

Form 1.5b - STATEWIDE
 California Energy Demand 2019-2030 Managed Forecast - Mid Demand / Mid AEE Case
 1-in-2 Net Electricity Peak Demand by Agency and Balancing Authority (MW)

Balancing Authority	Agency	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average Annual Growth (2019-2030)	
Greater Bay Area Subtotal	PG&E Service Area - Greater Bay Area	7,223	7,113	6,970	6,926	6,902	6,898	6,922	6,951	6,977	7,032	7,025	7,062	-0.20%	
	NCPA - Greater Bay Area	198	194	190	188	186	186	186	186	186	187	186	186	-0.49%	
	Power Enterprise of the San Francisco PUC	125	123	120	118	117	117	117	117	117	117	118	118	-0.49%	
	Silicon Valley Power	530	542	540	546	553	562	569	570	570	573	571	575	0.75%	
	Other NP15 LSEs - Bay Area	5	5	5	5	5	5	5	5	5	5	5	5	-0.69%	
	CDWR - Greater Bay Area	55	55	57	57	57	57	57	56	56	56	56	56	0.92%	
	WAPA - Greater Bay Area	52	52	52	52	52	52	52	52	52	52	52	52	0.00%	
Greater Bay Area Subtotal		8,188	8,083	7,933	7,892	7,873	7,876	7,907	7,937	7,964	8,023	8,013	8,061	-0.14%	
Total North of Path 15	PG&E Service Area - Non Bay Area	9,955	9,803	9,606	9,545	9,513	9,507	9,540	9,580	9,616	9,691	9,682	9,734	-0.20%	
	NCPA - Non Bay Area	211	207	202	200	199	198	198	198	199	200	199	200	-0.49%	
	Other NP15 LSEs - Non Bay Area	7	7	7	7	7	7	7	7	7	7	7	7	-0.49%	
	CDWR - Non Bay Area	55	55	57	57	57	57	56	56	56	56	56	56	0.92%	
	WAPA - Non Bay Area	185	185	185	185	185	185	185	185	185	185	185	185	0.00%	
Total North of Path 15	18,602	18,341	17,991	17,886	17,832	17,829	17,893	17,964	18,026	18,161	18,142	18,247	-0.17%		
Total Zone Path 26	PG&E Service Area - ZP26	2,047	2,016	1,975	1,963	1,956	1,955	1,962	1,970	1,977	1,993	1,991	2,002	-0.20%	
	CDWR - ZP26	115	115	120	120	120	120	119	118	118	118	118	127	0.92%	
	WAPA - ZP26	15	15	15	15	15	15	15	15	15	15	15	15	0.00%	
Total Zone Path 26	2,177	2,146	2,110	2,097	2,091	2,090	2,095	2,103	2,111	2,126	2,124	2,144	-0.14%		
Total Valley	12,591	12,403	12,167	12,091	12,050	12,043	12,081	12,130	12,173	12,265	12,253	12,330	-0.19%		
Total North of Path 26 (Total PG&E TAC Area)	20,779	20,486	20,100	19,983	19,923	19,919	19,988	20,067	20,137	20,287	20,266	20,391	-0.17%		
Total Turlock Irrigation District Control Area	Turlock Irrigation District	543	535	531	528	528	527	525	524	524	524	525	527	-0.27%	
	Merced	109	108	107	107	106	106	106	106	106	106	106	106	-0.27%	
	Total Turlock Irrigation District Control Area	652	643	638	637	634	633	631	630	629	630	631	633	-0.27%	
	SMUD	2,959	2,916	2,899	2,897	2,890	2,881	2,870	2,861	2,861	2,869	2,882	2,895	-0.20%	
	Modesto Irrigation District	674	664	659	658	656	654	652	651	650	651	652	654	-0.27%	
	Roseville	325	321	318	318	316	316	315	314	314	314	315	316	-0.27%	
	Redding	221	217	216	215	215	214	213	213	213	213	213	214	-0.27%	
	City of Shasta Lake	35	34	34	34	34	34	34	33	33	33	33	34	-0.27%	
	WAPA (BANAC)	90	90	90	90	90	90	90	90	90	90	90	90	0.00%	
	Total Balancing Authority of Northern California Control Area	4,304	4,242	4,215	4,211	4,200	4,188	4,174	4,163	4,161	4,171	4,186	4,202	-0.22%	
Total SCE TAC Area	SCE Service Area - LA Basin	16,297	16,109	15,975	15,861	15,850	15,796	15,753	15,749	15,769	15,789	15,883	16,027	-0.15%	
	Anaheim	526	520	515	512	511	509	508	508	509	509	512	517	-0.15%	
	Pasadena Water and Power	273	270	267	265	265	264	264	264	264	264	266	268	-0.15%	
	Riverside	594	587	582	578	577	575	574	574	574	575	579	584	-0.15%	
	Vernon	149	147	147	147	149	149	149	149	149	149	149	170	1.76%	
	Other SP15 LSEs - LA Basin	246	243	241	240	239	238	238	238	238	238	240	242	-0.15%	
	MWD - LA Basin	20	20	20	20	20	20	20	20	20	20	20	20	0.00%	
	LA Basin Subtotal	18,104	17,895	17,771	17,645	17,633	17,572	17,525	17,521	17,542	17,565	17,669	17,829	-0.14%	
	SCE Service Area - Big Creek/Ventura	3,996	3,950	3,917	3,889	3,886	3,873	3,862	3,862	3,861	3,866	3,871	3,894	3,929	-0.15%
	CDWR - Big Creek/Ventura	290	275	275	275	275	275	275	276	276	303	303	303	0.40%	
Big Creek/Ventura Subtotal	4,286	4,224	4,192	4,164	4,161	4,148	4,137	4,142	4,142	4,174	4,197	4,233	-0.11%		
Total SCE TAC Area	SCE Service Area - Other	1,010	999	990	983	983	979	977	976	979	979	985	993	-0.15%	
	Other SP15 LSEs - Other	26	26	25	25	25	25	25	25	25	25	25	25	-0.15%	
	CDWR - Other	47	45	45	45	45	45	45	45	45	50	50	50	0.40%	
	MWD - Other	163	154	154	154	154	154	154	154	154	171	172	172	0.45%	
	Total SCE TAC Area	23,637	23,343	23,177	23,015	23,000	22,923	22,862	22,859	22,886	22,964	23,097	23,301	-0.13%	
SDG&E TAC Area	4,194	4,138	4,158	4,194	4,224	4,250	4,273	4,292	4,313	4,334	4,354	4,373	0.38%		
Valley Electric Association (CA + NV Territory)	133	145	153	156	159	161	164	166	169	171	173	176	2.53%		
Total South of Path 26	27,964	27,625	27,488	27,366	27,388	27,334	27,299	27,317	27,368	27,469	27,625	27,850	-0.04%		
Total LADWP Control Area	LADWP	5,187	5,096	5,008	5,055	5,050	5,068	5,046	5,160	5,059	4,992	4,940	4,872	-1.55%	
	Burbank	286	284	284	285	283	282	281	279	279	279	281	283	-0.11%	
	Glendale	297	295	294	294	294	292	291	290	289	290	291	293	-0.11%	
	Total LADWP Control Area	6,370	6,275	6,186	6,135	6,028	5,942	5,818	5,729	5,627	5,561	5,512	5,448	-1.41%	
Imperial Irrigation District Control Area	1,071	1,056	1,045	1,037	1,030	1,024	1,019	1,017	1,017	1,020	1,026	1,033	-0.33%		
Total California ISO Noncoincident Peak	48,743	48,112	47,589	47,349	47,306	47,253	47,287	47,384	47,505	47,757	47,891	48,241	-0.09%		
Total California ISO Coincident Peak	46,117	45,647	45,184	45,280	45,447	45,610	45,827	46,011	46,227	46,493	46,702	47,016	0.18%		
Total STATEWIDE Noncoincident Peak	61,141	60,327	59,673	59,369	59,198	59,040	58,929	58,923	58,940	59,138	59,246	59,558	-0.24%		
Total STATEWIDE Coincident Peak	57,848	57,236	56,658	56,775	56,872	56,987	57,109	57,216	57,354	57,572	57,776	58,045	0.03%		

CAISO area Non-IOU,CCA,ESP demand flag

and values for each BA area. Includes the impact of IOU load-modifying demand response programs.
 † adjusted to be coincident with the respective BA area net peak demand total.

stem RA allocation, NQC MW hen

	2,020	2,021	2,022	2,023	2,024	2,025	2,026	2,027	2,028	2,029	2,030
CAISO area Non-IOU,CCA,ESP non-coincident demand	3,985	3,997	3,988	3,992	3,995	3,999	4,004	4,009	4,068	4,077	4,120
CAISO area IOU,CCA,ESP non-coincident demand	44,127	43,592	43,361	43,314	43,259	43,288	43,380	43,496	43,689	43,813	44,121
coincident adjustment	95%	95%	96%	96%	97%	97%	97%	97%	98%	98%	97%
CAISO area IOU,CCA,ESP coincident demand	41,866	41,389	41,466	41,612	41,754	41,951	42,123	42,326	42,533	42,726	43,000
Your LSE's estimated percent of CAISO area IOU,CCA,ESP coincident demand	1.64%										
Your LSE's estimated system RA requirement, NQC MW	685	677	678	681	683	686	689	692	696	699	703

Adjusted share for RSP comparisons

3.75%

Test TRUE

	A	B	C	D	E
	resource_num	resource	note	resource_contract_note	online
1					
2	1				1
3	2				1
4	3				0
5	4				0
6	5				0
7	6				0
8	7	o			0
9	8	o			0
10	9				0
11	10				0
12	11				0
13	12				0
14	13				1
15	14				1
16	15	x			1
17	16				1
18	17				0
19	18				0
20	19				0
21	20				0
22	21				0
23	22				0
24	23				1
25	24				1
26	25				0

	F	G	H	I	J	K	L	M
1	online_date_for_new_resources	contract_execution_date	contract_start	contract_end	interconnection_queue_position	lse_owned	cam	is_incremental
2	ok	11/1/2020	3/1/2021	12/31/2030	N/A			0
3	ok	11/1/2020	3/1/2021	12/31/2030	N/A			0
4	1/1/2022	11/1/2020	1/1/2022	12/31/2030	TBD			1
5	1/1/2023	1/1/2021	1/1/2023	12/31/2030	TBD			1
6	1/1/2025	1/1/2023	1/1/2025	12/31/2030	TBD			1
7	1/1/2022	1/1/2021	1/1/2022	12/31/2030	TBD			1
8	1/1/2023	1/1/2021	1/1/2023	12/31/2030	TBD			1
9	1/1/2026	1/1/2024	1/1/2026	12/31/2030	TBD			1
10	1/1/2023	1/1/2021	1/1/2023	12/31/2030	TBD			1
11	1/1/2023	1/1/2021	1/1/2023	12/31/2030	TBD			1
12	1/1/2024	1/1/2022	1/1/2024	12/31/2030	TBD			1
13	1/1/2026	1/1/2024	1/1/2026	12/31/2030	TBD			1
14	ok	10/1/2020	1/1/2024	12/31/2030	N/A			0
15	ok	10/1/2020	1/1/2026	12/31/2030	N/A		1	0
16	ok	1/1/2021	3/1/2021	12/31/2030	N/A			0
17	ok	1/1/2021	3/1/2021	12/31/2030	N/A			0
18	8/1/2022	9/1/2020	8/1/2022	8/1/2037	N/A	0	0	1
19	8/1/2023	9/1/2020	8/1/2023	8/1/2038	N/A	0	0	1
20	8/1/2022	9/1/2020	8/1/2022	8/1/2032	N/A	0	0	1
21	8/1/2021	9/1/2020	8/1/2021	8/1/2041	N/A	0	0	1
22	8/1/2021	9/1/2020	8/1/2021	8/1/2041	N/A	0	0	1
23	8/1/2021	9/1/2020	8/1/2021	8/1/2036	N/A	0	0	1
24	ok	9/1/2020	8/1/2021	7/31/2022	N/A	0	0	1
25	ok	9/1/2020	8/1/2022	8/1/2033	N/A	0	0	1
26	8/1/2023	9/1/2020	8/1/2023	8/1/2033	N/A	0	0	1

	N	O	P	Q
	incremental_explanation	viability_cod_reasonableness	viability_technical_feasibility	viability_resource_sufficiency
1				
2		ok	ok	ok
3		ok	ok	ok
4		3	1	2
5		3	1	2
6		3	1	2
7		3	1	2
8		3	1	2
9		3	1	2
10		3	1	2
11		3	1	2
12		3	1	2
13		3	1	2
14		3	1	2
15		3	1	2
16		ok	ok	ok
17		ok	ok	ok
18		2	1	2
19		2	1	2
20		1	1	2
21		1	1	2
22		1	1	2
23		1	1	2
24	Online, CAISO energy market resource contracting with SDGE for capacity	1	1	2
25	10 MW added to VSTAES_6_VESBT1	1	1	2
26		3	1	2

	R	S	T	U	V	W	X	Y	Z
1	viability_financing	storage_max_disc harge_mw	storage_depth_m wh	is_hybrid	hybrid_generator _mw	hybrid_combined_max_mw	hybrid_can_charge_from_grid	execution_year	execution_month
2	ok							2020	11
3	ok							2020	11
4	4	50	200	1	100	150	0	2020	11
5	4	200	800	1	400	600	0	2021	1
6	4	50	200	1	100	150	0	2023	1
7	4							2021	1
8	4							2021	1
9	4							2024	1
10	4							2021	1
11	4							2021	1
12	4							2022	1
13	4	65	520	0	N/A	N/A	N/A	2024	1
14	4							2020	10
15	4							2020	10
16	ok							2021	1
17	ok							2021	1
18	3	50	100	0	N/A	N/A	N/A	2020	9
19	3	75	300	0	N/A	N/A	N/A	2020	9
20	3	20	80	0	N/A	N/A	N/A	2020	9
21	3	20	80	0	N/A	N/A	N/A	2020	9
22	3	20	80	0	N/A	N/A	N/A	2020	9
23	3	104	416	0	N/A	N/A	N/A	2020	9
24	2	10	40	0	N/A	N/A	N/A	2020	9
25	2	20	80	0	N/A	N/A	N/A	2020	9
26	4	17	69	0	N/A	N/A	N/A	2020	9

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
	start_year	start_month	end_year	end_month	Test: Correct data type for lse_owned	Test: Correct data type for cam	Test: All data provided for hybrid	TEST: All data provided for contract	TEST: No fillmes	Max MW in September 2021	NQC MW in September 2021
1											
2	2021	3	2030	12	1	1	1	1			
3	2021	3	2030	12	1	1	1	1			
4	2022	1	2030	12	1	1	1	1			
5	2023	1	2030	12	1	1	1	1			
6	2025	1	2030	12	1	1	1	1			
7	2022	1	2030	12	1	1	1	1			
8	2023	1	2030	12	1	1	1	1			
9	2026	1	2030	12	1	1	1	1			
10	2023	1	2030	12	1	1	1	1			
11	2023	1	2030	12	1	1	1	1			
12	2024	1	2030	12	1	1	1	1			
13	2026	1	2030	12	1	1	1	1			
14	2024	1	2030	12	1	1	1	1			
15	2026	1	2030	12	1	1	1	1			
16	2021	3	2030	12	1	1	1	1			
17	2021	3	2030	12	1	1	1	1			
18	2022	8	2037	8	1	1	1	1			
19	2023	8	2038	8	1	1	1	1			
20	2022	8	2032	8	1	1	1	1			
21	2021	8	2041	8	1	1	1	1			
22	2021	8	2041	8	1	1	1	1			
23	2021	8	2036	8	1	1	1	1			
24	2021	8	2022	7	1	1	1	1			
25	2022	8	2033	8	1	1	1	1			
26	2023	8	2033	8	1	1	1	1			

	AL	AM	AN	AO	AP
1	Supply Side incremental NQC MW in September 2021	Incremental energy-only NQC MW in September 2021	Incremental demand-side resource not in IEPR demand forecast in September 2021	find_position_of_adding	find_position_of_mw
2			0	#VALUE!	#VALUE!
3			0	#VALUE!	#VALUE!
4			0	#VALUE!	#VALUE!
5			0	#VALUE!	#VALUE!
6			0	#VALUE!	#VALUE!
7			0	#VALUE!	#VALUE!
8			0	#VALUE!	#VALUE!
9			0	#VALUE!	#VALUE!
10			0	#VALUE!	#VALUE!
11			0	#VALUE!	#VALUE!
12			0	#VALUE!	#VALUE!
13			0	#VALUE!	#VALUE!
14			0	#VALUE!	#VALUE!
15			0	#VALUE!	#VALUE!
16			0	#VALUE!	#VALUE!
17			0	#VALUE!	#VALUE!
18			0	#VALUE!	#VALUE!
19			0	#VALUE!	#VALUE!
20			0	#VALUE!	#VALUE!
21			0	#VALUE!	#VALUE!
22			0	#VALUE!	#VALUE!
23			0	#VALUE!	#VALUE!
24			0	#VALUE!	#VALUE!
25			0	#VALUE!	3
26			0	#VALUE!	#VALUE!

	AQ
	Incremental MW added to existing resource September 2021
1	
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0