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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 – Phase 2

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Energy Technologies Area
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Disclaimer

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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

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

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.

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

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

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.

These results in Table 2 below, 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.

Table 2: Total Local Shed resource expectation in 2025, by Local Capacity Area, for the Medium DR market and technology scenario

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

[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.

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.

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.

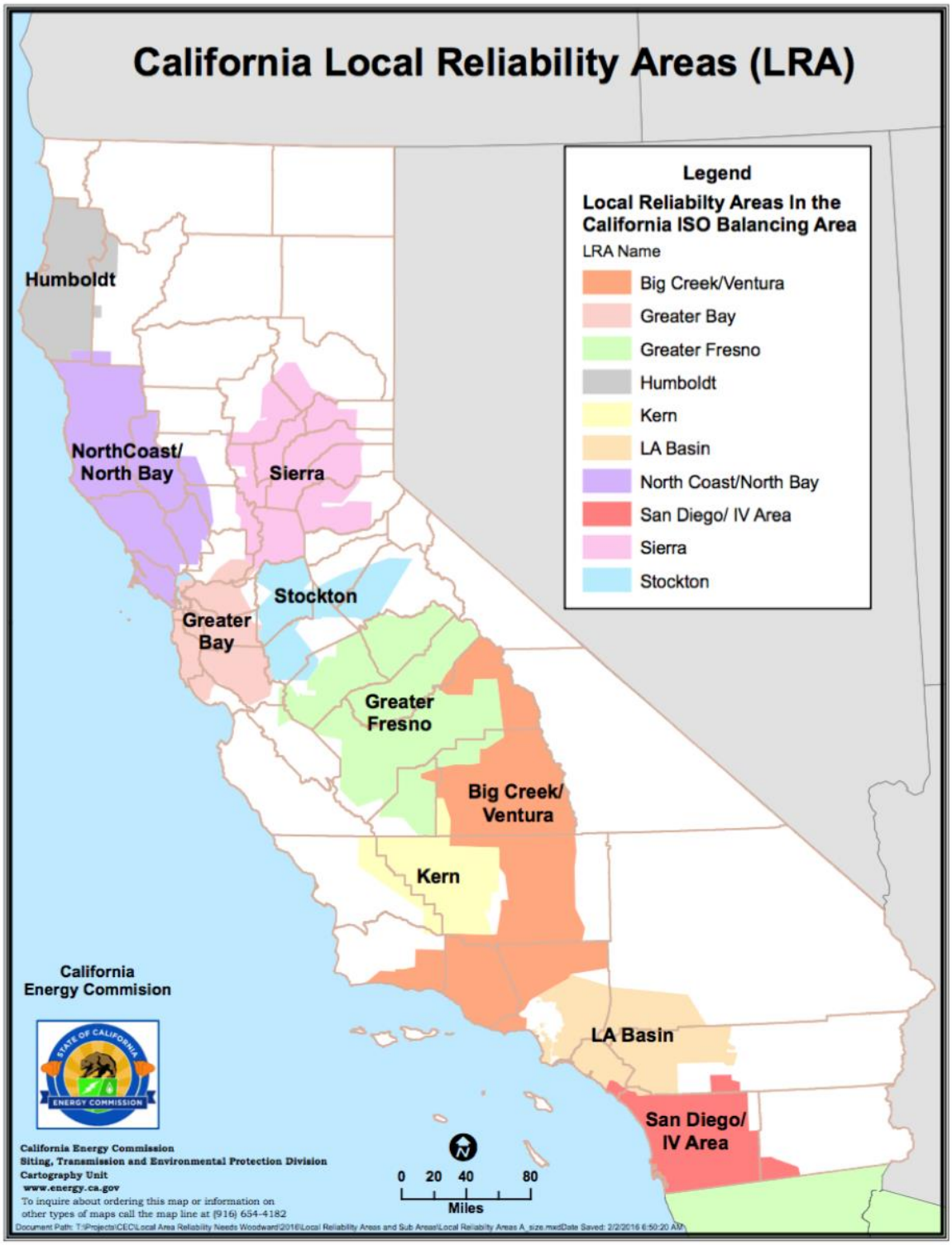


Figure 1: California Local Reliability Areas (from California Energy Commission)

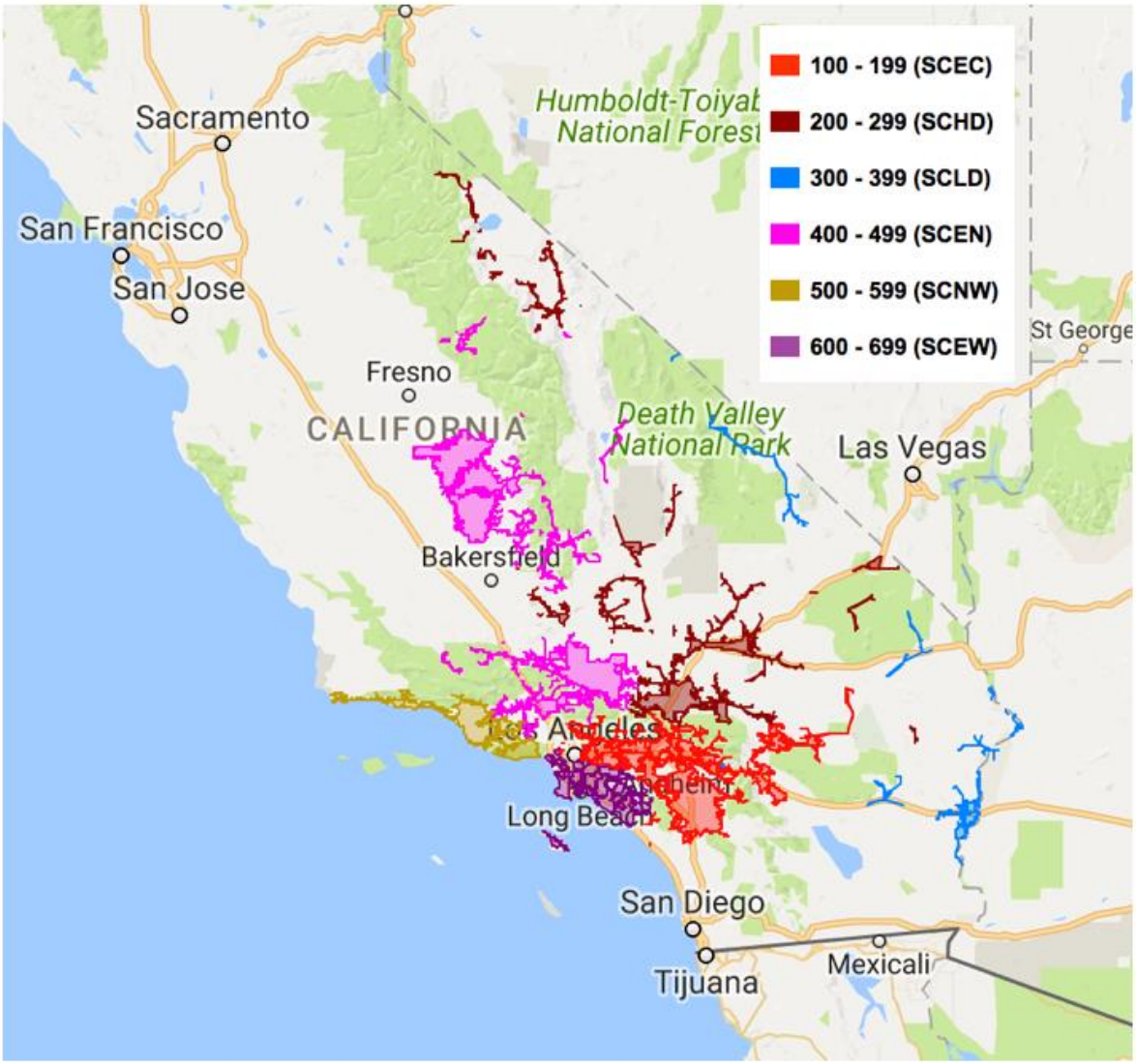


Figure 2: SCE SubLAPs

SCE SubLAPs are 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

Figure 3: SDG&E Service Territory is itself a single SubLAP, SDG1.

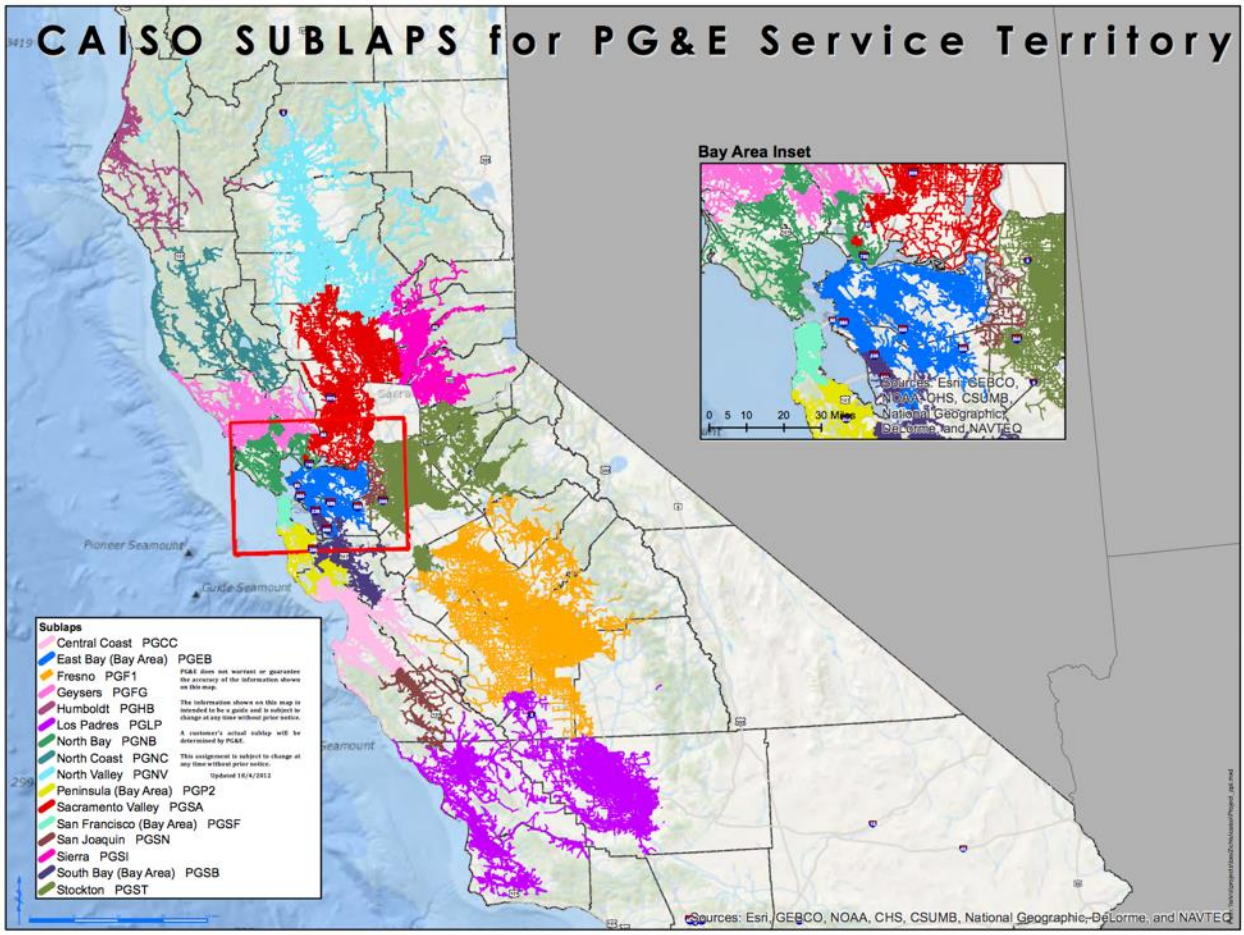


Figure 4: PG&E SubLAPs Circa 2016 (used in this study):

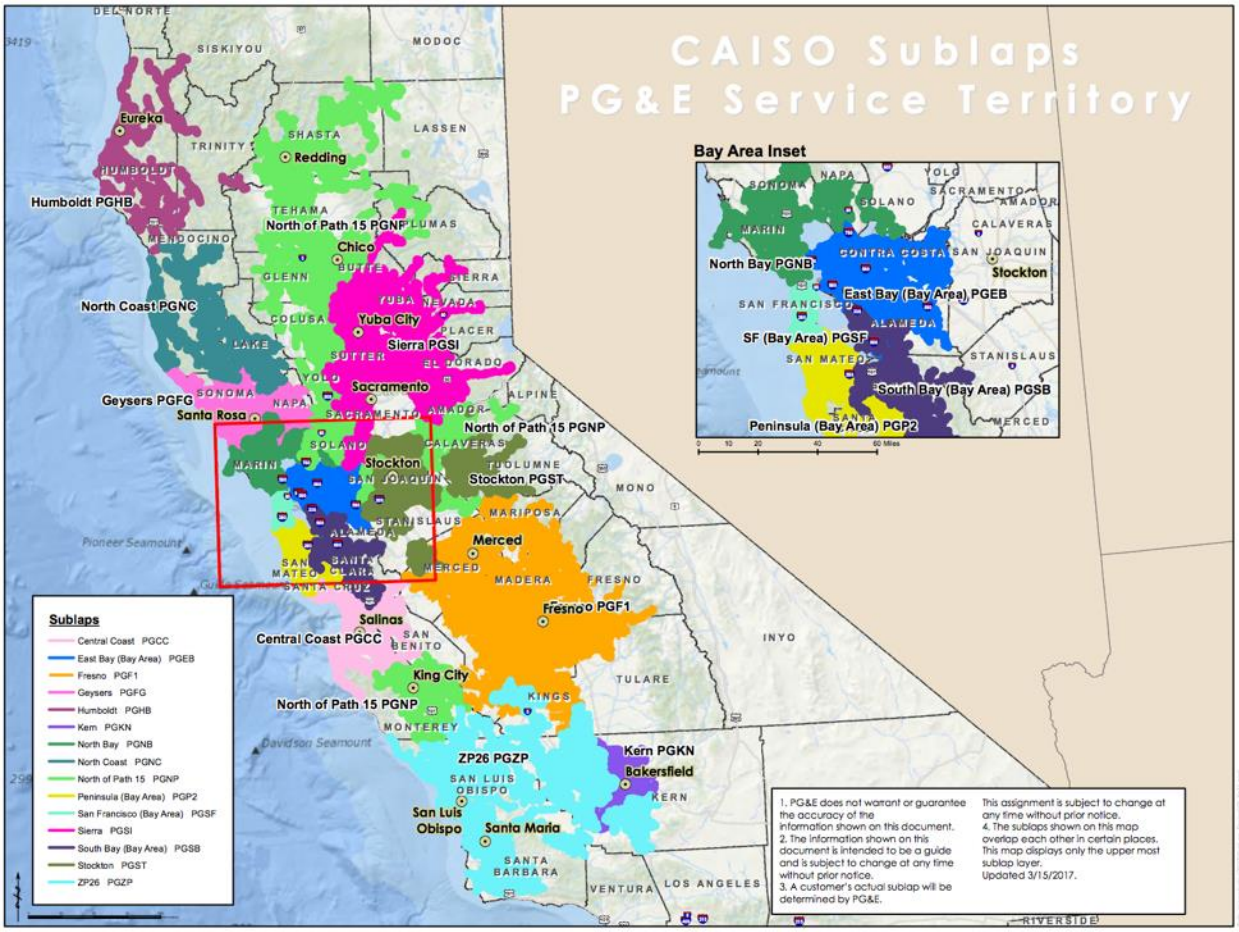


Figure 5: PG&E SubLAPs Circa 2017 (NOT used in this study, for reference only):

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

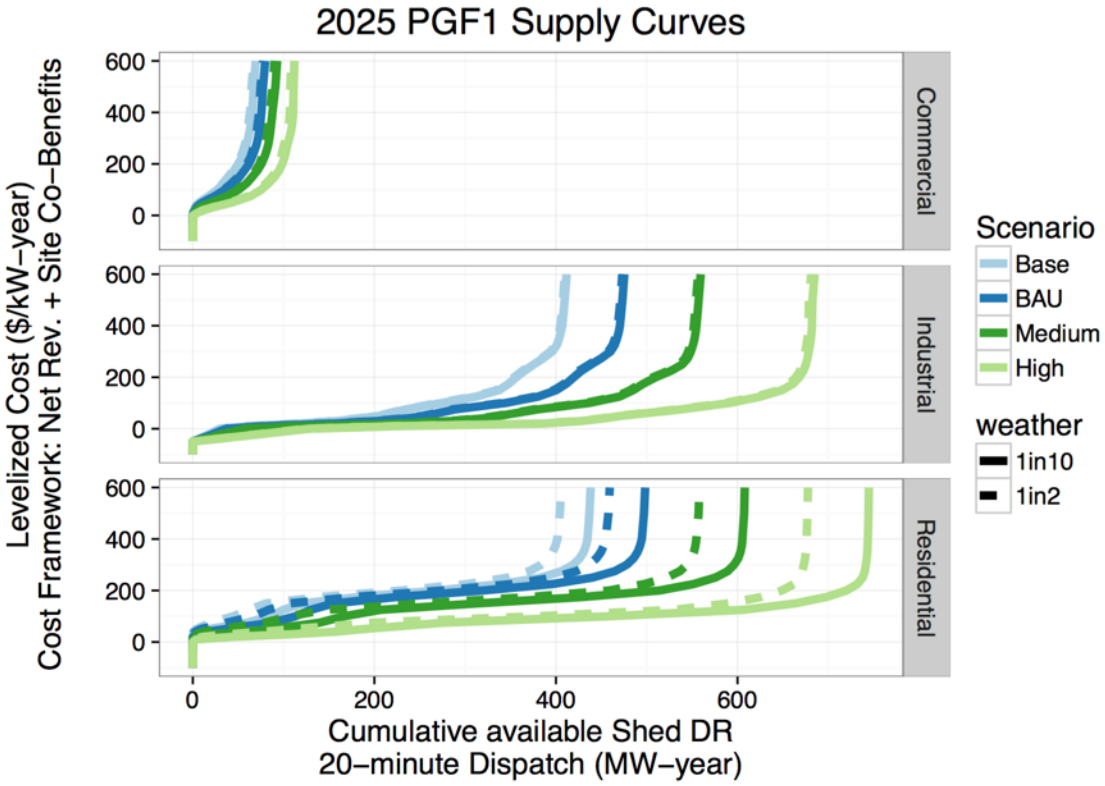
All of the results are for Rate Mix #3 and assume a "Mid-AAEE" trajectory for EE deployment in California.

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.

SubLAP PGF1

Fresno



SubLAP PGF1 is in Local Capacity Area: Greater Fresno

2020 PGF1 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	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

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

2025 PGF1 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	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

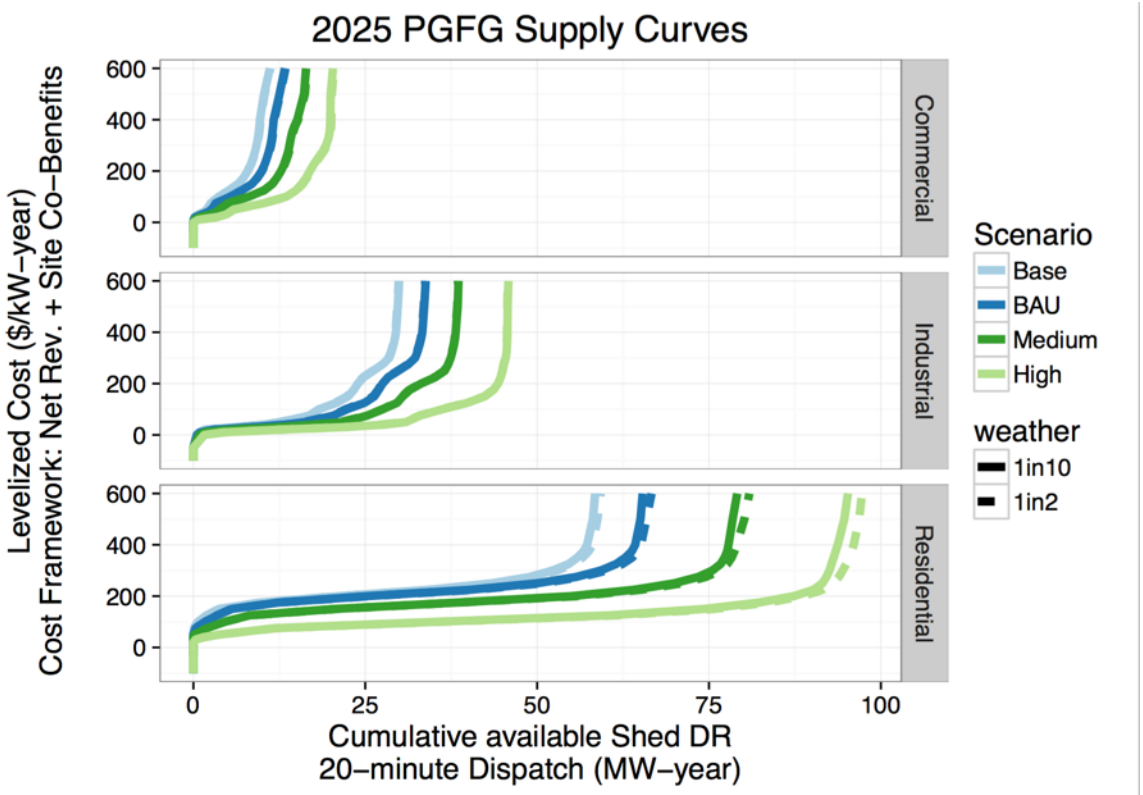
2025 PGF1 by End-Use (Cost framework: Net ISO Revenue + Site-level co-benefits) DR Technology	Qty. @ $0 (MW)	Qty. @ $50 (MW)	Qty. @ $100 (MW)	Qty. @ $200 (MW)	Qty. @ $400 (MW)
Commercial battery	0	0	0.00027	0.2	2
Commercial bev	0	0	0.0057	0.05	0.07
Commercial bev_work	0	0	0	0	0
Commercial hvac	0	3.6	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 (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	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

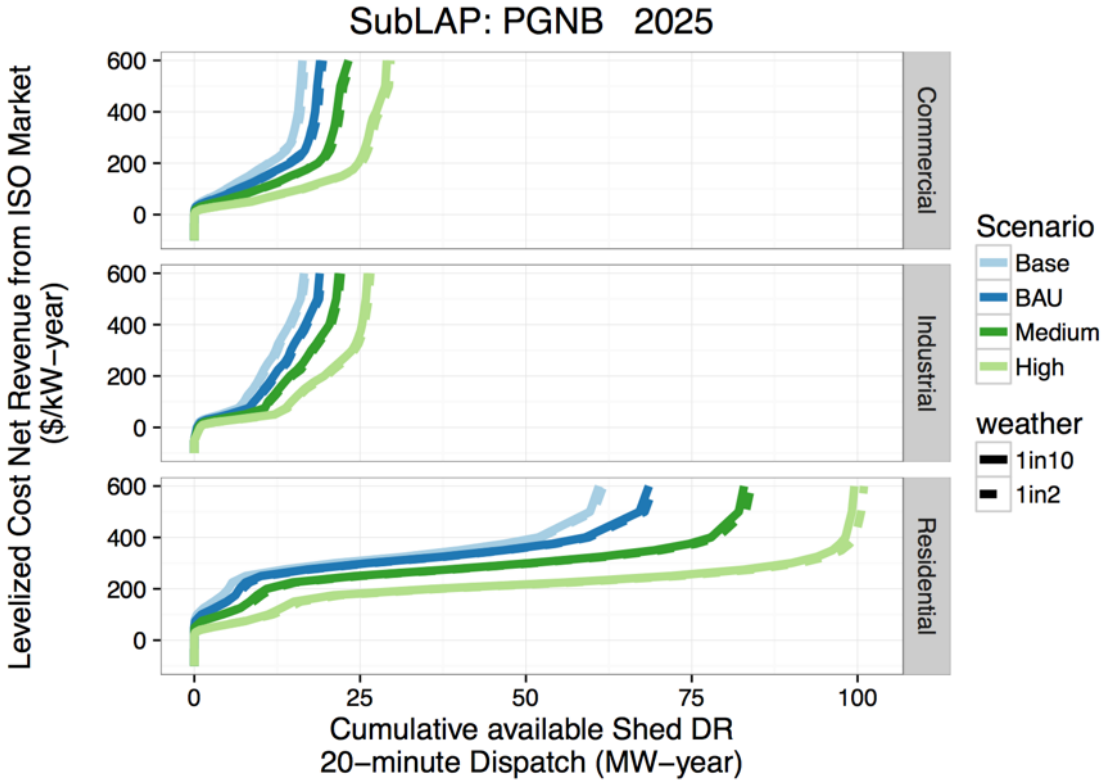
2025 PGFG Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	20	35	52	130
Net Tot. with ISO Revenue	0.74	24	38	53	130
Net Rev. + Site Co-Benefits	0.74	25	40	100	130
Net Rev.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

2025 PGFG by End-Use (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	0.0031	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

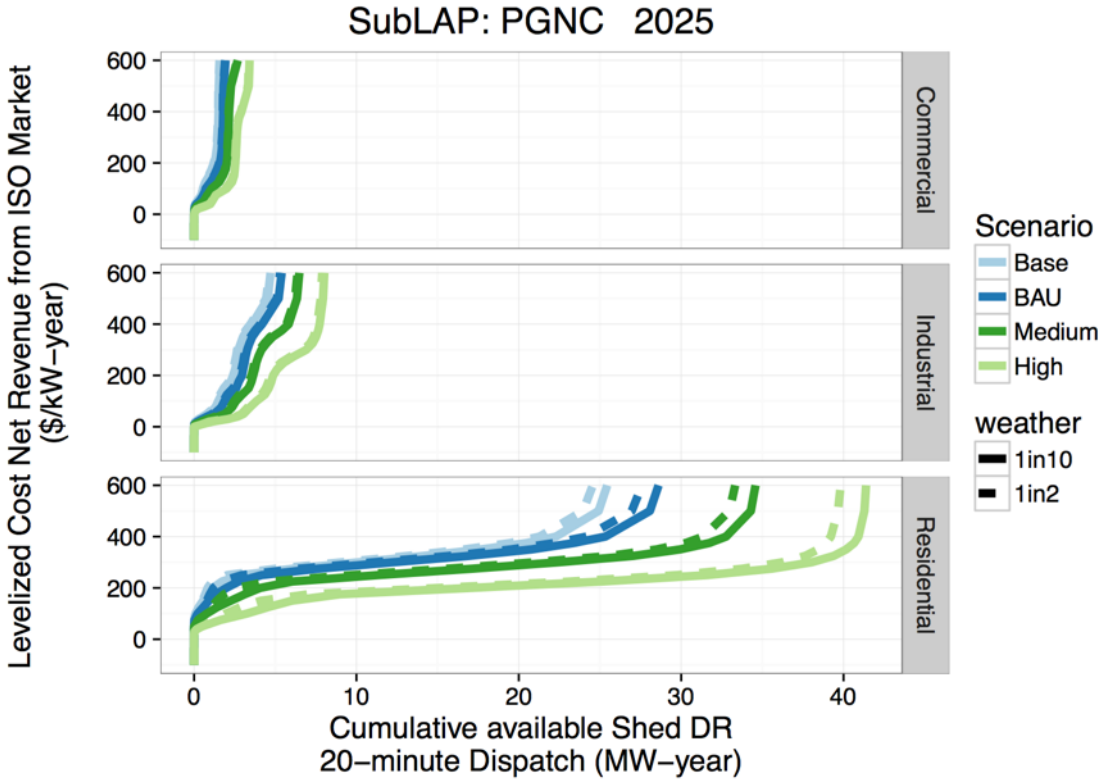
2025 PGNB Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	7.8	23	43	120
Net Tot. with ISO Revenue	0.62	11	26	45	120
Net Rev. + Site Co-Benefits	0.62	13	28	91	130
Net Rev.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

2025 PGNB by End-Use (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	0.035	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

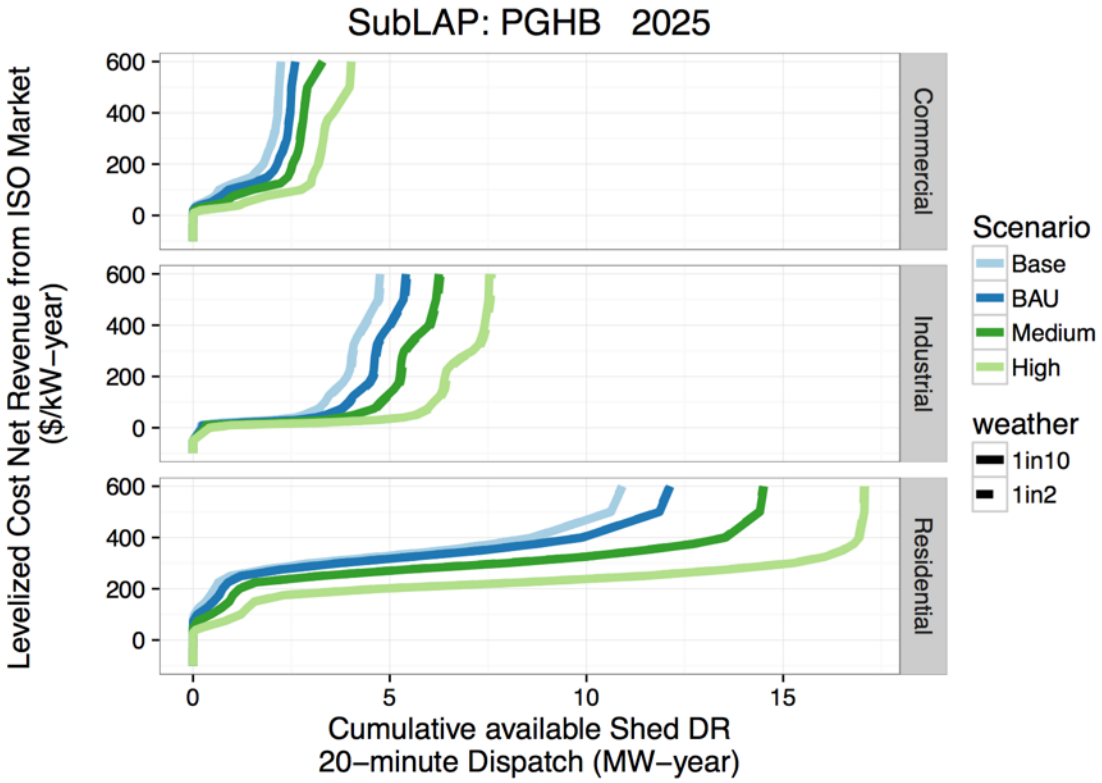
2025 PGNC Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	1.8	3.9	7.7	39
Net Tot. with ISO Revenue	0.0019	2.4	4.3	8.1	39
Net Rev. + Site Co-Benefits	0.0026	2.7	4.7	29	41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

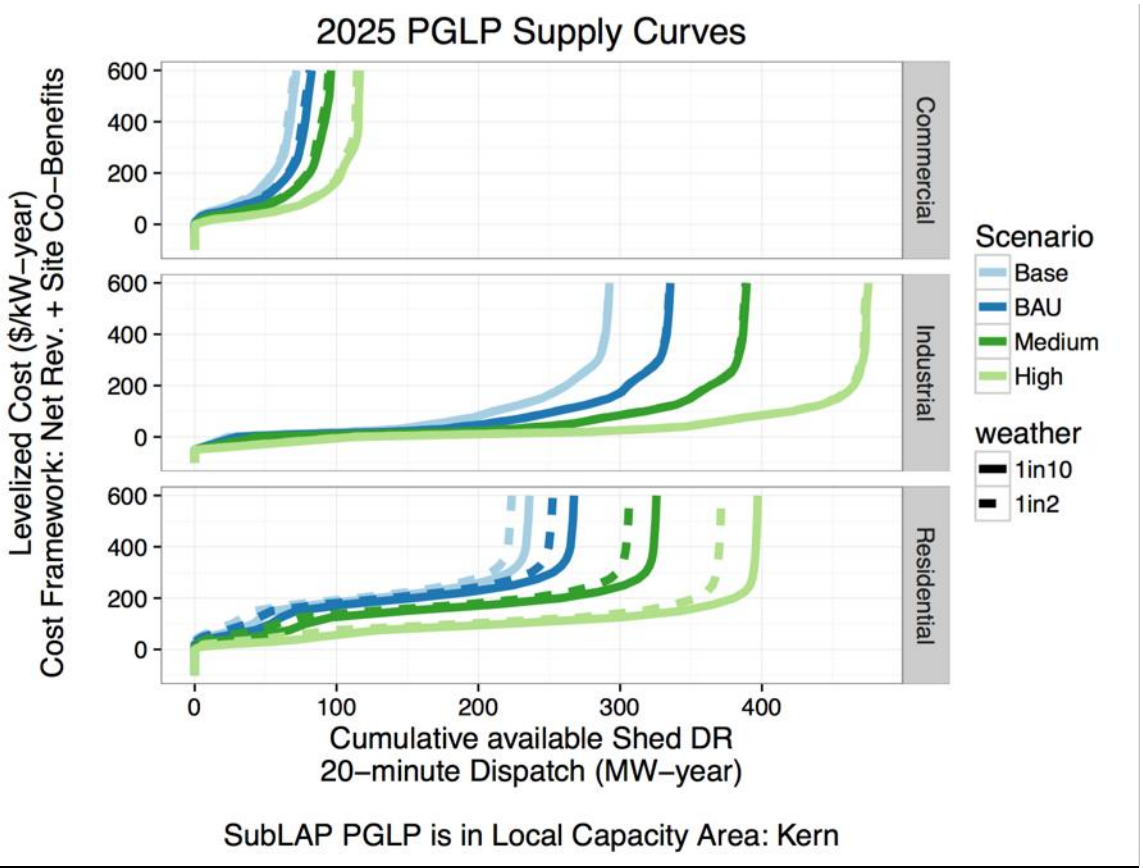
2025 PGHB Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	4.4	6.3	8.8	22
Net Tot. with ISO Revenue	0.31	4.9	6.8	9	22
Net Rev. + Site Co-Benefits	0.31	5.5	7.4	17	24
Net Rev.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

2025 PGHB by End-Use (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	0.0028	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



SubLAP PGLP is in Local Capacity Area: Kern

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

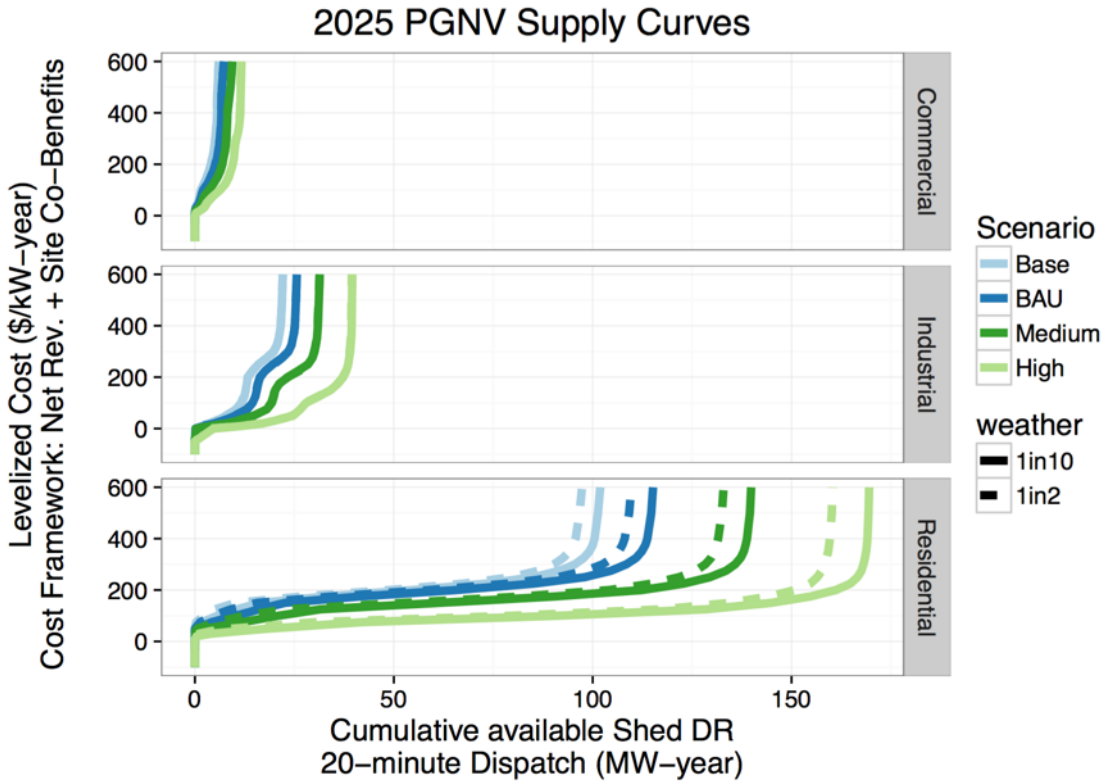
2025 PGLP Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	240	400	500	760
Net Tot. with ISO Revenue	43	280	410	510	760
Net Rev. + Site Co-Benefits	43	320	430	680	780
Net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

2025 PGLP by End-Use (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	0.0013	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

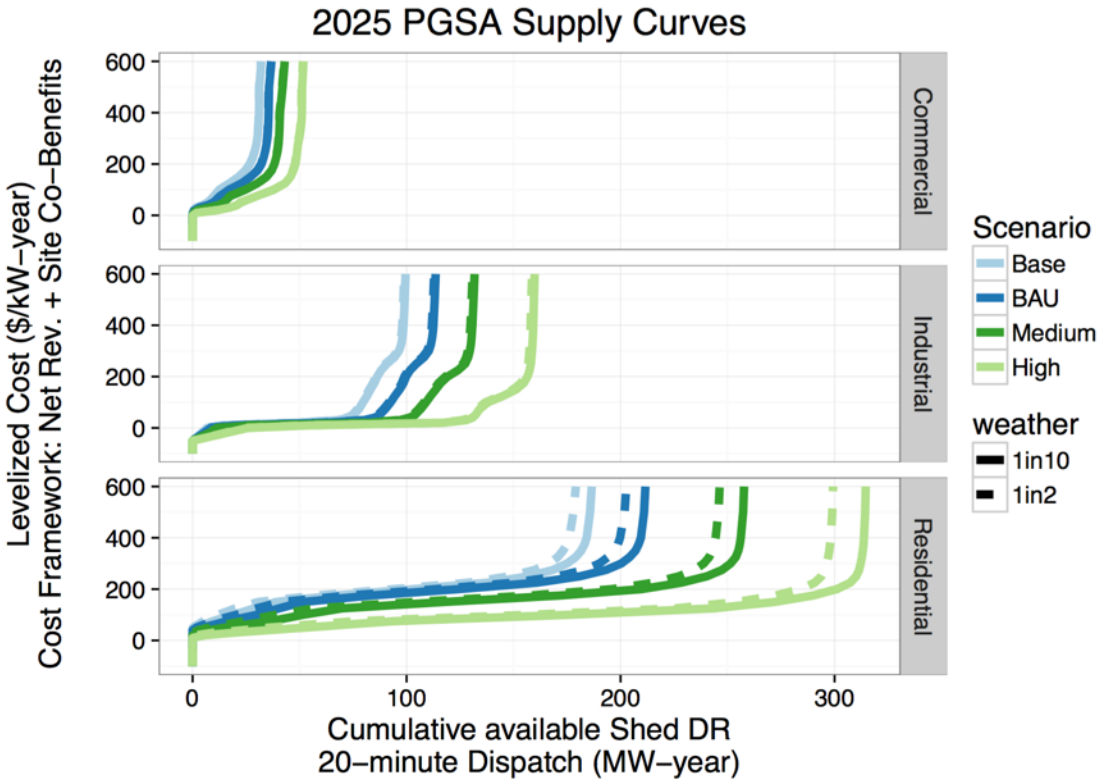
2025 PGNV Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	12	29	52	160
Net Tot. with ISO Revenue	0.21	15	32	55	160
Net Rev. + Site Co-Benefits	0.21	17	35	130	170
Net Rev.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

2025 PGNV by End-Use (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	0.0051	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

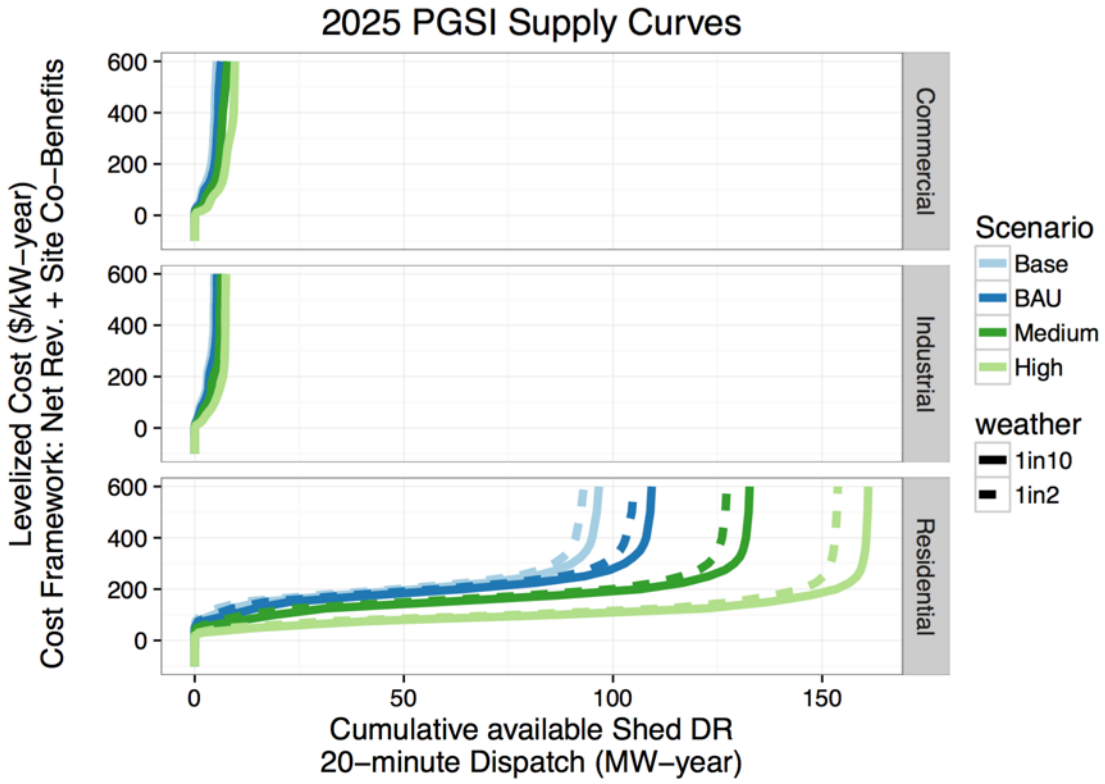
2025 PGSA Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	110	160	210	400
Net Tot. with ISO Revenue	11	120	160	210	400
Net Rev. + Site Co-Benefits	11	120	170	350	410
Net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

2025 PGSA by End-Use (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	0.036	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

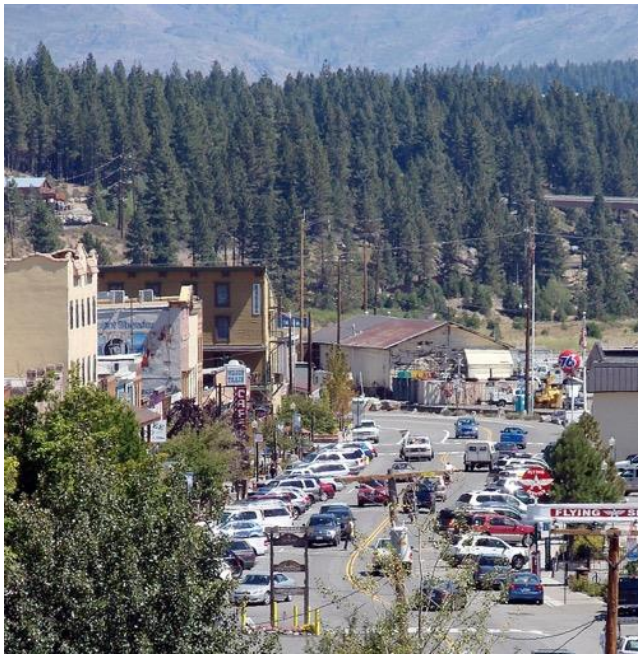


SubLAP PGSI is in Local Capacity Area: Sierra

2020 PGSI Totals (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	1.3	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 (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	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

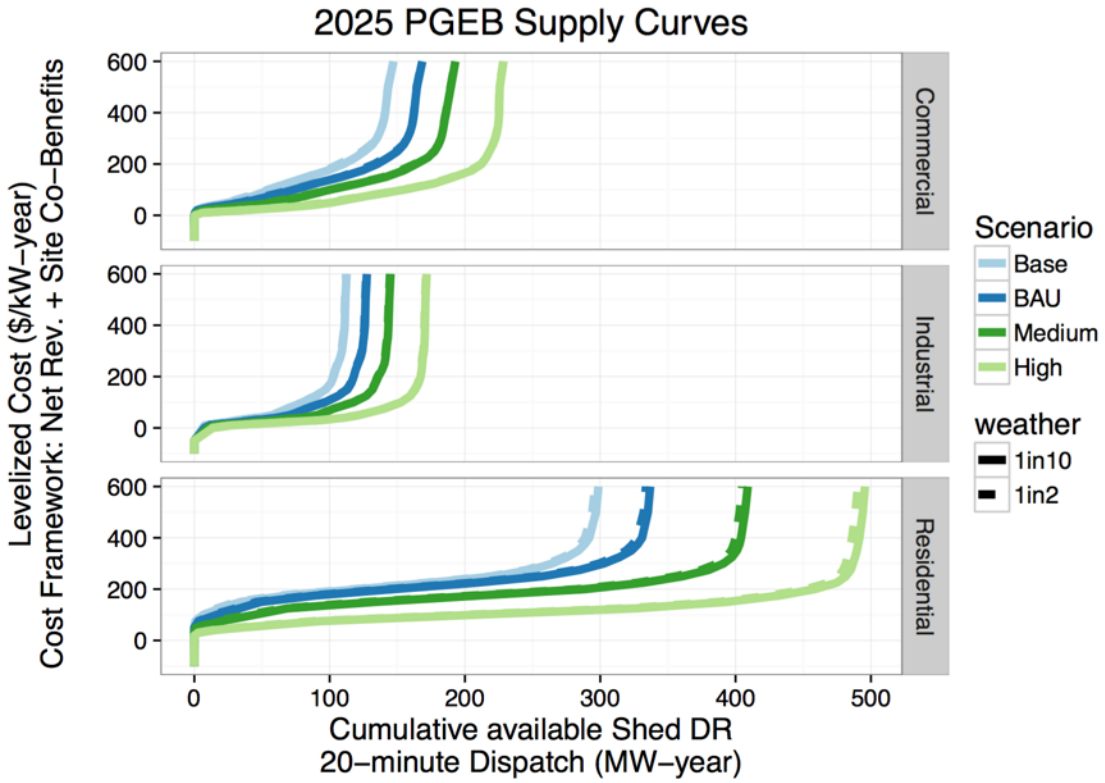
2025 PGSI by End-Use (Cost framework: Net ISO Revenue + Site-level co-benefits) DR Technology	Qty. @ $0 (MW)	Qty. @ $50 (MW)	Qty. @ $100 (MW)	Qty. @ $200 (MW)	Qty. @ $400 (MW)
Commercial battery	0	0	0	0.0068	0.15
Commercial bev	0	0	0.0027	0.011	0.015
Commercial bev_work	0	0	0	0	0
Commercial hvac	0	0.31	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

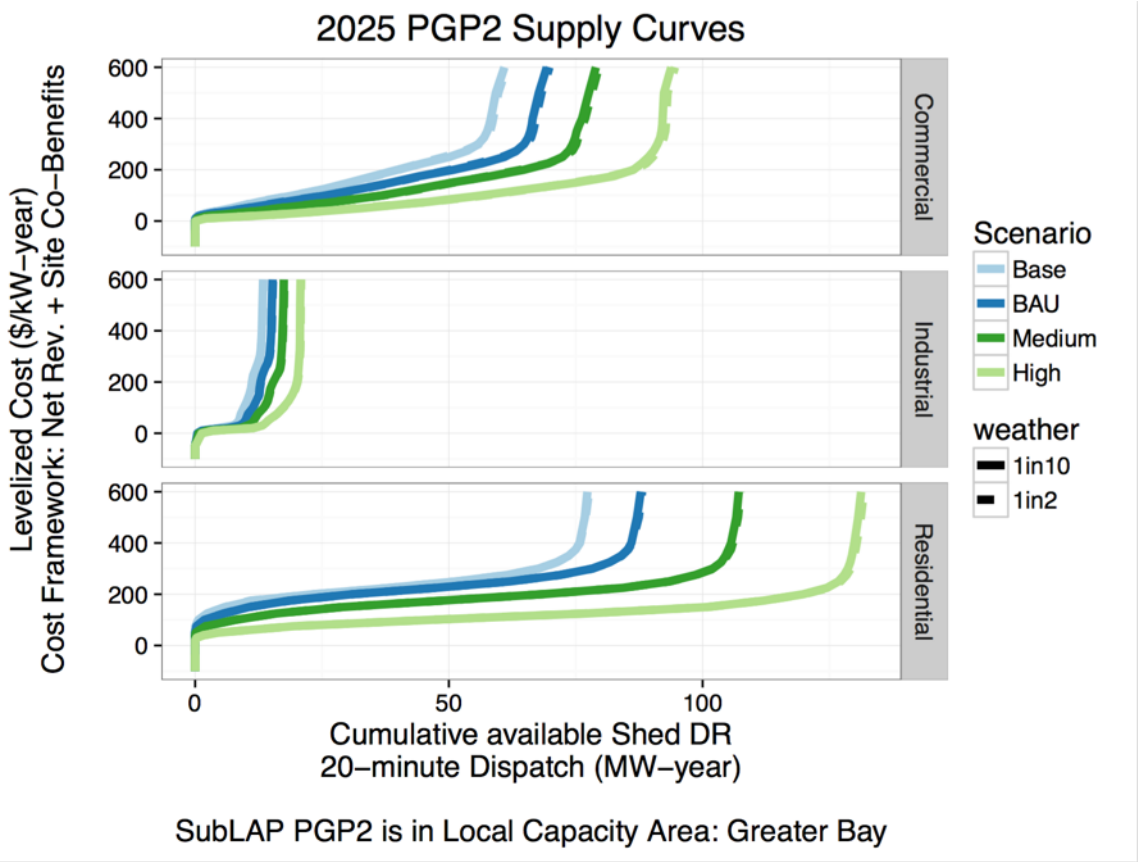
2025 PGEB Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	100	220	350	700
Net Tot. with ISO Revenue	9.7	130	240	360	710
Net Rev. + Site Co-Benefits	9.7	150	260	580	730
Net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

2025 PGEB by End-Use (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	0.15	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



SubLAP PGP2 is in Local Capacity Area: Greater Bay

2020 PGP2 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	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

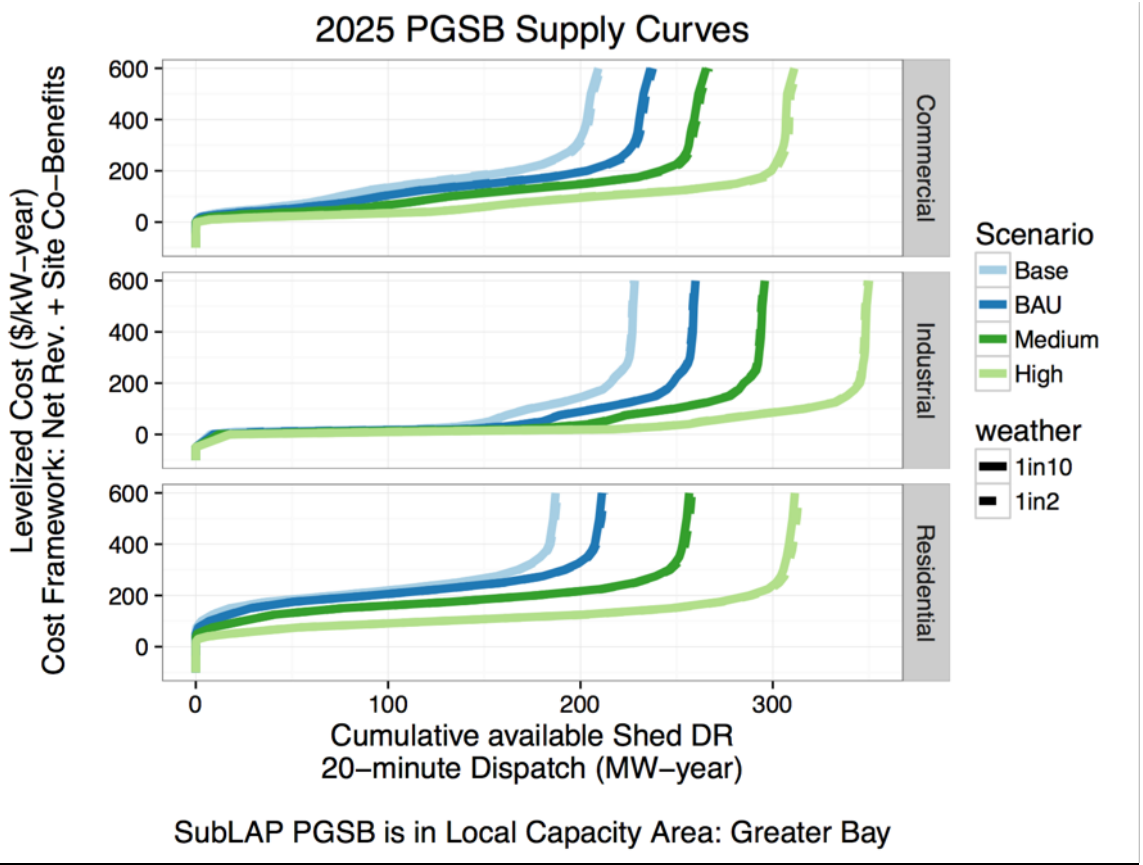
2025 PGP2 Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	17	46	96	190
Net Tot. with ISO Revenue	0.68	21	52	99	190
Net Rev. + Site Co-Benefits	0.68	28	59	150	200
Net Rev.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

2025 PGP2 by End-Use (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	0.065	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



SubLAP PGSB is in Local Capacity Area: Greater Bay

2020 PGSB 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	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

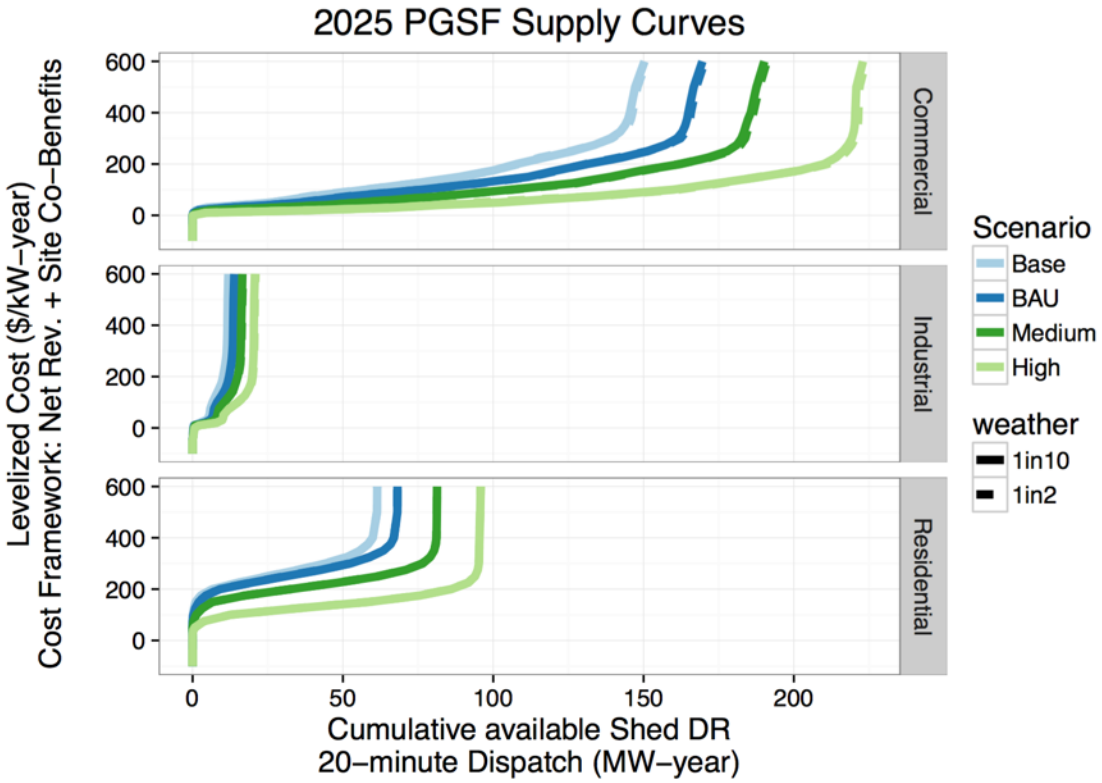
2025 PGSB Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	230	370	560	790
Net Tot. with ISO Revenue	12	260	390	570	790
Net Rev. + Site Co-Benefits	12	290	400	700	810
Net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

2025 PGSB by End-Use (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	0.31	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

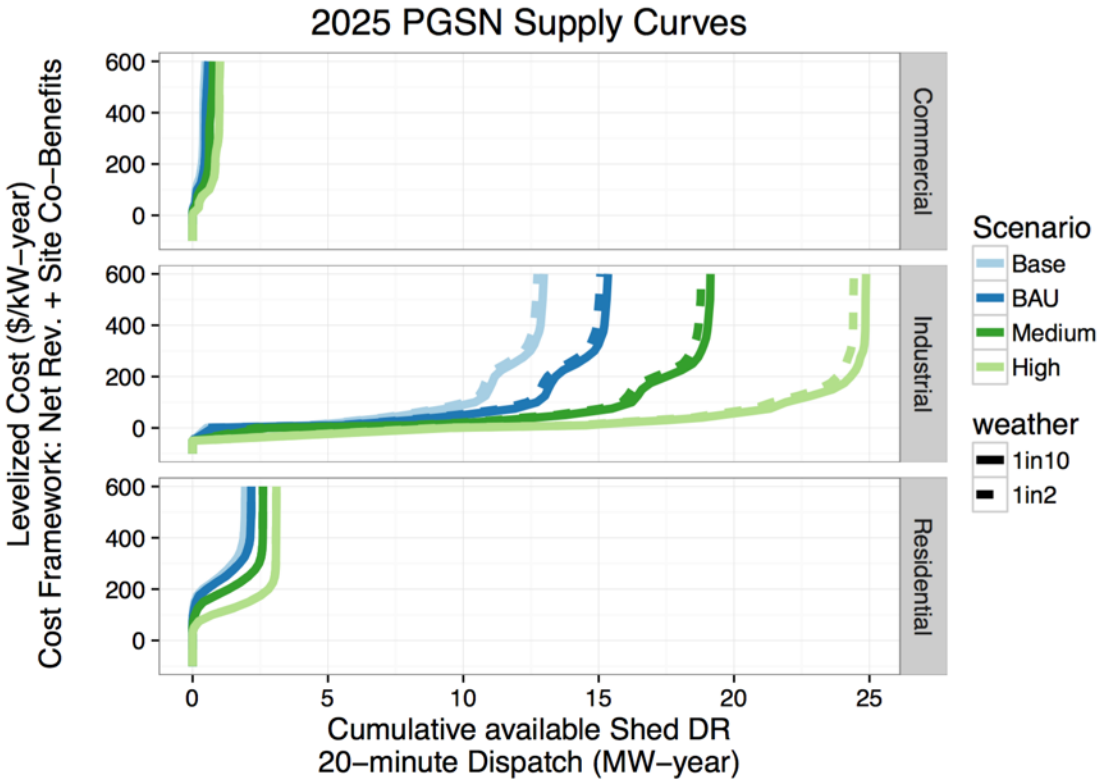
2025 PGSF Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	26	97	170	270
Net Tot. with ISO Revenue	0.43	45	110	170	270
Net Rev. + Site Co-Benefits	0.43	64	120	210	280
Net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

2025 PGSF by End-Use (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	0.29	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

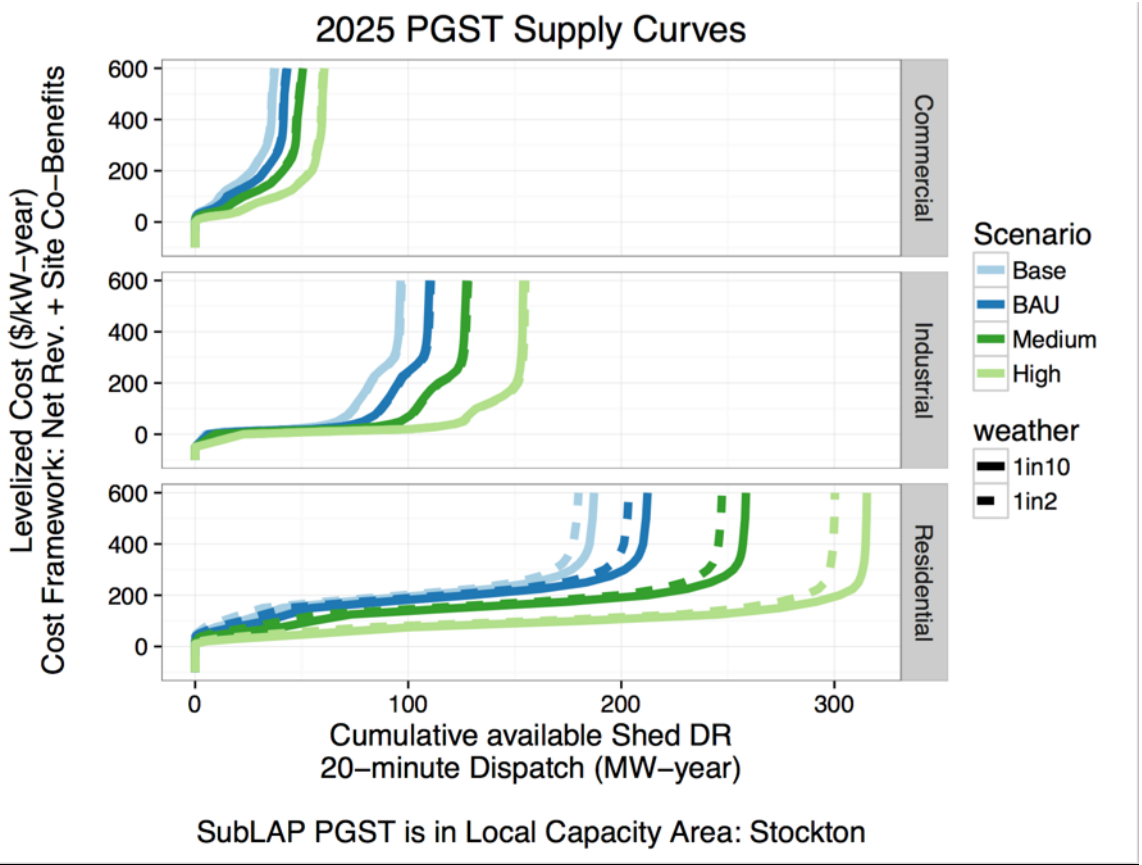
2025 PGSN Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	10	15	17	21
Net Tot. with ISO Revenue	2.3	12	16	17	21
Net Rev. + Site Co-Benefits	2.3	14	16	19	22
Net Rev. + Site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

2025 PGSN by End-Use (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	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



SubLAP PGST is in Local Capacity Area: Stockton

2020 PGST 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	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

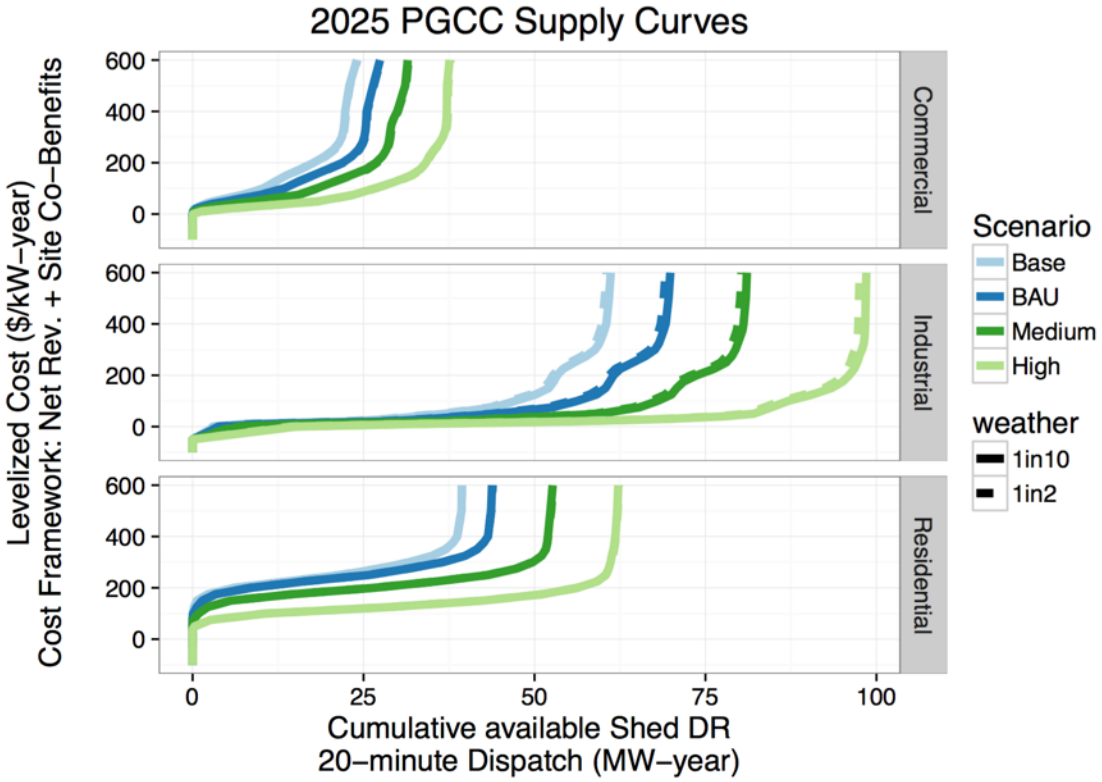
2025 PGST Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	95	160	210	410
Net Tot. with ISO Revenue	9.6	110	160	220	410
Net Rev. + Site Co-Benefits	9.6	120	170	350	420
Net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

2025 PGST by End-Use (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	0.063	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 (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	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

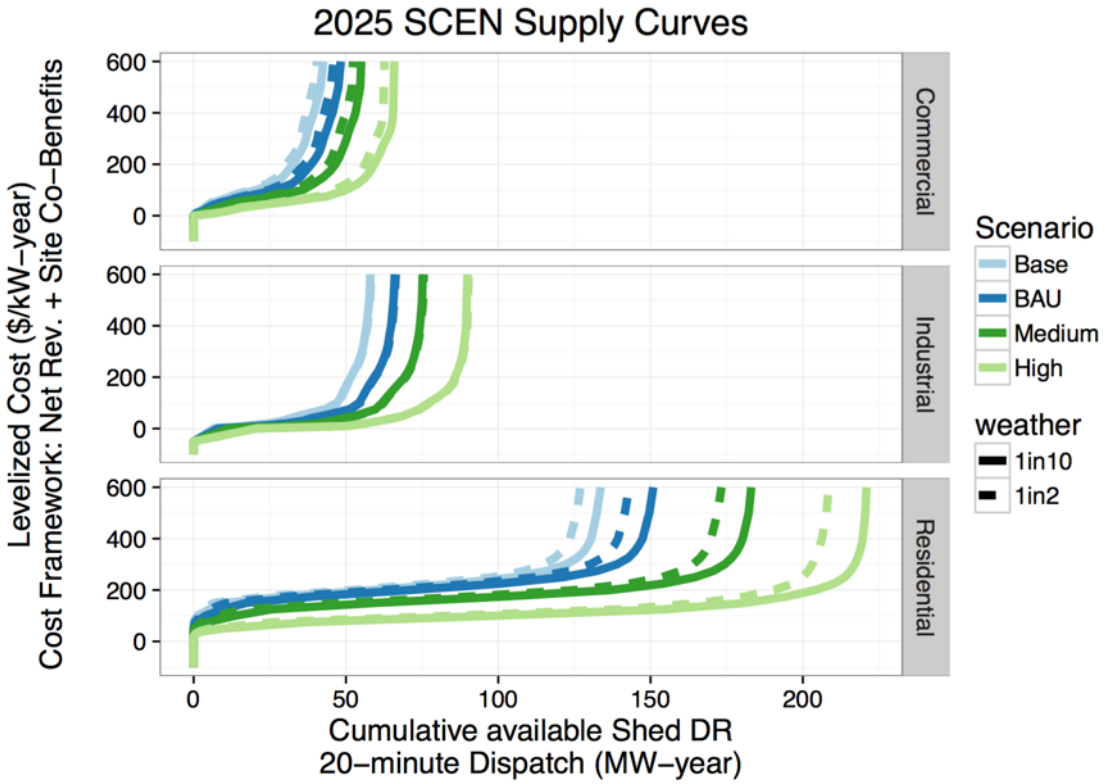
2025 PGCC Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	49	80	99	150
Net Tot. with ISO Revenue	6	57	82	100	150
Net Rev. + Site Co-Benefits	6	68	86	130	160
Net Rev. + Site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

2025 PGCC by End-Use (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	0.035	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 (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	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

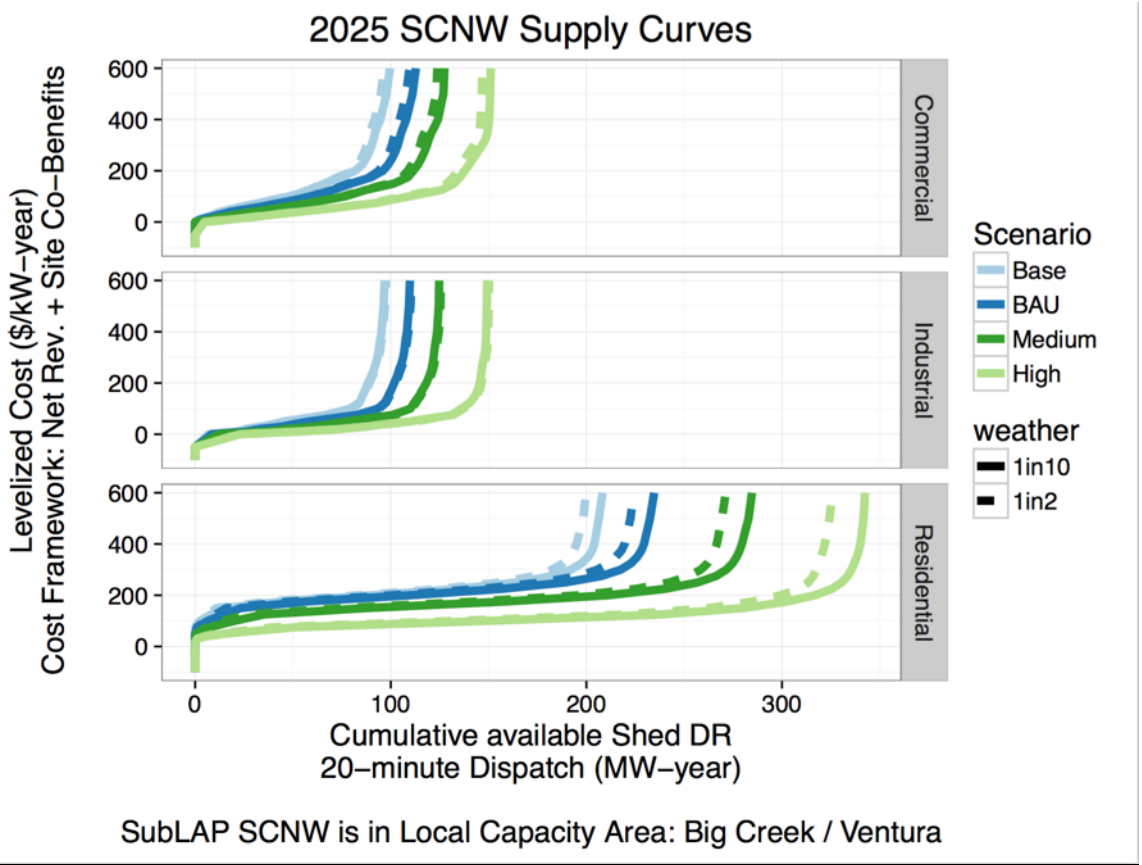
2025 SCEN Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	53	89	130	280
Net Tot. with ISO Revenue	11	60	96	130	290
Net Rev. + Site Co-Benefits	11	66	100	240	290
Net Rev.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

2025 SCEN by End-Use (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	0.21	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



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

2020 SCNW 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	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

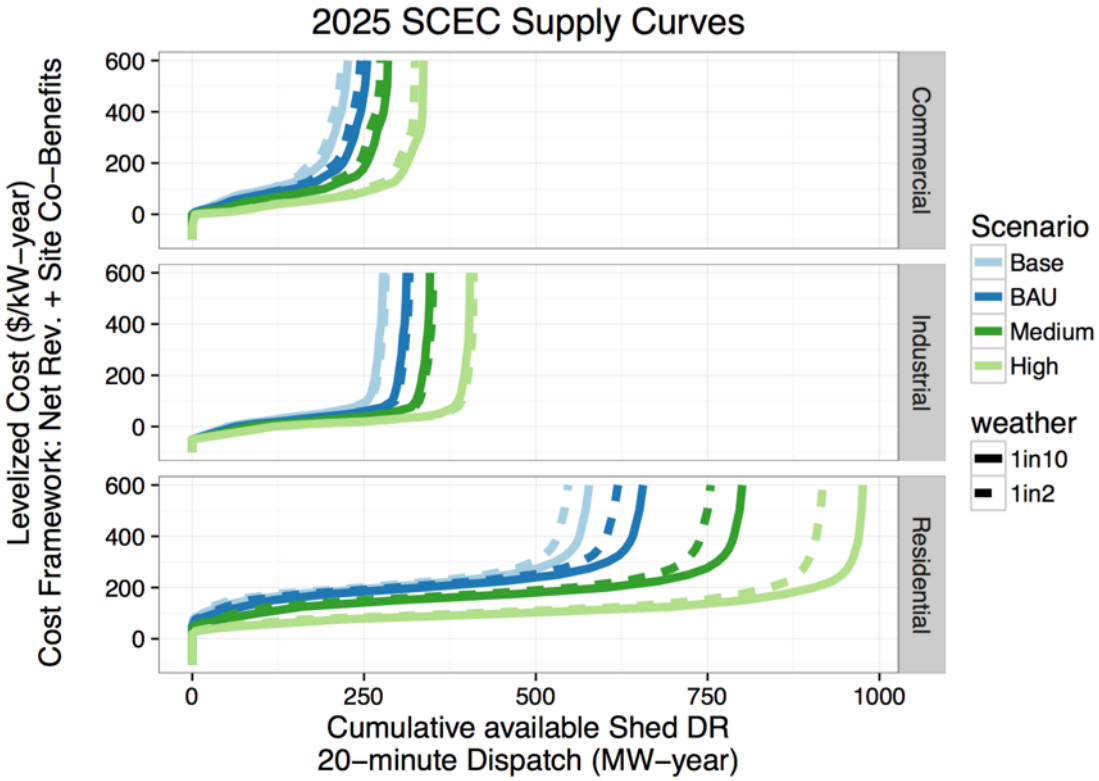
2025 SCNW Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	86	180	250	490
Net Tot. with ISO Revenue	12	100	190	250	500
Net Rev. + Site Co-Benefits	12	120	200	420	510
Net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

2025 SCNW by End-Use (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	0.61	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

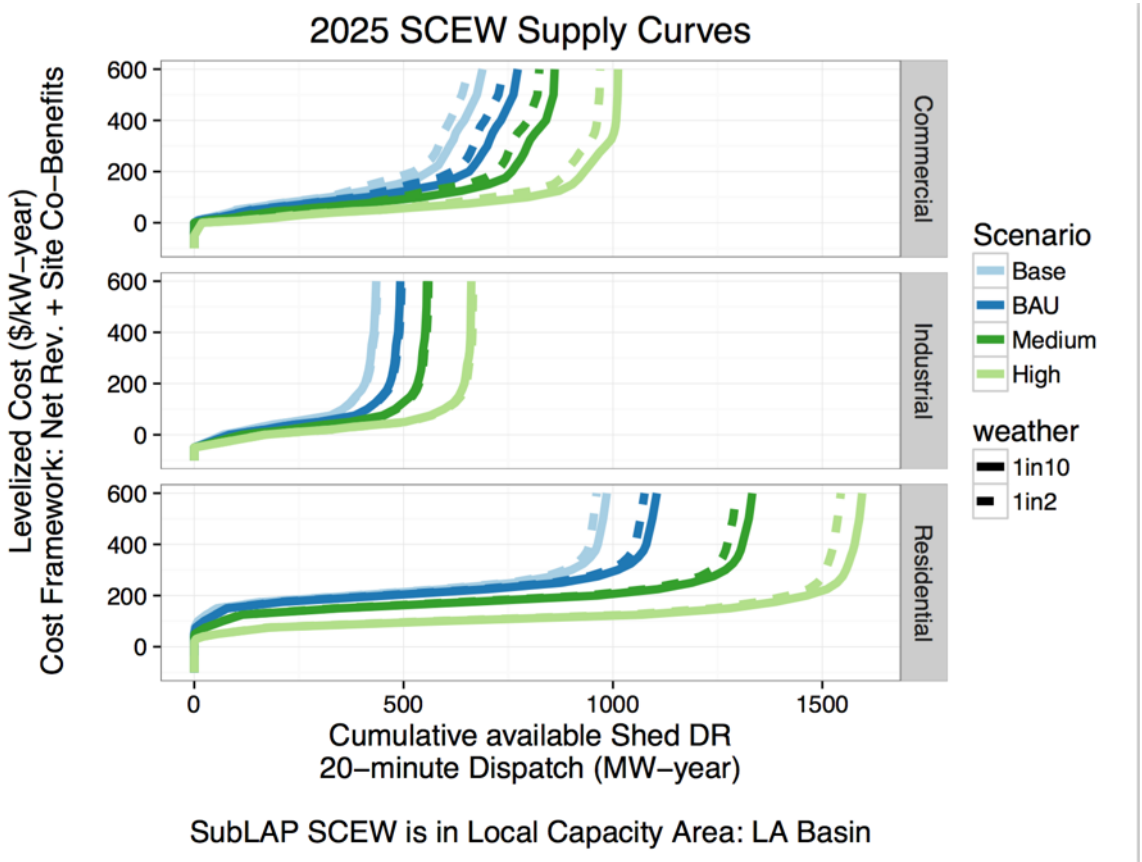
2025 SCEC Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	310	510	700	1300
Net Tot. with ISO Revenue	85	350	540	720	1300
Net Rev. + Site Co-Benefits	85	370	580	1100	1400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

2025 SCEC by End-Use (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	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



SubLAP SCEW is in Local Capacity Area: LA Basin

2020 SCEW 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	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

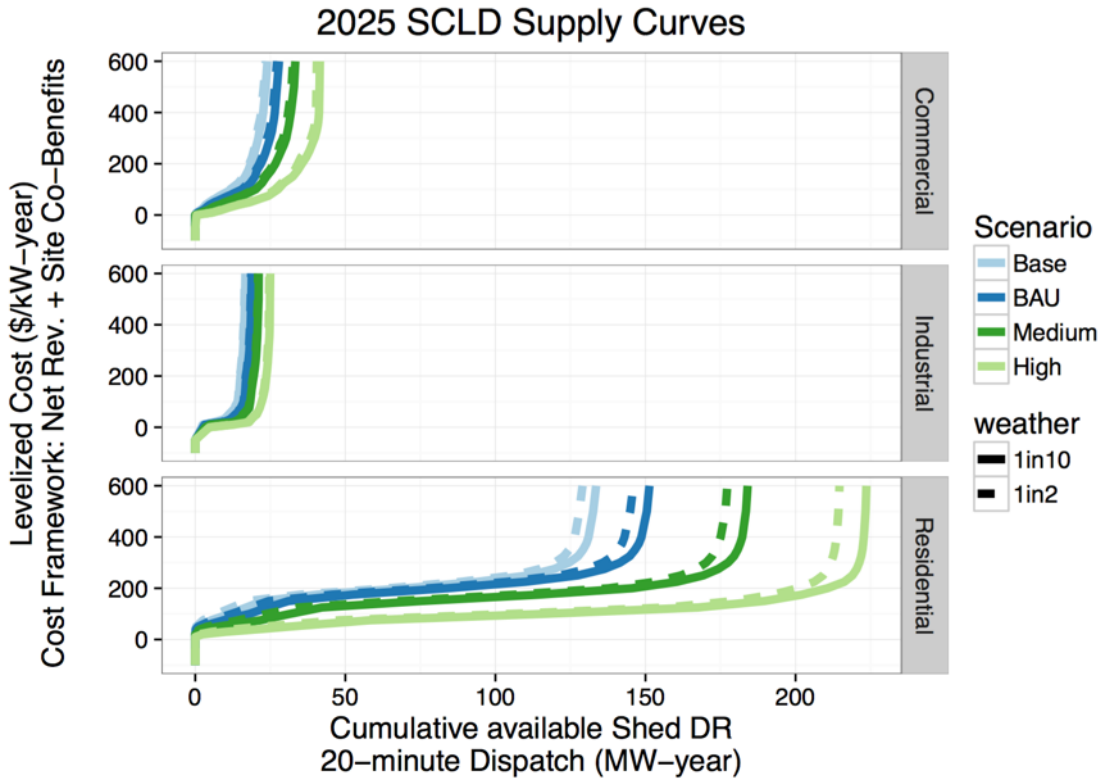
2025 SCEW Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	430	900	1300	2500
Net Tot. with ISO Revenue	110	520	970	1300	2500
Net Rev. + Site Co-Benefits	110	610	1000	2200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

2025 SCEW by End-Use (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	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 (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	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

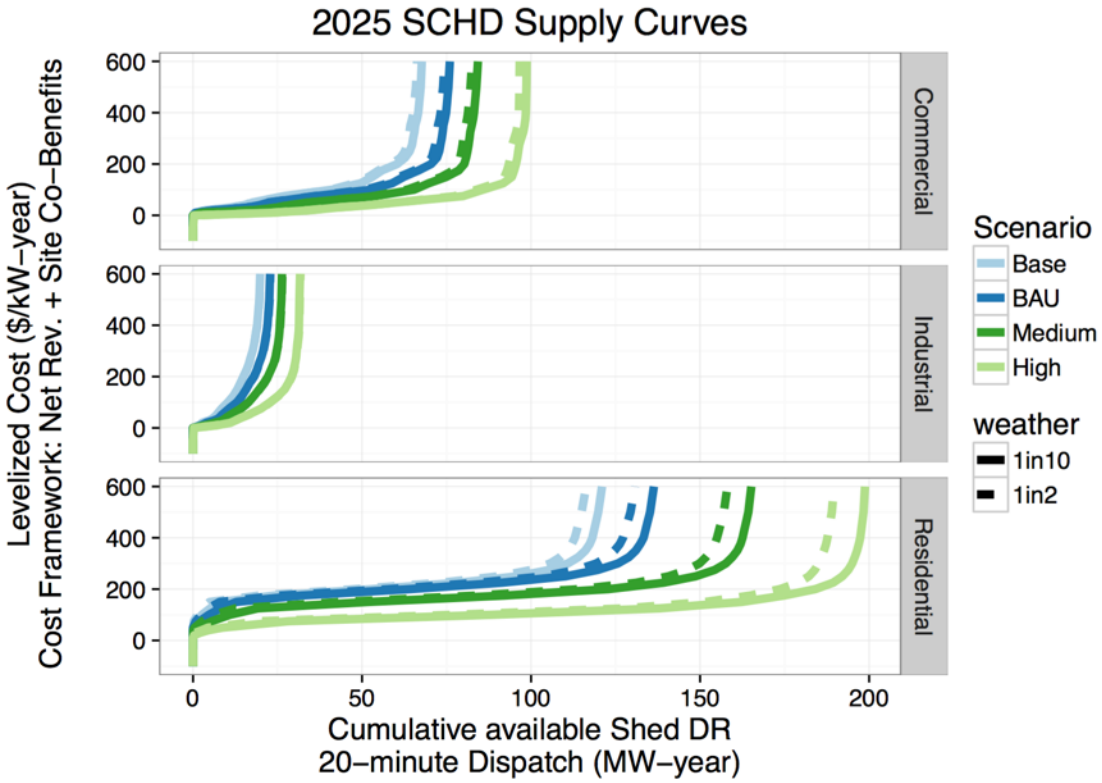
2025 SCLD Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	22	54	82	220
Net Tot. with ISO Revenue	3.3	26	59	83	220
Net Rev. + Site Co-Benefits	3.3	29	61	180	230
Net Rev.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

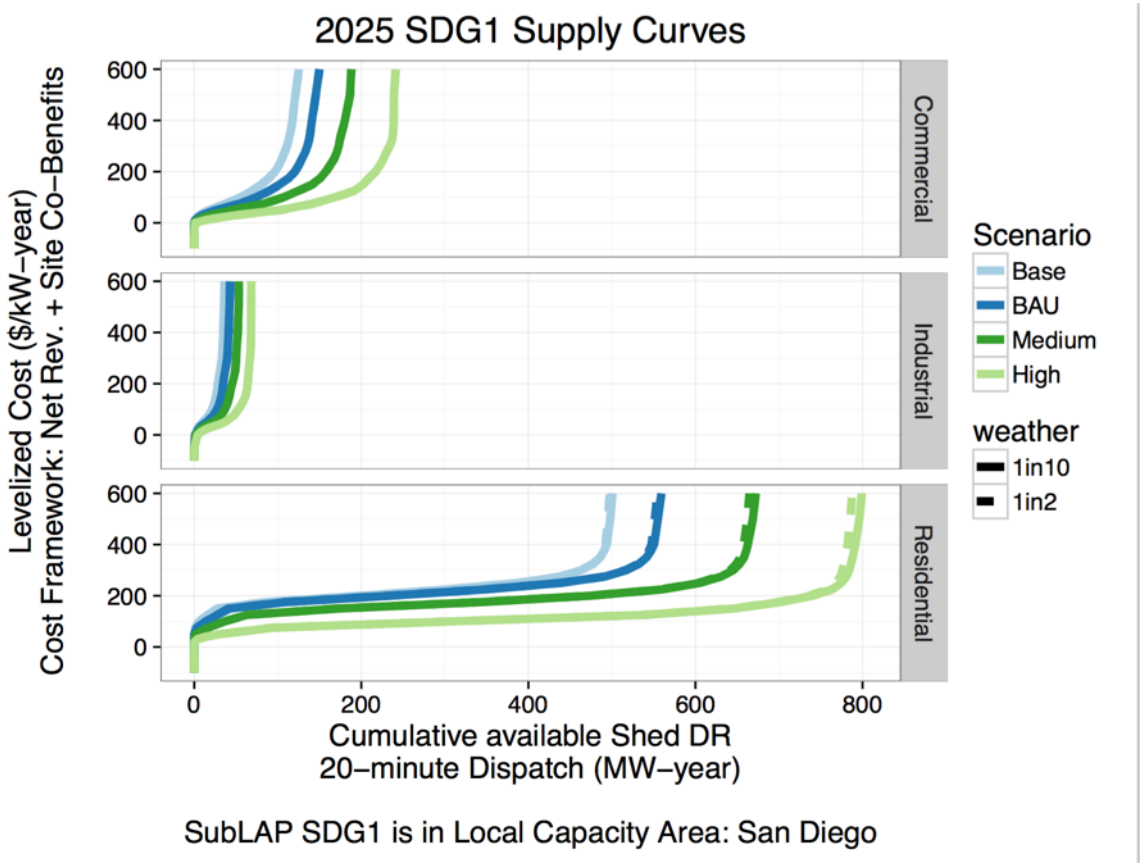
2025 SCHD Totals (Medium Scenario, 1-in-2 Weather) **Cost Framework**	**Qty. @ $0 (MW)**	**Qty. @ $50 (MW)**	**Qty. @ $100 (MW)**	**Qty. @ $200 (MW)**	**Qty. @ $400 (MW)**
Unadjusted Tot.	0	29	70	110	250
Net Tot. with ISO Revenue	0	37	79	120	260
Net Rev. + Site Co-Benefits	0	45	86	220	260
Net Rev. +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

2025 SCHD by End-Use (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	0.025	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



SubLAP SDG1 is in Local Capacity Area: 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

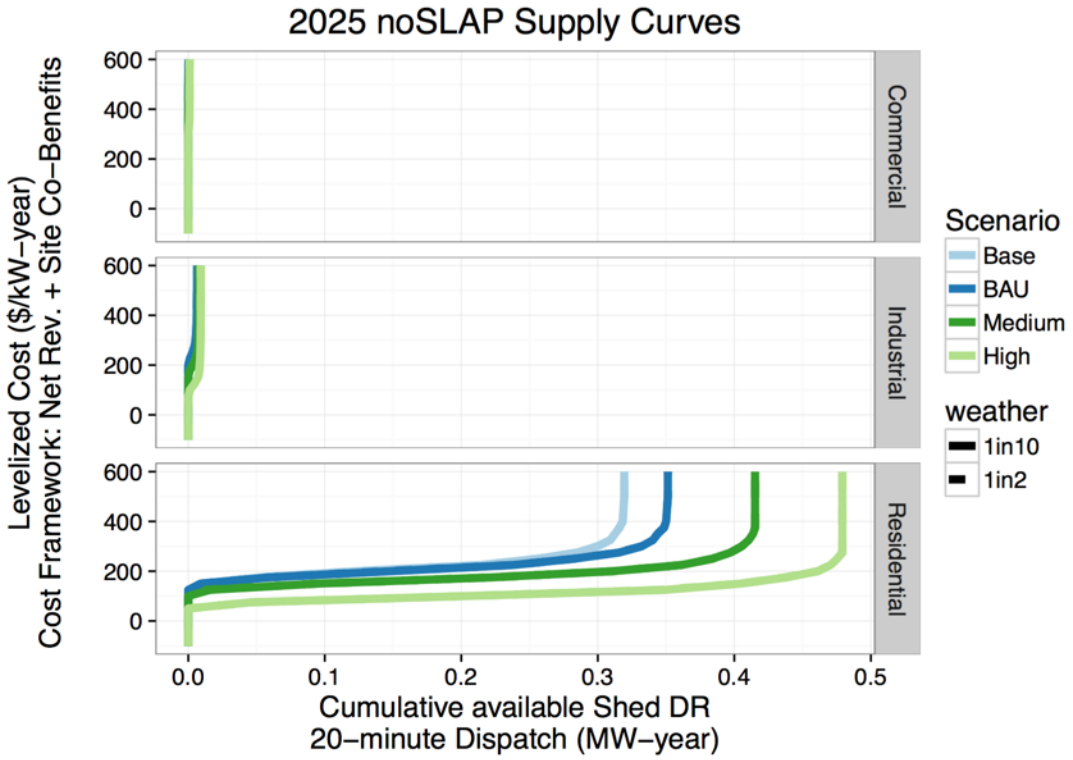
2025 SDG1 by End-Use (Cost framework: Net ISO Revenue + Site-level co-benefits) DR Technology	Qty. @ $0 (MW)	Qty. @ $50 (MW)	Qty. @ $100 (MW)	Qty. @ $200 (MW)	Qty. @ $400 (MW)
Commercial battery	0	0	0	0.39	8.2
Commercial bev	0	0	0.018	0.57	0.97
Commercial bev_work	0	0	0	0	0
Commercial hvac	0.017	8	22	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 (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	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 (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	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 (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	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 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, 50, 100, 200, 400}
year	The forecast year.	2020, 2025
ee_scenario	The energy efficiency deployment scenario (linked to CEC forecasts)	noAAEE, 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, 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, BAU, Med, High
SubLAP	The SubLAP	*various*
sector	The building sector	Res, Com, 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 Based on outcomes from 30 randomly varied technology input files, the mean estimate.	Numeric estimate
Shed_DR_MW_ … 25th_percentile	… the 25th percentile of the outcomes	Numeric estimate
Shed_DR_MW_ … 75th_percentile	… the 75th percentile of the outcomes	Numeric estimate