.43 | 64 | 120 | 210 | 280 |
| **Net Rev. + Site + Dist. Co-Benefits** | 110 | 140 | 170 | 220 | 280 |

| **2025 PGSF by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.29 | 4.5 |
| **Commercial bev** | 0 | 0 | 0.026 | 0.45 | 0.67 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 5.7 | 34 | 51 | 69 |
| **Commercial lighting** | 0 | 50 | 72 | 110 | 110 |
| **Commercial phev** | 0 | 0 | 0.14 | 1.5 | 1.9 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.00036 |
| **Commercial refrigeration** | 0 | 0.022 | 0.2 | 0.26 | 0.27 |
| **Industrial battery** | 0 | 0 | 0 | 0.19 | 0.9 |
| **Industrial process** | 0.43 | 8.2 | 10 | 15 | 15 |
| **Industrial pumping** | 0 | 0.095 | 0.098 | 0.33 | 0.4 |
| **Residential battery** | 0 | 0 | 0 | 26 | 73 |
| **Residential bev** | 0 | 0.011 | 0.69 | 1.8 | 2 |
| **Residential hvac** | 0 | 0 | 0 | 0 | 0 |
| **Residential phev** | 0 | 0 | 0.49 | 4.4 | 6 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.031 |

***San Francisco*** *(Photo: Christian Mehlführer)*

SubLAP PGSN

## San Joaquin




SubLAP PGSN is in Local Capacity Area: Greater Bay

| **2020 PGSN Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 8.1 | 13 | 14 | 16 |
| **Net Tot. with ISO Revenue** | 1.7 | 9.2 | 13 | 14 | 17 |
| **Net Rev. + Site Co-Benefits** | 1.7 | 11 | 13 | 15 | 18 |
| **Net Rev. + Site + Dist. Co-Benefits** | 11 | 13 | 14 | 15 | 18 |

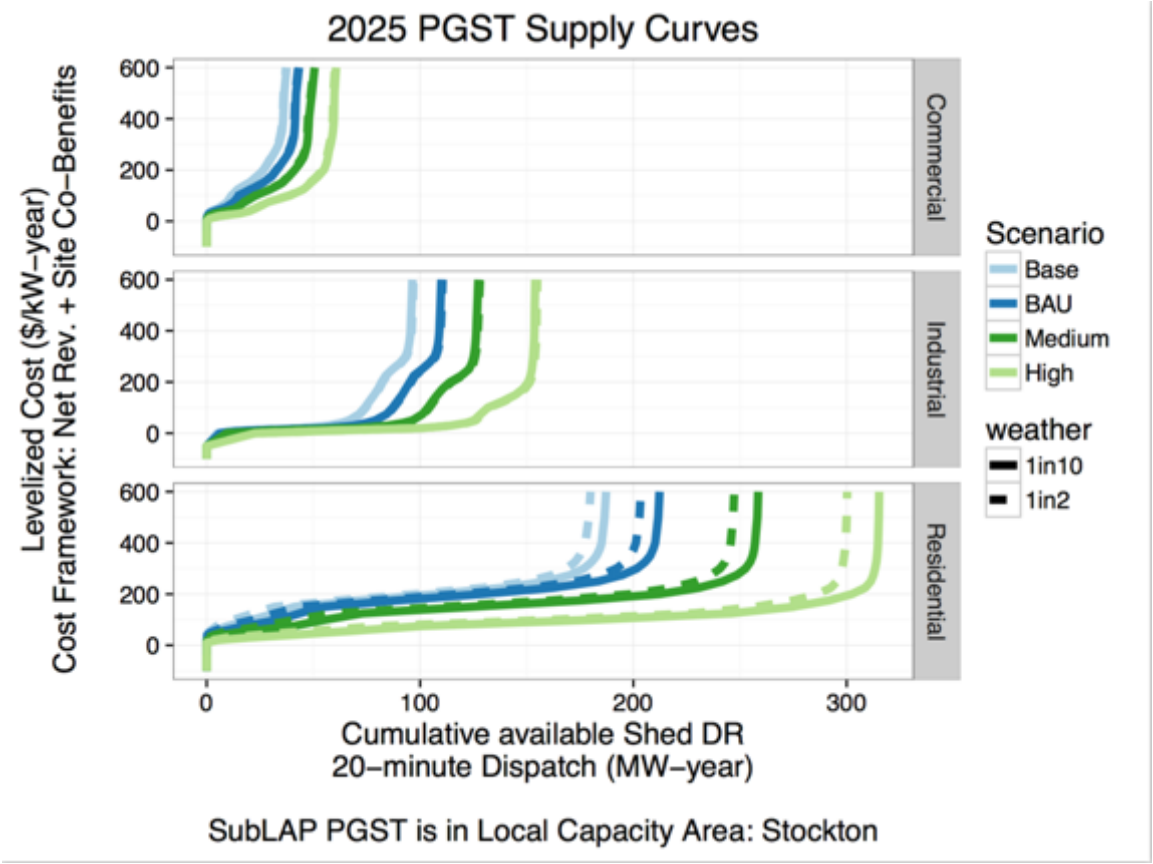
| **2025 PGSN Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 10 | 15 | 17 | 21 |
| **Net Tot. with ISO Revenue** | 2.3 | 12 | 16 | 17 | 21 |
| **Net Rev. + Site Co-Benefits** | 2.3 | 14 | 16 | 19 | 22 |
| **Net Rev. + Site + Dist. Co-Benefits** | 14 | 16 | 17 | 19 | 22 |

| **2025 PGSN by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0 | 0.057 |
| **Commercial bev** | 0 | 0 | 0 | 0.0031 | 0.0056 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 0.0079 | 0.011 | 0.013 | 0.015 |
| **Commercial lighting** | 0 | 0.16 | 0.29 | 0.58 | 0.6 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Industrial battery** | 0 | 0 | 0 | 0.61 | 1.8 |
| **Industrial process** | 0.047 | 1.3 | 2.9 | 3 | 3 |
| **Industrial pumping** | 2.3 | 12 | 13 | 14 | 14 |
| **Residential battery** | 0 | 0 | 0 | 1 | 2.2 |
| **Residential bev** | 0 | 0.0011 | 0.033 | 0.064 | 0.069 |
| **Residential hvac** | 0 | 0 | 0 | 0 | 0.0028 |
| **Residential phev** | 0 | 0 | 0.053 | 0.26 | 0.34 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.0023 |

***Discovery Bay*** *(Photo: Town of Discovery Bay)*

## SubLAP PGST

# Stockton




| **2020 PGST Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 79 | 120 | 180 | 320 |
| **Net Tot. with ISO Revenue** | 7.3 | 88 | 130 | 180 | 320 |
| **Net Rev. + Site Co-Benefits** | 7.3 | 96 | 130 | 220 | 350 |
| **Net Rev. + Site + Dist. Co-Benefits** | 120 | 150 | 170 | 230 | 350 |

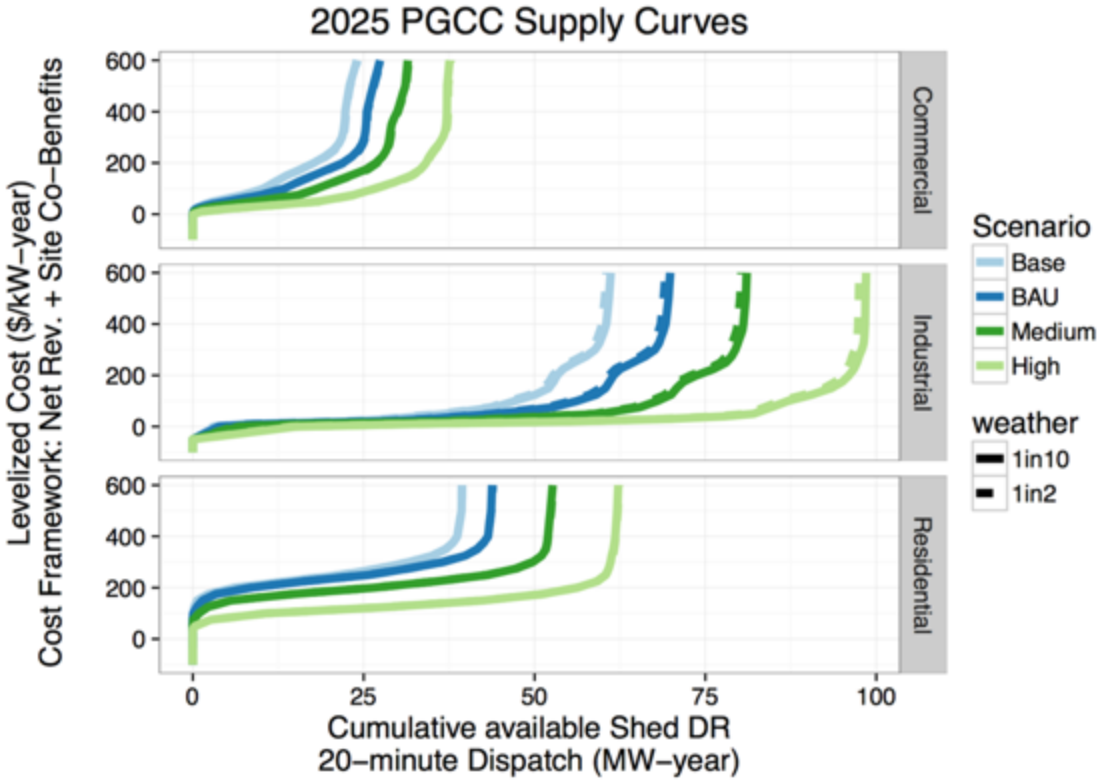
| **2025 PGST Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 95 | 160 | 210 | 410 |
| **Net Tot. with ISO Revenue** | 9.6 | 110 | 160 | 220 | 410 |
| **Net Rev. + Site Co-Benefits** | 9.6 | 120 | 170 | 350 | 420 |
| **Net Rev. + Site + Dist. Co-Benefits** | 140 | 180 | 200 | 360 | 420 |

| 2025 PGST by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| Commercial battery | 0 | 0 | 0 | 0.063 | 0.83 |
| Commercial bev | 0 | 0 | 0.0029 | 0.0079 | 0.0095 |
| Commercial bev_work | 0 | 0 | 0 | 0 | 0 |
| Commercial hvac | 0 | 1.3 | 4.6 | 8.6 | 13 |
| Commercial lighting | 0 | 7.7 | 12 | 24 | 26 |
| Commercial phev | 0 | 0 | 0.0076 | 0.077 | 0.096 |
| Commercial phev_work | 0 | 0 | 0 | 0 | 0 |
| Commercial refrigeration | 0 | 4 | 5.6 | 7.5 | 8 |
| Industrial battery | 0 | 0 | 0.0016 | 3.7 | 14 |
| Industrial process | 6.7 | 72 | 76 | 80 | 81 |
| Industrial pumping | 2.9 | 25 | 29 | 31 | 32 |
| Residential battery | 0 | 0 | 0 | 130 | 170 |
| Residential bev | 0 | 0.077 | 0.36 | 0.44 | 0.46 |
| Residential hvac | 0 | 7.4 | 40 | 62 | 70 |
| Residential phev | 0 | 0.026 | 1.3 | 2 | 2.2 |
| Residential poolpump | 0 | 0 | 0 | 0 | 0.96 |

***Modesto*** *(Photo: D Ramey Logan)*

SubLAP PGCC

## Central Coast




SubLAP PGCC is in Local Capacity Area: Unspecified Local Area

| **2020 PGCC Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 41 | 66 | 84 | 110 |
| **Net Tot. with ISO Revenue** | 4.5 | 45 | 68 | 86 | 120 |
| **Net Rev. + Site Co-Benefits** | 4.5 | 53 | 72 | 89 | 140 |
| **Net Rev. + Site + Dist. Co-Benefits** | 62 | 77 | 82 | 91 | 140 |

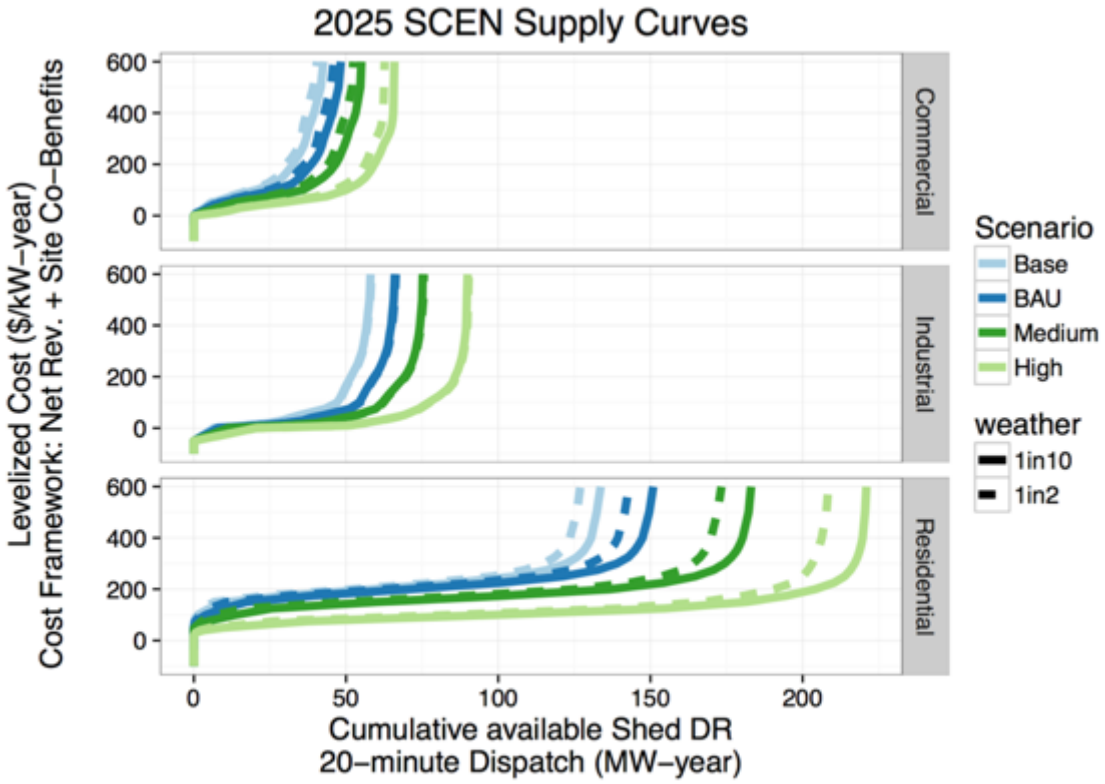
| **2025 PGCC Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 49 | 80 | 99 | 150 |
| **Net Tot. with ISO Revenue** | 6 | 57 | 82 | 100 | 150 |
| **Net Rev. + Site Co-Benefits** | 6 | 68 | 86 | 130 | 160 |
| **Net Rev. + Site + Dist. Co-Benefits** | 76 | 90 | 97 | 130 | 160 |

| 2025 PGCC by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.035 | 1.5 |
| **Commercial bev** | 0 | 0 | 0.0082 | 0.054 | 0.084 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 2.1 | 5.2 | 8.6 | 9.5 |
| **Commercial lighting** | 0 | 5.8 | 9.8 | 13 | 14 |
| **Commercial phev** | 0 | 0 | 0.014 | 0.098 | 0.13 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.00013 |
| **Commercial refrigeration** | 0 | 1.1 | 3.3 | 4.9 | 5.1 |
| **Industrial battery** | 0 | 0 | 0.061 | 2.4 | 8.2 |
| **Industrial process** | 2.8 | 27 | 29 | 31 | 31 |
| **Industrial pumping** | 3.2 | 31 | 38 | 40 | 40 |
| **Residential battery** | 0 | 0 | 0 | 22 | 47 |
| **Residential bev** | 0 | 0.0014 | 0.4 | 0.76 | 0.82 |
| **Residential hvac** | 0 | 0 | 0 | 0 | 0.031 |
| **Residential phev** | 0 | 0 | 0.46 | 3.3 | 4.2 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.0032 |

***Monterey Bay*** *(Photo: Wikipedia user:Seano1)*

## SubLAP SCEN

# SCE Northeast




SubLAP SCEN is in Local Capacity Area: Big Creek / Ventura

| **2020 SCEN Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 43 | 74 | 110 | 210 |
| **Net Tot. with ISO Revenue** | 9.8 | 50 | 78 | 110 | 220 |
| **Net Rev. + Site Co-Benefits** | 9.8 | 55 | 85 | 140 | 250 |
| **Net Rev. + Site + Dist. Co-Benefits** | 75 | 94 | 110 | 140 | 250 |

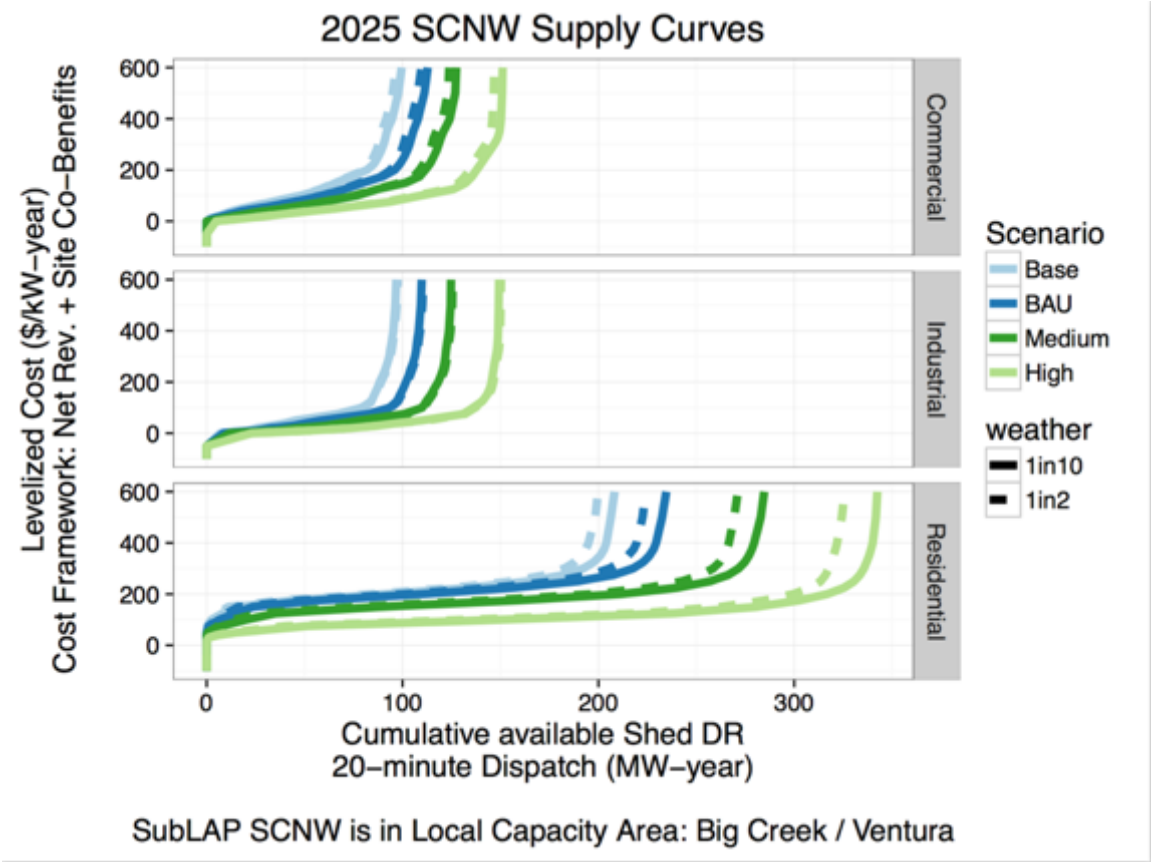
| **2025 SCEN Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 53 | 89 | 130 | 280 |
| **Net Tot. with ISO Revenue** | 11 | 60 | 96 | 130 | 290 |
| **Net Rev. + Site Co-Benefits** | 11 | 66 | 100 | 240 | 290 |
| **Net Rev. + Site + Dist. Co-Benefits** | 91 | 110 | 130 | 250 | 300 |

| 2025 SCEN by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.21 | 1.5 |
| **Commercial bev** | 0 | 0 | 0.0039 | 0.057 | 0.076 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 4.6 | 12 | 20 | 23 |
| **Commercial lighting** | 0 | 7.4 | 20 | 22 | 24 |
| **Commercial phev** | 0 | 0 | 0.019 | 0.34 | 0.43 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0.43 | 1 | 1.1 | 1.1 |
| **Industrial battery** | 0 | 0 | 0 | 1.6 | 3.7 |
| **Industrial process** | 11 | 35 | 41 | 42 | 43 |
| **Industrial pumping** | 0 | 19 | 22 | 26 | 28 |
| **Residential battery** | 0 | 0 | 0 | 100 | 140 |
| **Residential bev** | 0 | 0.15 | 1 | 1.3 | 1.3 |
| **Residential hvac** | 0 | 0 | 1.1 | 12 | 21 |
| **Residential phev** | 0 | 0.053 | 5 | 8.5 | 9.9 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.72 |

***Palmdale*** *(Photo: Wikipedia user:Jamesb01)*

## SubLAP SCNW

# SCE Northwest




| **2020 SCNW Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 65 | 140 | 210 | 380 |
| **Net Tot. with ISO Revenue** | 9.8 | 77 | 150 | 220 | 390 |
| **Net Rev. + Site Co-Benefits** | 9.8 | 92 | 170 | 260 | 430 |
| **Net Rev. + Site + Dist. Co-Benefits** | 140 | 180 | 210 | 260 | 430 |

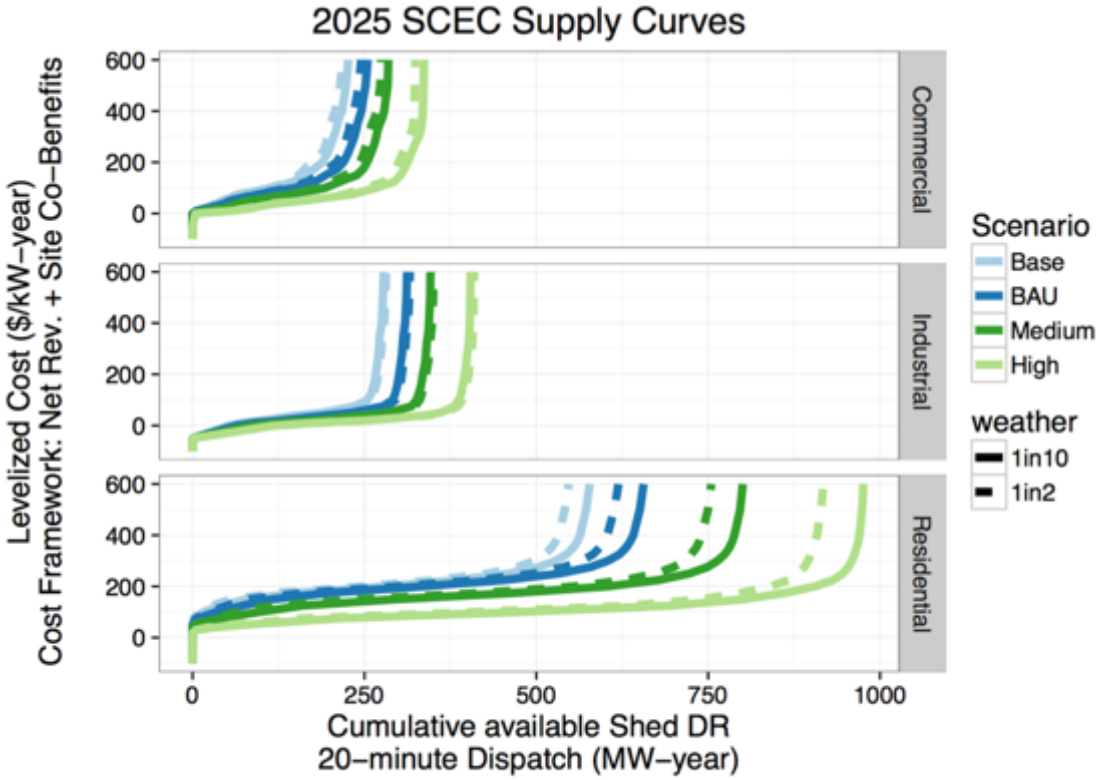
| **2025 SCNW Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 86 | 180 | 250 | 490 |
| **Net Tot. with ISO Revenue** | 12 | 100 | 190 | 250 | 500 |
| **Net Rev. + Site Co-Benefits** | 12 | 120 | 200 | 420 | 510 |
| **Net Rev. + Site + Dist. Co-Benefits** | 170 | 210 | 240 | 430 | 510 |

| 2025 SCNW by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.61 | 4.7 |
| **Commercial bev** | 0 | 0 | 0.011 | 0.18 | 0.22 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 10 | 23 | 48 | 53 |
| **Commercial lighting** | 0 | 29 | 50 | 56 | 58 |
| **Commercial phev** | 0 | 0 | 0.041 | 0.72 | 0.84 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0.65 | 2.4 | 3.7 | 3.7 |
| **Industrial battery** | 0 | 0 | 0.0066 | 2.1 | 6.2 |
| **Industrial process** | 12 | 63 | 90 | 92 | 93 |
| **Industrial pumping** | 0.35 | 15 | 21 | 25 | 26 |
| **Residential battery** | 0 | 0 | 0 | 170 | 220 |
| **Residential bev** | 0 | 0.4 | 2.8 | 3.5 | 3.7 |
| **Residential hvac** | 0 | 0 | 1.1 | 12 | 22 |
| **Residential phev** | 0 | 0.093 | 10 | 16 | 19 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 1.1 |

***Santa Barbara*** *(Photo: John Wiley)*

SubLAP SCEC

## SCE Core




SubLAP SCEC is in Local Capacity Area: LA Basin

| **2020 SCEC Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 240 | 400 | 590 | 1000 |
| **Net Tot. with ISO Revenue** | 70 | 290 | 440 | 590 | 1000 |
| **Net Rev. + Site Co-Benefits** | 70 | 310 | 480 | 700 | 1100 |
| **Net Rev. + Site + Dist. Co-Benefits** | 390 | 510 | 570 | 720 | 1100 |

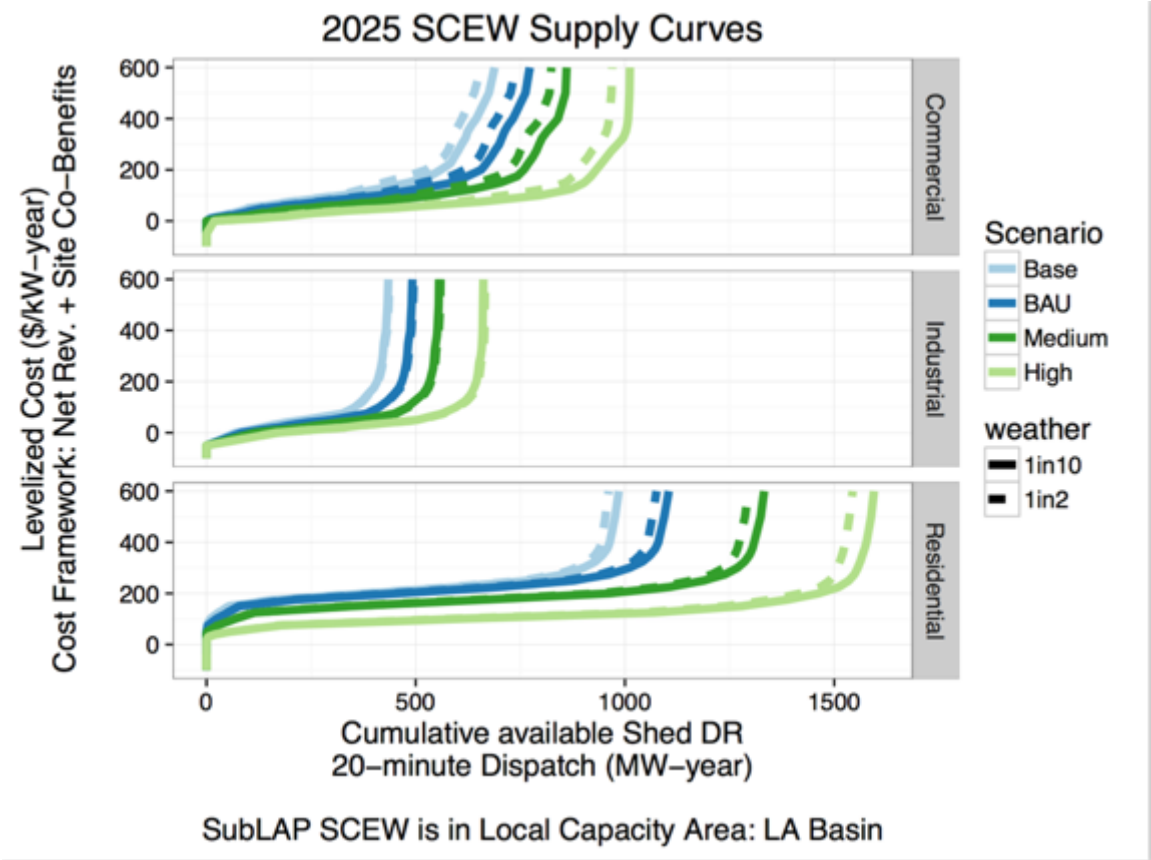
| **2025 SCEC Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 310 | 510 | 700 | 1300 |
| **Net Tot. with ISO Revenue** | 85 | 350 | 540 | 720 | 1300 |
| **Net Rev. + Site Co-Benefits** | 85 | 370 | 580 | 1100 | 1400 |
| **Net Rev. + Site + Dist. Co-Benefits** | 460 | 600 | 680 | 1200 | 1400 |

| **2025 SCEC by End-Use**<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>**DR Technology** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 2 | 11 |
| **Commercial bev** | 0 | 0.0071 | 0.087 | 0.84 | 1 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 27 | 58 | 100 | 110 |
| **Commercial lighting** | 0 | 51 | 120 | 130 | 130 |
| **Commercial phev** | 0 | 0 | 0.37 | 3.8 | 4.4 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.12 |
| **Commercial refrigeration** | 0 | 2.3 | 2.5 | 2.5 | 2.5 |
| **Industrial battery** | 0 | 0 | 0.03 | 4.5 | 11 |
| **Industrial process** | 85 | 280 | 320 | 330 | 330 |
| **Industrial pumping** | 0 | 6 | 6.9 | 7.7 | 7.8 |
| **Residential battery** | 0 | 0 | 0 | 410 | 550 |
| **Residential bev** | 0 | 2 | 9.9 | 12 | 13 |
| **Residential hvac** | 0 | 0 | 8.5 | 55 | 90 |
| **Residential phev** | 0 | 0.43 | 47 | 76 | 86 |
| **Residential poolpump** | 0 | 0 | 0 | 0.0069 | 2.9 |

***San Bernardino Basin*** *(Photo: USGS)*

SubLAP SCEW

## SCE West




| **2020 SCEW Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 320 | 700 | 1100 | 1900 |
| **Net Tot. with ISO Revenue** | 93 | 410 | 800 | 1200 | 2000 |
| **Net Rev. + Site Co-Benefits** | 93 | 470 | 870 | 1300 | 2200 |
| **Net Rev. + Site + Dist. Co-Benefits** | 740 | 940 | 1100 | 1400 | 2200 |

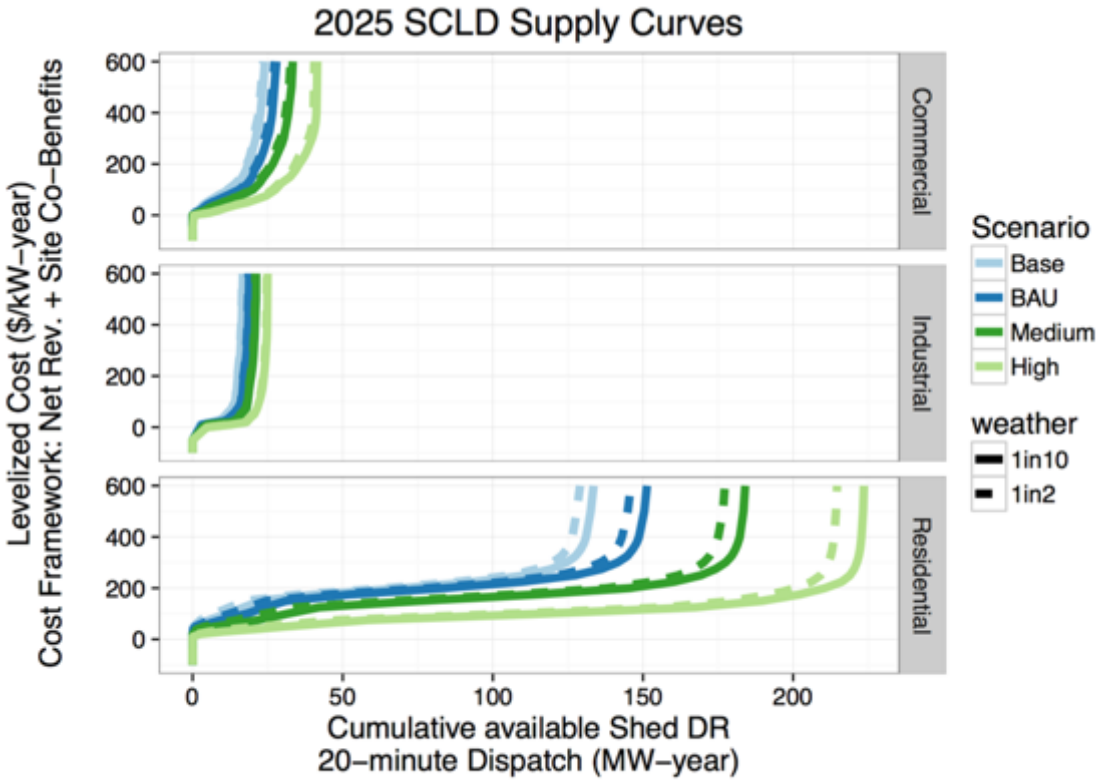
| **2025 SCEW Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 430 | 900 | 1300 | 2500 |
| **Net Tot. with ISO Revenue** | 110 | 520 | 970 | 1300 | 2500 |
| **Net Rev. + Site Co-Benefits** | 110 | 610 | 1000 | 2200 | 2600 |
| **Net Rev. + Site + Dist. Co-Benefits** | 860 | 1100 | 1300 | 2200 | 2600 |

| 2025 SCEW by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| Commercial battery | 0 | 0 | 0 | 4.8 | 34 |
| Commercial bev | 0 | 0.0054 | 0.073 | 1.2 | 1.6 |
| Commercial bev_work | 0 | 0 | 0 | 0 | 0 |
| Commercial hvac | 0 | 53 | 110 | 300 | 330 |
| Commercial lighting | 0 | 170 | 370 | 400 | 420 |
| Commercial phev | 0 | 0 | 0.27 | 5.7 | 6.7 |
| Commercial phev_work | 0 | 0 | 0 | 0 | 0.0039 |
| Commercial refrigeration | 0 | 8 | 9 | 9 | 9 |
| Industrial battery | 0 | 0 | 0.027 | 5.4 | 15 |
| Industrial process | 110 | 370 | 470 | 510 | 520 |
| Industrial pumping | 0.15 | 6.2 | 12 | 17 | 17 |
| Residential battery | 0 | 0 | 0.73 | 830 | 1100 |
| Residential bev | 0 | 1.5 | 13 | 16 | 17 |
| Residential hvac | 0 | 0 | 0 | 6.9 | 34 |
| Residential phev | 0 | 0 | 52 | 88 | 100 |
| Residential poolpump | 0 | 0 | 0 | 0 | 4.9 |

***Santa Monica*** *(Photo: Wikipedia user:JCS)*

## SubLAP SCLD

### SCE Low




SubLAP SCLD is in Local Capacity Area: LA Basin

| **2020 SCLD Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 16 | 39 | 66 | 160 |
| **Net Tot. with ISO Revenue** | 2.7 | 20 | 45 | 67 | 170 |
| **Net Rev. + Site Co-Benefits** | 2.7 | 22 | 48 | 92 | 190 |
| **Net Rev. + Site + Dist. Co-Benefits** | 41 | 54 | 63 | 96 | 190 |

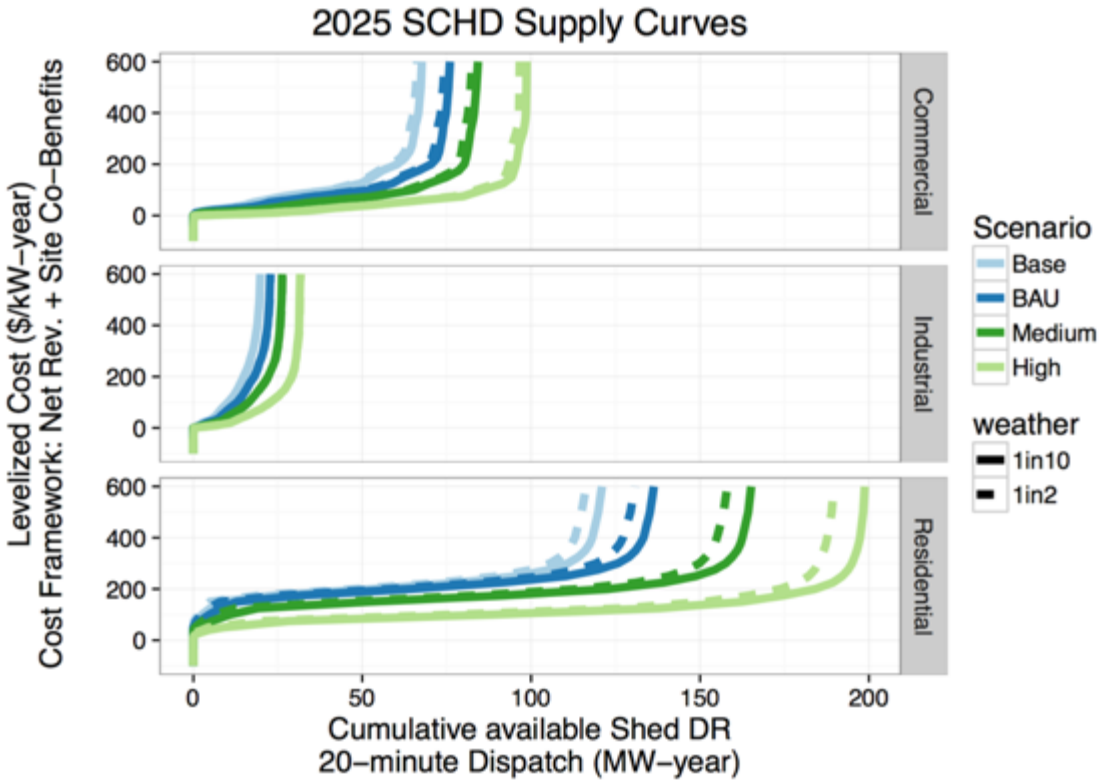
| **2025 SCLD Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 22 | 54 | 82 | 220 |
| **Net Tot. with ISO Revenue** | 3.3 | 26 | 59 | 83 | 220 |
| **Net Rev. + Site Co-Benefits** | 3.3 | 29 | 61 | 180 | 230 |
| **Net Rev. + Site + Dist. Co-Benefits** | 50 | 64 | 76 | 190 | 230 |

| 2025 SCLD by End-Use (Cost framework: Net ISO Revenue + Site-level co-benefits) DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.17 | 0.81 |
| **Commercial bev** | 0 | 0 | 0.0026 | 0.011 | 0.015 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 3.8 | 9 | 12 | 16 |
| **Commercial lighting** | 0 | 5.6 | 11 | 14 | 15 |
| **Commercial phev** | 0 | 0 | 0.0037 | 0.028 | 0.039 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial refrigeration** | 0 | 0 | 0 | 0.00084 | 0.0017 |
| **Industrial battery** | 0 | 0 | 0 | 0.59 | 1.3 |
| **Industrial process** | 3.3 | 15 | 16 | 17 | 18 |
| **Industrial pumping** | 0 | 0.92 | 1.6 | 1.6 | 1.6 |
| **Residential battery** | 0 | 0 | 0 | 98 | 130 |
| **Residential bev** | 0 | 0.076 | 0.46 | 0.59 | 0.61 |
| **Residential hvac** | 0 | 3.8 | 21 | 36 | 42 |
| **Residential phev** | 0 | 0.031 | 1.8 | 3.1 | 3.5 |
| **Residential poolpump** | 0 | 0 | 0 | 0.0012 | 0.69 |

***Blythe*** *(Photo: Wikipedia user:Northwalker)*

SubLAP SCHD

## SCE High




SubLAP SCHD is in Local Capacity Area: Unspecified Local Area

| **2020 SCHD Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 18 | 53 | 99 | 200 |
| **Net Tot. with ISO Revenue** | 0 | 27 | 60 | 100 | 200 |
| **Net Rev. + Site Co-Benefits** | 0 | 33 | 72 | 130 | 230 |
| **Net Rev. + Site + Dist. Co-Benefits** | 66 | 83 | 94 | 130 | 230 |

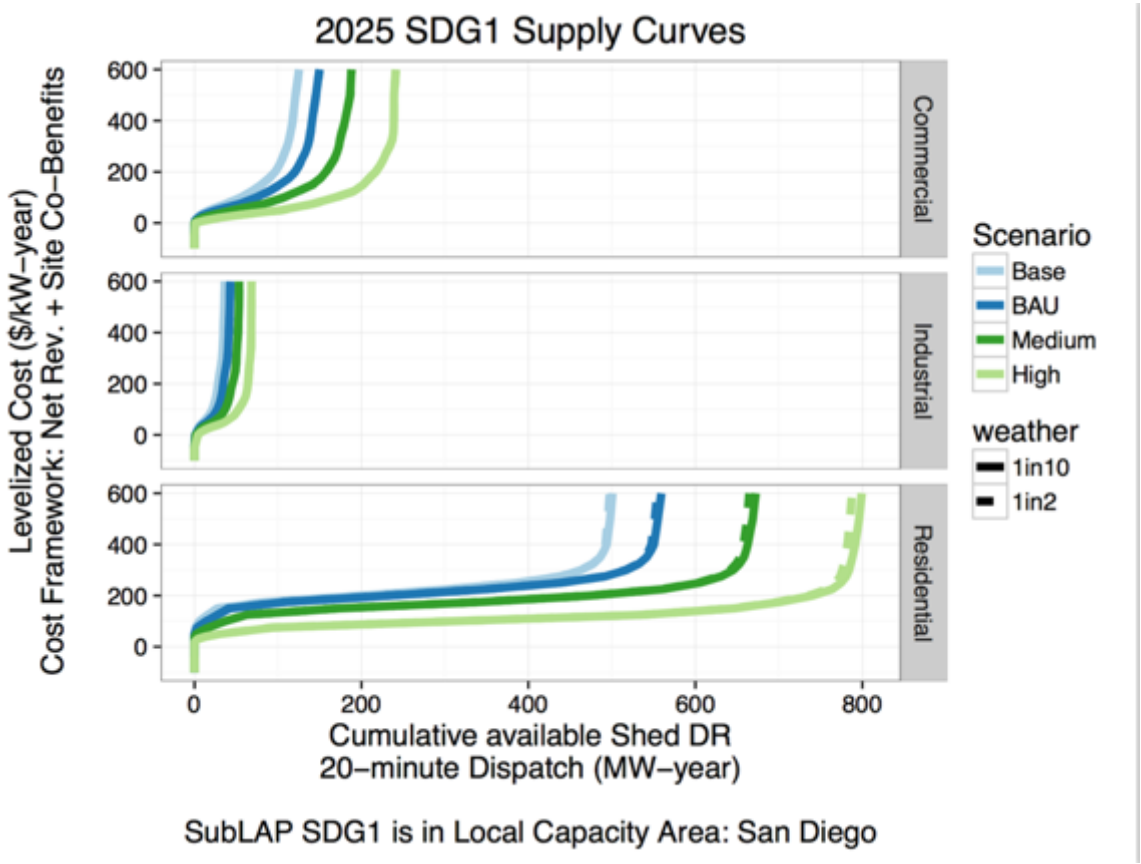
| **2025 SCHD Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 29 | 70 | 110 | 250 |
| **Net Tot. with ISO Revenue** | 0 | 37 | 79 | 120 | 260 |
| **Net Rev. + Site Co-Benefits** | 0 | 45 | 86 | 220 | 260 |
| **Net Rev. + Site + Dist. Co-Benefits** | 73 | 93 | 110 | 220 | 260 |

| 2025 SCHD by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0.025 | 0.99 | 2.4 |
| **Commercial bev** | 0 | 0 | 0.0038 | 0.011 | 0.011 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0 | 9.6 | 19 | 32 | 33 |
| **Commercial lighting** | 0 | 24 | 44 | 45 | 46 |
| **Commercial phev** | 0 | 0 | 0.0068 | 0.036 | 0.037 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0 |
| **Industrial battery** | 0 | 0 | 0 | 0.72 | 1.9 |
| **Industrial process** | 0 | 9.8 | 14 | 18 | 20 |
| **Industrial pumping** | 0 | 1.1 | 2.2 | 3.3 | 3.7 |
| **Residential battery** | 0 | 0 | 0.097 | 96 | 130 |
| **Residential bev** | 0 | 0.032 | 0.18 | 0.22 | 0.23 |
| **Residential hvac** | 0 | 0.4 | 4.7 | 16 | 24 |
| **Residential phev** | 0 | 0.0095 | 1.2 | 2 | 2.3 |
| **Residential poolpump** | 0 | 0 | 0 | 0 | 0.68 |

***Barstow*** *(Photo: Ron Reiring)*

SubLAP SDG1

## San Diego




| **2020 SDG1 Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 20 | 87 | 170 | 550 |
| **Net Tot. with ISO Revenue** | 1.2 | 32 | 100 | 180 | 580 |
| **Net Rev. + Site Co-Benefits** | 1.2 | 47 | 120 | 260 | 700 |
| **Net Rev. + Site + Dist. Co-Benefits** | 110 | 140 | 160 | 270 | 710 |

| **2025 SDG1 Totals** (Medium Scenario, 1-in-2 Weather) **Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 31 | 140 | 250 | 840 |
| **Net Tot. with ISO Revenue** | 1.4 | 49 | 160 | 250 | 850 |
| **Net Rev. + Site Co-Benefits** | 1.4 | 71 | 180 | 680 | 890 |
| **Net Rev. + Site + Dist. Co-Benefits** | 150 | 190 | 230 | 690 | 890 |

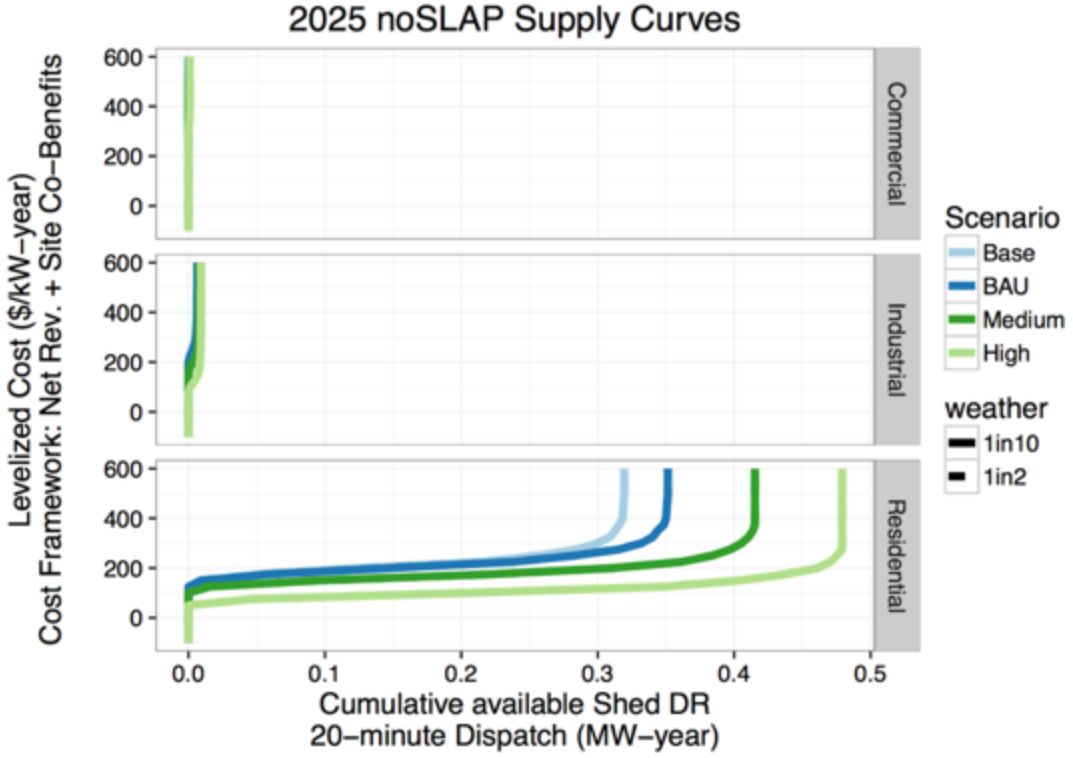
| 2025 SDG1 by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0.39 | 8.2 |
| **Commercial bev** | 0 | 0 | 0.018 | 0.57 | 0.97 |
| **Commercial bev_work** | 0 | 0 | 0 | 0 | 0 |
| **Commercial hvac** | 0.017 | 8 | 22 | 40 | 52 |
| **Commercial lighting** | 0 | 38 | 85 | 120 | 120 |
| **Commercial phev** | 0 | 0 | 0.039 | 0.93 | 1.3 |
| **Commercial phev_work** | 0 | 0 | 0 | 0 | 0.007 |
| **Commercial refrigeration** | 0 | 0.025 | 0.12 | 0.43 | 0.43 |
| **Industrial battery** | 0 | 0 | 0 | 1.7 | 7.3 |
| **Industrial process** | 1.2 | 19 | 31 | 37 | 38 |
| **Industrial pumping** | 0.21 | 3.9 | 5.9 | 6.7 | 6.8 |
| **Residential battery** | 0 | 0 | 0 | 410 | 590 |
| **Residential bev** | 0 | 1.6 | 11 | 14 | 14 |
| **Residential hvac** | 0 | 0 | 0 | 0 | 1.4 |
| **Residential phev** | 0 | 0.55 | 26 | 46 | 53 |
| **Residential poolpump** | 0 | 0 | 0 | 0.0078 | 2.8 |

***San Diego*** *(Photo: Dale Frost)*

SubLAP "noSLAP"

## Missing SubLAP ID

*Note: This is a catch-all for sites included in the original data without SubLAP ID specified. These results are in the noise of the overall model outcomes, representing less than 0.01% of sites.*




SubLAP noSLAP is in Local Capacity Area: Unspecified Local Area

| **2020 noSLAP Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 0 | 0 | 0 | 0.23 |
| **Net Tot. with ISO Revenue** | 0 | 0 | 0 | 0 | 0.26 |
| **Net Rev. + Site Co-Benefits** | 0 | 0 | 0 | 0.076 | 0.35 |
| **Net Rev. + Site + Dist. Co-Benefits** | 0 | 0 | 0 | 0.076 | 0.35 |

| **2025 noSLAP Totals**<br>(Medium Scenario, 1-in-2 Weather)<br>**Cost Framework** | **Qty. @ $0 (MW)** | **Qty. @ $50 (MW)** | **Qty. @ $100 (MW)** | **Qty. @ $200 (MW)** | **Qty. @ $400 (MW)** |
|---|---|---|---|---|---|
| **Unadjusted Tot.** | 0 | 0 | 0 | 0 | 0.4 |
| **Net Tot. with ISO Revenue** | 0 | 0 | 0 | 0.0054 | 0.4 |
| **Net Rev. + Site Co-Benefits** | 0 | 0 | 0 | 0.31 | 0.42 |
| **Net Rev. + Site + Dist. Co-Benefits** | 0 | 0 | 0 | 0.31 | 0.42 |

| 2025 noSLAP by End-Use<br>(Cost framework: Net ISO Revenue + Site-level co-benefits)<br>DR Technology | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Commercial battery** | 0 | 0 | 0 | 0 | 0 |
| **Industrial battery** | 0 | 0 | 0 | 0.0032 | 0.0077 |
| **Industrial process** | 0 | 0 | 0 | 0 | 0 |
| **Industrial pumping** | 0 | 0 | 0 | 0 | 0 |
| **Residential battery** | 0 | 0 | 0 | 0.31 | 0.42 |

**Calico Ghost Town** (Photo: Enrico Stirl)

## Dataset 2: Total Resource by Local Capacity Area

This set of tables summarizes the estimated resource by LCA, for a range of cost frameworks (different tables) and price referent levels (within tables).

**2025 LCA Total** Cost accounting framework: ***Unadjusted Total***

| Local Capacity Area | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Unspecified Local Area** | 0 | 78 | 150 | 210 | 410 |
| **Greater Bay** | 0 | 380 | 750 | 1200 | 2000 |
| **Greater Fresno** | 0 | 310 | 520 | 700 | 1200 |
| **North Coast / North Bay** | 0 | 29 | 61 | 100 | 280 |
| **Humboldt** | 0 | 4.4 | 6.3 | 8.8 | 22 |
| **Kern** | 0 | 240 | 400 | 500 | 760 |
| **Sierra** | 0 | 120 | 200 | 300 | 700 |
| **Stockton** | 0 | 95 | 160 | 210 | 410 |
| **LA Basin** | 0 | 760 | 1500 | 2100 | 4100 |
| **Big Creek / Ventura** | 0 | 140 | 260 | 380 | 780 |
| **San Diego** | 0 | 31 | 140 | 250 | 840 |
| **Total:** | 0 | 2200 | 4100 | 6000 | 12000 |

**2025 LCA Total** Cost accounting framework: ***Net Tot. with ISO Revenue***

| Local Capacity Area | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Unspecified Local Area** | 6 | 94 | 160 | 220 | 410 |
| **Greater Bay** | 25 | 470 | 800 | 1200 | 2000 |
| **Greater Fresno** | 55 | 350 | 560 | 710 | 1200 |
| **North Coast / North Bay** | 1.4 | 38 | 68 | 110 | 290 |
| **Humboldt** | 0.31 | 4.9 | 6.8 | 9 | 22 |
| **Kern** | 43 | 280 | 410 | 510 | 760 |
| **Sierra** | 12 | 140 | 210 | 310 | 700 |
| **Stockton** | 9.6 | 110 | 160 | 220 | 410 |
| **LA Basin** | 200 | 900 | 1600 | 2100 | 4100 |
| **Big Creek / Ventura** | 23 | 160 | 280 | 380 | 780 |
| **San Diego** | 1.4 | 49 | 160 | 250 | 850 |
| **Total:** | 380 | 2600 | 4400 | 6000 | 12000 |

**2025 LCA Total** Cost **acc't** frame: ***Net Revenue + Site Co-Benefits***

| Local Capacity Area | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Unspecified Local Area** | 6 | 110 | 170 | 340 | 420 |
| **Greater Bay** | 25 | 540 | 850 | 1700 | 2000 |
| **Greater Fresno** | 55 | 380 | 590 | 1000 | 1200 |
| **North Coast / North Bay** | 1.4 | 41 | 73 | 220 | 300 |
| **Humboldt** | 0.31 | 5.5 | 7.4 | 17 | 24 |
| **Kern** | 43 | 320 | 430 | 680 | 780 |
| **Sierra** | 12 | 150 | 230 | 600 | 720 |
| **Stockton** | 9.6 | 120 | 170 | 350 | 420 |
| **LA Basin** | 200 | 1000 | 1700 | 3500 | 4200 |
| **Big Creek / Ventura** | 23 | 180 | 300 | 660 | 810 |
| **San Diego** | 1.4 | 71 | 180 | 680 | 890 |
| ***Total:*** | 400 | 3000 | 4700 | 9700 | 12000 |

**2025 LCA Total** Cost acc't frame: ***Net Rev + Site + Distribution Co-Benefits***

| Local Capacity Area | Qty. @ $0 (MW) | Qty. @ $50 (MW) | Qty. @ $100 (MW) | Qty. @ $200 (MW) | Qty. @ $400 (MW) |
|---|---|---|---|---|---|
| **Unspecified Local Area** | 150 | 180 | 200 | 350 | 430 |
| **Greater Bay** | 710 | 960 | 1100 | 1700 | 2000 |
| **Greater Fresno** | 490 | 600 | 680 | 1100 | 1200 |
| **North Coast / North Bay** | 59 | 81 | 97 | 230 | 300 |
| **Humboldt** | 6.3 | 7.8 | 8.6 | 17 | 24 |
| **Kern** | 370 | 450 | 490 | 690 | 780 |
| **Sierra** | 180 | 240 | 280 | 610 | 730 |
| **Stockton** | 140 | 180 | 200 | 360 | 420 |
| **LA Basin** | 1400 | 1700 | 2000 | 3600 | 4200 |
| **Big Creek / Ventura** | 260 | 320 | 370 | 680 | 810 |
| **San Diego** | 150 | 190 | 230 | 690 | 890 |
| **Total:** | 3900 | 4900 | 5700 | 10000 | 12000 |

## Dataset 3: Full Summary Results

There is a supplementary output data file being made available in conjunction with this Addendum. The file summarizes the results of the model run at the SubLAP – End Use level of detail across the full range of scenarios that were defined and reported on in the Phase 2 Report. This file could be used to reproduce the results above, or (more usefully) to create alternative summary files for other cases, cost accounting frameworks, or scenarios. A table below describes the column headings in the file. The file is designed to help make it easy to use "Pivot Tables" to create summaries and aggregations.

| Table Column Heading | Description | Values |
|---|---|---|
| **price_referent_ … USD_per_kW** | Units: $USD<br>A price cap that defines the maximum cost of a DR resource, to be used in comparison to price referent or a specific demand curve for service. | {0,<br>50,<br>100,<br>200,<br>400} |
| **year** | The forecast year. | 2020,<br>2025 |
| **ee_scenario** | The energy efficiency deployment scenario (linked to CEC forecasts) | noAAEE,<br>midAAEE |
| **demand_scenario** | The demand growth scenario (linked to CEC forecasts) | mid |
| **weather** | The weather type, either a "typical" 1-in-2 year or a more extreme 1-in-10 year. | 1-in-2,<br>1-in-10 |
| **rate_mix** | The mix of retail tariffs included to estimate underlying load profiles | Rate Mix 3 |
| **cost_accnt_framework** | The framework used to define the ultimate cost of DR, based on accounting for various revenue or alternative value streams. These include ISO market revenue, site-level co-benefits, and distribution system service payments. | See description. |
| **prod_cat** | The DR Service Category, in this case all Local Shed | Local Shed |
| **DR_market_ … scenario** | The overall scenario describing DR markets and technology | Base,<br>BAU,<br>Med,<br>High |
| **SubLAP** | The SubLAP | *various* |
| **sector** | The building sector | Res,<br>Com,<br>Ind |
| **lca** | The Local Capacity Area | *various* |
| **end_use** | The end use category, e.g., HVAC, electric vehicles, pumping, etc. | *various* |
| **Shed_DR_MW_ … meanEst** | Units: MW-year<br>Based on outcomes from 30 randomly varied technology input files, the mean estimate. | Numeric estimate |
| **Shed_DR_MW_ … 25th_percentile** | … the 25$^{th}$ percentile of the outcomes | Numeric estimate |
| **Shed_DR_MW_ … 75th_percentile** | … the 75$^{th}$ percentile of the outcomes | Numeric estimate |