Energy Efficiency Adjustments for a Managed Forecast: Estimates of Incremental Uncommitted Energy Savings Relative to the California Energy Demand Forecast 2012-2022

Introduction

This memorandum describes an assessment of the *incremental* impacts of energy efficiency potential savings not incorporated in the *California Energy Demand 2012-2022 Final Forecast (CED 2011)*, the demand forecast adopted by the California Energy Commission (Energy Commission) in June 2012 as part of the 2012 Integrated Energy Policy Report (IEPR). In this context, incremental refers to electricity and natural gas savings from potential impacts that are net of any overlap with savings already included in *CED 2011*. These savings were not incorporated in *CED 2011* because they were not considered *committed*, or firm. This analysis uses *CED 2011* as the reference point, since this forecast will be used in procurement assessments at the California Public Utilities Commission (CPUC). Savings results were developed for the four major investor-owned utility (IOU) service territories for electricity consumption, electricity peak demand, and natural gas consumption.

Incremental uncommitted savings estimates are based on *Analysis to Update Energy Efficiency Potential, Goals, and Targets for 2013 and Beyond: Track 1 Statewide Investor-Owned Utility Energy Efficiency Potential Study* (2012 Potential Study), completed for the CPUC by Navigant Consulting, Inc. in May 2012.² The 2012 Potential Study estimated energy efficiency savings that could be realized through utility programs as well as codes and standards beginning in 2006,³ given current or soon-to-be-available technologies.⁴

The estimates provided here are meant to be incorporated in the CPUC's long-term procurement process (LTPP) as a key component in determining a *managed forecast* for procurement purposes. Three scenarios were developed: a *high savings case*, a *mid savings case*,

¹ Kavalec, Chris, Nicholas Fugate, Tom Gorin, Bryan Alcorn, Mark Ciminelli, Asish Gautam, Glen Sharp, and Kate Sullivan. 2012. *California Energy Demand Forecast* 2012-2022 (*Volume* 1 and *Volume* 2) California Energy Commission, Electricity Supply Analysis Division. Publication Number: CEC-200-2012-001-CMF. http://www.energy.ca.gov/2012_energypolicy/documents/index.html.

² Available at: http://www.cpuc.ca.gov/NR/rdonlyres/6FF9C18B-CAA0-4D63-ACC6-F9CB4EB1590B/0/2011IOUServiceTerritoryEEPotentialStudy.pdf.

³ The analysis begins in 2006 because it is essentially an update of the 2008 potential study by Itron, which uses 2006 as a base year (Itron study available at http://www.calmac.org/startDownload.asp?Name=PGE0264_Final_Report.pdf&Size=5406K]

⁴ Energy Commission staff had planned on using a new CPUC Goals Study to estimate incremental uncommitted savings, but the Goals Study has been delayed until at least the end of 2012, so could not be utilized for the 2012 LTPP.

and a *low savings case*. Each of these cases could be used by the CPUC to correspond to one of the three *CED 2011* forecast demand scenarios: the high savings case would correspond to the low demand scenario, the low savings case to the high demand forecast, and the mid savings case to the mid demand forecast.

This memorandum provides a summary of the results, describes the method used, reviews stakeholder comments, and gives detailed results at the utility level. Incremental uncommitted electricity savings were estimated for Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E). Natural gas savings were estimated for PG&E, SDG&E, and the Southern California Gas Company (SoCalGas).

Summary of Results

Table 1 shows the savings from incremental uncommitted efficiency in the mid savings case for all IOUs combined, for electricity consumption and peak and natural gas consumption. Incremental savings begin in 2011 for consumption and 2012 for peak, as 2010 was the last historical consumption year in *CED 2011* and 2011 was the last historical year for peak data.⁵

Table 1: Incremental Uncommitted Efficiency Savings for all IOUs, Mid Savings Case

Year	Electricity Consumption (GWh)	Electricity Peak (MW)	Natural Gas Consumption (MM therms)
2011	38	-	1
2012	78	7	4
2013	810	179	42
2014	1,968	394	78
2015	3,628	740	115
2016	5,368	1,094	155
2017	6,975	1,420	200
2018	8,088	1,633	252
2019	9,811	2,019	305
2020	11,501	2,401	361
2021	13,186	2,758	415
2022	14,783	3,103	465

⁵ CED 2011 is calibrated to actual consumption in 2010 and actual peak demand in 2011, so no additional (incremental) savings can be estimated for these years.

By 2022, these savings amount to around 6.8 percent of projected combined IOU electricity sales, 6.0 percent of combined (non-coincident) peak, and 3.3 percent of total IOU natural gas sales.

Figure 1, **Figure 2**, and **Figure 3** show the low, mid, and high savings scenarios for electricity consumption, electricity peak, and natural gas consumption, respectively. In 2020, the projected spread between the high and low savings scenarios is around 7,400 GWh for electricity consumption, 1,500 MW for peak demand, and 150 million therms for natural gas consumption. The scenarios are described in the next section.

Figure 1: Electricity Consumption Incremental Uncommitted Efficiency Savings (GWh) by Scenario, all IOUs



Table 2 provides a comparison of incremental uncommitted efficiency savings from this analysis with the estimates developed by the Energy Commission and Itron during the 2009 *IEPR* process.⁶ The Energy Commission/Itron estimates are higher in general because *CED 2011* now incorporates efficiency savings considered uncommitted in 2009, including Title 20 lighting savings and 2008 Title 24 commercial building standards savings; thus, new estimates of incremental impacts should be expected to be lower, all else equal. In addition, home and commercial building construction has been lower than was expected in 2009, reducing incremental Title 24 savings. On the peak side, the 2009 study included savings estimates for the CPUC's Big Bold Energy Efficiency Strategies (BBEES), which are expected to have a relatively higher impact on peak demand than consumption, and were excluded from the 2012 *Potential Study*. This exclusion is discussed further in the section summarizing stakeholder comments. Also contributing to lower peak savings in the current study are reductions in peak-to-energy ratios, particularly for measures targeting air conditioning.⁷

Table 2: Comparison of Energy Commission/Itron (2009) and Energy Commission (2012)
Incremental Uncommitted Efficiency Savings

		Low Savings S	cenario	Mid Savings So	cenario	High Savings Scenario			
	Year	Energy Commission/ Itron (2009)	Energy Commission (2012)	Energy Commission/ Itron (2009)	Energy Commission (2012)	Energy Commission/ Itron (2009)	Energy Commission (2012)		
Electricity Consump-	2015	3,106	2,588	4,057	3,628	4,520	4,142		
tion	2018	8,395	5,622	9,403	8,088	10,888	8,989		
(GWh)	2020	10,699	7,366	12,379	11,501	14,345	12,797		
Electricity Peak	2015	1,080	545	1,513	740	1,749	845		
Demand 2	2018	2,905	1,123	3,788	1,633	4,537	1,790		
(MW)	2020	4,075	1,538	5,383	2,401	6,501	2,624		

⁶ Reports describing this analysis are available at: http://www.energy.ca.gov/2010publications/CEC-200-2010-001/index.html.

⁷ In the 2009 analysis, Energy Commission and Itron staff applied peak-to-energy ratios derived from Energy Commission forecasting models. Energy Commission staff has since determined that these ratios, computed as overall peak demand vs. energy consumption by end use, may not adequately represent *marginal* impacts from efficiency measures as well as ratios derived from the Database for Energy Efficient Resources (DEER) used in the 2012 Potential Study.

Method

Navigant Consulting and subcontractor Heschong Mahone Group (HMG) provided invaluable assistance in putting together the incremental uncommitted efficiency savings estimates, including training Energy Commission staff in the use of the models employed in the 2012 *Potential Study*. These models included methodologies to estimate potential traditional program-related measure savings, savings from codes and standards, and savings from behavioral programs. In addition, Navigant and HMG developed modified versions of the models specifically for this effort.

The 2012 Potential Study estimated gross first-year and cumulative technical, economic, and market potential efficiency impacts from the three sources of savings beginning in 2006 for electricity consumption, peak demand, and natural gas consumption.⁸ In general, the effort to characterize incremental uncommitted efficiency savings consisted of determining the portion of estimated net⁹ market potential not incorporated in CED 2011. For program-related measures (including behavioral), incremental uncommitted efficiency includes net accumulated savings beginning in 2013, since CED 2011 incorporates utility programs through 2012. Incremental uncommitted savings from codes and standards includes estimated net market potential from the following expected (or recently finalized) regulations not included in CED 2011:

- 2011 and future Title 20 standards
- Future Federal appliance standards
- 2008 Title 24 (residential) and 2013 Title 24 standards.

The 2011 Title 20 revision targets battery chargers, while future Title 20 standards include expected updates through 2015. Future Federal standards include new appliance mandates through 2015. The residential portion of the 2008 Title 24 update, not incorporated in *CED 2011*, is included through savings that are incremental to the historical base years in the forecast (2010 for consumption and 2011 for peak demand). Additional codes and standards potential savings (for example, a Title 24 update after 2013) will be developed by Navigant for the CPUC Goals Study later this year.

Because the analyses for the Title 24 savings employed by HMG were done before the full impact of the recession on new construction was known, Energy Commission staff asked HMG to revise these estimates in response to comments from the joint IOUs (see next section). HMG

⁸ Natural gas consumption savings estimates incorporate *interactive* effects and thus can be negative for certain categories in the detailed results.

⁹ Net savings equals gross savings minus naturally occurring market savings, or "free ridership" savings that would be expected to occur without any efficiency initiative.

provided percentage reductions to be applied to these savings, based on construction data supplied by the California Building Industry Association.¹⁰

For the appliance standards, staff relied on HMG estimates except in the case of targeted appliances that correspond directly to end uses within the Energy Commission forecasting models. For example, future Federal standards for natural gas ranges could be incorporated in the Energy Commission's residential model (which has a specific end use for ranges), resulting in savings more consistent with *CED 2011*. Other standards that cover multiple end uses or a subset of appliances within an Energy Commission end use designation could not be simulated in this manner. Efficiency savings from the following Federal standards were estimated using Energy Commission models:

- Electric and natural gas clothes dryers
- Central air conditioning/heat pump
- Natural gas pool heaters
- · Room air conditioners
- Natural gas ranges.

Program-related measures were divided by Navigant into the following categories:

- High impact measure (HIMs), which include measures with the highest savings potential.
- Secondary measures, which are expected to become HIM measures once the current crop is exhausted.
- Measures of interest, which have less potential than HIMs or secondary measures.
- Low Income measures.
- Emerging technologies (ET), which are not included in current utility portfolios.
- Behavioral programs, which target "usage-based behavior."

The detailed results included in this memorandum break out incremental uncommitted program-related savings into these categories. More information about these groupings is available in the 2012 *Potential Study* report.

¹⁰ The result of this adjustment was a reduction in residential first-year savings from Title 24 of 80 percent in 2011 and 70 percent in 2012 and 2013. Commercial first-year savings in new construction was reduced by 70 percent in 2013. Energy Commission staff "ramped down" the percentage decreases starting in 2014, so that by 2016, first-year savings revert to the totals originally provided by HMG. Using 2016 as the full recovery year was a somewhat arbitrary assumption based on discussion by various economic experts during the Energy Commission's workshop on economic-demographic assumptions held on January 19, 2011.

The CED 2011 forecasts included a substantial amount of lighting savings in anticipation of the effects of Assembly Bill 1109 (AB 1109, Huffman, Chapter 534, Statutes of 2007) through Title 20 standards. These savings can be expected to overlap with lighting savings estimated in the 2012 Potential Study. To account for this overlap, Energy Commission staff subtracted CED 2011 lighting savings during the forecast period from total potential codes and standards (from 2011 onward) and program-related lighting savings (starting in 2013) in the 2012 Potential Study for each utility. This difference, which is added to the incremental uncommitted total, is reported separately in the detailed results. In some years for each utility, CED 2011 lighting savings exceed those in the 2012 Potential Study; lighting savings are reported as zero in these cases.

The potential efficiency estimates as delivered by Navigant formed the basis of the mid savings case, with modifications as described above. Energy Commission and CPUC staff developed high and low savings scenarios with the following elements:

- The high savings scenario assumed a 15 percent increase in incremental uncommitted program-related measure savings; the low savings case assumed a 5 percent decrease.
- The low savings scenario assumed a 20 percent lower compliance rate for codes and standards.
- The low savings scenario assumed no impacts from emerging technologies.

Assumptions for the percentage changes in program-related measure savings were derived from additional model runs made by Navigant using alternative economic-demographic assumptions (corresponding to the high and low demand assumptions used in *CED 2011*). The results of these runs showed more potential for increased savings relative to the mid case versus lower savings. The uncertainties around codes and standards compliance rates and emerging technologies drive the other two elements.

The difference between gross savings, as estimated by Navigant and HMG, and the net savings used to identify incremental uncommitted efficiency constitutes *naturally occurring savings*, or savings that could be expected to be realized without programs or codes and standards. As such, Energy Commission staff assumes that these savings are already captured within the baseline *CED 2011* forecasts. For the sake of completeness, naturally occurring savings corresponding to the measures that make up incremental uncommitted efficiency, net of savings not related to programs or codes and standards included in *CED 2011* (price effects), are included as line items in the detailed results for electricity but are not included in the incremental uncommitted totals. On the natural gas side, naturally occurring savings were relatively trivial and much lower than projected Energy Commission price effects, so are not listed in the detailed results.

¹¹ Since CED 2011 does not include a detailed analysis of potential future efficiency behavior, a case can be made that at least some of these naturally occurring savings are not captured and should be decremented from the forecast. However, an analysis to determine a reasonable portion to be subtracted is beyond the scope of this work.

Stakeholder Comments

On June 18, 2012, Energy Commission staff presented a preliminary version of the incremental uncommitted saving estimates to the Demand Analysis Working Group. Written comments were received from PG&E, SCE, and SDG&E together (Joint IOUs),¹² the Division of Ratepayer Advocates jointly with the Natural Resources Defense Council (DRA/NRDC), and The Utility Reform Network (TURN). Comments are summarized below, along with a staff response to each. The full comments will be provided to the CPUC along with this memo.

- 1. The codes and standards savings estimates in the 2012 Potential Study are based on outdated economic/demographic assumptions and should be revised to incorporate the severe drop in new construction during the recent recession. (Joint IOUs)
- 2. Staff response: staff agrees and, as discussed in the previous section, has revised the incremental uncommitted savings attributable to building standards (Title 24). HMG reduced these savings, based on construction data supplied by the California Building Industry Association. Naturally occurring savings corresponding to program-related measures and codes and standards should not be included in the incremental uncommitted savings totals. There is no basis for determining which if any portion of these savings should be subtracted from the CED 2011 baseline forecasts. (Joint IOUs)

Staff response: as discussed in the previous section, staff agrees and did not include naturally occurring savings in the calculation of the preliminary or revised incremental uncommitted savings estimates. These savings are included as line items in the detailed results for electricity but are not included in the incremental uncommitted totals.

3. The incremental uncommitted savings estimates should include emerging technologies in the mid savings case. (DRA/NRDC)

Staff response: the preliminary incremental uncommitted estimates for the mid savings case excluded ET impacts because of their inherent uncertainty. After discussion with CPUC staff, Energy Commission staff decided to include ET in the mid case since these savings were included in the 2012 Potential Study (the basis for the mid savings case). Energy Commission staff's main charge was to estimate the portion of potential savings incremental to CED 2011 rather than to determine the efficacy of the various types of potential savings. Potential ET savings were excluded only in the low savings case. The final determination on ET will be made during the LTPP process.

4. The incremental uncommitted savings estimates should include some approximations of the impacts of BBEES. These approximations could be based on the 2009 Energy

¹² Sempra Utilities commented on the natural gas estimates for SoCalGas and SDG&E, stating that the general trends for these numbers are consistent with Sempra projections for the 2012 California Gas Report (from email correspondence with Herb Emmrich, Gas Demand Forecast and Economic Analysis Manager, Sempra Utilities, week of July 9-13, 2012).

Commission/Itron work, updated for the passage of time. Recommended updates are provided in the comments. (DRA/NRDC)

Staff response: Estimates for potential savings from BBEES were not included in the 2012 Potential Study and staff considers the 2009 BBEES estimates to be outdated, as well as only marginally defensible at the time. Staff will transmit the suggested updated approximations for BBEES to CPUC staff for their consideration. The CPUC Goals Study expected later this year will incorporate BBEES. (Note: TURN also believes BBEES estimates based on the 2009 work should not be included.)

5. Naturally occurring savings, particularly the portion corresponding to codes and standards, seem high and require further study. (TURN)

Staff Response: Staff in the Energy Efficiency and Renewables Division at the Energy Commission (which develops codes and standards and estimates their impacts) shares this concern. Navigant has stated that these savings will be revisited for the CPUC Goals Study later this year. ¹³ Energy Commission staff will be involved in the Goals Study analysis and plan to spend time focusing on this issue.

Detailed Results

Table 3 through **Table 38** provide results by program-related measure and code/standard category at the utility level as well as totals for all IOUs combined. Results are provided for electricity consumption, electricity peak demand, and natural gas consumption, in that order.

¹³ Email correspondence with Amul Sathe, Navigant, July 9, 2012.

Table 3: Total IOU Electricity Consumption Savings - Low Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	169	373	622	766	838	895	930	946	956
Federal Standards (non-lighting)	27	54	85	152	339	532	722	878	1011	1131	1252	1373
Title 24 (non-lighting)	3	8	13	42	119	211	301	388	473	557	638	719
Total Standards (non-lighting)	31	63	99	362	831	1365	1789	2104	2379	2618	2836	3048
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	127	229	334	445	556	641	707	763	809	848
Low Income Measures (non-lighting)	0	0	84	168	252	333	390	423	446	462	474	484
Measures of Interest (non-lighting)	0	0	44	101	179	279	403	546	699	850	985	1093
Secondary Measures (non-lighting)	0	0	304	623	939	1251	1550	1844	2128	2412	2695	2985
Usage-Based Behavior	0	0	24	49	52	56	61	65	69	73	78	83
Total Program-Related Measures	0	0	584	1170	1757	2364	2960	3518	4048	4561	5041	5492
Net Lighting (non-ET)*	0	0	0	0	0	0	0	0	0	187	375	541
Total Incremental Uncommitted Savings	31	63	682	1533	2588	3729	4749	5622	6427	7366	8253	9081
Naturally Occurring Savings**	2	13	399	807	1630	2804	4025	5016	5871	6530	6664	6714

Table 4: Total IOU Electricity Consumption Savings - Mid Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	211	467	777	957	1048	1119	1163	1182	1194
Federal Standards (non-lighting)	34	68	107	190	424	665	903	1097	1263	1414	1565	1717
Title 24 (non-lighting)	4	11	17	52	149	264	376	485	591	696	798	899
Total Standards (non-lighting)	38	78	124	453	1039	1706	2236	2630	2973	3272	3545	3810
Emerging Technologies (non-lighting)	0	0	74	179	336	563	870	1253	1695	2168	2642	3087
High Impact Measures (non-lighting)	0	0	134	241	352	469	585	675	744	803	852	892
Low Income Measures (non-lighting)	0	0	88	177	265	350	411	445	469	486	499	509
Measures of Interest (non-lighting)	0	0	47	106	188	294	424	574	736	895	1037	1150
Secondary Measures (non-lighting)	0	0	320	656	989	1316	1632	1941	2240	2539	2837	3142
Usage-Based Behavior	0	0	24	49	52	56	61	65	69	73	78	83
Total Program-Related Measures	0	0	687	1409	2182	3048	3983	4953	5952	6965	7945	8864
Net Lighting*	0	0	0	106	407	614	757	505	885	1264	1696	2109
Total Incremental Uncommitted Savings	38	78	810	1968	3628	5368	6975	8088	9811	11501	13186	14783
Naturally Occurring Savings**	3	16	426	721	1383	2486	3633	4676	5612	6212	6314	6292

Table 5: Total IOU Electricity Consumption Savings - High Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	211	467	777	957	1048	1119	1163	1182	1194
Federal Standards (non-lighting)	34	68	107	190	424	665	903	1097	1263	1414	1565	1717
Title 24 (non-lighting)	4	11	17	52	149	264	376	485	591	696	798	899
Total Standards (non-lighting)	38	78	124	453	1039	1706	2236	2630	2973	3272	3545	3810
Emerging Technologies (non-lighting)	0	0	85	206	386	647	1001	1441	1949	2493	3039	3551
High Impact Measures (non-lighting)	0	0	154	277	405	539	673	776	855	923	980	1026
Low Income Measures (non-lighting)	0	0	102	203	305	403	472	512	540	559	574	586
Measures of Interest (non-lighting)	0	0	54	122	216	338	488	660	846	1030	1192	1323
Secondary Measures (non-lighting)	0	0	368	754	1137	1514	1877	2232	2576	2920	3262	3614
Usage-Based Behavior	0	0	24	49	52	56	61	65	69	73	78	83
Total Program-Related Measures	0	0	786	1612	2502	3497	4571	5687	6835	7999	9125	10181
Net Lighting*	0	0	49	244	601	819	980	673	1099	1526	2043	2503
Total Incremental Uncommitted Savings	38	78	959	2309	4142	6022	7787	8989	10907	12797	14713	16494
Naturally Occurring Savings**	3	0	0	0	0	472	1493	2419	3170	3615	3798	3811

Table 6: PG&E Electricity Consumption Savings – Low Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	75	165	274	338	370	395	411	417	422
Federal Standards (non-lighting)	12	24	38	67	154	245	334	407	470	529	587	645
Title 24 (non-lighting)	2	4	6	18	53	93	133	171	209	246	282	317
Total Standards (non-lighting)	14	28	44	160	372	612	804	948	1074	1185	1286	1384
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	52	83	114	147	179	205	226	246	262	276
Low Income Measures (non-lighting)	0	0	44	89	133	176	206	222	233	241	246	250
Measures of Interest (non-lighting)	0	0	20	45	79	122	175	237	303	369	429	477
Secondary Measures (non-lighting)	0	0	175	346	513	680	841	997	1149	1303	1460	1627
Usage-Based Behavior	0	0	11	23	25	26	28	30	32	34	36	38
Total Program-Related Measures	0	0	303	586	863	1152	1431	1690	1943	2192	2433	2668
Net Lighting (non-ET)*	0	0	0	0	0	0	0	0	0	0	0	0
Total Incremental Uncommitted Savings	14	28	346	746	1235	1765	2235	2639	3017	3377	3719	4052
Naturally Occurring Savings**	1	6	157	372	748	1280	1832	2226	2611	2910	2968	2989

Table 7: PG&E Electricity Consumption Savings - Mid Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	93	206	343	422	463	494	513	522	527
Federal Standards (non-lighting)	15	30	47	84	193	306	417	509	588	661	734	806
Title 24 (non-lighting)	2	5	7	23	66	117	166	214	261	307	352	397
Total Standards (non-lighting)	17	35	55	200	465	765	1005	1185	1343	1481	1608	1730
Emerging Technologies (non-lighting)	0	0	24	58	108	181	278	401	546	704	867	1022
High Impact Measures (non-lighting)	0	0	54	87	120	155	189	215	238	259	276	290
Low Income Measures (non-lighting)	0	0	47	93	140	186	217	234	246	253	259	263
Measures of Interest (non-lighting)	0	0	21	47	83	129	185	249	319	389	451	502
Secondary Measures (non-lighting)	0	0	184	364	540	716	885	1049	1209	1371	1537	1713
Usage-Based Behavior	0	0	11	23	25	26	28	30	32	34	36	38
Total Program-Related Measures	0	0	342	673	1016	1392	1783	2179	2590	3010	3426	3828
Net Lighting*	0	0	0	0	0	0	0	0	0	0	138	287
Total Incremental Uncommitted Savings	17	35	396	873	1481	2158	2788	3364	3933	4491	5172	5846
Naturally Occurring Savings**	1	7	167	330	629	1122	1635	2046	2463	2731	2773	2758

Table 8: PG&E Electricity Consumption Savings – High Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	93	206	343	422	463	494	513	522	527
Federal Standards (non-lighting)	15	30	47	84	193	306	417	509	588	661	734	806
Title 24 (non-lighting)	2	5	7	23	66	117	166	214	261	307	352	397
Total Standards (non-lighting)	17	35	55	200	465	765	1005	1185	1343	1481	1608	1730
Emerging Technologies (non-lighting)	0	0	27	67	124	208	320	462	628	810	997	1175
High Impact Measures (non-lighting)	0	0	62	100	138	178	217	248	274	298	317	334
Low Income Measures (non-lighting)	0	0	54	107	161	213	250	269	282	291	298	303
Measures of Interest (non-lighting)	0	0	24	54	96	148	212	287	367	447	519	578
Secondary Measures (non-lighting)	0	0	212	419	621	824	1018	1206	1390	1577	1768	1970
Usage-Based Behavior	0	0	11	23	25	26	28	30	32	34	36	38
Total Program-Related Measures	0	0	391	771	1164	1597	2046	2501	2973	3456	3934	4397
Net Lighting*	0	0	0	0	0	0	0	0	0	19	208	375
Total Incremental Uncommitted Savings	17	35	446	970	1629	2362	3051	3687	4316	4956	5750	6502
Naturally Occurring Savings**	1	0	0	0	0	188	645	994	1328	1527	1607	1610

Table 9: SCE Electricity Consumption Savings - Low Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	77	170	283	349	382	407	423	431	435
Federal Standards (non-lighting)	12	25	39	69	151	235	318	385	441	492	544	595
Title 24 (non-lighting)	2	4	6	19	54	96	137	177	215	253	291	327
Total Standards (non-lighting)	14	29	45	165	375	614	803	943	1064	1169	1265	1357
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	61	120	182	246	310	358	391	419	442	461
Low Income Measures (non-lighting)	0	0	32	65	97	127	147	158	166	171	174	177
Measures of Interest (non-lighting)	0	0	19	45	81	129	188	256	328	397	456	502
Secondary Measures (non-lighting)	0	0	103	229	355	477	595	712	825	936	1042	1146
Usage-Based Behavior	0	0	11	22	23	25	27	29	31	33	35	37
Total Program-Related Measures	0	0	227	480	738	1004	1267	1514	1741	1955	2149	2323
Net Lighting (non-ET)*	0	0	0	0	0	0	0	0	0	187	375	541
Total Incremental Uncommitted Savings	14	29	272	645	1113	1618	2070	2456	2805	3311	3789	4222
Naturally Occurring Savings**	1	6	208	366	741	1283	1844	2342	2733	3036	3110	3146

Table 10: SCE Electricity Consumption Savings - Mid Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	96	213	354	436	477	509	529	538	544
Federal Standards (non-lighting)	15	31	49	87	188	294	397	481	551	615	680	744
Title 24 (non-lighting)	2	5	8	24	68	120	171	221	269	317	363	409
Total Standards (non-lighting)	17	36	56	206	469	768	1004	1179	1330	1461	1581	1697
Emerging Technologies (non-lighting)	0	0	42	102	191	319	494	710	956	1215	1471	1707
High Impact Measures (non-lighting)	0	0	64	126	191	259	326	377	412	441	466	485
Low Income Measures (non-lighting)	0	0	34	68	102	134	155	167	174	180	184	186
Measures of Interest (non-lighting)	0	0	20	47	86	136	198	270	345	418	480	529
Secondary Measures (non-lighting)	0	0	109	241	373	502	626	750	869	985	1097	1206
Usage-Based Behavior	0	0	11	22	23	25	27	29	31	33	35	37
Total Program-Related Measures	0	0	280	606	966	1374	1826	2302	2787	3272	3731	4151
Net Lighting*	0	0	0	106	371	550	686	505	838	1150	1394	1617
Total Incremental Uncommitted Savings	17	36	336	918	1806	2692	3516	3985	4955	5883	6707	7464
Naturally Occurring Savings**	1	7	221	329	637	1153	1688	2216	2649	2931	2996	3004

Table 11: SCE Electricity Consumption Savings – High Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	96	213	354	436	477	509	529	538	544
Federal Standards (non-lighting)	15	31	49	87	188	294	397	481	551	615	680	744
Title 24 (non-lighting)	2	5	8	24	68	120	171	221	269	317	363	409
Total Standards (non-lighting)	17	36	56	206	469	768	1004	1179	1330	1461	1581	1697
Emerging Technologies (non-lighting)	0	0	48	117	219	367	568	817	1100	1398	1691	1963
High Impact Measures (non-lighting)	0	0	74	145	220	298	375	433	474	507	535	558
Low Income Measures (non-lighting)	0	0	39	78	118	154	178	192	200	206	211	214
Measures of Interest (non-lighting)	0	0	23	54	98	156	228	310	397	481	552	608
Secondary Measures (non-lighting)	0	0	125	277	429	577	720	862	999	1133	1261	1387
Usage-Based Behavior	0	0	11	22	23	25	27	29	31	33	35	37
Total Program-Related Measures	0	0	320	693	1108	1577	2096	2643	3201	3758	4286	4768
Net Lighting*	0	0	49	231	526	716	872	673	1028	1364	1637	1884
Total Incremental Uncommitted Savings	17	36	426	1130	2103	3060	3972	4495	5560	6583	7504	8348
Naturally Occurring Savings**	1	0	0	0	0	278	761	1246	1599	1817	1918	1944

Table 12: SDG&E Electricity Consumption Savings - Low Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	17	39	64	79	87	92	96	98	99
Federal Standards (non-lighting)	3	6	9	16	34	53	71	86	99	110	122	133
Title 24 (non-lighting)	0	1	1	4	12	22	31	40	49	57	66	74
Total Standards (non-lighting)	3	6	10	37	85	139	181	213	240	264	285	306
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	14	26	39	53	67	79	89	98	105	111
Low Income Measures (non-lighting)	0	0	7	15	22	29	37	42	47	51	54	56
Measures of Interest (non-lighting)	0	0	5	11	18	28	39	53	68	84	100	113
Secondary Measures (non-lighting)	0	0	25	48	71	93	114	135	154	174	193	212
Usage-Based Behavior	0	0	2	4	5	5	6	6	6	7	7	8
Total Program-Related Measures	0	0	54	105	155	208	263	315	364	413	459	501
Net Lighting (non-ET)*	0	0	0	0	0	0	0	0	0	0	0	0
Total Incremental Uncommitted Savings	3	6	64	142	240	346	444	527	604	677	745	807
Naturally Occurring Savings**	0	1	35	70	141	242	349	448	527	584	585	579

Table 13: SDG&E Electricity Consumption Savings – Mid Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	22	48	80	99	108	116	120	122	123
Federal Standards (non-lighting)	4	7	11	20	42	66	89	108	124	138	152	167
Title 24 (non-lighting)	0	1	2	5	15	27	39	50	61	72	82	93
Total Standards (non-lighting)	4	8	13	47	106	173	227	266	300	330	357	383
Emerging Technologies (non-lighting)	0	0	8	20	37	63	98	141	192	248	305	358
High Impact Measures (non-lighting)	0	0	15	28	41	55	70	83	93	103	111	117
Low Income Measures (non-lighting)	0	0	8	15	23	31	39	45	49	53	57	59
Measures of Interest (non-lighting)	0	0	5	11	19	29	41	56	72	89	105	119
Secondary Measures (non-lighting)	0	0	27	51	75	98	120	142	162	183	203	223
Usage-Based Behavior	0	0	2	4	5	5	6	6	6	7	7	8
Total Program-Related Measures	0	0	65	130	200	281	374	472	575	683	788	885
Net Lighting*	0	0	0	0	35	64	71	0	47	114	163	205
Total Incremental Uncommitted Savings	4	8	78	177	341	518	671	738	922	1127	1308	1473
Naturally Occurring Savings**	0	2	37	61	117	210	310	414	500	549	546	530

Table 14: SDG&E Electricity Consumption Savings - High Savings Scenario (GWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	22	48	80	99	108	116	120	122	123
Federal Standards (non-lighting)	4	7	11	20	42	66	89	108	124	138	152	167
Title 24 (non-lighting)	0	1	2	5	15	27	39	50	61	72	82	93
Total Standards (non-lighting)	4	8	13	47	106	173	227	266	300	330	357	383
Emerging Technologies (non-lighting)	0	0	9	23	43	72	112	162	221	286	351	412
High Impact Measures (non-lighting)	0	0	17	32	47	64	81	95	107	119	127	134
Low Income Measures (non-lighting)	0	0	9	18	27	35	44	51	57	62	65	68
Measures of Interest (non-lighting)	0	0	6	13	22	33	48	64	82	102	121	137
Secondary Measures (non-lighting)	0	0	31	58	86	113	138	163	186	210	234	257
Usage-Based Behavior	0	0	2	4	5	5	6	6	6	7	7	8
Total Program-Related Measures	0	0	75	149	230	323	429	542	661	785	905	1017
Net Lighting*	0	0	0	13	75	103	108	0	70	143	198	244
Total Incremental Uncommitted Savings	4	8	87	208	411	599	763	808	1031	1257	1460	1644
Naturally Occurring Savings**	0	0	0	0	0	6	88	178	242	272	272	257

Table 15: Total IOU Peak Demand Savings – Low Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	15	40	69	86	95	103	106	108	109
Federal Standards (non-lighting)	0	3	7	17	69	122	175	223	270	316	362	407
Title 24 (non-lighting)	0	2	4	13	35	62	88	114	139	163	187	211
Total Standards (non-lighting)	0	5	11	44	145	253	349	433	512	585	657	727
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	30	55	80	104	129	148	163	176	187	197
Low Income Measures (non-lighting)	0	0	22	44	65	86	101	109	115	119	123	125
Measures of Interest (non-lighting)	0	0	17	13	21	29	38	48	57	65	74	82
Secondary Measures (non-lighting)	0	0	47	97	148	197	245	292	337	382	426	471
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	116	209	314	417	514	597	672	742	809	874
Net Lighting (non-ET)*	0	0	1	35	87	110	115	92	151	210	264	324
Total Incremental Uncommitted Savings	0	5	127	289	545	780	978	1123	1335	1538	1730	1926
Naturally Occurring Savings**	0	1	84	150	340	574	798	995	1154	1252	1261	1275

Table 16: Total IOU Peak Demand Savings - Mid Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	18	50	86	107	119	129	133	135	136
Federal Standards (non-lighting)	0	4	8	21	87	153	218	279	338	395	452	509
Title 24 (non-lighting)	0	3	5	16	44	78	110	142	174	204	234	264
Total Standards (non-lighting)	0	7	13	56	181	316	436	541	640	732	821	909
Emerging Technologies (non-lighting)	0	0	14	34	63	107	167	244	341	449	564	677
High Impact Measures (non-lighting)	0	0	31	58	84	110	135	156	171	185	197	207
Low Income Measures (non-lighting)	0	0	23	46	69	91	106	115	121	126	129	132
Measures of Interest (non-lighting)	0	0	18	14	22	31	41	50	60	69	78	86
Secondary Measures (non-lighting)	0	0	49	102	155	208	258	308	355	402	448	495
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	136	254	393	546	708	873	1048	1231	1416	1598
Net Lighting*	0	0	29	85	166	232	277	219	331	438	520	596
Total Incremental Uncommitted Savings	0	7	179	394	740	1094	1420	1633	2019	2401	2758	3103
Naturally Occurring Savings**	0	2	89	127	284	495	692	889	1057	1129	1127	1129

Table 17: Total IOU Peak Demand Savings – High Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	18	50	86	107	119	129	133	135	136
Federal Standards (non-lighting)	0	4	8	21	83	146	208	265	320	373	427	481
Title 24 (non-lighting)	0	3	5	16	44	78	110	142	174	204	234	264
Total Standards (non-lighting)	0	7	13	55	177	309	425	527	622	711	796	881
Emerging Technologies (non-lighting)	0	0	16	39	73	123	192	281	392	517	649	779
High Impact Measures (non-lighting)	0	0	36	67	97	126	156	179	197	213	226	238
Low Income Measures (non-lighting)	0	0	26	53	79	104	122	133	140	145	148	151
Measures of Interest (non-lighting)	0	0	21	16	25	35	47	58	68	79	90	99
Secondary Measures (non-lighting)	0	0	57	118	179	239	297	354	408	462	516	570
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	156	292	452	628	814	1004	1205	1416	1629	1838
Net Lighting*	0	0	43	111	216	284	332	259	382	498	590	673
Total Incremental Uncommitted Savings	o	7	213	459	845	1222	1571	1790	2210	2624	3014	3391
Naturally Occurring Savings**	0	0	0	0	0	58	229	405	537	580	599	611

Table 18: PG&E Peak Demand Savings - Low Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	6	18	30	38	42	45	47	48	48
Federal Standards (non-lighting)	0	1	3	7	32	57	81	104	126	148	170	191
Title 24 (non-lighting)	0	1	2	6	16	27	39	50	61	72	83	93
Total Standards (non-lighting)	0	2	5	19	65	114	158	197	233	267	300	332
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	9	15	22	29	36	42	48	53	58	62
Low Income Measures (non-lighting)	0	0	11	21	32	43	50	54	56	58	60	61
Measures of Interest (non-lighting)	0	0	10	7	11	16	21	25	30	34	39	43
Secondary Measures (non-lighting)	0	0	26	52	77	102	126	149	172	195	217	241
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	56	96	142	190	233	271	306	340	373	407
Net Lighting (non-ET)*	0	0	0	0	0	0	0	0	0	0	7	26
			<u> </u>	T					T			
Total Incremental Uncommitted Savings	o	2	60	115	207	304	391	468	539	607	681	766
Naturally Occurring Savings**	0	1	30	61	144	246	345	425	498	545	552	561

Table 19: PG&E Peak Demand Savings - Mid Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	8	22	38	47	53	57	59	59	60
Federal Standards (non-lighting)	0	2	4	9	40	71	102	130	158	185	212	239
Title 24 (non-lighting)	0	1	2	7	19	34	49	63	77	90	103	116
Total Standards (non-lighting)	0	3	6	24	81	143	198	246	291	334	375	416
Emerging Technologies (non-lighting)	0	0	4	11	20	33	52	76	108	146	187	229
High Impact Measures (non-lighting)	0	0	9	16	23	31	38	45	50	56	61	65
Low Income Measures (non-lighting)	0	0	11	23	34	45	53	57	59	61	63	64
Measures of Interest (non-lighting)	0	0	11	8	12	17	22	27	32	36	41	45
Secondary Measures (non-lighting)	0	0	28	54	81	107	133	157	181	205	229	254
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	63	112	169	233	297	361	431	504	580	657
Net Lighting*	0	0	0	0	6	15	16	0	33	69	95	119
				-								
Total Incremental Uncommitted Savings	o	3	69	136	256	391	510	607	755	906	1049	1191
Naturally Occurring Savings**	0	1	32	50	118	210	297	378	455	490	492	495

Table 20: PG&E Peak Demand Savings - High Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	8	22	38	47	53	57	59	59	60
Federal Standards (non-lighting)	0	2	4	9	40	71	102	130	158	185	212	239
Title 24 (non-lighting)	0	1	2	7	19	34	49	63	77	90	103	116
Total Standards (non-lighting)	0	3	6	24	81	143	198	246	291	334	375	416
Emerging Technologies (non-lighting)	0	0	5	12	23	38	60	87	124	168	215	263
High Impact Measures (non-lighting)	0	0	10	19	27	35	44	51	58	64	70	75
Low Income Measures (non-lighting)	0	0	13	26	39	52	60	65	68	70	72	73
Measures of Interest (non-lighting)	0	0	12	9	14	19	25	31	36	42	47	52
Secondary Measures (non-lighting)	0	0	32	63	93	124	153	181	208	236	263	292
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	73	128	195	268	342	415	495	580	667	755
Net Lighting*	0	0	0	0	19	27	25	0	38	76	105	132
Total Incremental Uncommitted Savings	0	3	78	153	295	438	564	661	825	989	1147	1303
Naturally Occurring Savings**	0	0	0	0	0	15	90	161	222	245	257	265

Table 21: SCE Peak Demand Savings - Low Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	7	18	31	39	43	47	48	49	50
Federal Standards (non-lighting)	0	1	3	8	32	55	79	101	121	142	162	183
Title 24 (non-lighting)	0	1	2	6	16	28	40	52	63	74	85	96
Total Standards (non-lighting)	0	2	5	21	66	115	158	196	232	265	297	328
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	18	34	49	64	78	89	96	102	106	110
Low Income Measures (non-lighting)	0	0	9	19	28	37	43	46	48	49	51	51
Measures of Interest (non-lighting)	0	0	5	5	8	11	14	18	21	25	28	32
Secondary Measures (non-lighting)	0	0	18	40	62	84	104	125	145	165	183	201
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	50	97	147	195	240	278	311	341	369	395
Net Lighting (non-ET)*	0	0	0	28	70	89	97	82	129	177	215	250
Total Incremental Uncommitted Savings	o	2	55	146	283	400	494	556	671	782	881	973
Naturally Occurring Savings**	0	1	45	73	163	273	377	473	543	585	587	591

Table 22: SCE Peak Demand Savings - Mid Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	8	23	39	49	54	59	61	61	62
Federal Standards (non-lighting)	0	2	4	10	40	69	98	126	152	177	203	228
Title 24 (non-lighting)	0	1	2	7	20	35	50	65	79	93	107	120
Total Standards (non-lighting)	0	3	6	26	82	144	198	245	289	331	371	411
Emerging Technologies (non-lighting)	0	0	8	19	36	61	95	138	191	249	310	368
High Impact Measures (non-lighting)	0	0	19	36	52	67	82	94	101	107	112	116
Low Income Measures (non-lighting)	0	0	10	20	30	39	45	48	51	52	53	54
Measures of Interest (non-lighting)	0	0	5	5	8	12	15	19	23	26	30	33
Secondary Measures (non-lighting)	0	0	19	42	65	88	110	132	153	173	193	212
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	61	121	191	266	347	431	518	608	698	784
Net Lighting*	0	0	23	68	130	176	215	187	251	310	356	399
Total Incremental Uncommitted Savings	o	3	90	215	403	586	760	863	1058	1248	1425	1593
Naturally Occurring Savings**	0	1	48	63	137	237	328	424	499	529	526	526

Table 23: SCE Peak Demand Savings - High Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	8	23	39	49	54	59	61	61	62
Federal Standards (non-lighting)	0	2	4	10	40	69	98	126	152	177	203	228
Title 24 (non-lighting)	0	1	2	7	20	35	50	65	79	93	107	120
Total Standards (non-lighting)	0	3	6	26	82	144	198	245	289	331	371	411
Emerging Technologies (non-lighting)	0	0	9	22	41	70	109	159	219	287	357	423
High Impact Measures (non-lighting)	0	0	22	41	60	77	95	108	116	123	129	133
Low Income Measures (non-lighting)	0	0	11	23	34	45	52	56	58	60	61	62
Measures of Interest (non-lighting)	0	0	6	6	9	13	18	22	26	30	34	38
Secondary Measures (non-lighting)	0	0	21	48	75	101	126	152	176	199	222	244
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	70	139	219	306	399	496	595	699	803	901
Net Lighting*	0	0	34	89	158	209	253	220	289	353	405	453
Total Incremental Uncommitted Savings	0	3	110	254	460	658	849	961	1174	1383	1579	1765
Naturally Occurring Savings**	0	0	0	0	0	38	118	206	264	281	288	293

Table 24: SDG&E Peak Demand Savings – Low Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	2	4	7	9	10	11	11	11	11
Federal Standards (non-lighting)	0	0	1	2	6	10	15	19	22	26	30	33
Title 24 (non-lighting)	0	0	0	1	4	6	9	12	14	17	19	22
Total Standards (non-lighting)	0	1	1	4	14	24	33	40	47	54	60	66
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures (non-lighting)	0	0	3	6	8	11	14	17	19	21	23	25
Low Income Measures (non-lighting)	0	0	2	3	5	7	8	10	11	12	12	13
Measures of Interest (non-lighting)	0	0	2	1	2	3	3	4	5	6	7	8
Secondary Measures (non-lighting)	0	0	3	6	9	12	15	17	20	23	25	28
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	10	16	24	33	41	48	55	61	67	73
Net Lighting (non-ET)*	0	0	1	7	17	20	19	11	22	33	41	48
Total Incremental Uncommitted Savings	0	1	12	28	55	77	92	99	125	148	168	187
Naturally Occurring Savings**	0	0	9	16	34	56	76	97	113	122	122	123

Table 25: SDG&E Peak Demand Savings - Mid Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	2	5	9	11	12	13	14	14	14
Federal Standards (non-lighting)	0	0	1	2	7	13	18	23	28	32	37	42
Title 24 (non-lighting)	0	0	1	2	5	8	11	15	18	21	24	27
Total Standards (non-lighting)	0	1	1	6	17	30	41	50	59	67	75	83
Emerging Technologies (non-lighting)	0	0	2	4	8	13	21	30	42	54	68	80
High Impact Measures (non-lighting)	0	0	3	6	9	12	15	18	20	22	24	26
Low Income Measures (non-lighting)	0	0	2	4	5	7	9	10	11	12	13	14
Measures of Interest (non-lighting)	0	0	2	1	2	3	4	5	5	6	7	8
Secondary Measures (non-lighting)	0	0	3	6	9	13	16	18	21	24	27	29
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	12	21	33	47	64	81	99	119	139	157
Net Lighting*	0	0	6	16	30	40	46	32	48	60	70	78
Total Incremental Uncommitted Savings	0	1	19	43	81	117	150	164	206	247	284	318
Naturally Occurring Savings**	0	0	9	13	29	48	66	87	103	110	109	108

Table 26: SDG&E Peak Demand Savings - High Savings Scenario (MW)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20 (non-lighting)	0	0	0	2	5	9	11	12	13	14	14	14
Federal Standards (non-lighting)	0	0	1	2	4	6	8	9	10	11	12	13
Title 24 (non-lighting)	0	0	1	2	5	8	11	15	18	21	24	27
Total Standards (non-lighting)	0	1	1	5	13	23	30	36	41	46	50	54
				Γ								
Emerging Technologies (non-lighting)	0	0	2	5	9	15	24	35	48	63	78	92
High Impact Measures (non-lighting)	0	0	4	7	10	14	17	20	23	26	28	30
Low Income Measures (non-lighting)	0	0	2	4	6	8	10	12	13	14	15	16
Measures of Interest (non-lighting)	0	0	2	1	2	3	4	5	6	7	8	9
Secondary Measures (non-lighting)	0	0	4	7	11	14	18	21	24	27	31	34
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	0
Total Program-Related Measures	0	0	14	24	38	55	73	93	114	137	159	181
Net Lighting*	0	0	9	22	38	48	54	39	55	69	79	89
Total Incremental Uncommitted Savings	0	1	24	52	90	126	157	168	211	252	289	324
Naturally Occurring Savings**	0	0	0	0	0	6	20	38	51	54	54	54

Table 27: Total IOU Natural Gas Consumption Savings – Low Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-2	-4	-7	-9	-9	-10	-10	-10	-10
Federal Standards	0	2	6	11	15	20	24	28	33	39	45	51
Title 24	0	1	2	3	7	10	14	18	22	25	29	32
Total Standards	0	3	8	13	18	23	30	37	45	54	63	73
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures	0	0	8	16	26	38	54	76	98	121	140	154
Low Income Measures	0	0	6	11	16	21	25	28	30	32	33	34
Measures of Interest	0	0	0	0	0	-1	-1	-1	-2	-2	-2	-2
Secondary Measures	0	0	15	28	41	52	64	75	85	94	102	110
Usage-Based Behavior	0	0	1	3	3	3	4	4	5	5	6	6
Total Program-Related Measures	0	0	30	58	85	115	146	182	216	250	279	303
Total Incremental Uncommitted Savings	0	3	38	71	103	138	176	219	262	304	343	376

Table 28: Total IOU Natural Gas Consumption Savings - Mid Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-2	-5	-9	-11	-12	-12	-13	-13	-13
Federal Standards	0	3	8	14	19	25	30	36	42	48	56	64
Title 24	1	1	2	4	8	13	18	23	27	32	36	41
Total Standards	1	4	10	16	22	29	37	46	56	67	79	91
Emerging Technologies	0	0	1	2	3	6	9	15	22	31	42	56
High Impact Measures	0	0	9	17	27	41	57	80	103	127	147	162
Low Income Measures	0	0	6	12	17	22	26	29	32	34	35	36
Measures of Interest	0	0	0	0	-1	-1	-1	-1	-2	-2	-2	-2
Secondary Measures	0	0	16	30	43	55	67	79	89	99	108	116
Usage-Based Behavior	0	0	1	3	3	3	4	4	5	5	6	6
Total Program-Related Measures	0	0	32	62	93	126	163	206	249	293	335	374
Total Incremental Uncommitted Savings	1	4	42	78	115	155	200	252	305	361	415	465

Table 29: Total IOU Natural Gas Consumption Savings – High Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-2	-5	-9	-11	-12	-12	-13	-13	-13
Federal Standards	0	3	8	14	19	25	30	36	42	48	56	64
Title 24	3	5	7	11	16	21	26	30	35	39	44	48
Total Standards	3	8	15	23	30	37	45	54	64	75	87	99
Emerging Technologies	0	0	1	2	4	6	11	17	25	35	48	64
High Impact Measures	0	0	10	19	31	47	65	92	119	146	169	187
Low Income Measures	0	0	7	14	20	26	30	34	37	39	40	41
Measures of Interest	0	0	0	0	-1	-1	-1	-2	-2	-2	-2	-3
Secondary Measures	0	0	18	34	49	64	77	90	102	114	124	134
Usage-Based Behavior	0	0	1	3	3	3	4	4	5	5	6	6
Total Program-Related Measures	0	0	37	71	106	145	186	236	286	337	385	429
Total Incremental Uncommitted Savings	3	8	52	94	136	182	231	290	350	412	472	528

Table 30: PG&E Natural Gas Consumption Savings – Low Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-1	-3	-3	-3	-4	-4	-4	-4
Federal Standards	0	1	2	4	5	7	8	9	11	13	15	17
Title 24	0	0	1	1	2	4	5	7	8	9	11	12
Total Standards	0	1	3	4	6	8	10	12	15	18	22	25
	•											
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures	0	0	4	8	13	19	27	36	47	58	66	71
Low Income Measures	0	0	3	5	7	9	11	12	13	13	13	13
Measures of Interest	0	0	0	0	0	0	0	0	-1	-1	-1	-1
Secondary Measures	0	0	7	13	19	25	30	36	41	45	50	54
Usage-Based Behavior	0	0	1	1	1	1	2	2	2	2	2	3
Total Program-Related Measures	0	0	13	27	40	54	69	85	102	118	130	140
Total Incremental Uncommitted Savings	0	1	16	31	46	62	79	98	117	136	152	165

Table 31: PG&E Natural Gas Consumption Savings – Mid Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-2	-3	-4	-4	-5	-5	-5	-5
Federal Standards	0	1	3	5	6	8	10	12	14	16	19	21
Title 24	0	0	1	1	3	5	6	8	10	12	13	15
Total Standards	0	1	3	5	7	10	12	16	19	23	27	31
Emerging Technologies	0	0	0	1	1	2	4	6	9	13	18	25
High Impact Measures	0	0	4	8	13	20	28	38	50	61	69	75
Low Income Measures	0	0	3	5	8	10	12	13	13	14	14	14
Measures of Interest	0	0	0	0	0	0	0	-1	-1	-1	-1	-1
Secondary Measures	0	0	7	14	20	26	32	38	43	48	52	56
Usage-Based Behavior	0	0	1	1	1	1	2	2	2	2	2	3
Total Program-Related Measures	0	0	14	29	43	59	76	96	116	137	156	172
Total Incremental Uncommitted Savings	0	1	18	34	51	69	89	111	135	160	183	203

Table 32: PG&E Natural Gas Consumption Savings - High Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-2	-3	-4	-4	-5	-5	-5	-5
Federal Standards	0	1	3	5	6	8	10	12	14	16	19	21
Title 24	1	2	3	4	6	8	9	11	13	15	16	18
Total Standards	1	3	5	8	10	13	15	19	22	26	30	34
	•											
Emerging Technologies	0	0	0	1	1	3	4	7	11	15	21	28
High Impact Measures	0	0	5	10	15	23	32	44	57	70	80	86
Low Income Measures	0	0	3	6	9	11	13	14	15	16	16	16
Measures of Interest	0	0	0	0	0	0	0	-1	-1	-1	-1	-1
Secondary Measures	0	0	8	16	23	30	36	43	49	55	60	65
Usage-Based Behavior	0	0	1	1	1	1	2	2	2	2	2	3
Total Program-Related Measures	0	0	16	33	49	68	87	110	134	157	179	197
Total Incremental Uncommitted Savings	1	3	22	41	60	80	103	128	156	183	209	231

Table 33: SoCalGas Natural Gas Consumption Savings – Low Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-2	-4	-5	-6	-6	-6	-6	-6
Federal Standards	0	1	4	7	9	12	14	17	20	23	27	30
Title 24	0	1	1	2	4	6	8	10	13	15	17	19
Total Standards	0	2	5	7	10	14	17	22	27	32	38	43
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures	0	0	4	7	11	17	24	34	44	53	63	70
Low Income Measures	0	0	3	5	8	10	12	14	15	16	17	18
Measures of Interest	0	0	0	0	0	0	0	-1	-1	-1	-1	-1
Secondary Measures	0	0	7	14	20	26	31	36	41	45	49	52
Usage-Based Behavior	0	0	1	1	1	2	2	2	2	3	3	3
Total Program-Related Measures	0	0	15	28	41	54	69	85	101	116	130	142
								•				
Total Incremental Uncommitted Savings	0	2	20	35	51	68	86	107	127	148	168	185

Table 34: SoCalGas Natural Gas Consumption Savings – Mid Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-3	-5	-6	-7	-7	-8	-8	-8
Federal Standards	0	2	5	8	11	15	18	21	25	29	34	38
Title 24	0	1	1	2	5	8	10	13	16	19	21	24
Total Standards	0	2	6	9	13	17	22	27	33	40	47	54
								•				
Emerging Technologies	0	0	0	1	2	3	4	7	10	14	19	25
High Impact Measures	0	0	4	8	12	18	25	36	46	56	66	74
Low Income Measures	0	0	3	6	8	11	13	14	16	17	18	19
Measures of Interest	0	0	0	0	0	0	-1	-1	-1	-1	-1	-1
Secondary Measures	0	0	8	15	21	27	33	38	43	47	51	55
Usage-Based Behavior	0	0	1	1	1	2	2	2	2	3	3	3
Total Program-Related Measures	0	0	16	30	44	60	76	96	116	136	155	174
								•				
Total Incremental Uncommitted Savings	0	2	22	39	58	77	98	124	149	176	202	228

Table 35: SoCalGas Natural Gas Consumption Savings – High Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	-1	-3	-5	-6	-7	-7	-8	-8	-8
Federal Standards	0	2	5	8	11	15	18	21	25	29	34	38
Title 24	2	3	4	6	9	12	15	18	21	23	26	28
Total Standards	2	5	9	13	18	22	27	32	38	45	52	59
	•											
Emerging Technologies	0	0	0	1	2	3	5	8	11	16	21	28
High Impact Measures	0	0	5	9	14	21	29	41	53	65	76	85
Low Income Measures	0	0	3	7	10	12	15	17	18	20	21	21
Measures of Interest	0	0	0	0	0	0	-1	-1	-1	-1	-1	-2
Secondary Measures	0	0	9	17	24	31	38	44	49	54	59	63
Usage-Based Behavior	0	0	1	1	1	2	2	2	2	3	3	3
Total Program-Related Measures	0	0	18	34	51	69	88	110	133	156	178	199
								•				
Total Incremental Uncommitted Savings	2	5	27	48	69	91	114	143	171	200	230	258

Table 36: SDG&E Natural Gas Consumption Savings – Low Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	0	0	0	0	0	0	0	0	0
Federal Standards	0	0	0	1	1	1	2	2	2	3	3	4
Title 24	0	0	0	0	1	1	1	1	1	1	1	2
Total Standards	0	0	1	1	1	2	2	3	3	4	4	5
Emerging Technologies	0	0	0	0	0	0	0	0	0	0	0	0
High Impact Measures	0	0	0	1	2	2	3	6	8	9	11	13
Low Income Measures	0	0	0	1	1	2	2	2	3	3	3	3
Measures of Interest	0	0	0	0	0	0	0	0	0	0	0	0
Secondary Measures	0	0	1	1	2	2	3	3	3	4	4	4
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	1
Total Program-Related Measures	0	0	2	3	5	6	8	11	14	16	19	21
Total Incremental Uncommitted Savings	0	0	2	4	6	8	11	14	17	20	23	26

Table 37: SDG&E Natural Gas Consumption Savings – Mid Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	0	0	0	0	0	-1	-1	-1	-1
Federal Standards	0	0	1	1	1	2	2	3	3	4	4	5
Title 24	0	0	0	0	1	1	1	1	1	2	2	2
Total Standards	0	0	1	1	2	2	3	3	4	5	5	6
Emerging Technologies	0	0	0	0	0	1	1	2	3	4	5	6
High Impact Measures	0	0	0	1	2	2	4	6	8	10	12	13
Low Income Measures	0	0	0	1	1	2	2	2	3	3	3	3
Measures of Interest	0	0	0	0	0	0	0	0	0	0	0	0
Secondary Measures	0	0	1	1	2	2	3	3	4	4	4	5
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	1
Total Program-Related Measures	0	0	2	4	5	7	10	14	17	21	25	28
Total Incremental Uncommitted Savings	0	0	3	5	7	10	13	17	21	25	30	34

Table 38: SDG&E Natural Gas Consumption Savings – High Savings Scenario (MM Therms)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Title 20	0	0	0	0	0	0	0	0	-1	-1	-1	-1
Federal Standards	0	0	1	1	1	2	2	3	3	4	4	5
Title 24	0	0	0	0	1	1	1	1	1	2	2	2
Total Standards	0	0	1	1	2	2	3	3	4	5	5	6
Emerging Technologies	0	0	0	0	0	1	1	2	3	4	6	7
High Impact Measures	0	0	1	1	2	3	4	7	9	11	14	15
Low Income Measures	0	0	1	1	2	2	2	3	3	3	4	4
Measures of Interest	0	0	0	0	0	0	0	0	0	0	0	0
Secondary Measures	0	0	1	1	2	3	3	4	4	5	5	5
Usage-Based Behavior	0	0	0	0	0	0	0	0	0	0	0	1
Total Program-Related Measures	0	0	2	4	6	8	11	16	20	24	28	32
Total Incremental Uncommitted Savings	0	0	3	5	8	11	14	19	24	28	33	38