

2020 TCAP EG Workpapers

SDG&E/SoCalGas

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The electric generation forecast is based on an analysis of the plant's operation in the western electric market using the Market Analytics model from ABB Enterprise Software. Market Analytics has been used by SoCalGas in previous applications before the Commission. This workpapers include both the major input assumptions and the results.

Workpapers List

California Energy Demand Forecast

California Energy Commission's (CEC's) California Energy Demand Forecast, 2018 – 2030 Revised Forecast, dated January 2018. SoCalGas selected the Mid Energy Demand scenario with Mid Additional Achievable Energy Efficiency (AAEE) and mid Additional Achievable Photovoltaic (AAPV) scenario.

See Schedule 1 - 3 for the summary of peak and energy data.

Renewable Power Supply Assumptions

The base case assumes that California achieves its Renewable Portfolio Standard (RPS) goal of 33% by 2020, and 50% by 2030. For summary of RPS, see Schedule 4.

Energy Storage Assumption

See Schedule 5.

Green House Gas (GHG) Compliance Costs

See Schedule 6.

Once Through Cooling (OTC) Compliance Schedule

See Schedule 7.

Annual Gas Demand Throughput Forecasts

See Schedule 8.

Peak Day Forecasts

See Schedule 9.

Schedule 1: Form 1.5a - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AAE and AAPV Savings
Total Energy to Serve Load by Agency and Balancing Authority (GWh)

Balancing Authority/ Load Pocket	Agency	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average Annual Growth 2016 - 2030
	CCSF	1,039	1,036	1,025	1,015	1,017	1,015	1,018	1,016	1,014	1,015	1,014	1,013	1,013	1,012	1,012	-0.19%
	NCPA - Greater Bay Area	1,416	1,412	1,389	1,369	1,365	1,357	1,353	1,344	1,335	1,330	1,322	1,316	1,308	1,303	1,297	-0.62%
	Other NP15 LSEs - Bay Area	22	22	22	22	21	22	22	21	21	21	22	22	21	21	21	-0.33%
	PG&E Service Area - Greater Bay Area	35,794	35,768	35,264	34,851	34,848	34,740	34,756	34,641	34,491	34,454	34,328	34,222	34,095	33,992	33,902	-0.39%
	Silicon Valley Power	3,619	3,610	3,565	3,526	3,528	3,520	3,523	3,513	3,500	3,502	3,494	3,491	3,488	3,487	3,487	-0.26%
	Greater Bay Area Subtotal	41,890	41,848	41,264	40,783	40,778	40,654	40,671	40,536	40,361	40,321	40,180	40,064	39,925	39,816	39,719	-0.38%
	CDWR-N	602	556	556	556	556	556	556	556	556	556	556	556	556	556	556	-0.57%
	NCPA - Non Bay Area	989	987	976	968	970	970	974	973	971	972	972	972	971	972	972	-0.12%
	Other NP15 LSEs - Non Bay Area	249	249	247	244	246	247	248	249	250	250	251	252	252	253	254	0.14%
	PG&E Service Area - Non Bay Area	46,915	46,880	46,221	45,680	45,675	45,533	45,554	45,403	45,208	45,158	44,994	44,855	44,687	44,554	44,436	-0.39%
	WAPA	1,397	1,385	1,397	1,410	1,422	1,437	1,453	1,469	1,482	1,495	1,507	1,520	1,536	1,551	1,565	0.81%
	Total North of Path 15	92,042	91,904	90,660	89,641	89,647	89,397	89,457	89,186	88,828	88,752	88,460	88,219	87,928	87,702	87,502	-0.36%
	CDWR-ZP26	1,164	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	-0.57%
	PG&E Service Area - ZP26	9,766	9,758	9,621	9,508	9,508	9,478	9,482	9,451	9,411	9,400	9,366	9,337	9,302	9,275	9,249	-0.39%
	Total Zone Path 26	10,930	10,833	10,696	10,583	10,583	10,553	10,557	10,526	10,486	10,475	10,441	10,412	10,377	10,350	10,324	-0.41%
	Total Valley	61,082	60,890	60,093	59,441	59,452	59,296	59,342	59,176	58,952	58,906	58,721	58,567	58,380	58,236	58,107	-0.36%
	Total North of Path 26	102,972	102,737	101,357	100,224	100,230	99,950	100,013	99,712	99,314	99,227	98,901	98,631	98,305	98,052	97,826	-0.37%
	Merced	489	490	486	483	480	477	475	471	467	463	459	455	453	450	445	-0.67%
	Turlock Irrigation District	2,191	2,195	2,171	2,157	2,137	2,120	2,107	2,083	2,060	2,037	2,016	1,996	1,981	1,960	1,939	-0.87%
	Total Turlock Irrigation District Control Area	2,680	2,685	2,657	2,640	2,617	2,597	2,582	2,554	2,527	2,500	2,475	2,451	2,434	2,410	2,384	-0.83%
	City of Shasta Lake	210	209	208	208	207	206	205	203	201	200	199	198	197	196	197	-0.47%
	Modesto Irrigation District	2,650	2,626	2,621	2,614	2,601	2,587	2,577	2,555	2,533	2,512	2,493	2,478	2,471	2,466	2,460	-0.53%
	Redding	794	787	785	782	779	775	773	767	763	758	754	751	750	751	750	-0.40%
	Roseville	1,250	1,239	1,232	1,225	1,215	1,205	1,196	1,182	1,169	1,158	1,147	1,138	1,132	1,127	1,122	-0.77%
	SMUD	11,156	11,177	11,170	11,187	11,205	11,221	11,246	11,236	11,234	11,240	11,238	11,252	11,292	11,346	11,394	0.15%
	WAPA (BANC)	397	398	404	409	414	421	428	433	439	446	452	458	463	468	471	1.23%
	Total BANC Control Area	16,457	16,436	16,420	16,426	16,421	16,414	16,425	16,376	16,339	16,315	16,283	16,274	16,305	16,353	16,394	-0.03%
	Anaheim	2,649	2,620	2,582	2,563	2,556	2,550	2,551	2,554	2,544	2,534	2,519	2,510	2,501	2,494	2,486	-0.45%
	MWD	199	197	196	197	199	201	203	206	208	210	211	212	214	215	216	0.59%
	Other SP15 LSEs - LA Basin	1,529	1,513	1,496	1,490	1,491	1,492	1,497	1,504	1,502	1,501	1,499	1,498	1,498	1,498	1,498	-0.15%
	Pasadena	1,231	1,218	1,194	1,178	1,169	1,161	1,155	1,151	1,141	1,133	1,122	1,114	1,107	1,100	1,094	-0.84%
	Riverside	2,477	2,450	2,409	2,386	2,373	2,362	2,360	2,360	2,349	2,339	2,326	2,316	2,309	2,304	2,297	-0.54%
	SCE Service Area - LA Basin	71,107	70,465	69,500	69,117	69,017	68,918	68,987	69,147	68,870	68,559	68,140	67,755	67,377	66,991	66,622	-0.46%
	Vernon	1,192	1,180	1,167	1,163	1,165	1,359	1,363	1,370	1,371	1,371	1,370	1,370	1,370	1,371	1,372	1.01%
	LA Basin Subtotal	80,384	79,642	78,543	78,094	77,969	78,044	78,115	78,292	77,986	77,646	77,187	76,774	76,375	75,972	75,585	-0.44%
	CDWR-S	5,363	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	5,141	-0.30%
	SCE Service Area - Big Creek Ventura	15,560	15,419	15,208	15,124	15,102	15,080	15,095	15,130	15,070	15,002	14,911	14,827	14,743	14,659	14,578	-0.46%
	Big Creek/Ventura Subtotal	20,923	20,560	20,349	20,265	20,243	20,221	20,236	20,271	20,211	20,143	20,052	19,968	19,884	19,800	19,719	-0.42%
	MWD	2,010	1,990	1,982	1,990	2,007	2,028	2,052	2,084	2,102	2,119	2,132	2,147	2,161	2,175	2,188	0.61%
	Other SP15 LSEs - Out of LA Basin	100	99	97	98	98	98	99	99	99	99	99	99	99	99	99	-0.09%
	SCE Service Area - Out of LA Basin	3,943	3,907	3,854	3,833	3,827	3,822	3,825	3,834	3,819	3,801	3,778	3,757	3,736	3,714	3,694	-0.47%
	Total SCE TAC Area	107,360	106,198	104,825	104,280	104,144	104,213	104,327	104,581	104,217	103,809	103,248	102,745	102,255	101,761	101,284	-0.42%
	SDG&E Service Area	20,526	19,921	19,732	19,642	19,582	19,525	19,716	19,725	19,737	19,714	19,630	19,512	19,393	19,259	19,117	-0.51%
	Valley Electric Association	11	11	11	11	12	12	12	12	13	13	13	13	13	14	14	1.74%
	Total South of Path 26	127,897	126,130	124,568	123,933	123,739	123,750	124,055	124,318	123,967	123,535	122,891	122,270	121,661	121,033	120,415	-0.43%
	Burbank	1,114	1,115	1,115	1,116	1,120	1,125	1,140	1,146	1,151	1,162	1,166	1,173	1,185	1,200	1,218	0.64%
	Glendale	1,134	1,134	1,136	1,138	1,144	1,150	1,167	1,175	1,183	1,198	1,207	1,218	1,235	1,255	1,278	0.86%
	LADWP	26,663	26,118	25,990	26,286	26,652	27,059	27,499	27,744	28,108	28,355	28,781	29,077	29,387	29,665	29,943	0.83%

Schedule 1: Form 1.5a - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AAEE and AAPV Savings
Total Energy to Serve Load by Agency and Balancing Authority (GWh)

Total LADWP Control Area	28,911	28,367	28,241	28,540	28,915	29,334	29,806	30,065	30,443	30,715	31,155	31,469	31,808	32,120	32,439	0.83%
Imperial Irrigation District Control Area	3,819	3,842	3,863	3,860	3,876	3,873	3,886	3,881	3,875	3,876	3,869	3,862	3,859	3,851	3,839	0.04%
Total CAISO	230,869	228,867	225,925	224,158	223,968	223,700	224,069	224,029	223,280	222,763	221,792	220,900	219,966	219,085	218,241	-0.40%
Total Statewide	282,736	280,196	277,106	275,624	275,797	275,919	276,768	276,906	276,465	276,168	275,574	274,957	274,372	273,819	273,296	-0.24%

Table developed based on actual 2016 data.

Schedule 2: Form 1.5b - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AAE and AAPV Savings
1 in 2 Net Electricity Peak Demand by Agency and Balancing Authority (MW)

Balancing Authority/Load Pocket	Agency	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average Annual Growth 2017 - 2030
	CCSF	206	204	204	204	206	206	208	207	210	210	211	211	212	213	0.28%
	NCPA - Greater Bay Area	281	278	275	274	275	275	276	274	276	276	274	273	274	275	-0.16%
	Other NP15 LSEs - Bay Area	4	4	4	4	5	5	5	5	5	5	4	4	4	4	0.78%
	PG&E Service Area - Greater Bay Area	7,089	7,023	6,983	7,001	7,050	7,088	7,149	7,116	7,215	7,245	7,252	7,237	7,283	7,343	0.27%
	Silicon Valley Power	718	713	708	708	712	713	719	714	723	725	725	724	728	734	0.17%
Greater Bay Area Subtotal		8,298	8,222	8,174	8,191	8,247	8,287	8,358	8,316	8,428	8,461	8,467	8,450	8,501	8,570	0.25%
	CDWR-N	98	98	98	98	98	98	98	98	98	98	98	98	98	98	0.00%
	NCPA - Non Bay Area	196	195	194	195	196	198	199	198	201	201	202	202	203	205	0.34%
	Other NP15 LSEs - Non Bay Area	49	49	49	49	50	50	51	51	52	52	52	52	52	53	0.62%
	PG&E Service Area - Non Bay Area	9,341	9,255	9,202	9,226	9,291	9,341	9,420	9,377	9,507	9,548	9,557	9,537	9,597	9,676	0.27%
	WAPA	275	279	283	285	290	294	298	300	306	310	313	316	321	326	1.31%
Total North of Path 15		18,257	18,097	18,000	18,044	18,172	18,268	18,424	18,340	18,592	18,670	18,689	18,654	18,773	18,928	0.28%
	CDWR-ZP26	117	117	117	117	117	117	117	117	117	117	117	117	117	117	0.00%
	PG&E Service Area - ZP26	1,993	1,976	1,965	1,970	1,984	1,995	2,011	2,001	2,029	2,038	2,040	2,035	2,048	2,065	0.27%
Total Zone Path 26		2,110	2,093	2,082	2,087	2,101	2,112	2,128	2,118	2,146	2,155	2,157	2,152	2,165	2,182	0.26%
Total Valley		12,069	11,968	11,909	11,939	12,026	12,093	12,194	12,142	12,310	12,364	12,379	12,356	12,437	12,540	0.29%
Total North of Path 26		20,367	20,190	20,082	20,130	20,273	20,380	20,552	20,458	20,738	20,825	20,846	20,806	20,938	21,110	0.28%
	Merced	120	120	121	121	119	119	117	116	114	114	113	112	111	110	-0.69%
	Turlock Irrigation District	538	538	540	536	530	527	519	513	506	500	494	489	483	477	-0.92%
Total Turlock Irrigation District Control Area		658	659	661	657	649	646	636	628	620	614	607	600	594	587	-0.88%
	City of Shasta Lake	56	57	56	57	56	56	55	54	53	53	53	52	51	51	-0.66%
	Modesto Irrigation District	708	709	710	707	701	698	689	680	671	663	657	651	644	638	-0.80%
	Redding	212	212	213	212	211	209	207	204	202	200	199	198	196	194	-0.67%
	Roseville	334	334	333	331	327	324	319	314	309	304	301	297	293	289	-1.11%
	SMUD	3,040	3,048	3,060	3,057	3,046	3,043	3,030	3,015	3,001	2,991	2,986	2,977	2,974	2,970	-0.18%
	WAPA (BANC)	107	109	110	111	113	114	116	117	119	121	122	123	125	125	1.18%
Total BANC Control Area		4,457	4,469	4,483	4,475	4,453	4,444	4,415	4,384	4,355	4,333	4,318	4,298	4,284	4,267	-0.33%
	Anaheim	575	565	559	556	553	552	548	542	537	530	530	524	531	540	-0.48%
	MWD	20	20	20	20	20	20	21	21	21	21	21	21	21	21	0.34%
	Other SP15 LSEs - LA Basin	332	327	325	325	323	324	324	322	320	318	318	316	320	324	-0.19%
	Pasadena	267	262	257	254	252	250	247	242	238	234	234	230	234	239	-0.85%
	Riverside	538	527	521	516	513	510	507	500	494	488	489	483	491	500	-0.57%
	SCE Service Area - LA Basin	16,297	16,074	15,993	15,901	15,882	15,883	15,841	15,757	15,645	15,514	15,421	15,239	15,219	15,240	-0.51%
	Vernon	259	255	254	253	277	278	278	276	275	274	275	273	276	279	0.57%
LA Basin Subtotal		18,288	18,031	17,930	17,825	17,821	17,817	17,766	17,660	17,530	17,380	17,288	17,086	17,091	17,141	-0.50%
	CDWR-S	160	160	160	160	160	160	160	160	160	160	160	160	160	160	0.00%
	SCE Service Area - Big Creek Ventura	3,740	3,692	3,670	3,641	3,628	3,618	3,597	3,572	3,539	3,505	3,479	3,433	3,423	3,423	-0.68%
Big Creek/Ventura Subtotal		3,900	3,852	3,830	3,801	3,788	3,778	3,757	3,732	3,699	3,665	3,639	3,593	3,583	3,583	-0.65%
	MWD	196	195	196	196	198	200	202	204	205	206	208	208	210	211	0.57%
	Other SP15 LSEs - Out of LA Basin	22	21	22	22	21	21	21	22	21	21	21	21	21	21	-0.32%
	SCE Service Area - Out of LA Basin	867	855	851	846	845	845	843	839	833	826	821	811	810	812	-0.50%
Total SCE TAC Area		23,272	22,953	22,828	22,690	22,674	22,662	22,589	22,456	22,288	22,098	21,977	21,719	21,716	21,768	-0.51%
SDG&E Service Area		4,155	4,078	4,038	4,010	4,038	4,110	4,138	4,164	4,180	4,194	4,210	4,217	4,206	4,207	0.09%
Valley Electric Association		125	126	128	130	131	133	135	136	138	139	141	142	144	145	1.15%

Schedule 2: Form 1.5b - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AEE and AAPV Savings
1 in 2 Net Electricity Peak Demand by Agency and Balancing Authority (MW)

Total South of Path 26	27,552	27,157	26,995	26,830	26,843	26,905	26,863	26,755	26,607	26,430	26,329	26,078	26,065	26,120	-0.41%
Burbank	306	306	307	305	303	302	301	300	297	294	292	291	290	289	-0.43%
Glendale	311	312	312	312	310	310	308	308	307	306	304	305	305	307	-0.09%
LADWP	5,995	5,908	5,886	5,841	5,775	5,736	5,663	5,602	5,526	5,458	5,381	5,298	5,245	5,173	-1.13%
Total LADWP Control Area	6,612	6,525	6,505	6,458	6,388	6,348	6,272	6,210	6,130	6,058	5,977	5,894	5,839	5,769	-1.04%
Imperial Irrigation District Control Area	1,065	1,075	1,082	1,080	1,074	1,071	1,064	1,057	1,050	1,042	1,036	1,027	1,021	1,011	-0.40%
Total CAISO Noncoincident Peak	47,920	47,347	47,077	46,961	47,116	47,284	47,414	47,214	47,345	47,255	47,175	46,883	47,003	47,230	-0.11%
Total CAISO Coincident Peak	46,243	45,690	45,429	45,317	45,467	45,629	45,755	45,561	45,688	45,601	45,524	45,243	45,358	45,577	-0.11%
Total Statewide Noncoincident Peak	60,712	60,074	59,807	59,631	59,680	59,794	59,802	59,494	59,500	59,302	59,113	58,703	58,741	58,864	-0.24%
Total Statewide Coincident Peak	58,587	57,971	57,714	57,544	57,591	57,701	57,709	57,411	57,417	57,227	57,044	56,649	56,685	56,804	-0.24%

Table developed based on actual 2017 load data.

Incorporates peak shift for the PG&E, SCE, and SDG&E TAC areas.

**Schedule 3: Form 1.1c - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AAE and AAPV Savings
Electricity Deliveries to End Users by Agency (GWh)**

Planning Area	Agency	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average Annual Growth 2016 - 2030	
PGE	Calaveras Public Power Agency	33	33	33	33	33	33	34	34	34	35	35	35	35	36	36	0.6%	
	City of Alameda	380	359	354	351	352	352	352	352	352	352	352	352	353	352	353	-0.1%	
	City of Biggs	16	16	16	16	16	16	15	15	15	16	16	16	16	16	16	-0.2%	
	City of Gridley	33	33	33	32	32	32	32	32	32	32	32	32	32	33	32	-0.2%	
	City of Healdsburg	73	73	72	70	70	70	70	69	69	69	69	69	69	69	69	69	-0.4%
	City of Lodi	411	410	405	402	402	402	402	401	399	400	398	398	397	397	396	396	-0.3%
	City of Lompoc	125	124	123	122	122	122	122	123	123	122	122	122	122	122	122	122	-0.2%
	City of Palo Alto	885	883	868	854	849	841	837	830	822	817	810	804	798	793	788	788	-0.8%
	City of San Francisco	949	947	936	927	929	928	930	929	927	927	926	926	926	926	926	926	-0.2%
	City of Ukiah	103	103	102	101	101	101	101	100	100	99	99	99	99	98	97	97	-0.4%
	Department of Water Resources (North)	1,701	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	1,572	-0.6%
	Island Energy/Pittsburg	20	20	20	20	19	20	20	20	19	19	19	20	20	19	19	19	-0.3%
	Lassen Municipal Utility District	152	151	150	149	148	149	149	149	149	149	149	149	149	150	149	149	-0.1%
	Pacific Gas and Electric Company (Bundled)	70,430	62,936	50,747	39,974	40,124	40,030	40,112	40,010	39,851	39,855	39,735	39,636	39,500	39,401	39,320	39,320	-4.1%
	Pacific Gas and Electric Company (Direct Access)	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	9,520	0.0%
	Pacific Gas and Electric Company (Marin Clean Energy CCA)	1,966	2,841	5,160	5,069	5,061	5,037	5,031	5,006	4,977	4,964	4,938	4,916	4,892	4,872	4,854	4,854	6.7%
	Pacific Gas and Electric Company (Sonoma Clean Power CCA)	2,108	2,313	2,665	2,617	2,613	2,601	2,598	2,585	2,570	2,564	2,550	2,539	2,526	2,516	2,507	2,507	1.2%
	Pacific Gas and Electric Company (Clean Power San Francisco Clean CCA)	176	524	610	599	599	596	595	592	589	587	584	581	579	577	574	574	8.6%
	Pacific Gas and Electric Company (Peninsula Clean Energy Authority CCA)	146	2,645	3,804	3,737	3,731	3,713	3,710	3,691	3,689	3,660	3,641	3,625	3,607	3,592	3,579	3,579	25.7%
	Pacific Gas and Electric Company (Silicon Valley Clean Energy CCA)	-	3,325	3,713	3,646	3,640	3,624	3,620	3,602	3,581	3,571	3,553	3,537	3,520	3,505	3,492	3,492	--
	Pacific Gas and Electric Company (Redwood Coast Energy Authority CCA)	-	188	663	651	650	647	646	643	639	638	634	631	628	626	623	623	--
	Pacific Gas and Electric Company (Pioneer Community Energy CCA)	-	-	1,144	1,124	1,122	1,116	1,115	1,109	1,103	1,100	1,095	1,090	1,084	1,079	1,075	1,075	--
	Pacific Gas and Electric Company (Monterrey Bay Community Power Authority CCA)	-	-	2,370	3,500	3,473	3,456	3,452	3,435	3,415	3,406	3,389	3,374	3,357	3,343	3,331	3,331	--
	Pacific Gas and Electric Company (East Bay Community Energy CCA)	-	-	1,415	6,447	6,396	6,367	6,359	6,327	6,290	6,274	6,242	6,214	6,183	6,158	6,136	6,136	--
	Pacific Gas and Electric Company (Valley Clean Energy Alliance CCA)	-	-	456	762	756	753	752	748	744	742	738	735	731	728	725	725	--
	Pacific Gas and Electric Company (San Jose City CCA)	-	-	843	4,498	4,462	4,441	4,437	4,414	4,389	4,377	4,354	4,335	4,314	4,296	4,280	4,280	--
	Plumas-Sierra Rural Electric Cooperation	142	142	142	141	143	144	146	147	149	150	151	153	154	155	156	156	0.7%
	Port of Oakland	48	48	48	46	47	47	47	47	47	47	47	47	47	47	47	46	-0.3%
	Port of Stockton	20	20	20	20	20	20	20	21	21	21	21	21	21	22	22	22	0.7%
	Silicon Valley Power	3,306	3,297	3,256	3,221	3,223	3,216	3,220	3,210	3,199	3,201	3,195	3,193	3,190	3,189	3,189	3,190	-0.3%
	Tuolumne County Public Power Agency	23	23	23	23	23	23	24	24	24	24	24	25	25	25	25	25	0.6%
	WAPA (CAISO)	1,305	1,294	1,305	1,317	1,328	1,342	1,357	1,372	1,385	1,397	1,408	1,420	1,435	1,450	1,463	1,463	0.8%
PGE Total		94,051	93,840	92,588	91,561	91,576	91,329	91,399	91,129	90,774	90,708	90,420	90,184	89,903	89,683	89,494	-0.4%	
SCE	Anza Electric Cooperative, Inc.	53	53	52	53	53	54	54	55	56	56	56	57	57	58	58	0.6%	
	Azusa Light & Water	266	263	259	257	257	256	257	257	256	256	254	253	252	252	251	-0.4%	
	Bear Valley Electric Service	129	128	127	128	129	130	132	134	135	136	137	138	139	140	141	141	0.6%
	City of Anaheim	2,484	2,457	2,422	2,404	2,398	2,392	2,393	2,396	2,386	2,377	2,364	2,355	2,347	2,340	2,333	2,333	-0.4%
	City of Banning	134	133	131	131	131	131	131	132	131	131	131	131	131	131	131	131	-0.2%
	City of Cerritos	75	75	74	75	75	76	77	78	79	80	80	81	81	82	82	82	0.6%
	City of Colton	371	367	361	358	357	356	355	355	354	353	350	349	349	348	348	348	-0.5%
	City of Corona	137	136	134	134	134	135	135	136	137	137	137	137	137	137	137	137	0.0%
	City of Pasadena	1,154	1,142	1,119	1,106	1,097	1,089	1,084	1,080	1,071	1,062	1,053	1,046	1,039	1,033	1,026	1,026	-0.8%
	City of Rancho Cucamonga	77	76	75	75	75	75	75	75	74	74	74	74	74	73	73	73	-0.3%
	City of Riverside	2,323	2,298	2,259	2,237	2,226	2,216	2,214	2,214	2,204	2,194	2,182	2,173	2,166	2,162	2,157	2,157	-0.5%
	City of Vernon	1,118	1,106	1,095	1,091	1,092	1,275	1,279	1,285	1,285	1,286	1,285	1,285	1,285	1,286	1,286	1,287	1.0%
	Department of Water Resources (South)	5,167	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	4,953	-0.3%
	Metropolitan Water District	2,071	2,051	2,043	2,051	2,069	2,090	2,115	2,148	2,166	2,184	2,198	2,213	2,228	2,242	2,256	2,256	0.6%
	Moreno Valley Utilities	192	190	187	187	187	187	187	187	187	187	186	187	186	186	186	186	-0.2%
	Southern California Edison Company (Bundled)	73,260	72,331	69,216	68,771	68,567	68,353	68,305	68,328	67,923	67,481	66,937	66,426	65,925	65,421	64,936	64,936	-0.9%
	Southern California Edison Company (Direct Access)	10,929	10,806	10,451	10,499	10,599	10,713	10,852	11,026	11,129	11,226	11,302	11,385	11,465	11,541	11,618	11,618	0.4%
	Southern California Edison Company (Lancaster Energy Clean CCA)	640	633	623	620	617	615	614	614	610	605	600	595	591	586	581	581	-0.7%
	Southern California Edison Company (Apple Valley Choice Energy CCA)	-	221	215	213	212	212	211	212	210	209	207	205	203	202	200	200	--
	Southern California Edison Company (Pico Rivera Innovative Municipal Energy CCA)	-	77	75	75	74	74	74	74	74	74	74	72	72	71	71	70	--
Southern California Edison Company (Los Angeles Community Choice Energy CCA)	-	-	2,340	2,291	2,283	2,275	2,271	2,270	2,256	2,240	2,221	2,203	2,186	2,168	2,151	2,151	--	
Victorville Municipal	93	93	91	92	91	92	92	93	93	93	93	93	93	93	93	93	0.0%	
SCE Total		100,673	99,587	98,302	97,801	97,678	97,749	97,880	98,104	97,770	97,394	96,873	96,411	95,959	95,505	95,070	-0.4%	
SDGE	San Diego Gas and Electric Company (Bundled)	15,653	15,188	15,016	14,916	14,834	14,751	14,861	14,870	14,883	14,864	14,787	14,680	14,571	14,448	14,318	14,318	-0.6%
	San Diego Gas and Electric Company (Direct Access)	3,516	3,416	3,414	3,432	3,459	3,490	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	0.1%

**Schedule 3: Form 1.1c - Statewide
California Energy Demand Forecast 2018 - 2030, Mid Demand Baseline Case, Mid AAE and AAPV Savings
Electricity Deliveries to End Users by Agency (GWh)**

SDGE Total		19,169	18,604	18,430	18,348	18,293	18,241	18,423	18,432	18,445	18,426	18,349	18,242	18,133	18,010	17,880	-0.5%
Northern California	City of Redding	745	738	736	735	731	727	725	720	716	711	708	704	704	704	704	-0.4%
	City of Roseville	1,173	1,162	1,156	1,150	1,140	1,130	1,122	1,110	1,097	1,086	1,077	1,068	1,064	1,059	1,053	-0.8%
	City of Shasta Lake	197	196	196	195	194	193	192	191	190	188	187	186	185	185	184	-0.5%
	Merced Irrigation District	460	461	456	454	451	448	447	442	439	435	432	428	426	422	419	-0.7%
	Modesto Irrigation District	2,487	2,464	2,459	2,453	2,440	2,428	2,419	2,398	2,377	2,358	2,340	2,326	2,320	2,315	2,309	-0.5%
	Sacramento Municipal Utility District	10,485	10,506	10,500	10,517	10,535	10,551	10,575	10,567	10,565	10,573	10,571	10,585	10,625	10,677	10,724	0.2%
	Turlock Irrigation District	2,059	2,063	2,041	2,027	2,010	1,994	1,981	1,959	1,937	1,916	1,897	1,878	1,863	1,845	1,825	-0.9%
	WAPA (BANC)	381	382	388	393	399	405	411	417	422	428	435	440	445	450	454	1.3%
	Northern California Non-CAISO Total	17,987	17,972	17,932	17,925	17,900	17,876	17,872	17,804	17,744	17,696	17,646	17,615	17,631	17,657	17,672	-0.1%
LADWP	Los Angeles Department of Water and Power	23,495	22,987	22,459	22,282	22,189	22,118	22,088	21,822	21,676	21,425	21,338	21,154	21,001	20,835	20,647	-0.9%
BUGL	City of Burbank	1,047	1,048	1,048	1,049	1,053	1,057	1,072	1,078	1,082	1,093	1,097	1,104	1,115	1,129	1,145	0.6%
	City of Glendale	1,066	1,066	1,068	1,070	1,075	1,081	1,097	1,105	1,113	1,127	1,135	1,146	1,162	1,181	1,203	0.9%
	BUGL Total	2,113	2,115	2,116	2,119	2,128	2,138	2,169	2,184	2,196	2,220	2,232	2,250	2,277	2,310	2,348	0.8%
IID	Imperial Irrigation District	3,386	3,406	3,426	3,423	3,437	3,436	3,448	3,444	3,439	3,440	3,435	3,428	3,426	3,419	3,409	0.0%
VEA	Valley Electric Association, Inc.	10	10	11	11	11	11	11	12	12	12	12	12	13	13	13	1.9%
OTHER	Kirkwood Meadows Public Utility District	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0.0%
	Lathrop Irrigation District	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0.0%
	Liberty Utilities	558	557	555	554	560	565	572	578	583	588	593	598	602	606	610	0.6%
	City of Needles	36	36	36	36	36	36	37	37	38	38	38	38	39	39	39	0.6%
	PacifiCorp	740	739	736	735	743	749	758	767	774	780	786	793	798	804	809	0.6%
	Surprise Valley Electrification Corporation	102	102	102	102	103	104	105	106	107	108	109	110	111	111	112	0.7%
	Truckee-Donner Public Utility District	163	163	162	162	164	165	167	169	171	172	174	175	176	177	179	0.7%
	OTHER Total	1,610	1,608	1,602	1,600	1,617	1,630	1,650	1,668	1,684	1,697	1,711	1,725	1,737	1,748	1,760	0.6%
	Statewide Total	262,494	260,129	256,866	255,070	254,828	254,529	254,920	254,599	253,740	253,018	252,016	251,020	250,079	249,179	248,293	-0.4%
	Total Pumping Load	8,939	8,576	8,567	8,575	8,593	8,614	8,640	8,672	8,691	8,709	8,723	8,738	8,753	8,767	8,781	-0.1%
	Total Statewide Retail Deliveries excluding pumping	253,555	251,553	248,299	246,495	246,235	245,915	246,280	245,927	245,049	244,309	243,293	242,282	241,326	240,412	239,512	-0.4%

This table includes retail sales and other deliveries only measured at the customer level. Losses and consumption served by self-generation are excluded. Table developed based on actual 2016 data.

Table includes sales from entities outside of California control area. Thus, total sales in row 85 are higher than state totals given in Form 1.1b.

Pacific Gas and Electric Company (Direct Access) includes BART.

Schedule 4
Statewide Total Renewable Generation by Year (GWh)

Year	Biogas & Biomass	Geothermal	Hydro (Small)	Solar PV/Thermal	Wind	Out-of-State	Total	RPS
2018	5,896	11,582	4,781	21,769	14,283	18,662	76,973	31%
2019	5,915	11,582	4,781	23,122	14,817	18,662	78,879	32%
2020	5,939	11,582	4,781	24,811	15,483	18,662	81,257	33%
2021	5,981	11,582	4,781	27,792	16,658	18,662	85,456	35%
2022	6,025	11,582	4,781	30,942	17,901	18,662	89,892	37%
2023	6,067	11,582	4,781	33,906	19,070	18,662	94,067	38%

Note: The annual renewable generation assumption is roughly based on the Energy Almanac data and CEC RPS goals. CEC RPS goals: 25% by 2016, 33% by 2020, 40% by 2024, 45% by 2027, and 50% by 2030.

http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf

Schedule 5
Energy Storage (MW)

Year	SDG&E	SCE	PG&E	Total
2018	90	150	150	390
2019	90	200	200	490
2020	140	300	300	740
2021	140	350	350	840
2022	140	450	450	1040
2023	190	500	500	1190

Schedule 6
GHG Compliance Cost

Year	Nominal \$/Ton
2018	\$ 15.31
2019	\$ 15.85
2020	\$ 16.38
2021	\$ 18.95
2022	\$ 22.91
2023	\$ 25.88

Note: Based on California Carbon Allowance Price
Forecast, ICIS (October 2017).

Schedule 7 OTC Schedule

Plants	Existing Capacity (MW)	SWRCB Approved Compliance Dates	Updated Compliance Dates
Humboldt Bay (1,2)	163	12/31/2010	9/30/2010
South Bay	708	12/31/2011	12/31/2010
Potrero (3)	206	10/1/2011	2/28/2011
Huntington Beach (3,4)	452	12/31/2020	11/1/2012
Contra Costa (6,7)	674	12/31/2017	4/30/2013
Haynes (5,6)	535	12/31/2013	6/1/2013
San Onofre (2,3)	2,246	12/31/2022	6/7/2013
El Segundo (3)	335	12/31/2015	7/27/2013
Morro Bay (3,4)	650	12/31/2015	2/5/2014
El Segundo (4)	335	12/31/2015	12/31/2015
Scattergood (3)	450	12/31/2015	12/31/2015
Pittsburg (5,6,7)	1,307	12/31/2017	12/31/2016
Moss Landing (6,7)	1,510	12/31/2020	12/31/2016
Encina (1)	104	12/31/2017	3/1/2017
Encina (2)	104	12/31/2017	1/31/2018
Mandalay (1,2)	430	12/31/2020	2/6/2018
Encina (3)	110	12/31/2017	10/1/2018
Ormond Beach (1,2)	1,516	12/31/2020	10/1/2018
Encina (4,5)	628	12/31/2017	12/31/2018
Redondo (7)	493	12/31/2020	10/1/2019
Huntington Beach (1)	226	12/31/2020	12/31/2019
Alamitos (1,2,6)	848	12/31/2020	12/31/2019
Moss Landing (1,2)	1,020	12/31/2020	12/31/2020
Huntington Beach (2)	226	12/31/2020	12/31/2020
Redondo (5,6,8)	850	12/31/2020	12/31/2020
Alamitos (3,4,5)	1,163	12/31/2020	12/31/2020
Diablo Canyon (1)	1,120	12/31/2024	11/2/2024
Scattergood (1,2)	367	12/31/2024	12/31/2024
Diablo Canyon (2)	1,120	12/31/2024	8/26/2025
Haynes (1,2)	444	12/31/2029	12/31/2025
Haynes (8)	575	12/31/2029	12/31/2028
Harbor (5)	229	12/31/2029	12/31/2029

Based on CEC Tracking Progress updated April 2018.

Schedule 8
Annual Base Case EG Throughput (mmDTh)
EG Including Large Cogen

Year	SDG&E	SoCalGas	Total
2018	48	222	269
2019	46	213	259
2020	44	212	256
2021	44	208	252
2022	43	207	250
2023	42	205	247

Schedule 9
Base Case Winter Coincidental Peak Day Demand (mDTh/Day)
EG (Including Large Cogen)

Year	SDG&E	SoCalGas	Total
2018	181	628	808
2019	198	615	813
2020	171	702	873
2021	155	716	871
2022	160	696	857
2023	132	676	809

Note: In addition to the OTC retirement schedule, these plants are also retiring.
Etiwanda Power Plant will be shutdown by June 1, 2018.
Ellwood Power Plant will be shutdown by October 1, 2018.