

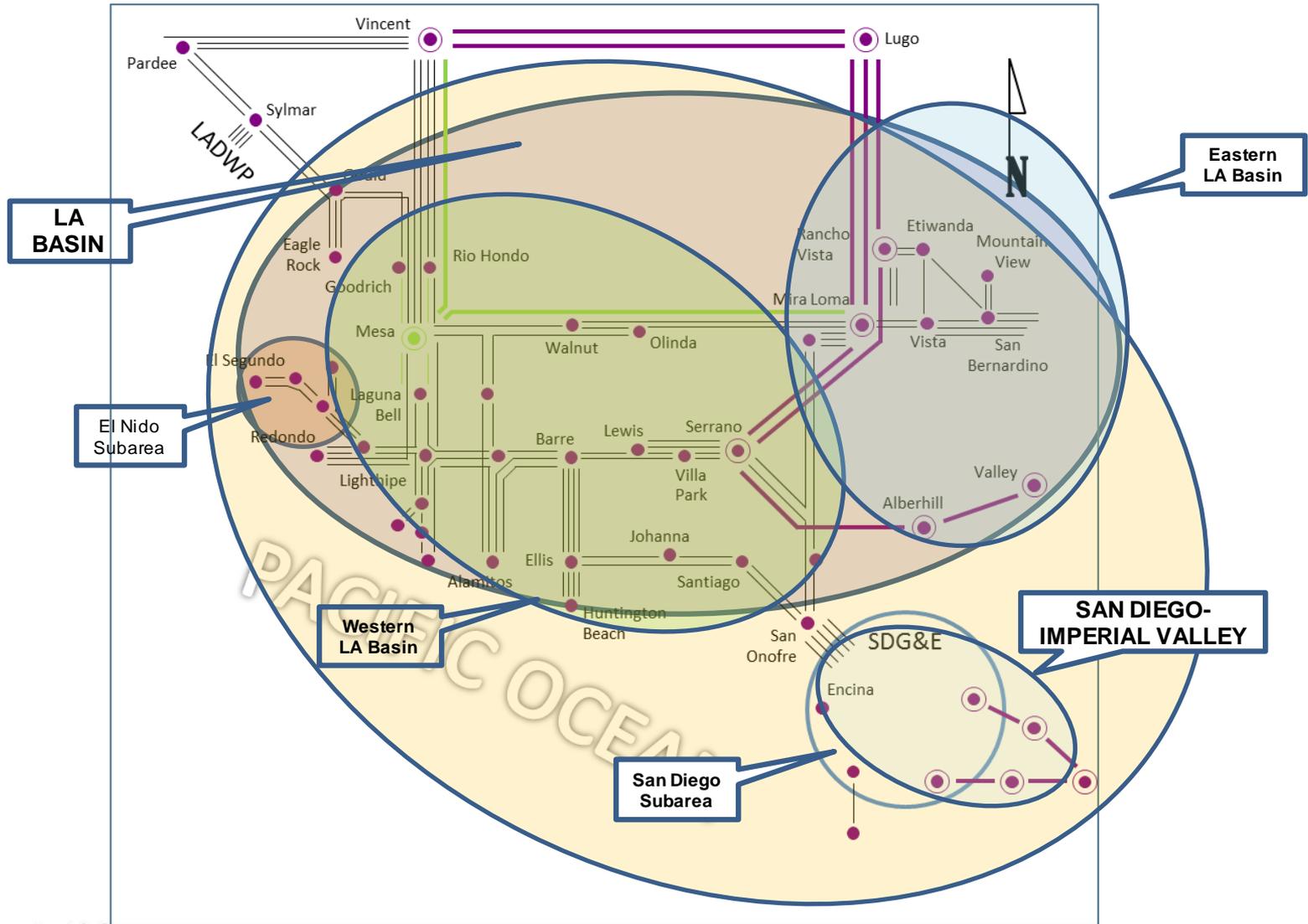


2026 & 2030 Final LCR Study Results for LA Basin and San Diego-Imperial Valley Areas

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Stakeholder Call
April 10, 2025

LA Basin and San Diego-Imperial Valley Areas



Major New Transmission and Resource Addition Assumptions

Project Name	Service Areas	Expected ISD	Modeled in 2026 LCR case	Modeled in 2030 LCR case
New Transmission Projects				
Imperial Valley – El Centro 230 kV (“S” line) upgrade	IID / SDG&E	In-service	√	√
Ten West Link 500 kV line	DCRT, LLC	In-service	√	√
Laguna Bell – Mesa #1 230kV line upgrade	SCE	May 2025	√	√
Southern Orange County Reliability Upgrade	SDG&E	In-service	√	√
New Serrano 4AA Bank & 230kV GIS Rebuild	SCE	12/2027		√
Alberhill 500 kV Method of Service	SCE	12/2029		√
New Resource Projects				
Alamitos Repowering Project	SCE	In-service	√	√
Huntington Beach Repowering Project	SCE	In-service	√	√
Stanton Energy Reliability Center	SCE	In-service	√	√
Alamitos 100 MW Battery Energy Storage System	SCE	In-service	√	√
Additional Alamitos Battery Energy Storage System (82 MW)	SCE	In-service	√	√
Cathode Battery Energy Storage System (200 MW)	SCE	In-service	√	√
Local Capacity Area Preferred Resources in western LA Basin (EE, DR, BTM BESS)	SCE	In-service	√	√
Various other battery energy storage systems in SCE and San Diego-Imperial Valley areas	SCE & SDG&E	2024-2028	√	√

LA Basin Area: Loads and Resources

Loads (MW)	2026	2030	Resources NQC* (MW)	2026	2030
Gross Load	21615	23283	Market/Net Seller	5670	5670
Sum of AAEE, AAFS & AATE	79	652	Battery/Hybrid	3203	3203
Data Center	115	310	Wind	220	220
Behind the meter DG (production)	-2379	-3270	Muni/QF	1266	1266
Net Load	19430	20975	LTPP LCR Preferred Resources (BTM BESS, EE, DR, PV)	175	175
Transmission Losses	296	469	Existing Demand Response	240	240
Pumps	0	0	Solar	29	29
Loads + Losses + Pumps	19726	21444	Total Qualifying Capacity	10803	10803

San Diego-Imperial Valley Area: Loads and Resources

Loads (MW)	2026	2030	Resources NQC* (MW)	2026	2030
Gross Load	5155	5547	Market/Net Seller/Wind	3950	3950
Sum of AAEE, AAFS & AATE	31	219	Battery/Hybrid	1917	2640
Behind-the-meter DG (production)	-518	-619	MUNI/QF	3	3
Net Load	4668	5147	LTPP Preferred Resources	0	0
Transmission Losses	114	170	Existing Demand Response	26	26
Pumps	0	0	Solar	243	243
Loads + Losses	4782	5317	Total	6139	6862

*August NQC for RA accounting purpose

El Nido Sub-area LCR (LA Basin)

Year	Category	Limiting Facility	Contingency	LCR (MW)	2025 and 2029 LCR (MW)
2026	P7	La Fresa-La Cienega 230 kV	La Fresa – El Nido #3 & 4 230 kV lines	365	261
2030	P7	La Fresa-La Cienega 230 kV	La Fresa – El Nido #3 & 4 230 kV lines	493	284

Reasons for the changes in the LCR needs:

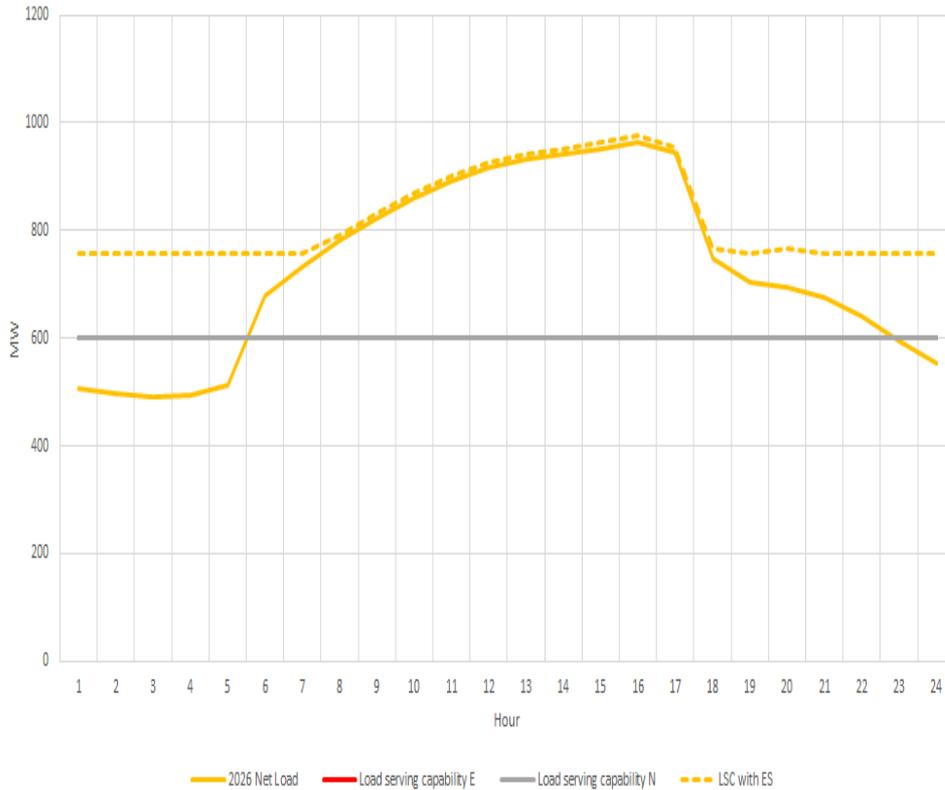
- LCR need increases due to higher demand forecast.

El Nido Sub-area Load Shape and Estimated Energy Storage Charging Capability Under Critical Contingency

El Nido Sub-area:

2026 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)

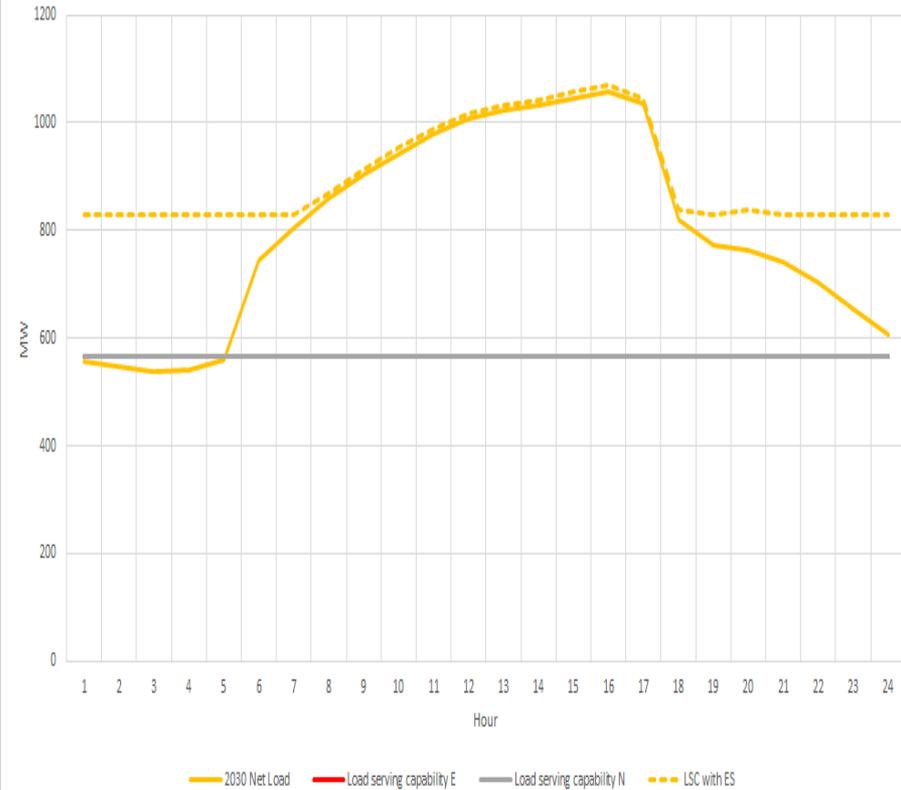
Approx storage size that can be added to this area from charging restriction perspective = 208 MW and 1562 MWh. Max 4-hr storage = 49 MW



El Nido Sub-area:

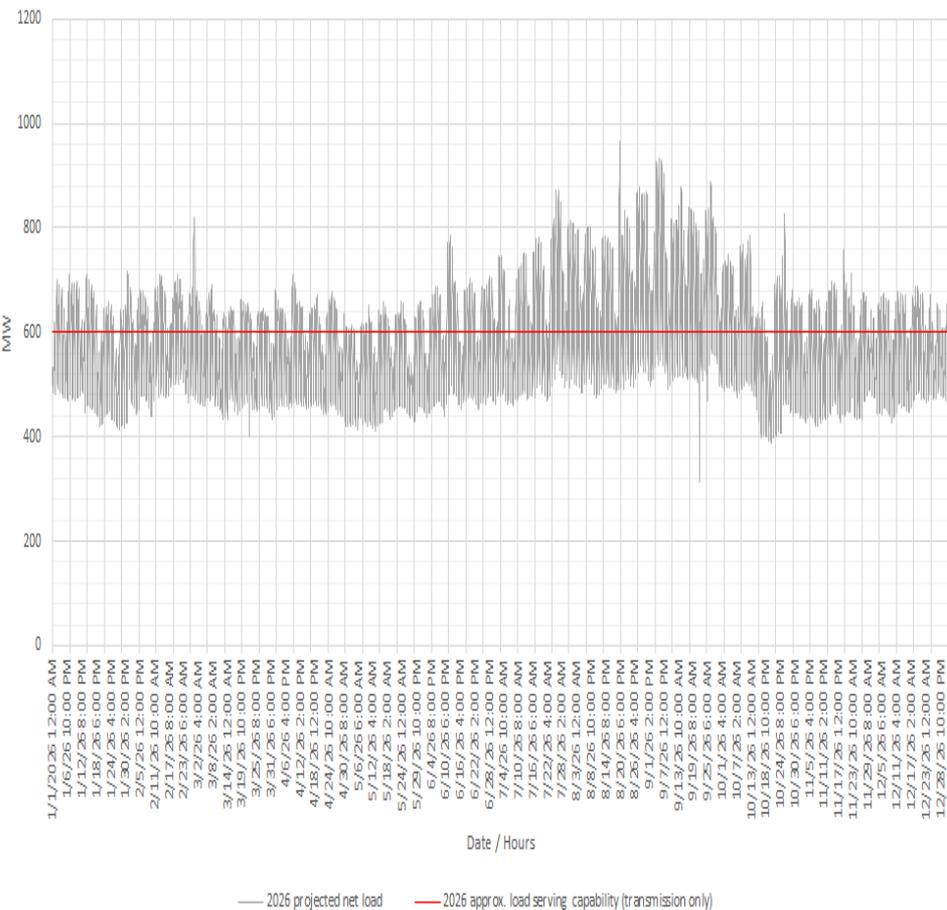
2030 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)

Approx storage size that can be added to this area from charging restriction perspective = 229 MW and 1711 MWh. Max 4-hr storage = 55 MW

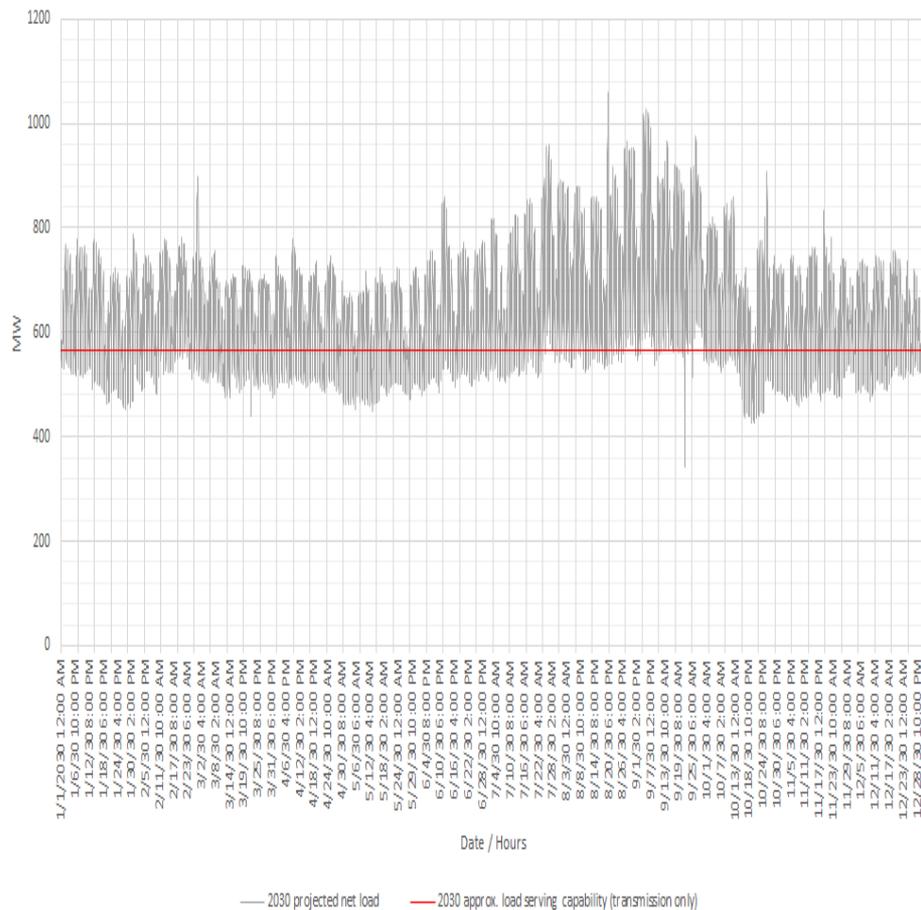


El Nido Sub-area Annual Load Profile and Load Serving Capability

El Nido Sub-area:
2026 projected load profile & approx. load serving capability (transmission only)



El Nido Sub-area:
2030 projected load profile & approx. load serving capability (transmission only)



Western LA Basin Sub-area LCR

Year	Category	Limiting Facility	Contingency	LCR (MW)	2025 and 2029 LCR (MW)
2026	P6	Serrano 500/230kV Transformer Bank #2	Serrano 500/230kV Transformer Banks #3, followed by #1 (or vice versa)	3202 [^]	3041* (3715**)
2030	P6	Mesa – Lighthipe 230kV Line	Mesa-Redondo #1 230kV, followed by Laguna Bell-Mesa #1 230kV line (or vice versa)	3692	3053

Notes:

2026: ^ Different contingency constraint. Study assumes that the Laguna Bell-Mesa #1 230kV line upgrade is completed. The Western LA Basin has higher CEC demand forecast.

* Study results for the scenario where the Laguna Bell-Mesa #1 230kV line upgrade is assumed to be in-service. SCE anticipates the project will be placed in service in May 2025.

** Study results with delay scenario for the Laguna Bell-Mesa #1 230kV line upgrade.

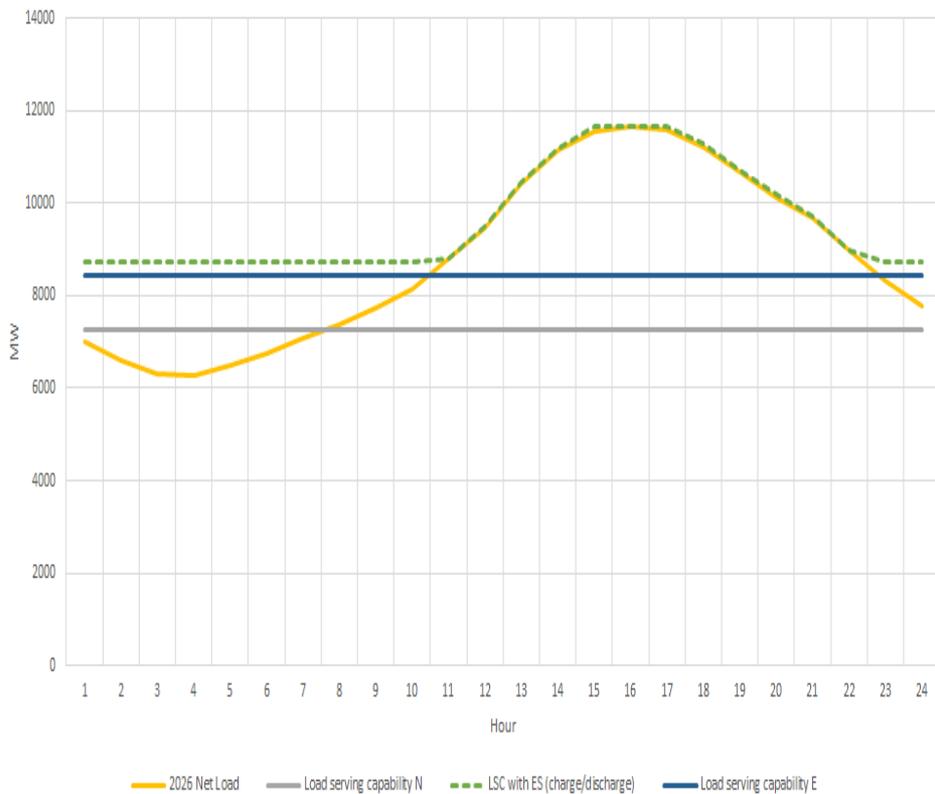
2030: the LCR need is higher due to higher demand forecast

Western LA Basin Sub-area Load Shape and Estimated Energy Storage Charging Capability Under Critical Contingency

Western LA Basin Sub-area:

2026 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

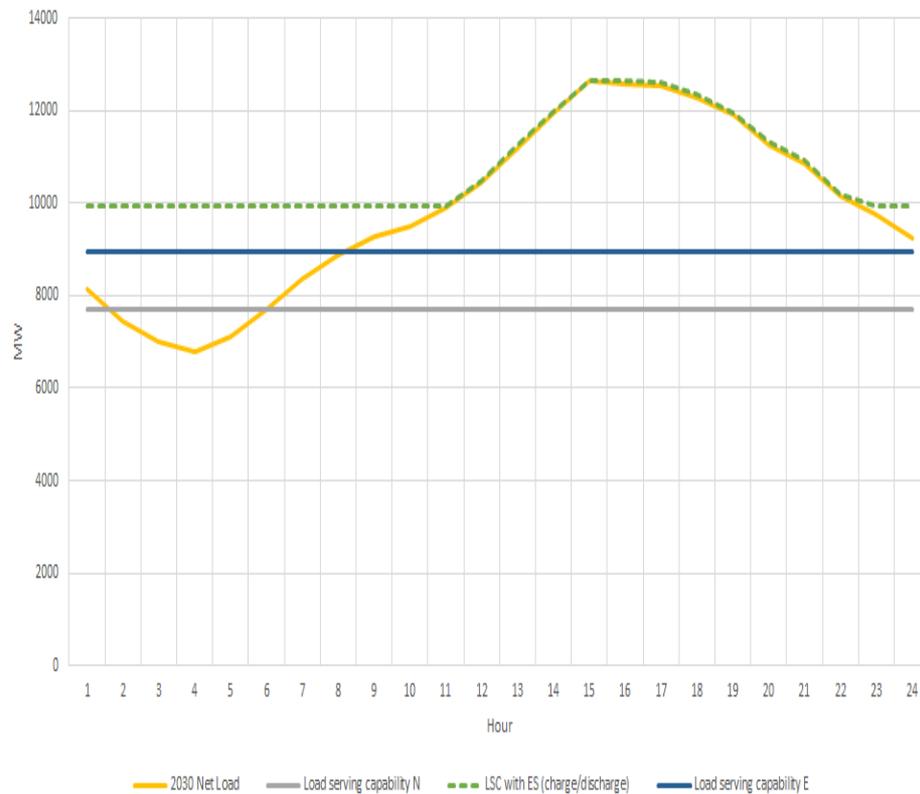
Approx. amount of storage that can be added to this area from charging restriction perspective = 1730 MW and 13885 MWh. Approx. max 4-hr storage = 470 MW



Western LA Basin Sub-area:

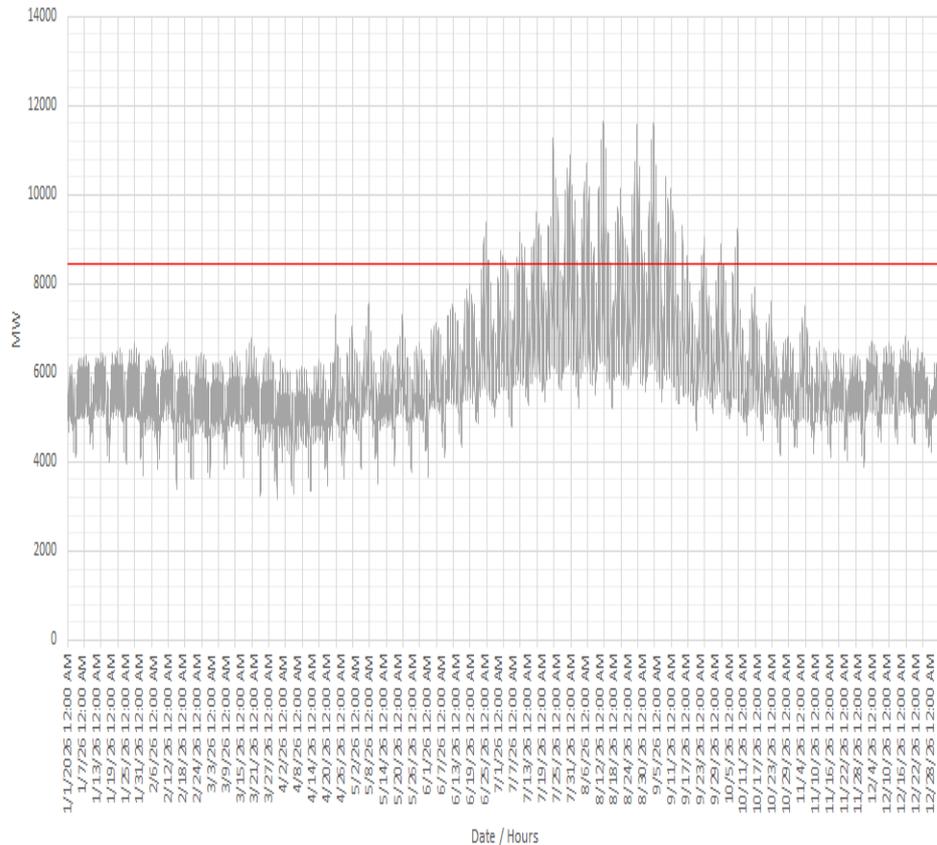
2030 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

Approx. amount of storage that can be added to this area from charging restriction perspective = 1436 MW and 11342 MWh. Approx. max 4-hr storage = 380 MW



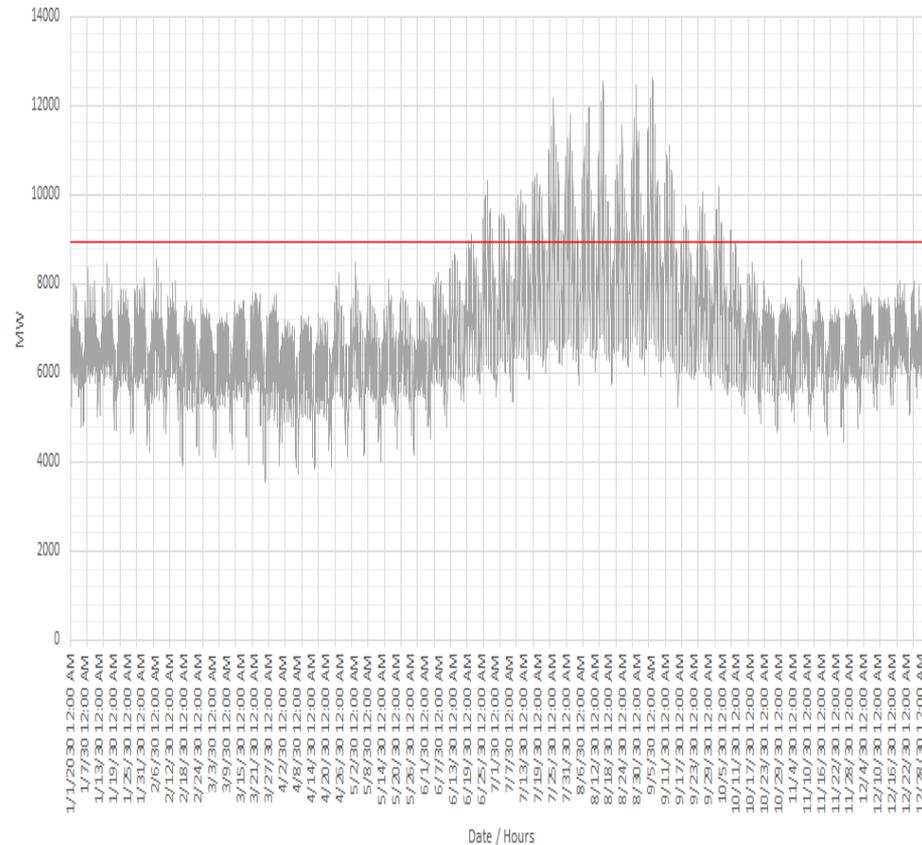
Western LA Basin Sub-area Annual Load Profile and Load Serving Capability

Western LA Basin Sub-area:
2026 CEC hourly load profile & approx. load serving capability (transmission only)



— 2026 CEC hourly load profile — 2026 approx. load serving capability (transmission only)

Western LA Basin Sub-area:
2030 CEC hourly load profile & approx. load serving capability (transmission only)



— 2030 CEC hourly load profile — 2030 approx. load serving capability (transmission only)

Eastern LA Basin Sub-area LCR

Year	Category	Limiting Facility	Contingency	LCR (MW)	2025 and 2029 LCR (MW)
2026	P1 & P7	Voltage stability	Lugo – Rancho Vista 500 kV line, followed by N-2 of Lugo – Mira Loma #2 and #3 500 kV lines (common structure)	2610	1082
2030	P1 & P7	Voltage stability	Lugo – Rancho Vista 500 kV line, followed by N-2 of Lugo – Mira Loma #2 and #3 500 kV lines (common structure)	3577	2023

Notes:

2026: The LCR need increases due to higher demand forecast.

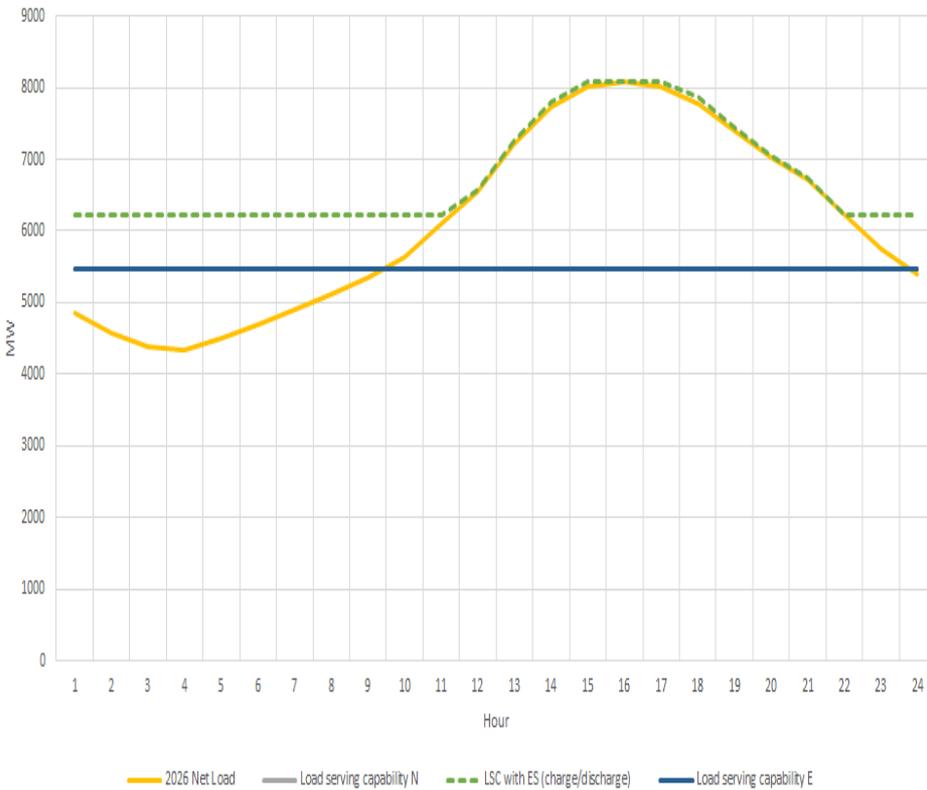
2030: The LCR need increases due to higher demand forecast.

Eastern LA Basin Sub-area Load Shape and Estimated Energy Storage Charging Capability Under Critical Contingency

Eastern LA Basin Sub-area:

2026 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

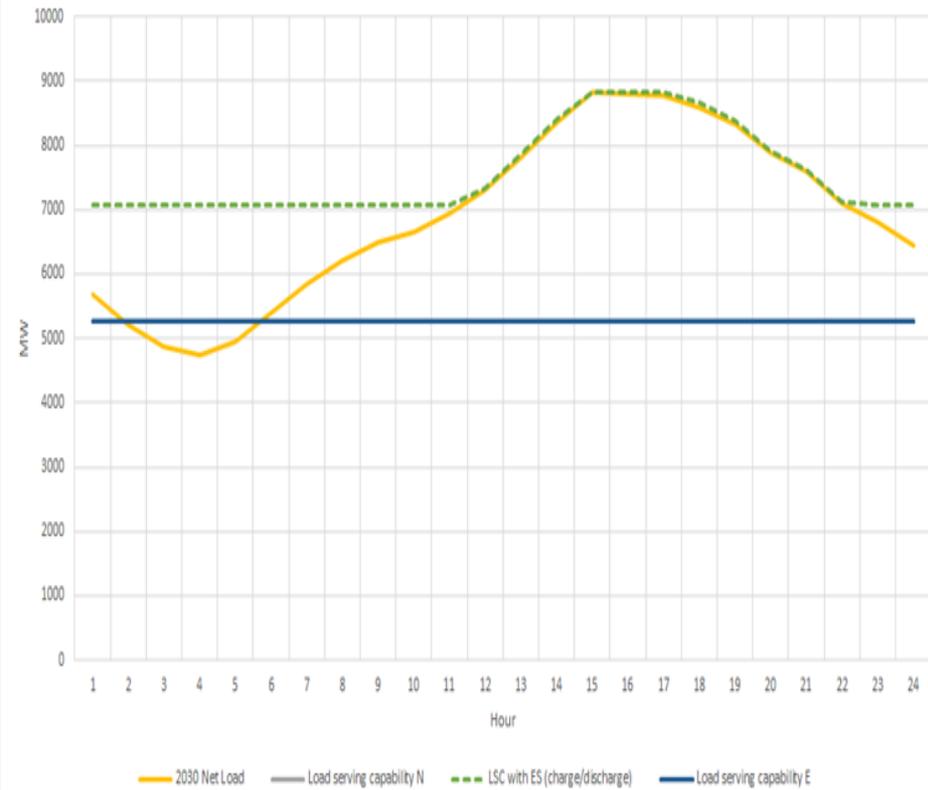
Approx. amount of storage that can be added to this area from charging restriction perspective = 1845 MW and 12657 MWh. Approx. max 4-hr storage = 650 MW



Eastern LA Basin Sub-area:

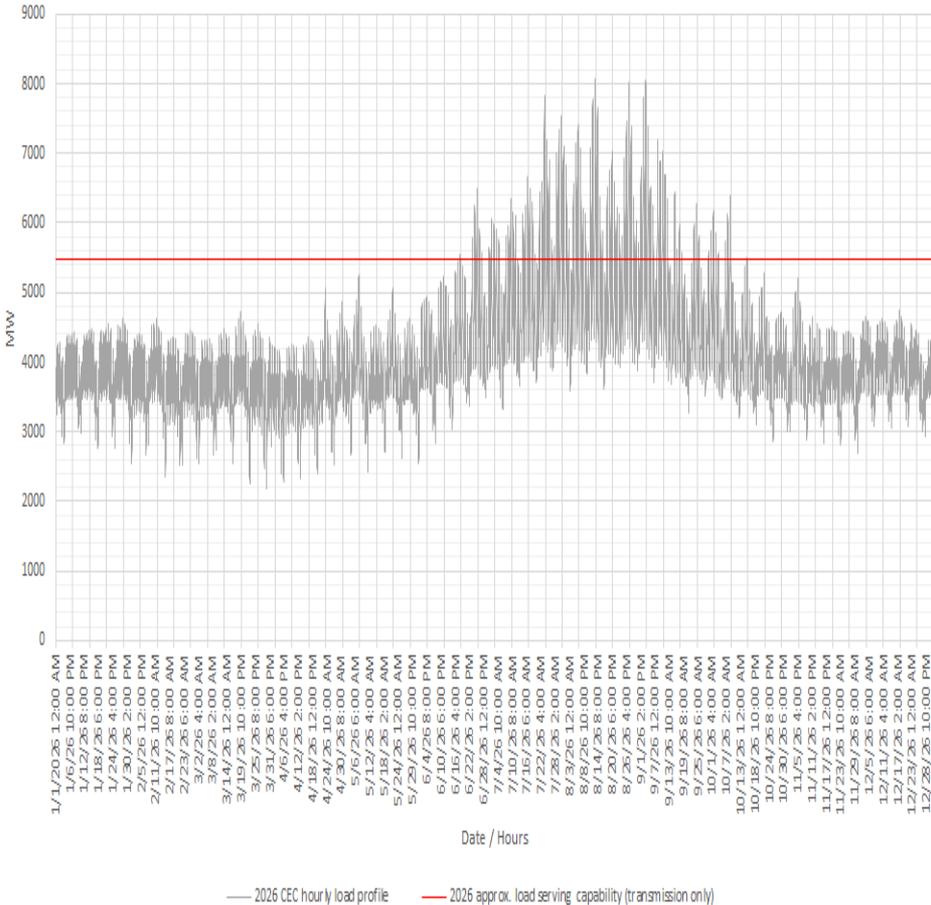
2030 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

Approx. amount of storage that can be added to this area from charging restriction perspective = 1760 MW and 11972 MWh. Approx. max 4-hr storage = 630 MW

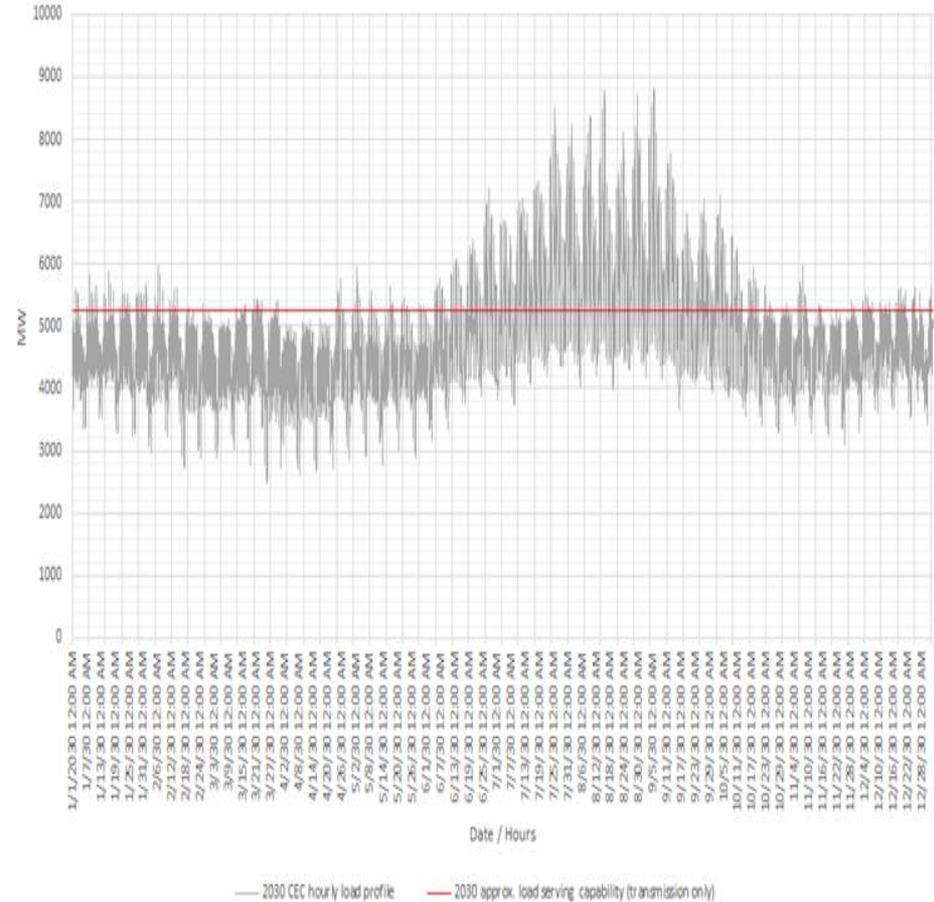


Eastern LA Basin Sub-area Annual Load Profile and Load Serving Capability

Eastern LA Basin Sub-area:
2026 CEC hourly load profile & approx. load serving capability (transmission only)



Eastern LA Basin Sub-area:
2030 CEC hourly load profile & approx. load serving capability (transmission only)



Overall LA Basin LCR Need

Year	Limiting Facility	Limiting Facility	Contingency	LCR (MW)	2025 and 2029 LCR (MW)
2026	Sum of Western and Eastern LA Basin LCR needs	See Western and Eastern LA Basin LCR results	See Western and Eastern LA Basin LCR results	5812	4123* (4797)**
2030	Sum of Western and Eastern LA Basin LCR needs	See Western and Eastern LA Basin LCR results	See Western and Eastern LA Basin LCR results	7269	5076

Notes:

- **2026 and 2030:** The overall LA Basin LCR requirement increases due to higher demand forecast for both years
- **2025:** *Results with Laguna Bell-Mesa #1 230kV upgrade project in-service
 ** Results with Laguna Bell – Mesa #1 230kV upgrade project implementation delay scenario

Total LA Basin Energy Storage Charging Capability

	Total MW of Energy Storage	Total MWh of Energy Storage	Maximum 4-hour Energy Storage (MW)
Year 2026			
Western LA Basin	1730	13885	470
Eastern LA Basin	1845	12657	650
Overall LA Basin	3575	26542	1120
Year 2030			
Western LA Basin	1436	11342	380
Eastern LA Basin	1760	11972	630
Overall LA Basin	3196	23314	1010

San Diego Bulk Sub-area LCR

Year	Category	Limiting Facility	Contingency	LCR (MW)	2025 and 2029 LCR (MW)
2026	P6	Remaining Sycamore-Suncrest 230 kV line	ECO-Miguel 500 kV line, system readjustment, followed by one of the Sycamore-Suncrest 230 kV	2631	2709
2030	P6	Remaining Sycamore-Suncrest 230 kV line	ECO-Miguel 500 kV line, system readjustment, followed by one of the Sycamore-Suncrest 230 kV	3305	3121

Reasons for the changes in the LCR needs:

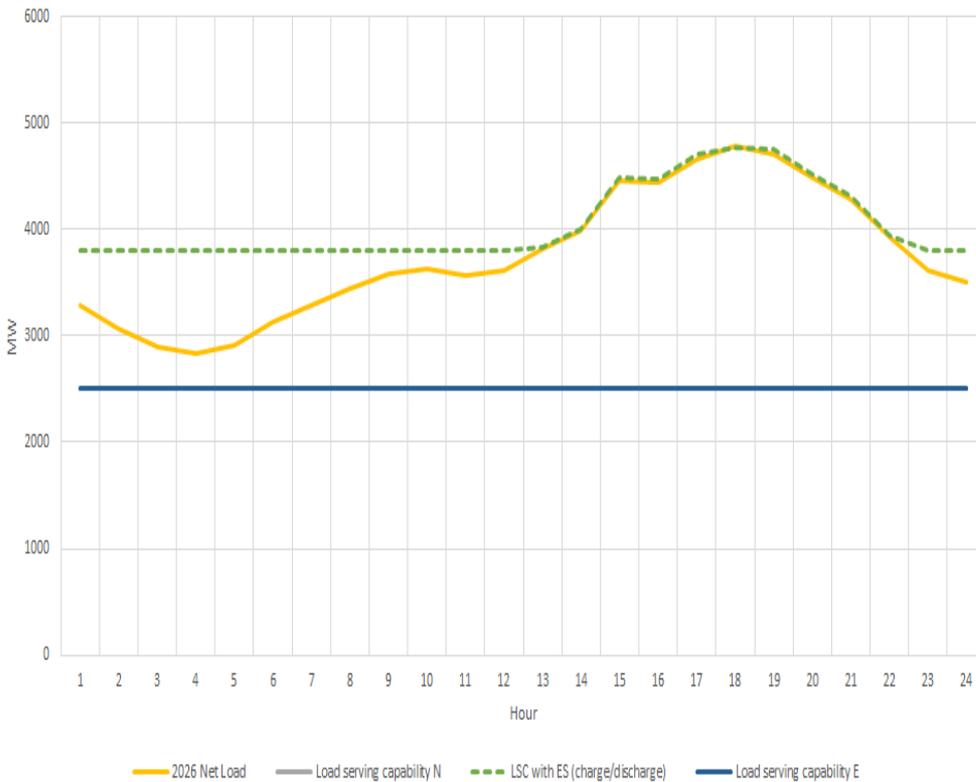
- 2026: The LCR need is lower due to higher dispatch of local resources in the LA Basin to meet its LCR needs. The LA Basin and the San Diego-Imperial Valley areas exhibit some inter-dependent relationship due to strong electrical tie between these two areas.
- 2030: The LCR need is higher due to CEC's higher demand forecast for the San Diego area.

San Diego Subarea Basin Sub-area Load Shape and Estimated Energy Storage Charging Capability Under Critical Contingency

San Diego Sub-area:

2026 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

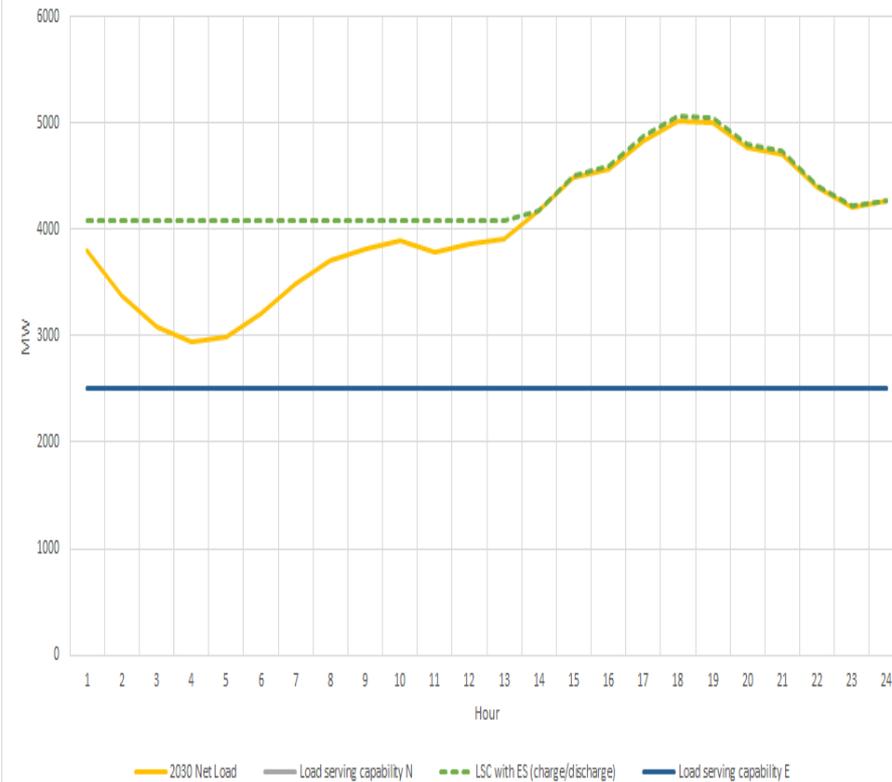
Approx. amount of storage that can be added to this area from charging restriction perspective = 956 MW and 5699 MWh. Approx. max 4-hr storage = 490 MW



San Diego Sub-area:

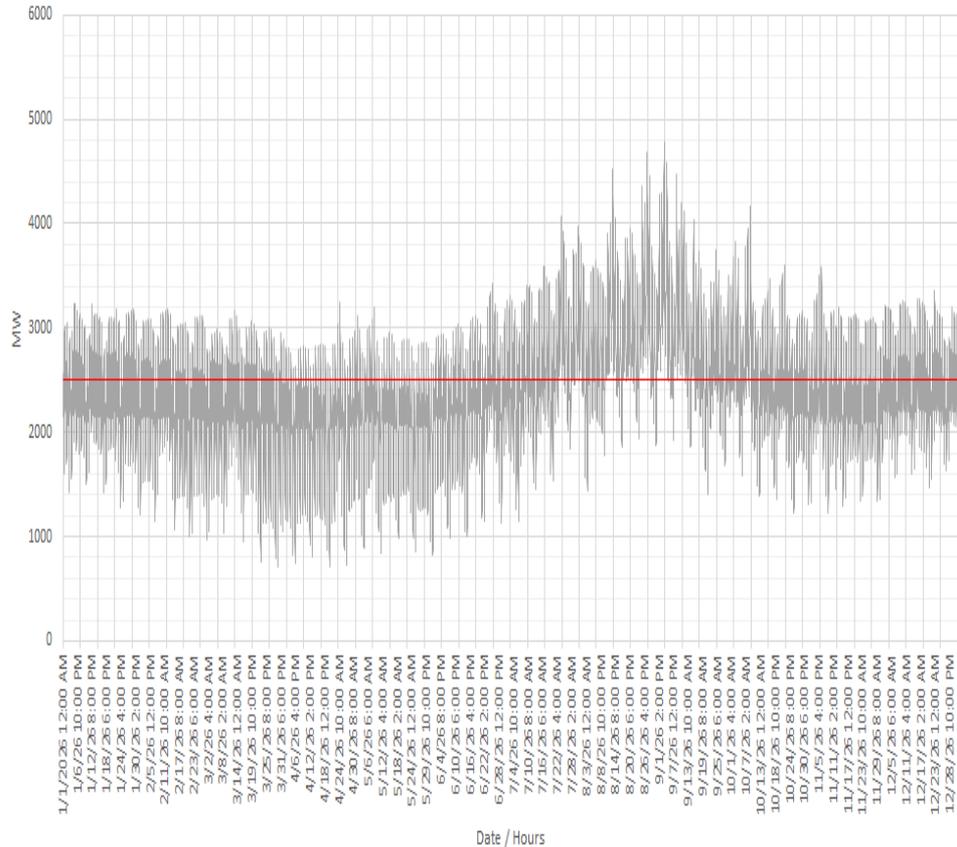
2030 peak day load profile & approx. LSC (transmission + LCR Gen + ES)

Approx. amount of storage that can be added to this area from charging restriction perspective = 1080 MW and 5810 MWh. Approx. max 4-hr storage = 840 MW



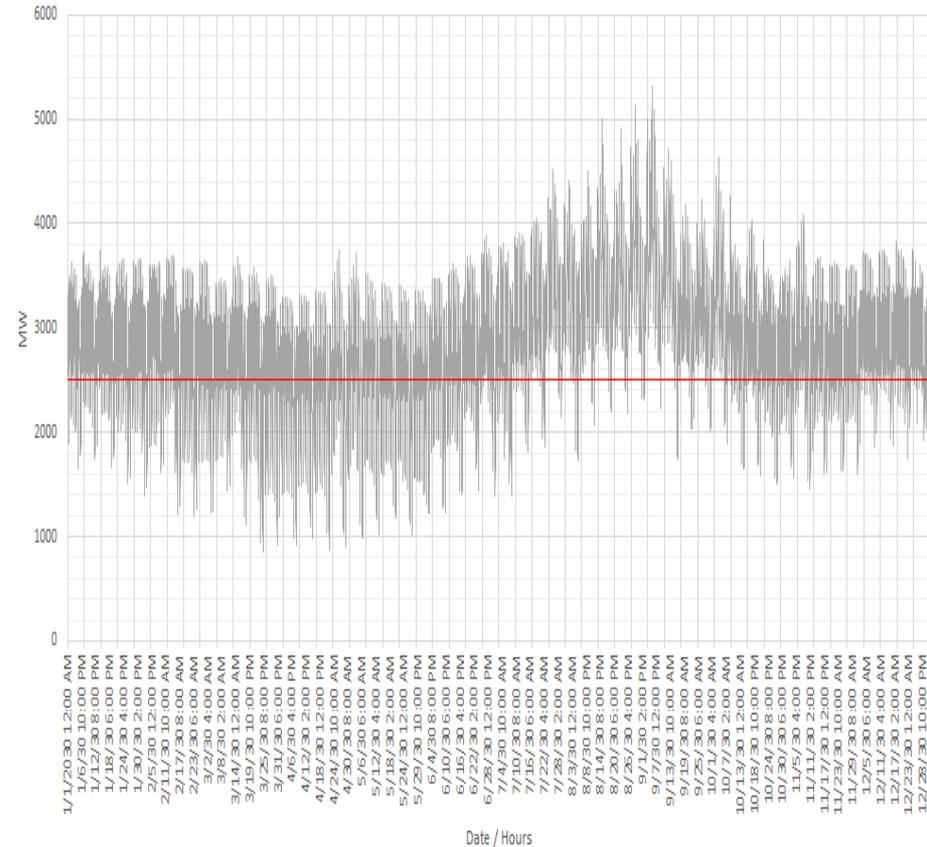
San Diego Sub-area Annual Load Profile and Load Serving Capability

San Diego Sub-area:
2026 CEC hourly load profile & approx. load serving capability (transmission only)



— 2026 CEC hourly load profile — 2026 approx. load serving capability (transmission only)

San Diego Sub-area:
2030 CEC hourly load profile & approx. load serving capability (transmission only)



— 2030 CEC hourly load profile — 2030 approx. load serving capability (transmission only)

Overall San Diego – Imperial Valley Area LCR

Year	Category	Limiting Facility	Contingency	LCR (MW)	2024 and 2028 LCR (MW)
2026	P6	Remaining Sycamore-Suncrest 230 kV line	ECO-Miguel 500 kV line, system readjustment, followed by one of the Sycamore-Suncrest 230 kV	2631	2709
2030	P6	Remaining Sycamore-Suncrest 230 kV line	ECO-Miguel 500 kV line, system readjustment, followed by one of the Sycamore-Suncrest 230 kV	3305	3121

Reasons for the changes in the LCR needs:

- 2026: The LCR need is lower due to higher dispatch of local resources in the LA Basin to meet its LCR needs. The LA Basin and the San Diego-Imperial Valley areas exhibit some inter-dependent relationship due to strong electrical tie between these two areas.
- 2030: The LCR need is higher due to CEC's higher demand forecast for the San Diego area.