

# 2018 California Gas Report Workpapers

Prepared by





## TABLE OF CONTENTS

TABLE OF CONTENTS.....	3
HISTORICAL DATA.....	4
FORECAST OF REQUIREMENTS-SUMMARY.....	7
AVERAGE TEMPERATURE YEAR.....	8
COLD TEMPERATURE YEAR.....	21
FORECAST OF REQUIREMENTS DETAIL.....	34
CUSTOMER FORECAST.....	35
EUFORECASTER.....	37
RESIDENTIAL.....	39
CORE COMMERCIAL AND INDUSTRIAL.....	53
NONCORE COMMERCIAL, INDUSTRIAL & COGEN.....	114
NATURAL GAS VEHICLES.....	121
ENERGY EFFICIENCY.....	128
ELECTRIC GENERATION.....	132
CORE PEAK DAY FORECAST.....	134
SUPPORTING DATA.....	141
WEATHER.....	142
SERVICE AREA ECONOMIC FORECAST.....	158

# 2018 CALIFORNIA GAS REPORT

---

**HISTORICAL DATA**  
**JULY 2018**

---



**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND SENDOUT (MMCF/DAY)**  
**RECORDED YEARS 2013-2017**

LINE			<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
<b>Actual Deliveries by End-Use</b>							
1	<b>CORE</b>	Residential	85	68	67	71	72
2		Commercial	52	49	49	51	52
3		Industrial	0	0	0	-	-
4		<i>Subtotal - CORE</i>	137	117	116	122	124
5	<b>NONCORE</b>	Commercial	0	0	0	-	-
6		Industrial	12	11	11	12	11
7		Non-EOR Cogen/EG	70	72	74	60	71
8		Electric Utilities	147	121	126	99	92
9		<i>Subtotal - NONCORE</i>	229	204	211	171	174
10	<b>WHOLESALE</b>	All End Uses	0	0	0	-	-
11		<i>Subtotal - Co Use &amp; LUAF</i>	5	2	9	(3)	1
12	<b>SYSTEM TOTAL THROUGHPUT</b>		371	323	336	290	299
<b>Actual Transport &amp; Exchange</b>							
13	<b>CORE</b>	Residential	1	1	1	1	1
14		Commercial	12	11	12	13	13
15	<b>NONCORE</b>	Industrial	12	11	11	12	11
16		Non-EOR Cogen/EG	70	72	74	60	71
17		Electric Utilities	147	121	126	99	92
18		<i>Subtotal - RETAIL</i>	242	216	224	185	188
19	<b>WHOLESALE</b>	All End Uses	0	0	0	-	-
20	<b>TOTAL TRANSPORT &amp; EXCHANGE</b>		242	216	224	185	188
<b>Storage</b>							
21		<i>Storage Injection</i>	0	0	0	-	-
22		<i>Storage Withdrawal</i>	0	0	0	-	-
<b>Actual Curtailment</b>							
23		Residential	0	0	0	-	-
24		Com/Indl & Cogen	0	0	0	-	-
25		Electric Generation	0	0	0	-	-
26	<b>TOTAL CURTAILMENT</b>		0	0	0	-	-
27	<b>REFUSAL</b>		0	0	0	-	-
ACTUAL DELIVERIES BY END-USE include both sales and transportation volumes							
MMbtu/Mcf:			1.024	1.035	1.040	1.036	1.040

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY TAKEN (MMCF/DAY)**  
**RECORDED YEARS 2013-2017**

<b>LINE</b>		<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
	<b>CAPACITY AVAILABLE</b>					
1	<b>California Sources</b>					
	Out of State gas					
2	California Offshore (POPCO/PIOC)					
3	El Paso Natural Gas Company					
4	Transwestern Pipeline company					
5	Kern River/Mojave Pipeline Company					
6	TransCanada GTN/PG&E					
7	Other					
8	<b>TOTAL Output of State</b>					
9	Underground storage withdrawal					
10	<b>TOTAL Gas Supply available</b>					
	<b>Gas Supply Taken</b>					
	<b>California Source Gas</b>					
11	Regular Purchases	0	0	0	0	0
12	Received for Exchange/Transport	0	0	0	0	0
13	<b>Total California Source Gas</b>	0	0	0	0	0
14	<b>Purchases from Other Utilities</b>	0	0	0	0	0
	<b>Out-of-State Gas</b>					
15	Pacific Interstate Companies	0	0	0	0	0
16	Additional Core Supplies	0	0	0	0	0
17	Supplemental Supplies-Utility	129	107	112	105	111
18	Out-of-State Transport-Others	242	216	224	185	188
19	<b>Total Out-of-State Gas</b>	371	323	336	290	299
20	<b>TOTAL Gas Supply Taken &amp; Transported</b>	371	323	336	290	299

# 2018 CALIFORNIA GAS REPORT

---

FORECAST OF REQUIREMENTS - SUMMARY  
JULY 2018

---



# 2018 CALIFORNIA GAS REPORT

---

AVERAGE TEMPERATURE YEAR  
JULY 2018

---





TABLE 1-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED YEARS 2018 THRU 2022

AVERAGE TEMPERATURE YEAR

LINE		2018	2019	2020	2021	2022	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>							
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	306	302	296	295	291	5
6	TOTAL SUPPLY TAKEN	306	302	296	295	291	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	306	302	296	295	291	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>							
9	CORE <sup>4/</sup>						
	Residential	85	84	83	83	81	9
10	Commercial	48	48	48	48	47	10
11	Industrial	4	4	4	4	4	11
12	NGV	5	6	6	6	7	12
13	Subtotal-CORE	142	142	141	141	139	13
14	NONCORE						
	Commercial	6	6	6	6	6	14
15	Industrial	6	6	6	6	6	15
16	Electric Generation (EG)	149	145	141	140	138	16
17	Subtotal-NONCORE	161	157	153	152	150	17
18	Co. Use & LUAF	3	3	2	2	2	18
19	SYSTEM TOTAL THROUGHPUT	306	302	296	295	291	19
<b>TRANSPORTATION AND EXCHANGE</b>							
20	CORE						
	All End Uses	15	15	15	16	16	20
21	NONCORE						
	Commercial/Industrial	12	12	12	12	12	21
22	Electric Generation (EG)	149	145	141	140	138	22
23	TOTAL TRANSPORTATION & EXCHANGE	176	172	168	168	166	23
<b>CURTAILMENT</b>							
24	Core	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	132	132	131	130	128
---------------------------------	-----	-----	-----	-----	-----

TABLE 2-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED YEARS 2023 THRU 2035

AVERAGE TEMPERATURE YEAR

LINE		2023	2024	2025	2030	2035	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>							
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	287	285	284	280	286	5
6	TOTAL SUPPLY TAKEN	287	285	284	280	286	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	287	285	284	280	286	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>							
9	CORE <sup>4/</sup>						
	Residential	81	80	80	78	78	9
10	Commercial	47	46	46	44	44	10
11	Industrial	4	4	4	3	3	11
12	NGV	7	8	8	12	17	12
13	Subtotal-CORE	139	138	138	137	142	13
14	NONCORE						
	Commercial	6	6	6	6	7	14
15	Industrial	6	6	6	6	6	15
16	Electric Generation (EG)	134	133	132	129	129	16
17	Subtotal-NONCORE	146	145	144	141	142	17
18	Co. Use & LUAF	2	2	2	2	2	18
19	SYSTEM TOTAL THROUGHPUT	287	285	284	280	286	19
<b>TRANSPORTATION AND EXCHANGE</b>							
20	CORE						
	All End Uses	16	16	17	19	22	20
21	NONCORE						
	Commercial/Industrial	12	12	12	12	13	21
22	Electric Generation (EG)	134	133	132	129	129	22
23	TOTAL TRANSPORTATION & EXCHANGE	162	161	161	160	164	23
<b>CURTAILMENT</b>							
24	Core	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	128	127	126	123	125
---------------------------------	-----	-----	-----	-----	-----

Work Paper: TABLE 1-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2018

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	339	336	264	298	260	234	317	323	316	274	330	376	306	5
6	TOTAL SUPPLY TAKEN	339	336	264	298	260	234	317	323	316	274	330	376	306	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	339	336	264	298	260	234	317	323	316	274	330	376	306	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
<b>CORE</b> <sup>4/</sup>															
9	Residential	136	134	109	93	66	52	48	48	48	56	91	140	85	9
10	Commercial	62	65	54	50	42	39	36	36	38	39	50	63	48	10
11	Industrial	4	5	5	4	4	4	3	3	3	3	4	4	4	11
12	NGV	5	5	5	5	5	5	5	5	5	5	5	5	5	12
13	Subtotal-CORE	207	208	173	153	117	100	92	92	93	103	150	212	141	13
<b>NONCORE</b>															
14	Commercial	6	6	6	6	6	6	6	6	6	6	6	6	6	14
15	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
16	Electric Generation (EG)	117	112	77	131	129	120	210	216	207	157	164	149	149	16
17	Subtotal-NONCORE	129	125	88	143	141	133	222	228	219	169	176	161	162	17
18	Co. Use & LUAF	3	3	2	2	2	2	3	3	3	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	339	336	264	298	260	234	317	323	316	274	330	376	306	19
<b>TRANSPORTATION AND EXCHANGE</b>															
<b>CORE</b>															
20	All End Uses	18	19	17	16	13	13	12	12	12	13	15	18	15	20
<b>NONCORE</b>															
21	Commercial/Industrial	12	13	12	12	12	12	12	12	12	12	12	12	12	21
22	Electric Generation (EG)	117	112	77	131	129	120	210	216	207	157	164	149	149	22
23	TOTAL TRANSPORTATION & EXCHANGE	147	144	105	159	155	145	234	240	231	182	192	179	176	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 197 197 163 143 107 90 84 83 85 94 141 201 132

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2019**

**AVERAGE TEMPERATURE with BASE HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	357	330	300	303	260	240	274	325	320	272	275	361	302	5
6	TOTAL SUPPLY TAKEN	357	330	300	303	260	240	274	325	320	272	275	361	302	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	357	330	300	303	260	240	274	325	320	272	275	361	302	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	135	133	108	92	66	52	47	47	48	55	91	139	84	9
11	Commercial	62	65	54	51	42	39	36	36	38	39	50	63	48	10
12	Industrial	4	5	5	5	4	4	3	3	3	3	4	4	4	11
13	NGV	5	6	6	6	6	6	6	6	5	6	6	5	6	12
13	Subtotal-CORE	207	208	173	153	117	100	93	92	93	103	150	211	141	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	135	106	113	135	129	126	167	218	212	154	110	134	145	16
17	Subtotal-NONCORE	147	119	125	147	141	138	179	230	224	166	123	147	158	17
18	Co. Use & LUAF	3	3	2	3	2	2	2	3	3	2	2	3	3	18
19	SYSTEM TOTAL THROUGHPUT	357	330	300	303	260	240	274	325	320	272	275	361	302	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	18	19	17	16	14	13	12	12	12	13	16	18	15	20
21	NONCORE Commercial/Industrial	12	13	12	12	12	12	12	12	12	12	13	12	12	21
22	Electric Generation (EG)	135	106	113	135	129	126	167	218	212	154	110	134	145	22
23	TOTAL TRANSPORTATION & EXCHANGE	165	138	142	163	155	151	191	243	236	179	138	165	173	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

196	196	162	142	107	90	83	83	85	94	140	201	131
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2020**

**AVERAGE TEMPERATURE with BASE HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	375	339	295	283	239	228	290	318	308	262	264	353	296	5
6	TOTAL SUPPLY TAKEN	375	339	295	283	239	228	290	318	308	262	264	353	296	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	375	339	295	283	239	228	290	318	308	262	264	353	296	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	134	127	108	91	65	51	47	47	47	55	90	138	83	9
11	Commercial	62	62	54	51	42	39	36	36	38	39	50	63	48	10
12	Industrial	4	5	5	5	4	4	3	3	3	4	4	4	4	11
13	NGV	5	6	6	6	6	6	6	6	5	6	6	6	6	12
13	Subtotal-CORE	206	200	173	152	117	100	93	92	93	103	150	211	141	13
14	NONCORE														
15	Commercial	6	6	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	6	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	154	122	108	116	108	113	183	210	199	144	99	127	141	16
17	Subtotal-NONCORE	166	135	120	129	120	126	195	223	212	157	112	139	153	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	3	3	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	375	339	295	283	239	228	290	318	308	262	264	353	296	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE														
21	All End Uses	18	19	17	16	14	13	13	13	12	13	16	19	15	20
22	NONCORE														
23	Commercial/Industrial	12	13	12	12	12	13	12	12	13	12	13	12	12	21
24	Electric Generation (EG)	154	122	108	116	108	113	183	210	199	144	99	127	141	22
23	TOTAL TRANSPORTATION & EXCHANGE	184	154	138	145	134	139	208	235	224	170	128	158	168	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

195	189	162	142	107	90	83	83	84	93	140	200	130
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2021**

**AVERAGE TEMPERATURE with BASE HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	352	340	278	285	241	241	291	316	295	286	274	349	295	5
6	TOTAL SUPPLY TAKEN	352	340	278	285	241	241	291	316	295	286	274	349	295	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	352	340	278	285	241	241	291	316	295	286	274	349	295	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	133	130	107	90	65	51	47	46	47	55	89	136	83	9
11	Commercial	62	64	54	50	42	39	36	36	37	38	50	63	48	10
12	Industrial	4	5	5	4	4	4	3	3	3	3	4	4	4	11
13	NGV	6	6	7	6	6	7	6	7	6	7	6	6	6	12
13	Subtotal-CORE	205	206	172	152	116	100	92	92	93	103	149	210	140	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	132	118	92	118	111	126	185	209	187	169	111	124	140	16
17	Subtotal-NONCORE	144	131	104	131	123	139	197	221	200	182	123	137	153	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	352	340	278	285	241	241	291	316	295	286	274	349	295	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE														
21	All End Uses	19	20	18	16	14	14	13	13	12	14	16	19	16	20
22	NONCORE														
23	Commercial/Industrial	12	13	12	13	12	13	12	12	13	12	13	12	12	21
24	Electric Generation (EG)	132	118	92	118	111	126	185	209	187	169	111	124	140	22
23	TOTAL TRANSPORTATION & EXCHANGE	163	151	122	147	137	153	209	234	212	195	139	155	168	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

194	194	160	141	106	89	83	82	84	93	139	198	130
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2022**

**AVERAGE TEMPERATURE with BASE HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	347	331	281	287	237	239	273	302	280	277	289	356	291	5
6	TOTAL SUPPLY TAKEN	347	331	281	287	237	239	273	302	280	277	289	356	291	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	347	331	281	287	237	239	273	302	280	277	289	356	291	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	131	128	105	89	64	50	46	46	46	54	87	134	81	9
11	Commercial	61	64	54	50	41	38	36	36	37	38	50	62	47	10
12	Industrial	4	5	4	4	4	4	3	3	3	3	4	4	4	11
13	NGV	6	7	7	7	7	7	7	7	6	7	7	7	7	12
13	Subtotal-CORE	202	204	170	150	115	99	92	91	92	102	148	207	139	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	130	110	97	122	108	125	167	196	173	160	127	134	138	16
17	Subtotal-NONCORE	142	124	109	135	120	138	180	208	186	173	139	146	150	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	347	331	281	287	237	239	273	302	280	277	289	356	291	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	19	20	18	17	14	14	13	13	13	14	16	19	16	20
21	NONCORE Commercial/Industrial	12	13	12	13	12	13	12	12	13	12	13	12	12	21
22	Electric Generation (EG)	130	110	97	122	108	125	167	196	173	160	127	134	138	22
23	TOTAL TRANSPORTATION & EXCHANGE	161	144	127	151	134	152	193	221	198	186	155	165	166	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

191	191	158	139	105	88	82	81	83	92	137	195	128
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2023

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	337	337	294	277	241	241	271	297	265	245	294	352	287	5
6	TOTAL SUPPLY TAKEN	337	337	294	277	241	241	271	297	265	245	294	352	287	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	337	337	294	277	241	241	271	297	265	245	294	352	287	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	130	127	104	88	63	50	46	45	46	53	87	133	81	9
11	Commercial	61	63	53	49	41	38	36	35	37	38	49	62	47	10
12	Industrial	4	5	4	4	4	4	3	3	3	3	4	4	4	11
13	NGV	7	7	8	7	7	8	7	8	7	8	7	7	7	12
13	Subtotal-CORE	201	203	169	149	115	99	91	91	92	102	147	206	138	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	133	131	123	125	125	140	178	204	171	142	145	143	147	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	2	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	337	337	294	277	241	241	271	297	265	245	294	352	287	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	19	20	18	17	15	14	13	13	13	14	16	19	16	20
21															21
22	NONCORE All End Uses	133	131	123	125	125	140	178	204	171	142	145	143	147	22
23	TOTAL TRANSPORTATION & EXCHANGE	152	151	141	142	139	154	191	218	184	156	161	162	163	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

190	190	157	138	104	88	81	81	82	91	136	194	127
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----



SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2024

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	339	323	291	277	240	236	269	292	262	244	297	353	285	5
6	TOTAL SUPPLY TAKEN	339	323	291	277	240	236	269	292	262	244	297	353	285	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	339	323	291	277	240	236	269	292	262	244	297	353	285	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	129	122	103	88	63	49	45	45	45	53	86	132	80	9
11	Commercial	60	61	53	49	40	38	35	35	36	38	49	61	46	10
12	Industrial	4	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	7	8	8	8	8	8	8	8	7	8	8	7	8	12
13	Subtotal-CORE	200	195	169	149	115	98	91	91	92	102	147	205	138	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	136	125	121	126	123	136	176	198	168	140	148	144	145	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	2	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	339	323	291	277	240	236	269	292	262	244	297	353	285	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	19	20	18	17	15	14	14	14	13	14	17	19	16	20
21															21
22	NONCORE All End Uses	136	125	121	126	123	136	176	198	168	140	148	144	145	22
23	TOTAL TRANSPORTATION & EXCHANGE	155	145	139	143	138	150	190	212	181	154	165	164	161	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

189	182	156	137	104	87	81	80	82	91	135	193	126
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2025

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	341	334	291	275	236	232	264	288	265	245	294	353	284	5
6	TOTAL SUPPLY TAKEN	341	334	291	275	236	232	264	288	265	245	294	353	284	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	341	334	291	275	236	232	264	288	265	245	294	353	284	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	128	126	103	87	62	49	45	45	45	53	86	131	80	9
11	Commercial	60	62	52	49	40	37	35	35	36	37	48	61	46	10
12	Industrial	4	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	8	9	9	9	8	9	8	9	8	9	8	8	8	12
13	Subtotal-CORE	199	201	168	149	114	98	91	91	92	102	146	204	138	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	139	130	121	125	120	132	170	195	171	142	146	146	145	17
18	Co. Use & LUAF	3	3	2	2	2	2	2	2	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	341	334	291	275	236	232	264	288	265	245	294	353	284	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	19	21	19	17	15	15	14	14	13	15	17	20	17	20
21															21
22	NONCORE All End Uses	139	130	121	125	120	132	170	195	171	142	146	146	145	22
23	TOTAL TRANSPORTATION & EXCHANGE	158	151	139	142	135	146	184	209	184	157	162	165	161	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

187	188	155	136	103	87	80	80	82	90	134	192	126
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2030**

**AVERAGE TEMPERATURE with BASE HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	340	332	263	243	215	221	301	321	278	235	275	353	280	5
6	TOTAL SUPPLY TAKEN	340	332	263	243	215	221	301	321	278	235	275	353	280	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	340	332	263	243	215	221	301	321	278	235	275	353	281	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	125	123	100	85	61	48	44	44	44	51	84	128	78	9
11	Commercial	58	60	50	47	39	36	34	34	35	36	47	59	44	10
12	Industrial	4	5	4	4	3	3	3	3	3	3	4	4	3	11
13	NGV	11	12	13	12	12	12	12	12	11	12	12	11	12	12
13	Subtotal-CORE	197	199	167	148	115	99	92	92	93	103	146	202	138	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	140	130	94	92	99	120	206	225	184	130	127	147	141	17
18	Co. Use & LUAF	3	3	2	2	2	2	3	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	340	332	263	243	215	221	301	321	278	235	275	353	281	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	21	23	21	20	17	17	16	16	15	17	19	21	19	20
21															21
22	NONCORE All End Uses	140	130	94	92	99	120	206	225	184	130	127	147	141	22
23	TOTAL TRANSPORTATION & EXCHANGE	161	152	114	112	116	137	222	242	199	147	146	169	160	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

183	184	152	134	101	86	79	79	81	89	132	188	124
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2035

AVERAGE TEMPERATURE with BASE HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	344	336	268	247	220	226	306	325	282	240	279	356	286	5
6	TOTAL SUPPLY TAKEN	344	336	268	247	220	226	306	325	282	240	279	356	286	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	344	336	268	247	220	226	306	325	282	240	279	356	285	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	125	122	100	85	61	48	44	44	44	51	83	128	78	9
11	Commercial	57	60	50	47	39	36	34	34	35	36	46	58	44	10
12	Industrial	4	4	4	4	3	3	3	2	3	3	3	4	3	11
13	NGV	15	17	18	17	17	17	17	17	15	18	17	16	17	12
13	Subtotal-CORE	201	203	172	152	119	104	97	97	97	107	150	206	142	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	140	130	94	92	99	120	206	225	184	130	127	147	141	17
18	Co. Use & LUAF	3	3	2	2	2	2	3	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	344	336	268	247	220	226	306	325	282	240	279	356	285	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	24	26	24	23	21	20	19	20	18	20	22	24	22	20
21															21
22	NONCORE All End Uses	140	130	94	92	99	120	206	225	184	130	127	147	141	22
23	TOTAL TRANSPORTATION & EXCHANGE	164	156	118	115	119	140	225	245	202	151	150	172	163	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

184	185	153	135	102	87	81	80	82	90	133	189	125
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

# 2018 CALIFORNIA GAS REPORT

---

COLD TEMPERATURE YEAR  
JULY 2018

---



TABLE 3-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED YEARS 2018 THRU 2022

COLD TEMPERATURE YEAR (1 IN 35 COLD YEAR EVENT) & DRY HYDRO YEAR

LINE		2018	2019	2020	2021	2022	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>							
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	316	327	322	323	318	5
6	TOTAL SUPPLY TAKEN	316	327	322	323	318	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	316	327	322	323	318	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>							
9	CORE <sup>4/</sup>						
	Residential	93	92	91	91	89	9
10	Commercial	50	50	50	50	49	10
11	Industrial	4	4	4	4	4	11
12	NGV	5	6	6	6	7	12
13	Subtotal-CORE	152	152	151	151	149	13
14	NONCORE						
	Commercial	6	6	6	6	6	14
15	Industrial	6	6	6	6	6	15
16	Electric Generation (EG)	149	160	156	157	154	16
17	Subtotal-NONCORE	161	172	168	169	166	17
18	Co. Use & LUAF	3	3	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	316	327	322	323	318	19
<b>TRANSPORTATION AND EXCHANGE</b>							
20	CORE						
	All End Uses	15	16	16	16	16	20
21	NONCORE						
	Commercial/Industrial	12	12	12	12	12	21
22	Electric Generation (EG)	149	160	156	157	154	22
23	TOTAL TRANSPORTATION & EXCHANGE	176	188	184	185	182	23
<b>CURTAILMENT</b>							
24	Core	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	142	141	140	140	138
---------------------------------	-----	-----	-----	-----	-----

TABLE 4-SDGE

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED YEARS 2023 THRU 2035

COLD TEMPERATURE YEAR (1 IN 35 COLD YEAR EVENT) & DRY HYDRO YEAR

LINE		2023	2024	2025	2030	2035	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>							
1	California Source Gas	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>							
4	California Source Gas	0	0	0	0	0	4
5	Southern Zone of SoCalGas	312	309	309	296	299	5
6	TOTAL SUPPLY TAKEN	312	309	309	296	299	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	7
8	TOTAL THROUGHPUT	312	309	309	296	299	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>							
9	CORE <sup>4/</sup>						
	Residential	89	88	88	86	85	9
10	Commercial	49	48	48	46	46	10
11	Industrial	4	4	4	4	3	11
12	NGV	7	8	8	12	17	12
13	Subtotal-CORE	149	148	148	148	151	13
14	NONCORE						
	Commercial	6	6	6	6	7	14
15	Industrial	6	6	6	6	6	15
16	Electric Generation (EG)	148	146	146	134	133	16
17	Subtotal-NONCORE	160	158	158	146	146	17
18	Co. Use & LUAF	3	3	3	2	2	18
19	SYSTEM TOTAL THROUGHPUT	312	309	309	296	299	19
<b>TRANSPORTATION AND EXCHANGE</b>							
20	CORE						
	All End Uses	16	17	17	19	22	20
21	NONCORE						
	Commercial/Industrial	12	12	12	12	13	21
22	Electric Generation (EG)	148	146	146	134	133	22
23	TOTAL TRANSPORTATION & EXCHANGE	176	175	175	165	168	23
<b>CURTAILMENT</b>							
24	Core	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	138	136	136	134	134
---------------------------------	-----	-----	-----	-----	-----

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY**  
**ESTIMATED FOR YEAR: 2018**

**COLD TEMPERATURE with DRY HYDRO YEAR**

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	364	360	281	312	265	236	318	323	316	277	342	401	316	5
6	TOTAL SUPPLY TAKEN	364	360	281	312	265	236	318	323	316	277	342	401	316	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	364	360	281	312	265	236	318	323	316	277	342	401	316	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
<b>CORE <sup>4/</sup></b>															
9	Residential	155	152	123	102	70	53	48	48	48	58	101	160	93	9
10	Commercial	67	69	58	53	43	39	36	36	38	39	52	68	50	10
11	Industrial	5	6	5	5	4	4	3	3	3	3	4	5	4	11
12	NGV	5	5	5	5	5	5	5	5	5	5	5	5	5	12
13	Subtotal-CORE	232	232	191	165	122	101	93	92	93	105	162	237	152	13
<b>NONCORE</b>															
14	Commercial	6	6	6	6	6	6	6	6	6	6	6	6	6	14
15	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
16	Electric Generation (EG)	117	112	77	131	129	120	210	216	207	157	164	149	149	16
17	Subtotal-NONCORE	129	125	88	143	141	133	222	228	219	169	176	161	162	17
18	Co. Use & LUAF	3	3	2	3	2	2	3	3	3	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	364	360	281	312	265	236	318	323	316	277	342	401	316	19
<b>TRANSPORTATION AND EXCHANGE</b>															
<b>CORE</b>															
20	All End Uses	19	20	18	16	14	13	12	12	12	13	16	19	15	20
<b>NONCORE</b>															
21	Commercial/Industrial	12	13	12	12	12	12	12	12	12	12	12	12	12	21
22	Electric Generation (EG)	117	112	77	131	129	120	210	216	207	157	164	149	149	22
23	TOTAL TRANSPORTATION & EXCHANGE	148	145	106	160	155	145	234	240	231	182	192	180	177	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 221 220 180 155 113 92 84 83 85 96 152 227 142



SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2019

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	399	361	333	325	277	264	297	357	337	274	292	405	327	5
6	TOTAL SUPPLY TAKEN	399	361	333	325	277	264	297	357	337	274	292	405	327	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	399	361	333	325	277	264	297	357	337	274	292	405	327	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	154	151	122	102	70	53	48	47	48	57	100	159	92	9
11	Commercial	67	69	58	53	43	39	36	36	38	39	53	68	50	10
12	Industrial	5	6	5	5	4	4	3	3	3	3	4	5	4	11
13	NGV	5	6	6	6	6	6	6	6	5	6	6	5	6	12
13	Subtotal-CORE	231	231	190	165	122	101	93	92	94	105	162	237	152	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	153	114	128	144	141	148	190	249	228	155	116	153	160	16
17	Subtotal-NONCORE	165	127	140	157	153	160	202	262	241	167	128	165	173	17
18	Co. Use & LUAF	3	3	3	3	2	2	2	3	3	2	2	3	3	18
19	SYSTEM TOTAL THROUGHPUT	399	361	333	325	277	264	297	357	337	274	292	405	327	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE														
21	All End Uses	19	20	18	17	14	13	12	12	12	13	16	20	16	20
22	NONCORE														
23	Commercial/Industrial	12	13	12	12	12	12	12	12	12	12	13	12	12	21
24	Electric Generation (EG)	153	114	128	144	141	148	190	249	228	155	116	153	160	22
23	TOTAL TRANSPORTATION & EXCHANGE	184	148	158	173	167	174	215	274	253	180	144	185	188	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 220 219 179 155 112 92 84 83 85 96 152 226 141

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2020

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	415	371	330	308	258	243	317	348	325	264	288	400	322	5
6	TOTAL SUPPLY TAKEN	415	371	330	308	258	243	317	348	325	264	288	400	322	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	415	371	330	308	258	243	317	348	325	264	288	400	323	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	153	145	121	101	70	52	47	47	47	57	99	158	91	9
11	Commercial	67	67	58	53	43	39	36	36	38	39	53	68	50	10
12	Industrial	5	5	5	5	4	4	3	3	3	3	4	5	4	11
13	NGV	5	6	6	6	6	6	6	6	5	6	6	6	6	12
13	Subtotal-CORE	230	223	190	165	122	101	93	92	94	106	162	236	151	13
14	NONCORE														
15	Commercial	6	6	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	6	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	170	132	126	127	122	127	209	240	216	144	111	149	156	16
17	Subtotal-NONCORE	182	145	138	140	134	140	221	252	228	156	124	161	169	17
18	Co. Use & LUAF	3	3	3	3	2	2	3	3	3	2	2	3	3	18
19	SYSTEM TOTAL THROUGHPUT	415	371	330	308	258	243	317	348	325	264	288	400	323	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	20	18	17	14	13	13	13	12	13	16	20	16	20
21	NONCORE Commercial/Industrial	12	13	12	12	12	13	12	12	13	12	13	12	12	21
22	Electric Generation (EG)	170	132	126	127	122	127	209	240	216	144	111	149	156	22
23	TOTAL TRANSPORTATION & EXCHANGE	201	165	156	157	149	153	234	265	241	170	140	181	184	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 219 211 179 154 112 91 83 83 85 96 151 225 141

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2021

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	395	372	305	314	273	263	316	347	314	290	302	390	323	5
6	TOTAL SUPPLY TAKEN	395	372	305	314	273	263	316	347	314	290	302	390	323	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	395	372	305	314	273	263	316	347	314	290	302	390	324	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	152	148	120	100	69	52	47	47	47	56	98	156	91	9
11	Commercial	67	69	57	53	43	39	36	36	37	39	52	68	50	10
12	Industrial	5	6	5	5	4	4	3	3	3	3	4	5	4	11
13	NGV	6	6	7	6	6	7	6	7	6	7	6	6	6	12
13	Subtotal-CORE	229	229	189	164	122	101	93	92	93	105	161	235	151	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	151	127	101	134	137	147	208	240	205	171	125	140	157	16
17	Subtotal-NONCORE	163	140	113	147	149	160	220	252	217	183	138	153	170	17
18	Co. Use & LUAF	3	3	3	3	2	2	3	3	3	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	395	372	305	314	273	263	316	347	314	290	302	390	324	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	21	18	17	14	14	13	13	12	14	17	20	16	20
21	NONCORE Commercial/Industrial	12	13	12	13	12	13	12	12	13	12	13	12	12	21
22	Electric Generation (EG)	151	127	101	134	137	147	208	240	205	171	125	140	157	22
23	TOTAL TRANSPORTATION & EXCHANGE	183	161	131	164	164	173	233	265	230	197	154	173	186	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 217 217 177 153 111 91 83 82 84 95 150 223 140

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2022

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE</b> <sup>1/ &amp; 2/</sup>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	389	373	312	315	267	255	297	330	299	280	310	397	318	5
6	TOTAL SUPPLY TAKEN	389	373	312	315	267	255	297	330	299	280	310	397	318	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	389	373	312	315	267	255	297	330	299	280	310	397	319	8
<b>REQUIREMENTS FORECAST BY END-USE</b> <sup>3/</sup>															
9	CORE <sup>4/</sup>														
10	Residential	149	146	118	98	68	51	46	46	46	55	97	153	89	9
11	Commercial	66	69	57	52	42	39	36	36	37	39	52	67	49	10
12	Industrial	5	5	5	5	4	4	3	3	3	3	4	5	4	11
13	NGV	6	7	7	7	7	7	7	7	6	7	7	7	7	12
13	Subtotal-CORE	226	227	187	163	120	100	92	92	93	104	160	232	149	13
14	NONCORE														
15	Commercial	6	7	6	6	6	6	6	6	6	6	6	6	6	14
16	Industrial	6	7	6	6	6	6	6	6	6	6	6	6	6	15
17	Electric Generation (EG)	148	130	110	137	132	140	191	224	192	162	134	149	154	16
17	Subtotal-NONCORE	160	144	122	149	144	153	203	236	204	174	147	162	167	17
18	Co. Use & LUAF	3	3	3	3	2	2	2	3	2	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	389	373	312	315	267	255	297	330	299	280	310	397	319	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	21	19	17	15	14	13	13	13	14	17	20	16	20
21	NONCORE Commercial/Industrial	12	13	12	13	12	13	12	12	13	12	13	12	12	21
22	NONCORE Electric Generation (EG)	148	130	110	137	132	140	191	224	192	162	134	149	154	22
23	TOTAL TRANSPORTATION & EXCHANGE	180	165	141	166	159	166	216	249	217	188	164	182	183	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation transportation (CAT) in MDth/d:

215	214	175	151	110	90	82	81	83	94	148	220	138
-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2023

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	382	375	325	306	253	248	292	318	281	259	315	386	312	5
6	TOTAL SUPPLY TAKEN	382	375	325	306	253	248	292	318	281	259	315	386	312	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	382	375	325	306	253	248	292	318	281	259	315	386	312	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	148	145	117	98	67	51	46	45	46	55	96	152	89	9
11	Commercial	66	68	56	52	42	38	36	35	37	38	51	67	49	10
12	Industrial	5	5	5	5	4	4	3	3	3	3	4	4	4	11
13	NGV	7	7	8	7	7	8	7	8	7	8	7	7	7	12
13	Subtotal-CORE	225	226	186	162	120	100	92	91	92	104	159	231	149	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	154	146	136	141	131	146	198	224	187	153	154	152	160	17
18	Co. Use & LUAF	3	3	3	3	2	2	2	3	2	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	382	375	325	306	253	248	292	318	281	259	315	386	312	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	21	19	18	15	14	13	13	13	14	17	20	16	20
21															21
22	NONCORE All End Uses	154	146	136	141	131	146	198	224	187	153	154	152	160	22
23	TOTAL TRANSPORTATION & EXCHANGE	174	167	155	158	146	160	212	237	199	167	171	173	177	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 213 212 174 150 109 89 81 81 83 94 147 219 137

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2024

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	379	361	328	304	252	246	289	312	276	258	315	386	309	5
6	TOTAL SUPPLY TAKEN	379	361	328	304	252	246	289	312	276	258	315	386	309	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	379	361	328	304	252	246	289	312	276	258	315	386	309	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	148	139	116	97	67	50	45	45	46	55	96	152	88	9
11	Commercial	65	65	56	52	42	38	35	35	36	38	51	66	48	10
12	Industrial	4	5	5	5	4	4	3	3	3	3	4	4	4	11
13	NGV	7	8	8	8	8	8	8	8	7	8	8	7	8	12
13	Subtotal-CORE	224	217	186	161	120	100	92	91	92	104	158	230	148	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	152	141	139	140	130	144	195	217	182	152	154	154	158	17
18	Co. Use & LUAF	3	3	3	3	2	2	2	3	2	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	379	361	328	304	252	246	289	312	276	258	315	386	309	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	21	19	18	15	15	14	14	13	14	17	21	17	20
21															21
22	NONCORE All End Uses	152	141	139	140	130	144	195	217	182	152	154	154	158	22
23	TOTAL TRANSPORTATION & EXCHANGE	172	161	158	157	145	159	209	231	195	167	171	174	175	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d: 212 204 173 149 109 89 81 81 82 93 147 217 136

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2025

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	380	375	327	304	256	242	283	316	276	255	309	388	309	5
6	TOTAL SUPPLY TAKEN	380	375	327	304	256	242	283	316	276	255	309	388	309	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	380	375	327	304	256	242	283	316	276	255	309	388	309	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	147	143	116	97	66	50	45	45	45	54	95	151	88	9
11	Commercial	65	67	56	51	41	38	35	35	36	38	51	66	48	10
12	Industrial	4	5	5	5	4	4	3	3	3	3	4	4	4	11
13	NGV	8	9	9	9	8	9	8	9	8	9	8	8	8	12
13	Subtotal-CORE	223	224	185	161	120	100	92	91	92	104	158	229	148	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	154	149	139	140	134	140	190	221	182	150	148	156	159	17
18	Co. Use & LUAF	3	3	3	3	2	2	2	3	2	2	3	3	3	18
19	SYSTEM TOTAL THROUGHPUT	380	375	327	304	256	242	283	316	276	255	309	388	309	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	20	22	20	18	16	15	14	14	13	15	18	21	17	20
21															21
22	NONCORE All End Uses	154	149	139	140	134	140	190	221	182	150	148	156	159	22
23	TOTAL TRANSPORTATION & EXCHANGE	174	170	159	158	150	155	203	235	195	164	166	177	176	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	211	210	172	148	108	88	81	80	82	93	146	216	136
---------------------------------	-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2030

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	365	357	279	262	223	221	318	342	290	238	286	370	296	5
6	TOTAL SUPPLY TAKEN	365	357	279	262	223	221	318	342	290	238	286	370	296	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	365	357	279	262	223	221	318	342	290	238	286	370	295	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	143	140	113	94	65	49	44	44	44	53	93	147	86	9
11	Commercial	63	65	54	50	40	36	34	34	35	36	49	64	46	10
12	Industrial	4	5	4	4	3	3	3	3	3	3	4	4	4	11
13	NGV	11	12	13	12	12	12	12	12	11	12	12	11	12	12
13	Subtotal-CORE	221	222	184	160	120	101	93	93	93	105	157	226	148	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	142	132	93	99	101	119	223	246	195	131	127	140	146	17
18	Co. Use & LUAF	3	3	2	2	2	2	3	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	365	357	279	262	223	221	318	342	290	238	286	370	295	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	22	24	22	20	18	17	16	16	15	17	19	23	19	20
21															21
22	NONCORE All End Uses	142	132	93	99	101	119	223	246	195	131	127	140	146	22
23	TOTAL TRANSPORTATION & EXCHANGE	164	156	115	120	118	136	239	263	210	148	146	163	165	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	206	206	169	146	106	87	80	79	81	91	143	212	134
---------------------------------	-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----



SAN DIEGO GAS & ELECTRIC COMPANY

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY  
ESTIMATED FOR YEAR: 2035

COLD TEMPERATURE with DRY HYDRO YEAR

LINE		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	LINE
<b>CAPACITY AVAILABLE <sup>1/ &amp; 2/</sup></b>															
1	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Southern Zone of SoCalGas <sup>1/</sup>	574	574	574	574	574	574	574	574	574	574	574	574	574	2
3	TOTAL CAPACITY AVAILABLE	574	574	574	574	574	574	574	574	574	574	574	574	574	3
<b>GAS SUPPLY TAKEN</b>															
4	California Source Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5	Southern Zone of SoCalGas	369	361	284	266	227	226	323	347	294	243	290	373	299	5
6	TOTAL SUPPLY TAKEN	369	361	284	266	227	226	323	347	294	243	290	373	299	6
7	Net Underground Storage Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8	TOTAL THROUGHPUT	369	361	284	266	227	226	323	347	294	243	290	373	300	8
<b>REQUIREMENTS FORECAST BY END-USE <sup>3/</sup></b>															
9	CORE <sup>4/</sup>														
10	Residential	143	140	113	94	65	49	44	44	44	53	93	147	85	9
11	Commercial	62	64	54	49	40	36	34	34	35	36	49	63	46	10
12	Industrial	4	5	4	4	3	3	3	2	3	3	4	4	3	11
13	NGV	15	17	18	17	17	17	17	17	15	18	17	16	17	12
13	Subtotal-CORE	224	226	188	165	124	105	97	97	97	110	162	230	152	13
14	NONCORE														14
15															15
16															16
17	Subtotal-NONCORE	142	132	93	99	101	119	223	246	195	131	127	140	146	17
18	Co. Use & LUAF	3	3	2	2	2	2	3	3	2	2	2	3	2	18
19	SYSTEM TOTAL THROUGHPUT	369	361	284	266	227	226	323	347	294	243	290	373	300	19
<b>TRANSPORTATION AND EXCHANGE</b>															
20	CORE All End Uses	25	27	25	24	21	20	19	20	18	20	23	26	22	20
21															21
22	NONCORE All End Uses	142	132	93	99	101	119	223	246	195	131	127	140	146	22
23	TOTAL TRANSPORTATION & EXCHANGE	167	159	118	123	122	139	242	266	213	152	149	166	168	23
<b>CURTAILMENT</b>															
24	Core	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	Noncore	0	0	0	0	0	0	0	0	0	0	0	0	0	25
26	TOTAL - Curtailment	0	0	0	0	0	0	0	0	0	0	0	0	0	26

NOTES:

1/ Nominal capacity to receive gas from the Southern Zone of SoCalGas is based on current conditions, and is an annual value based on weighting winter and non-winter season values: 574 = (595 winter) x (151/365) + (560 non-winter) x (214/365).

2/ For 2018 and after, assume capacity at same levels. Actual capacity through the CGR timeframe is subject to change.

3/ Requirement forecast by end-use includes sales, transportation, and exchange volumes.

4/ Core end-use demand exclusive of core aggregation

transportation (CAT) in MDth/d:	207	207	170	147	108	88	81	81	82	93	144	213	135
---------------------------------	-----	-----	-----	-----	-----	----	----	----	----	----	-----	-----	-----

# 2018 CALIFORNIA GAS REPORT

---

FORECAST OF REQUIREMENTS – DETAIL  
JULY 2018

---



# 2018 CALIFORNIA GAS REPORT

---

**CUSTOMER FORECAST**  
**JULY 2018**

---



**SAN DIEGO GAS and ELECTRIC COMPANY: GAS CUSTOMER FORECAST**  
**(Annual Averages; forecast starts in 2018)**

	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
<b>Residential</b>	739,874	753,182	765,256	775,938	788,196	798,253	805,013	808,545	812,174	817,006	821,874	826,523
<b>Core Commcl/Indstl</b>	28,735	29,036	29,277	29,454	29,513	29,588	29,860	30,158	30,123	30,150	30,114	30,083
<b>NGV</b>	190	194	212	252	276	114	28	29	26	27	29	24
<b>Non-Core C/I</b>	53	51	54	55	56	56	57	53	55	58	57	58
<b>Electric Generation</b>	60	67	66	71	75	77	71	68	64	65	61	64
<b>TOTAL</b>	768,912	782,530	794,866	805,771	818,117	828,088	835,029	838,853	842,442	847,305	852,135	856,752
Net Customer Growth	12,698	13,618	12,336	10,905	12,346	9,972	6,941	3,824	3,589	4,863	4,830	4,618
Customer Growth Rate	1.68%	1.77%	1.58%	1.37%	1.53%	1.22%	0.84%	0.46%	0.43%	0.58%	0.57%	0.54%

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
<b>Residential</b>	831,840	834,942	840,065	845,289	850,136	855,820	861,541	867,507	874,002	880,694	887,384	894,075
<b>Core Commcl/Indstl</b>	30,028	30,011	29,996	30,018	30,101	30,527	30,712	30,844	30,940	31,027	31,121	31,213
<b>NGV</b>	25	25	25	25	26	26	27	27	28	28	29	29
<b>Non-Core C/I</b>	52	50	48	50	45	48	50	51	51	51	51	51
<b>Electric Generation</b>	66	66	69	80	86	88	90	93	96	99	102	105
<b>TOTAL</b>	862,010	865,093	870,203	875,462	880,394	886,510	892,419	898,521	905,116	911,898	918,687	925,472
Net Customer Growth	5,258	3,083	5,109	5,260	4,827	6,221	5,909	6,102	6,595	6,782	6,789	6,785
Customer Growth Rate	0.61%	0.36%	0.59%	0.60%	0.551%	0.71%	0.67%	0.68%	0.73%	0.75%	0.74%	0.74%

	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>
<b>Residential</b>	900,786	907,543	914,320	921,004	927,619	934,350	941,255	948,260	955,423	962,877	970,642
<b>Core Commcl/Indstl</b>	31,295	31,371	31,446	31,521	31,593	31,662	31,731	31,800	31,868	31,937	32,006
<b>NGV</b>	30	30	36	37	38	38	39	39	40	40	41
<b>Non-Core C/I</b>	51	52	52	52	52	52	52	52	52	52	53
<b>Electric Generation</b>	108	111	114	117	120	123	126	129	132	135	138
<b>TOTAL</b>	932,270	939,106	945,968	952,730	959,421	966,224	973,203	980,280	987,515	995,041	1,002,879
Net Customer Growth	6,797	6,836	6,862	6,763	6,691	6,803	6,979	7,077	7,235	7,527	7,838
Customer Growth Rate	0.73%	0.73%	0.73%	0.71%	0.70%	0.71%	0.72%	0.73%	0.74%	0.76%	0.79%

# 2018 CALIFORNIA GAS REPORT

---

**EUFORCASTER**  
**JULY 2018**

---



Refer to the 2018 California Gas Report workpapers of Southern California Gas Company for documentation of the EUForecaster model. This model is used to forecast gas demands for the residential, core commercial and core industrial markets.

# 2018 CALIFORNIA GAS REPORT

---

RESIDENTIAL DEMAND FORECAST  
JULY 2018

---



# San Diego Gas & Electric Residential End-Use Model

---

## I. Residential End-Use Model Description

### **Introduction:**

San Diego Gas & Electric (SDG&E) used the End Use Forecaster model to generate annual gas demand forecasts for the residential market. The software's market segmentation and end-use modeling framework analyzes the impacts of competitive strategies (gas vs. electricity) and market scenarios on gas demand and market shares. The model separates the residential market into five building types (B-level).

These groups are identified by the premise code classification found in the company billing files. The four residential groups are:

- Single-Family(SF);
- Multi-Family (MF);
- Master Metered (MM); and
- Sub-Metered (SM).

The residential model identifies eight end-uses (N-level) that are the primary drivers of natural gas demand:

- Space heating;
- Water heating;
- Cooking;
- Drying;
- Pool heating;
- Spa heating;
- Fireplace; and
- Barbeque.

The model assumes two fuel choices (F-level) for end-uses:

- Natural gas; and
- Electricity.

The model assumes up to four efficiency levels (E-level) for the various end-uses. In general, the efficiency levels are:

- Stock;
- Standard;
- High efficiency; and
- Premium efficiency.

See Figure 1 for a classification of the number of efficiency levels for each end-use by customer segment type.



A set of post-model adjustments were applied to the model's annual demand forecast. The first adjustment calibrates to the recorded 2017 weather-adjusted demand. Next, the annual forecast was parceled out to a series of monthly forecasts by a process which involves two steps. These two steps consist of (1) using the fitted equation for customer demand to generate a forecast of use per customer that varies with the number of calendar days and heating degree days in a given month and (2) calculating a series of weights based on the customer's predicted monthly usage share in total annual consumption. The shares obtained from the latter step were then applied to annual totals to derive the stream of monthly forecasts which are conditional on the particular weather design specification for the entire year. An adjustment to the forecast offsets the throughput by the energy efficiency savings. Annual conservation benefits associated with AMI have been estimated by SDG&E to represent 1% of the core gas throughput.

Figures 2-5 illustrate the monthly forecasts for each weather scenario.

### **Data Sources:**

The information used to perform the modeling and to generate the forecast includes historical 2017 consumption and customer counts; meter counts, growth, and decay; use per customer by vintage and unit energy consumption (UEC) values; fuel costs and price elasticity; equipment capital costs and availability; building and equipment lives and decay. The historical 2017 data is in Figure 6.

### **Meter Counts, Growth and Decay:**

Regression equations were developed for each of the 4 building types. The meter count forecast is a company-specific forecast based on actual meter counts within the SDG&E service territory. Data on meter decay rates were obtained from the Energy Information Administration (EIA). See Figure 7 for the meter forecast.

### **Use Per Customer by Vintage and UEC:**

Use per customer and Unit Energy Consumption (UEC) data were based on company marketing data and the California Measurement Advisory Council. See Figure 8 for the appliance UEC's.

### **Fuel Costs and Price Elasticity:**

Average and marginal gas prices (\$/therm) were calculated from forecasts of the residential rate components. Residential rates have two consumption tiers. We used the simple average of the second tiers' projected monthly prices for each forecast year as the marginal rate. The marginal rate was used for each housing segment type.

For a given housing segment type, the average gas commodity rate was calculated using a pair of weights for the two consumption tiers applied to the simple average of each tier's monthly rate. The average commodity rate in each forecast year was developed using the same consumption tier weights, but with the forecasts of rates for each residential rate tier. The average gas price each year was then calculated by including the non-volumetric customer charges with the year's average gas commodity price. Figure 9 illustrates the gas price forecasts.

### **Electric Price Data:**

Both average prices (cents/kWh) and marginal prices (cents/kWh) were developed as electricity price inputs. Forecasts for the SDG&E residential customer class were developed based on the California Energy Commission's December 2017 updated forecast rates for California energy demand (forecast for the SDG&E planning area, under "Mid-Case" demand for electricity) for the SDG&E service area through our forecast time horizon.

To impute average electricity prices to each residential housing type, we simply calculated the ratio of the housing type's average gas price to the overall residential gas price for each housing type, then multiplied by the overall average electricity price.

The marginal prices for each residential housing type were calculated by multiplying each year's respective average price by a ratio. These ratios were 1.513 for the SF and MF housing types, 1.034 for the MM housing type and 1.125 for the SM housing type. These various ratios were the same as those used to construct the marginal electricity prices for the SoCalGas residential end-use model.

### **Equipment Capital Costs and Availability:**

Data on equipment capital costs and availability were from EIA, the Residential Appliance Saturation Survey (RASS), Energy Star (EPA & DOE), and SDG&E company data. See Figures 11 and 12 for gas and electric appliance equipment cost.

### **Building and Equipment Lives and Decay:**

Building decay rates are based on the building shell lifetimes, where the lifetime is defined as the length of time it takes for either a demolition or a major renovation to occur. For single-family residential buildings, an exponential rate of decay of 0.3% per year was assumed. See Figure 13 for the building decay rates.

Data on equipment lives and decay rates are based on EIA, RASS, Energy Star, and SDG&E company data. See Figure 14 for the average lifetimes of gas appliances.

### **Saturations, Fuel and Efficiency Shares:**

Saturation values, fuel shares, and efficiency shares were extracted from SDG&E company data files and RASS survey results. Please see Figures 15-18 for saturations, fuel, and efficiency shares.

### **AMI:**

Mass deployment of AMI gas modules began in 2009. The conservation benefits estimated by SDG&E represent approximately 1% of core gas throughput.

## II. Residential End-Use Model Data

San Diego Gas & Electric  
2018 California Gas Report  
Figure 1: Number of Efficiency Levels by End Use by Customer Segment

	Space Heating		Water Heating		Cooking		Drying		Pool		Spa		Fireplace		BBQ	
	Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric
Single Family	4	4	4	4	2	2	2	2	1	1	1	1	1	1	1	1
Multi-Family	4	4	4	4	2	2	2	2	0	0	0	0	0	0	1	1
Master Meter	4	4	4	4	2	2	2	2	0	0	0	0	0	0	1	1
Sub-Meter	4	4	4	4	2	2	2	2	0	0	0	0	0	0	1	1

San Diego Gas & Electric  
2018 California Gas Report  
Figure 2: Average Temperature Year Demand Forecast (MDth)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2017	4,373	3,873	3,510	2,879	2,131	1,619	1,536	1,528	1,490	1,793	2,834	4,488	32,052
2018	4,390	3,888	3,523	2,889	2,139	1,625	1,541	1,533	1,496	1,800	2,844	4,505	32,173
2019	4,357	3,858	3,496	2,867	2,122	1,612	1,530	1,522	1,484	1,787	2,823	4,470	31,929
2020	4,328	3,833	3,473	2,849	2,109	1,602	1,520	1,512	1,475	1,775	2,804	4,441	31,721
2021	4,284	3,794	3,438	2,819	2,087	1,585	1,504	1,496	1,460	1,757	2,775	4,396	31,394
2022	4,210	3,728	3,379	2,771	2,051	1,558	1,478	1,471	1,435	1,727	2,728	4,320	30,856
2023	4,178	3,700	3,353	2,750	2,036	1,546	1,467	1,459	1,424	1,713	2,707	4,287	30,622
2024	4,156	3,680	3,335	2,735	2,025	1,538	1,459	1,452	1,416	1,704	2,693	4,264	30,457
2025	4,126	3,654	3,312	2,716	2,010	1,527	1,449	1,441	1,406	1,692	2,674	4,234	30,242
2026	4,105	3,636	3,295	2,702	2,000	1,519	1,441	1,434	1,399	1,684	2,660	4,213	30,087
2027	4,084	3,617	3,278	2,688	1,990	1,512	1,434	1,427	1,392	1,675	2,646	4,191	29,933
2028	4,061	3,597	3,259	2,673	1,978	1,503	1,426	1,419	1,384	1,665	2,631	4,167	29,764
2029	4,042	3,580	3,244	2,661	1,969	1,496	1,419	1,412	1,377	1,658	2,619	4,148	29,625
2030	4,027	3,566	3,232	2,651	1,962	1,490	1,414	1,407	1,372	1,651	2,609	4,132	29,514
2031	4,020	3,560	3,226	2,646	1,958	1,488	1,411	1,404	1,370	1,648	2,605	4,125	29,460
2032	4,018	3,558	3,224	2,645	1,957	1,487	1,411	1,403	1,369	1,648	2,603	4,123	29,447
2033	4,017	3,557	3,223	2,644	1,957	1,487	1,410	1,403	1,369	1,647	2,603	4,122	29,438
2034	4,011	3,552	3,219	2,640	1,954	1,485	1,408	1,401	1,367	1,645	2,599	4,116	29,398
2035	4,015	3,556	3,222	2,643	1,956	1,486	1,410	1,403	1,368	1,647	2,602	4,120	29,429

San Diego Gas & Electric  
2018 California Gas Report  
Figure 3: Cold Temperature Year Demand Forecast (MDth)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2017	4,989	4,401	3,938	3,181	2,261	1,649	1,538	1,528	1,493	1,851	3,127	5,128	35,085
2018	5,009	4,420	3,955	3,195	2,271	1,656	1,544	1,534	1,499	1,859	3,140	5,149	35,230
2019	4,973	4,387	3,926	3,171	2,254	1,644	1,533	1,523	1,488	1,845	3,117	5,111	34,973
2020	4,942	4,361	3,902	3,152	2,240	1,634	1,523	1,514	1,479	1,834	3,098	5,080	34,759
2021	4,894	4,318	3,863	3,121	2,218	1,618	1,508	1,499	1,465	1,816	3,067	5,030	34,418
2022	4,812	4,246	3,799	3,069	2,181	1,591	1,483	1,474	1,440	1,786	3,016	4,946	33,845
2023	4,779	4,216	3,772	3,047	2,166	1,580	1,473	1,464	1,430	1,773	2,995	4,912	33,607
2024	4,755	4,196	3,754	3,033	2,156	1,572	1,466	1,457	1,423	1,765	2,981	4,888	33,444
2025	4,724	4,168	3,730	3,013	2,142	1,562	1,456	1,447	1,414	1,753	2,961	4,856	33,227
2026	4,703	4,149	3,713	2,999	2,132	1,555	1,450	1,440	1,408	1,745	2,948	4,834	33,075
2027	4,680	4,129	3,695	2,985	2,121	1,547	1,442	1,433	1,401	1,737	2,933	4,810	32,914
2028	4,654	4,107	3,675	2,968	2,110	1,539	1,435	1,426	1,393	1,727	2,917	4,784	32,735
2029	4,634	4,088	3,658	2,955	2,100	1,532	1,428	1,419	1,387	1,720	2,904	4,763	32,589
2030	4,617	4,074	3,645	2,944	2,093	1,526	1,423	1,414	1,382	1,713	2,894	4,746	32,471
2031	4,609	4,066	3,638	2,939	2,089	1,524	1,421	1,412	1,379	1,710	2,889	4,737	32,413
2032	4,607	4,065	3,637	2,938	2,088	1,523	1,420	1,411	1,379	1,710	2,888	4,735	32,400
2033	4,605	4,063	3,636	2,937	2,087	1,523	1,419	1,411	1,378	1,709	2,887	4,733	32,388
2034	4,599	4,057	3,630	2,933	2,085	1,520	1,417	1,409	1,376	1,707	2,882	4,727	32,343
2035	4,603	4,062	3,634	2,936	2,087	1,522	1,419	1,410	1,378	1,708	2,885	4,732	32,375

San Diego Gas & Electric  
2018 California Gas Report  
Figure 4: Hot Temperature Year Demand Forecast (MDth)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2017	3,758	3,345	3,081	2,576	2,000	1,588	1,533	1,527	1,487	1,736	2,541	3,848	29,019
2018	3,771	3,356	3,091	2,584	2,007	1,593	1,539	1,532	1,492	1,741	2,549	3,861	29,116
2019	3,741	3,329	3,067	2,564	1,991	1,581	1,526	1,520	1,480	1,728	2,529	3,830	28,884
2020	3,714	3,306	3,045	2,546	1,977	1,569	1,516	1,509	1,470	1,715	2,511	3,803	28,682
2021	3,674	3,270	3,012	2,518	1,955	1,552	1,499	1,493	1,454	1,697	2,484	3,762	28,370
2022	3,609	3,212	2,959	2,473	1,920	1,525	1,473	1,467	1,428	1,667	2,440	3,695	27,867
2023	3,579	3,185	2,934	2,453	1,905	1,512	1,460	1,454	1,416	1,653	2,419	3,665	27,637
2024	3,558	3,166	2,917	2,438	1,893	1,503	1,452	1,446	1,408	1,643	2,405	3,642	27,470
2025	3,530	3,142	2,894	2,419	1,879	1,492	1,440	1,434	1,397	1,630	2,386	3,614	27,258
2026	3,510	3,123	2,877	2,405	1,868	1,483	1,432	1,426	1,389	1,621	2,372	3,593	27,100
2027	3,491	3,107	2,862	2,392	1,858	1,475	1,424	1,418	1,381	1,612	2,360	3,574	26,953
2028	3,470	3,088	2,845	2,378	1,846	1,466	1,416	1,410	1,373	1,602	2,346	3,553	26,793
2029	3,453	3,073	2,831	2,366	1,837	1,459	1,409	1,403	1,366	1,595	2,334	3,535	26,660
2030	3,439	3,061	2,820	2,357	1,830	1,453	1,403	1,398	1,361	1,588	2,325	3,521	26,557
2031	3,433	3,055	2,814	2,353	1,827	1,450	1,401	1,395	1,359	1,585	2,321	3,515	26,507
2032	3,431	3,054	2,813	2,352	1,826	1,450	1,400	1,394	1,358	1,585	2,320	3,513	26,495
2033	3,430	3,053	2,812	2,351	1,825	1,449	1,400	1,394	1,358	1,584	2,319	3,512	26,488
2034	3,426	3,049	2,809	2,348	1,823	1,447	1,398	1,392	1,356	1,582	2,316	3,507	26,453
2035	3,430	3,052	2,812	2,350	1,825	1,449	1,399	1,394	1,357	1,584	2,318	3,511	26,482

San Diego Gas & Electric  
2018 California Gas Report  
Figure 5: Base Temperature Year Demand Forecast (MDth)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
2017	1,525	1,427	1,525	1,476	1,525	1,476	1,525	1,525	1,476	1,525	1,476	1,525	18,005
2018	1,526	1,427	1,526	1,476	1,526	1,476	1,526	1,526	1,476	1,526	1,476	1,526	18,013
2019	1,510	1,412	1,510	1,461	1,510	1,461	1,510	1,510	1,461	1,510	1,461	1,510	17,826
2020	1,494	1,398	1,494	1,446	1,494	1,446	1,494	1,494	1,446	1,494	1,446	1,494	17,645
2021	1,473	1,378	1,473	1,425	1,473	1,425	1,473	1,473	1,425	1,473	1,425	1,473	17,386
2022	1,441	1,348	1,441	1,394	1,441	1,394	1,441	1,441	1,394	1,441	1,394	1,441	17,011
2023	1,423	1,331	1,423	1,377	1,423	1,377	1,423	1,423	1,377	1,423	1,377	1,423	16,795
2024	1,408	1,317	1,408	1,362	1,408	1,362	1,408	1,408	1,362	1,408	1,362	1,408	16,620
2025	1,390	1,301	1,390	1,346	1,390	1,346	1,390	1,390	1,346	1,390	1,346	1,390	16,417
2026	1,376	1,288	1,376	1,332	1,376	1,332	1,376	1,376	1,332	1,376	1,332	1,376	16,249
2027	1,366	1,278	1,366	1,322	1,366	1,322	1,366	1,366	1,322	1,366	1,322	1,366	16,128
2028	1,355	1,268	1,355	1,312	1,355	1,312	1,355	1,355	1,312	1,355	1,312	1,355	16,002
2029	1,346	1,259	1,346	1,303	1,346	1,303	1,346	1,346	1,303	1,346	1,303	1,346	15,894
2030	1,340	1,253	1,340	1,296	1,340	1,296	1,340	1,340	1,296	1,340	1,296	1,340	15,816
2031	1,337	1,251	1,337	1,294	1,337	1,294	1,337	1,337	1,294	1,337	1,294	1,337	15,783
2032	1,336	1,250	1,336	1,293	1,336	1,293	1,336	1,336	1,293	1,336	1,293	1,336	15,773
2033	1,336	1,250	1,336	1,293	1,336	1,293	1,336	1,336	1,293	1,336	1,293	1,336	15,774
2034	1,335	1,248	1,335	1,292	1,335	1,292	1,335	1,335	1,292	1,335	1,292	1,335	15,757
2035	1,337	1,250	1,337	1,293	1,337	1,293	1,337	1,337	1,293	1,337	1,293	1,337	15,780

San Diego Gas & Electric  
2018 California Gas Report  
Figure 6: 2017 Historical Data

Segment	2017 Therm Sales	2017 Meter Count	2017 Meter Count: Pre-1979 Customers	2017 Meter Count: 1979-2016 Customers	2017 Meter Count: 2017 "New" Customers	Avg Annual Consumption: Pre-1979 Customers	Avg Annual Consumption: 1979-2016 Customers	Avg Annual Consumption: 2017 "New" Customers	Price Elasticity
Single Family	228,117,239	652,014	550,259	98,853	2,902	338	417	362	-0.1053
Multi-Family	51,152,270	186,136	139,980	43,129	3,027	262	318	267	-0.07145
Master Meter	32,019,986	11,521	11,121	392	8	2,634	6,820	7,004	-0.0688
Sub-Meter	9,231,502	464	459	5	0	19,975	12,679	0	-0.1053

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 7: Meter Count Forecast**

<b>Year</b>	<b>Single Family</b>	<b>Multi-Family</b>	<b>Master Meter</b>	<b>Sub-Meter</b>
<b>2017</b>	652,014	186,136	11,521	464
<b>2018</b>	656,655	187,461	11,521	464
<b>2019</b>	661,104	188,731	11,521	464
<b>2020</b>	665,746	190,056	11,521	464
<b>2021</b>	670,798	191,499	11,521	464
<b>2022</b>	676,004	192,985	11,521	464
<b>2023</b>	681,208	194,471	11,521	464
<b>2024</b>	686,413	195,956	11,521	464
<b>2025</b>	691,634	197,447	11,521	464
<b>2026</b>	696,890	198,947	11,521	464
<b>2027</b>	702,163	200,452	11,521	464
<b>2028</b>	707,362	201,937	11,521	464
<b>2029</b>	712,508	203,406	11,521	464
<b>2030</b>	717,744	204,901	11,521	464
<b>2031</b>	723,116	206,434	11,521	464
<b>2032</b>	728,565	207,990	11,521	464
<b>2033</b>	734,137	209,581	11,521	464
<b>2034</b>	739,936	211,236	11,521	464
<b>2035</b>	745,977	212,961	11,521	464

**San Diego Gas & Electric  
2018 California Gas Report**

**Figure 8: Appliance Unit Energy Consumption (Gas in Therms, Electric in Kwh)**

<b>End-Use</b>	<b>Vintage</b>	<b>Single Family</b>		<b>Multi-Family</b>		<b>Master Meter</b>		<b>Sub-Meter</b>	
		<b>Gas</b>	<b>Electric</b>	<b>Gas</b>	<b>Electric</b>	<b>Gas</b>	<b>Electric</b>	<b>Gas</b>	<b>Electric</b>
Space Heating	Stock	250	4,110	140	730	110	730	230	1,340
	Standard	230	3,730	130	670	100	670	210	1,210
	High	220	3,450	120	620	100	620	200	1,120
Water Heating	Premium	200	3,170	110	570	90	570	180	1,030
	Stock	150	2,440	150	2,440	120	2,440	150	2,010
	Standard	140	2,220	140	2,220	110	2,220	140	1,830
Cooking	High	130	2,110	130	2,110	100	2,110	130	1,740
	Premium	130	2,050	130	2,050	100	2,050	130	1,690
	Stock	28	574	26	465	26	465	27	514
Drying	Standard	24	488	22	395	22	395	23	437
	Stock	39	1,442	33	1,442	33	1,442	35	873
Pool	Standard	37	1,370	31	1,370	31	1,370	33	830
	Stock	110	3,431	-	-	-	-	-	-
Spa	Stock	100	290	-	-	-	-	-	-
	Stock	17	0	-	-	-	-	-	-
Fireplace	Stock	17	0	-	-	-	-	-	-
	Stock	16	0	13	0	14	0	16	0
BBQ	Stock	16	0	13	0	14	0	16	0

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 9: Average and Marginal Gas Prices (\$/therm)**

Year	Res Price Deflator	R SF Average Price	R SF Marginal Price	R MF Average Price	R MF Marginal Price	R MM Average Price	R MM Marginal Price	R SM Average Price	R SM Marginal Price
2017	97.7	1.3956	1.4185	1.3739	1.4185	1.3758	1.4185	1.3960	1.4185
2018	100.0	1.2994	1.3209	1.2789	1.3209	1.2807	1.3209	1.2997	1.3209
2019	102.4	1.3755	1.3973	1.3547	1.3973	1.3565	1.3973	1.3758	1.3973
2020	105.1	1.4267	1.4494	1.4052	1.4494	1.4071	1.4494	1.4271	1.4494
2021	107.8	1.5321	1.5564	1.5090	1.5564	1.5110	1.5564	1.5325	1.5564
2022	110.5	1.7497	1.7774	1.7234	1.7774	1.7256	1.7774	1.7502	1.7774
2023	113.2	1.8138	1.8426	1.7864	1.8426	1.7888	1.8426	1.8143	1.8426
2024	116.0	1.8477	1.8771	1.8198	1.8771	1.8222	1.8771	1.8482	1.8771
2025	118.8	1.9087	1.9392	1.8798	1.9392	1.8823	1.9392	1.9092	1.9392
2026	121.6	1.9434	1.9745	1.9139	1.9745	1.9165	1.9745	1.9439	1.9745
2027	124.3	2.0348	2.0673	2.0039	2.0673	2.0065	2.0673	2.0353	2.0673
2028	127.1	2.1417	2.1760	2.1091	2.1760	2.1119	2.1760	2.1422	2.1760
2029	129.9	2.2347	2.2705	2.2006	2.2705	2.2035	2.2705	2.2353	2.2705
2030	132.7	2.3358	2.3733	2.3001	2.3733	2.3032	2.3733	2.3364	2.3733
2031	135.5	2.4263	2.4653	2.3892	2.4653	2.3924	2.4653	2.4270	2.4653
2032	138.4	2.4976	2.5378	2.4594	2.5378	2.4627	2.5378	2.4983	2.5378
2033	141.2	2.5845	2.6261	2.5449	2.6261	2.5483	2.6261	2.5852	2.6261
2034	144.1	2.6968	2.7402	2.6554	2.7402	2.6590	2.7402	2.6975	2.7402
2035	147.1	2.7736	2.8184	2.7311	2.8184	2.7347	2.8184	2.7744	2.8184

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 10: Average and Marginal Electricity Prices (Cents/KWh)**

Year	R SF Average Price	R SF Marginal Price	R MF Average Price	R MF Marginal Price	R MM Average Price	R MM Marginal Price	R SM Average Price	R SM Marginal Price
2017	25.13	38.02	24.74	37.43	24.77	25.61	25.14	28.29
2018	25.75	38.97	25.35	38.36	25.38	26.25	25.76	28.99
2019	26.71	40.42	26.31	39.81	26.34	27.24	26.72	30.07
2020	27.67	41.87	27.25	41.24	27.29	28.22	27.68	31.15
2021	29.11	44.05	28.67	43.39	28.71	29.69	29.12	32.77
2022	29.20	44.19	28.76	43.53	28.80	29.78	29.21	32.87
2023	30.04	45.45	29.58	44.77	29.62	30.63	30.04	33.81
2024	30.75	46.53	30.28	45.82	30.32	31.35	30.75	34.61
2025	31.75	48.05	31.27	47.32	31.31	32.38	31.76	35.74
2026	32.67	49.43	32.17	48.68	32.21	33.31	32.68	36.77
2027	33.66	50.93	33.14	50.15	33.19	34.32	33.67	37.88
2028	34.64	52.41	34.11	51.61	34.15	35.32	34.65	38.99
2029	35.10	53.11	34.57	52.30	34.61	35.79	35.11	39.51
2030	35.50	53.71	34.95	52.89	35.00	36.19	35.51	39.96
2031	36.63	55.42	36.07	54.58	36.12	37.34	36.64	41.23
2032	37.78	57.17	37.20	56.29	37.25	38.52	37.79	42.53
2033	38.96	58.96	38.37	58.06	38.42	39.73	38.98	43.86
2034	40.18	60.80	39.57	59.87	39.62	40.97	40.19	45.23
2035	41.43	62.69	40.80	61.73	40.85	42.24	41.44	46.64

**San Diego Gas & Electric  
 2018 California Gas Report  
 Figure 11: Gas Appliance Equipment Cost (Nominal \$)**

<b>End-Use</b>	<b>Customer Class</b>	<b>Stock Efficiency</b>	<b>Standard Efficiency</b>	<b>High Efficiency</b>	<b>Premium Efficiency</b>
Space Heating	Single Family	4,000	4,600	4,800	5,000
	Multi-Family	1,600	1,840	1,920	1,980
	Master Meter	1,000	1,150	1,200	1,250
	Sub-metered	1,600	1,840	1,920	1,980
Water Heating	Single Family	550	650	700	750
	Multi-Family	330	390	420	450
	Master Meter	330	390	420	450
	Sub-metered	330	390	420	450
Cooking	Single Family	500	1,400	-	-
	Multi-Family	250	1,400	-	-
	Master Meter	250	1,400	-	-
	Sub-metered	250	1,400	-	-
Drying	Single Family	328	482	-	-
	Multi-Family	328	482	-	-
	Master Meter	328	482	-	-
	Sub-metered	328	482	-	-
Pool	Single Family	1,200	-	-	-
Spa	Single Family	2,000	-	-	-
Fireplace	Single Family	150	-	-	-
Barbecue	Single Family	1,000	-	-	-
	Multi-Family	600	-	-	-
	Master Meter	600	-	-	-
	Sub-metered	600	-	-	-

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 12: Electric Appliance Equipment Cost (Nominal \$)**

<b>End-Use</b>	<b>Customer Class</b>	<b>Stock Efficiency</b>	<b>Standard Efficiency</b>	<b>High Efficiency</b>	<b>Premium Efficiency</b>
Space Heating	Single Family	4,100	-	-	-
	Multi-Family	1,640	-	-	-
	Master Meter	1,025	-	-	-
	Sub-metered	1,640	-	-	-
Water Heating	Single Family	550	650	700	750
	Multi-Family	330	390	420	450
	Master Meter	330	390	420	450
	Sub-metered	330	390	420	450
Cooking	Single Family	500	1,400	-	-
	Multi-Family	250	1,400	-	-
	Master Meter	250	1,400	-	-
	Sub-metered	250	1,400	-	-
Drying	Single Family	328	482	-	-
	Multi-Family	328	482	-	-
	Master Meter	328	482	-	-
	Sub-metered	328	482	-	-
Pool	Single Family	1,200	-	-	-
Spa	Single Family	2,000	-	-	-
Fireplace	Single Family	150	-	-	-
Barbecue	Single Family	1,000	-	-	-
	Multi-Family	600	-	-	-
	Master Meter	600	-	-	-
	Sub-metered	600	-	-	-

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 13: Building Lives and Decay Rate**

<b>Building Type</b>	<b>Building Decay Rate</b>
Single Family	0.003
Multi-Family	0.006
Master Meter	0.008
Sub-metered	0.008



San Diego Gas & Electric  
2018 California Gas Report  
Figure 14: Gas Appliance Age (Years)

End-Use	Vintage	Single Family		Multi-Family		Master Meter		Sub-metered	
		Average	Max	Average	Max	Average	Max	Average	Max
Space Heating	Pre-1979	16	16	23	23	20	20	16	16
	1979-2004	15	16	16	23	15	20	15	16
	2005-Current	5	16	4	23	4	20	5	16
Water Heating	Pre-1979	9	9	12	12	10	10	9	9
	1979-2004	9	9	10	12	10	10	9	9
	2005-Current	5	9	4	12	4	10	5	9
Cooking	Pre-1979	9	9	9	9	9	9	9	9
	1979-2004	9	9	9	9	8	9	9	9
	2005-Current	4	9	4	9	4	9	4	9
Drying	Pre-1979	7	7	6	7	7	7	7	7
	1979-2004	6	7	7	7	7	7	6	7
	2005-Current	4	7	3	7	3	7	4	7
Pool	Pre-1979	13	13	-	-	-	-	-	-
	1979-2004	9	13	-	-	-	-	-	-
	2005-Current	3	13	-	-	-	-	-	-
Spa	Pre-1979	11	11	-	-	-	-	-	-
	1979-2004	8	11	-	-	-	-	-	-
	2005-Current	3	11	-	-	-	-	-	-
Fireplace	Pre-1979	15	15	-	-	-	-	-	-
	1979-2004	15	15	-	-	-	-	-	-
	2005-Current	15	15	-	-	-	-	-	-
Barbecue	Pre-1979	7	7	5	7	5	6	7	7
	1979-2004	6	7	7	7	6	6	6	7
	2005-Current	4	7	3	7	4	6	4	7
Other	Pre-1979	15	15	15	15	15	15	15	15
	1979-2004	15	15	15	15	15	15	15	15
	2005-Current	15	15	15	15	15	15	15	15

**San Diego Gas & Electric  
 2018 California Gas Report  
 Figure 15: End-Use Saturations**

<b>End-Use</b>	<b>Vintage</b>	<b>Single Family</b>	<b>Multi-Family</b>	<b>Master Meter</b>	<b>Sub-metered</b>
Space Heating	Pre-1979	1.00000	1.00000	1.00000	1.00000
	1979-2004	1.00000	1.00000	1.00000	1.00000
	2005-Current	1.00000	1.00000	1.00000	0.00000
Water Heating	Pre-1979	1.00000	1.00000	1.00000	1.00000
	1979-2004	1.00000	1.00000	1.00000	1.00000
	2005-Current	1.00000	1.00000	1.00000	0.00000
Cooking	Pre-1979	1.00000	0.99633	1.00000	1.00000
	1979-2004	1.00000	1.00000	1.00000	1.00000
	2005-Current	1.00000	1.00000	1.00000	0.00000
Drying	Pre-1979	0.85795	0.20040	0.47158	0.47158
	1979-2004	0.89516	0.42764	0.57182	0.57182
	2005-Current	0.92508	0.74161	0.74768	0.00000
Pool	Pre-1979	0.15644	-	-	-
	1979-2004	0.17913	-	-	-
	2005-Current	0.16916	-	-	-
Spa	Pre-1979	0.12651	-	-	-
	1979-2004	0.21695	-	-	-
	2005-Current	0.19134	-	-	-
Fireplace	Pre-1979	0.22973	-	-	-
	1979-2004	0.27252	-	-	-
	2005-Current	0.26269	-	-	-
Barbecue	Pre-1979	0.13716	0.04723	0.07424	0.07424
	1979-2004	0.25180	0.06165	0.10179	0.10179
	2005-Current	0.31442	0.07818	0.16198	0.00000
Other	Pre-1979	1.00000	1.00000	1.00000	1.00000
	1979-2004	1.00000	1.00000	1.00000	1.00000
	2005-Current	1.00000	1.00000	1.00000	NA

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 16: Gas Fuel Shares (average)**

<b>End-Use</b>	<b>Single Family</b>	<b>Multi-Family</b>	<b>Master Meter</b>	<b>Sub-metered</b>
Space Heating	0.98200	0.91179	0.92461	0.92461
Water Heating	0.97630	0.89871	0.92997	0.92997
Cooking	0.83890	0.82622	0.81058	0.81058
Drying	0.80258	0.59654	0.70306	0.70306
Pool	0.49003	-	-	-
Spa	0.60804	-	-	-
Fireplace	0.56361	-	-	-
Barbecue	0.95008	0.85803	0.89234	0.89234
Other	1.00000	1.00000	1.00000	1.00000

**San Diego Gas & Electric  
2018 California Gas Report  
Figure 17: Gas Efficiency Shares**

<b>End-Use</b>	<b>Customer Class</b>	<b>Stock Existing</b>	<b>Stock New</b>	<b>Standard Existing</b>	<b>Standard New</b>	<b>High Existing</b>	<b>High New</b>	<b>Premium Existing</b>	<b>Premium New</b>
Space Heating	Single Family	0.06	0.06	0.78	0.78	0.14	0.14	0.02	0.02
	Multi-Family	0.41	0.41	0.46	0.46	0.01	0.01	0.04	0.04
	Master Meter	0.17	0.17	0.69	0.69	0.11	0.11	0.03	0.03
	Sub-metered	0.06	0.06	0.78	0.78	0.14	0.14	0.02	0.02
Water Heating	Single Family	0.00	0.00	0.64	0.64	0.34	0.34	0.02	0.02
	Multi-Family	0.00	0.00	0.61	0.61	0.37	0.37	0.02	0.02
	Master Meter	0.00	0.00	0.59	0.59	0.39	0.39	0.02	0.02
	Sub-metered	0.00	0.00	0.64	0.64	0.34	0.34	0.02	0.02
Cooking	Single Family	0.17	0.17	0.83	0.83	-	-	-	-
	Multi-Family	0.18	0.18	0.82	0.82	-	-	-	-
	Master Meter	0.17	0.17	0.83	0.83	-	-	-	-
	Sub-metered	0.17	0.17	0.83	0.83	-	-	-	-
Drying	Single Family	0.07	0.07	0.93	0.93	-	-	-	-
	Multi-Family	0.06	0.06	0.94	0.94	-	-	-	-
	Master Meter	0.06	0.06	0.94	0.94	-	-	-	-
	Sub-metered	0.07	0.07	0.93	0.93	-	-	-	-
Pool	Single Family	1.00	1.00	-	-	-	-	-	-
Spa	Single Family	1.00	1.00	-	-	-	-	-	-
Fireplace	Single Family	1.00	1.00	-	-	-	-	-	-
Barbecue	Single Family	1.00	1.00	-	-	-	-	-	-
	Multi-Family	1.00	1.00	-	-	-	-	-	-
	Master Meter	1.00	1.00	-	-	-	-	-	-
	Sub-metered	1.00	1.00	-	-	-	-	-	-
Other	Single Family	1.00	1.00	-	-	-	-	-	-
	Multi-Family	1.00	1.00	-	-	-	-	-	-
	Master Meter	1.00	1.00	-	-	-	-	-	-
	Sub-metered	1.00	1.00	-	-	-	-	-	-

San Diego Gas & Electric  
 2018 California Gas Report  
 Figure 18: Electric Efficiency Shares

End-Use	Customer Class	Stock Existing	Stock New	Standard Existing	Standard New	High Existing	High New	Premium Existing	Premium New
Space Heating	Single Family	1.00	1.00	-	-	-	-	-	-
	Multi-Family	1.00	1.00	-	-	-	-	-	-
	Master Meter	1.00	1.00	-	-	-	-	-	-
	Sub-metered	1.00	1.00	-	-	-	-	-	-
Water Heating	Single Family	0.10	0.10	0.68	0.68	0.21	0.21	0.01	0.01
	Multi-Family	0.13	0.13	0.76	0.76	0.10	0.10	0.01	0.01
	Master Meter	0.13	0.13	0.76	0.76	0.10	0.10	0.01	0.01
	Sub-metered	0.10	0.10	0.68	0.68	0.21	0.21	0.01	0.01
Cooking	Single Family	0.90	0.90	0.10	0.10	-	-	-	-
	Multi-Family	0.95	0.95	0.05	0.05	-	-	-	-
	Master Meter	0.95	0.95	0.05	0.05	-	-	-	-
	Sub-metered	0.95	0.95	0.05	0.05	-	-	-	-
Drying	Single Family	0.75	0.75	0.25	0.25	-	-	-	-
	Multi-Family	0.75	0.75	0.25	0.25	-	-	-	-
	Master Meter	0.75	0.75	0.25	0.25	-	-	-	-
	Sub-metered	0.75	0.75	0.25	0.25	-	-	-	-
Pool	Single Family	1.00	1.00	-	-	-	-	-	-
Spa	Single Family	1.00	1.00	-	-	-	-	-	-
Fireplace	Single Family	1.00	1.00	-	-	-	-	-	-
Barbecue	Single Family	1.00	1.00	-	-	-	-	-	-
	Multi-Family	1.00	1.00	-	-	-	-	-	-
	Master Meter	1.00	1.00	-	-	-	-	-	-
	Sub-metered	1.00	1.00	-	-	-	-	-	-

# 2018 CALIFORNIA GAS REPORT

---

CORE COMMERCIAL AND INDUSTRIAL DEMAND FORECAST  
JULY 2018

---





The level of employment in each business type is used as a measure of economic activity in the core commercial and industrial GN-3 demand forecast models. The employment data series matches the NAICS categories used to develop the historical consumption data. The employment data was compiled and totaled for the SDG&E service territory. The forecast data comes from Global Insight.

### Building and Equipment Decay Rates

Building decay rates are based on the building lifetimes, where the lifetime is defined as the length of time it takes for either a demolition or a major renovation where major systems are replaced. For existing core buildings and facilities, an exponential rate of decay of 11% per year was assumed, consistent with an average remaining life for existing buildings of 100 years. A building decay rate concept is not relevant to large gas transport (noncore) customers. In both the commercial and industrial noncore models, the existing building decay rate was set to zero.

Similarly, all new construction decay rates were assumed to be zero over the forecast horizon. The assumption was required because the growth of new buildings and facilities was tied directly to the econometric models.

End use lifetimes were derived from a variety of sources

Commercial:

Space Heat- 25 Years

Water Heat- 15 Years

AC/Compressor- 20 Years

All other commercial end uses- 15 Years

Industrial:

Fire-tube boiler – 25 years  
Water-tube boiler – 25 years  
Engine (motors) – 25 years  
All other industrial end-uses – 20 years

F. Equipment Saturations, Fuel Shares, and Efficiency Shares:

EUForecaster defines saturation as the percentage of customers in any segment that has a particular end use, independent of fuel shares. The commercial models developed saturation and fuel share estimates from our others end-use models. EUForecaster adjusted core commercial fuel shares according to a set of fuel-choice equations over the forecast horizon.

End-use saturations in the industrial model were initially set equal to 100%. Industrial end-use gas fuel shares were initially approximated. We then used an iterative procedure to further adjust industrial saturation and fuel shares such that the EUForecaster sales totals matched SDG&E industrial sales figures, and our estimates of electric usage by SDG&E customers. Finally, all commercial and industrial fuel shares were held constant over the forecast horizon.

Energy efficiency varied within the major gas end-uses/processes, including all boilers, space heat, and water heat. Four levels of efficiency were assigned to gas equipment: low, medium (standard) high, and premium for core commercial and three levels of efficiency were assigned to gas equipment: low, medium (standard), and high for core industrial market. California and federal standards have effectively eliminated the lowest efficiency alternatives for several gas end-uses from being purchased as new or replacement equipment. The lowest efficiency alternative for these end uses is, therefore, allowed to exist in the base year stock, but the customer must then purchase either medium (e.g., equipment that just meets Government standards), high or premium efficiency equipment as these units decay. The low efficiency share in the existing equipment stock was set equal to 50%. Medium ranged from 40% to 45%, and high from 5% to 10%.

EUForecaster's choice module prorates the low share proportionately to the medium, high and premium alternatives proportionate to their shares noted above. Therefore, replacement and new construction efficiency shares for medium range from 80% to 90%, and high ranges from 10% to 20%.



### Gas Price Data:

Average and marginal gas prices (\$/therm) were calculated from forecasts of the GN-3 rate components. We used detailed consumption data on our GN-3 C&I, customers, to separate monthly consumption for customers by each respective C&I business type into the respective GN-3 consumption tiers. (The most recent 12-month calendar period, January 2017 through December 2017, was used.)

For a given business type, the average gas commodity rate for the 12-month period was calculated for each year. The average commodity rate in each forecast year was developed using the same monthly consumption pattern, but with the forecasts of rates for each GN-3 rate tier. The average gas price each year was then calculated by including the non-volumetric customer charges with the year's average gas commodity rate.

Each respective business type's marginal gas commodity rate (for each month) was calculated by "pricing" the entire month's consumption at the GN-3 rate's tier that was the last tier with non-zero consumption, the marginal consumption tier, for the customers of the given business type. The marginal gas price was then calculated as the simple average of the 12 monthly marginal commodity rates. The forecasts for each year used the same monthly consumption pattern, but used the projected GN-3 price of the marginal consumption tier.

### Electric Price Data:

Both average prices (cents/kWh) and marginal prices (cents/kWh) were developed as electricity price inputs. Forecasts for the SDG&E commercial and industrial customer classes were developed based on the California Energy Commission's December 2017 updated forecast rates for California energy demand (forecast for the SDG&E planning area, under "Mid-Case" demand for electricity) for the SDG&E service area through our forecast time horizon.

The electricity prices for SDG&E's GN-3 commercial customers were estimated at 112% of the CEC's projected commercial electricity prices for SDG&E. The marginal prices were calculated by multiplying each year's respective average price by a ratio. This ratio, 1.000, was used and is the same as the ratio used for the SoCalGas core commercial G-10 end-use model.

The electricity prices for SDG&E's GN-3 industrial customers were estimated at 88% of the CEC's projected commercial electricity prices for SDG&E. The marginal prices were calculated by multiplying each year's respective average price by a ratio. This ratio, 0.789, was used and is the same as the ratio used for the SoCalGas core industrial G-10 end-use model.

To impute, in each year, average and marginal electricity prices to each core commercial (industrial) business type, we simply calculated the ratio of the average (or marginal) gas price to the overall core commercial (industrial) gas price for each business type, then multiplied by the overall average (or marginal) electricity price.

G. DSM Forecast:

The end-use gas demand forecast developed with EUForecaster does not capture the effects of SDG&E's EE/DSM programs. Energy savings goals from the CPUC's mandated energy efficiency/energy conservation programs for the core commercial and industrial were provided by SDG&E's DSM department. These savings are subtracted from the forecast generated by the core commercial and industrial forecasts generated by EUForecaster.

## **GN3 COMMERCIAL DATA TABLES**

San Diego Gas and Electric  
2017 Historical Data Core Commercial Market

Segment	2017 Therm Sales	2017 Meter Count,		2017 Meter Count New Customers	Avg Use Per Meter		Price Elasticity
		2017 Meter Count	Existing/Old customers		Existing Customers	Avg Use Per Meter New Customers	
Office	36,193,215	6,228	6,112	116	5,783	7,321	-0.135376
Restaurant	38,935,662	5,381	5,309	72	7,206	9,431	-0.091877
Retail	12,343,322	2,740	2,713	27	4,495	5,570	-0.265060
Laundry	6,934,973	388	386	2	17,942	4,618	-0.122795
Warehouse	3,689,982	539	536	3	6,669	38,543	-0.043035
School	2,782,440	828	823	5	3,369	2,035	-0.000001
College	5,808,535	350	348	2	16,645	8,116	-0.037179
Health	13,588,400	727	721	6	18,461	46,344	-0.096826
Lodging	18,332,246	804	798	6	22,685	38,311	-0.105697
Misc	15,309,920	5,771	5,641	130	2,656	2,516	-0.000001
Government	12,734,490	722	716	6	17,612	20,733	-0.095709
TCU	5,604,441	1,413	1,410	3	3,932	19,896	-0.129301
Construction	1,350,067	620	593	27	2,174	2,247	-0.161076
Agriculture	2,135,438	96	96	-	22,244	-	-0.315282

San Diego Gas & Electric  
 Core Commercial Market: Employment Forecast

YEAR	Office	Restaurant	Retail	Laundry	Warehouse	School	College	Health	Lodging	Misc	Government	TCU	Constructor	Agriculture
2017	0.305059	0.131514	0.147356	0.020203	0.046195	0.100633	0.04742	0.170932	0.031774	0.0682975	0.1347379	0.050829	0.0797851	0.009525
2018	0.30904	0.135668	0.147334	0.02063	0.047084	0.103298	0.04868	0.175454	0.03278	0.0697438	0.1359672	0.051391	0.0822439	0.009572
2019	0.321297	0.137262	0.147897	0.020531	0.047973	0.105173	0.04956	0.178634	0.033166	0.069409	0.137083	0.05217	0.0856826	0.00962
2020	0.330347	0.138306	0.148401	0.02043	0.048468	0.106394	0.05014	0.180701	0.033418	0.0690668	0.1394627	0.052525	0.0914391	0.009668
2021	0.334929	0.139067	0.147988	0.020353	0.048669	0.107402	0.05061	0.182413	0.033602	0.0688081	0.1397543	0.052819	0.0963918	0.009717
2022	0.340178	0.139728	0.146719	0.020275	0.048854	0.10832	0.05105	0.183972	0.033762	0.0685441	0.1409094	0.0528	0.0996561	0.009765
2023	0.345757	0.140353	0.145445	0.020221	0.049059	0.109182	0.05145	0.185436	0.033913	0.0683619	0.1419763	0.052576	0.1014813	0.009814
2024	0.350748	0.140847	0.144247	0.020148	0.049266	0.109788	0.05174	0.186461	0.034032	0.0681158	0.1431088	0.052273	0.102735	0.009863
2025	0.354404	0.140749	0.143209	0.020074	0.049412	0.110441	0.05205	0.187572	0.034009	0.0678655	0.1442238	0.052092	0.1041103	0.009913
2026	0.357203	0.140499	0.142634	0.020024	0.049436	0.11125	0.05243	0.188946	0.033948	0.0676967	0.1453139	0.051846	0.1051455	0.009962
2027	0.360651	0.140846	0.142712	0.02000	0.049447	0.112202	0.05288	0.190566	0.034032	0.0676161	0.1463557	0.05138	0.1063006	0.010012
2028	0.363508	0.141436	0.143203	0.020032	0.049141	0.113353	0.05342	0.192522	0.034174	0.0677225	0.1472696	0.050863	0.107412	0.010062
2029	0.366047	0.142189	0.14395	0.02009	0.048976	0.114652	0.05403	0.194729	0.034356	0.0679179	0.1478834	0.050631	0.1086112	0.010112
2030	0.369921	0.142851	0.144556	0.020187	0.048809	0.115999	0.05467	0.197016	0.034516	0.0682455	0.1498627	0.050623	0.1100662	0.010163
2031	0.374325	0.144018	0.145706	0.020233	0.048689	0.117168	0.05522	0.198999	0.034798	0.0684012	0.1490542	0.050678	0.1121348	0.010214
2032	0.378784	0.145055	0.146741	0.020278	0.048466	0.118496	0.05584	0.201257	0.035049	0.0685518	0.1497229	0.050821	0.1139931	0.010265
2033	0.383247	0.14632	0.148012	0.020345	0.048259	0.119888	0.0565	0.203621	0.035354	0.0687797	0.1504761	0.050911	0.1158439	0.010316
2034	0.387834	0.147298	0.149117	0.020402	0.047956	0.121168	0.0571	0.205795	0.035591	0.068972	0.1513667	0.050976	0.1183772	0.010368
2035	0.391553	0.148594	0.150366	0.020455	0.047741	0.122174	0.05758	0.2075	0.035904	0.0691515	0.1521709	0.05105	0.1213826	0.010419

San Diego Gas and Electric  
 Core Commercial Market  
 Saturations by Business Type and End Use

zname	bname	nname	SAT	SOURCE
Commercial	Agriculture	Drying	1.0000	Assumed
Commercial	Agriculture	Engine	0.5000	Assumed
Commercial	Agriculture	Other	1.0000	DEFAULT
Commercial	Agriculture	Space_Heat	0.7200	CI_1996_STUDY
Commercial	Agriculture	Water_Heat	0.6900	CI_1996_STUDY
Commercial	College	AC_Compressor	0.8850	CBECS
Commercial	College	Cook_top	0.1470	CBECS
Commercial	College	Fryer	0.1470	CBECS
Commercial	College	Griddle	0.1470	CBECS
Commercial	College	Other	1.0000	DEFAULT
Commercial	College	Other_Cooking	0.1470	CBECS
Commercial	College	Space_Heat	0.7630	SDGE_EUI_STUDY
Commercial	College	Water_Heat	0.9550	SDGE_EUI_STUDY
Commercial	Construction	Other	1.0000	DEFAULT
Commercial	Construction	Space_Heat	0.7200	CI_1996_STUDY
Commercial	Construction	Water_Heat	0.6900	CI_1996_STUDY
Commercial	Government	AC_Compressor	0.8880	CBECS
Commercial	Government	Cook_top	0.1960	CBECS
Commercial	Government	Fryer	0.1960	CBECS
Commercial	Government	Griddle	0.1960	CBECS
Commercial	Government	Other	1.0000	DEFAULT
Commercial	Government	Other_Cooking	0.1960	CBECS
Commercial	Government	Space_Heat	0.8720	SDGE_EUI_STUDY
Commercial	Government	Water_Heat	0.7000	CI_1996_STUDY
Commercial	Grocery	AC_Compressor	0.8560	CBECS
Commercial	Grocery	Cook_top	0.2450	CBECS
Commercial	Grocery	Fryer	0.2450	CBECS
Commercial	Grocery	Griddle	0.2450	CBECS
Commercial	Grocery	Other	1.0000	DEFAULT
Commercial	Grocery	Other_Cooking	0.2450	CBECS
Commercial	Grocery	Space_Heat	0.6470	SDGE_EUI_STUDY
Commercial	Grocery	Water_Heat	0.9300	CI_1996_STUDY
Commercial	Health	AC_Compressor	0.7920	CBECS
Commercial	Health	Cook_top	0.1020	CBECS
Commercial	Health	Drying	0.8200	CI_1996_STUDY
Commercial	Health	Fryer	0.1020	CBECS
Commercial	Health	Griddle	0.1020	CBECS
Commercial	Health	Other	1.0000	DEFAULT
Commercial	Health	Other_Cooking	0.1020	CBECS
Commercial	Health	Space_Heat	0.9360	SDGE_EUI_STUDY
Commercial	Health	Water_Heat	1.0000	CI_1996_STUDY
Commercial	Laundry	Drying	1.0000	CI_1996_STUDY
Commercial	Laundry	Other	1.0000	CI_1996_STUDY

San Diego Gas and Electric  
 Core Commercial Market

Saturations by Business Type and End Use

Commercial	Laundry	Space_Heat	0.7200	CI_1996_STUDY
Commercial	Laundry	Water_Heat	1.0000	CI_1996_STUDY
Commercial	Lodging	AC_Compressor	0.7950	CBECS
Commercial	Lodging	Cook_top	0.0840	CBECS
Commercial	Lodging	Drying	0.8200	CI_1996_STUDY
Commercial	Lodging	Fryer	0.0840	CBECS
Commercial	Lodging	Griddle	0.0840	CBECS
Commercial	Lodging	Other	1.0000	CI_1996_STUDY
Commercial	Lodging	Other_Cooking	0.0840	CBECS
Commercial	Lodging	Space_Heat	0.8950	SDGE_EUI_STUDY
Commercial	Lodging	Water_Heat	1.0000	CI_1996_STUDY
Commercial	Misc	AC_Compressor	0.7310	CBECS
Commercial	Misc	Cook_top	0.0210	CBECS
Commercial	Misc	Fryer	0.0210	CBECS
Commercial	Misc	Griddle	0.0210	CBECS
Commercial	Misc	Other	1.0000	CI_1996_STUDY
Commercial	Misc	Other_Cooking	0.0210	CBECS
Commercial	Misc	Space_Heat	0.6950	SDGE_EUI_STUDY
Commercial	Misc	Water_Heat	0.6900	CI_1996_STUDY
Commercial	Office	AC_Compressor	0.9310	CBECS
Commercial	Office	Cooking	0.0820	CBECS
Commercial	Office	Other	1.0000	CI_1996_STUDY
Commercial	Office	Space_Heat	0.8720	SDGE_EUI_STUDY
Commercial	Office	Water_Heat	0.7000	CI_1996_STUDY
Commercial	Restaurant	AC_Compressor	0.8710	CBECS
Commercial	Restaurant	Cook_top	0.7500	SCG_COOKING_STUDY
Commercial	Restaurant	Fryer	0.7290	SCG_COOKING_STUDY
Commercial	Restaurant	Griddle	0.5740	SCG_COOKING_STUDY
Commercial	Restaurant	Other	1.0000	CI_1996_STUDY
Commercial	Restaurant	Other_Cooking	0.9000	CI_1996_STUDY
Commercial	Restaurant	Space_Heat	0.8180	SDGE_EUI_STUDY
Commercial	Restaurant	Water_Heat	0.9600	CI_1996_STUDY
Commercial	Retail	Cooking	0.2450	CBECS
Commercial	Retail	Other	1.0000	CI_1996_STUDY
Commercial	Retail	Space_Heat	0.7710	SDGE_EUI_STUDY
Commercial	Retail	Water_Heat	0.6200	CI_1996_STUDY
Commercial	School	AC_Compressor	0.8850	CBECS
Commercial	School	Cook_top	0.1470	CBECS
Commercial	School	Fryer	0.1470	CBECS
Commercial	School	Griddle	0.1470	CBECS
Commercial	School	Other	1.0000	CI_1996_STUDY
Commercial	School	Other_Cooking	0.1470	CBECS
Commercial	School	Space_Heat	0.9670	SDGE_EUI_STUDY
Commercial	School	Water_Heat	0.9000	CI_1996_STUDY
Commercial	TCU	Engine	0.5000	Assumed
Commercial	TCU	Other	1.0000	CI_1996_STUDY
Commercial	TCU	Space_Heat	0.7200	CI_1996_STUDY
Commercial	TCU	Water_Heat	0.6900	CI_1996_STUDY

San Diego Gas and Electric  
Core Commercial Market

Saturations by Business Type and End Use

Commercial Warehouse	Engine	0.2500	Assumed
Commercial Warehouse	Other	1.0000	DEFAULT
Commercial Warehouse	Space_Heat	0.2310	SDGE_EUI_STUDY
Commercial Warehouse	Water_Heat	0.8800	SDGE_EUI_STUDY



## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
OfficeSpace_Heat	SDGE_EUI_STUDY	0.7460000000000000	0.8720000000000000	0.8555045871559630
OfficeSpace_Heat	SDGE_EUI_STUDY	0.1260000000000000	0.8720000000000000	0.1444954128440370
OfficeWater_Heat	SDGE_EUI_STUDY	0.1620000000000000	0.9770000000000000	0.1658137154554760
OfficeWater_Heat	SDGE_EUI_STUDY	0.8150000000000000	0.9770000000000000	0.8341862845445240
OfficeCooking	SDGE_EUI_STUDY	0.0180000000000000	0.8700000000000000	0.0206896551724138
OfficeCooking	SDGE_EUI_STUDY	0.8520000000000000	0.8700000000000000	0.9793103448275860
OfficeAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
OfficeAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
OfficeOther	DEFAULT	0.1750000000000000	0.1750000000000000	1.0000000000000000
RestaurantSpace_Heat	SDGE_EUI_STUDY	0.4830000000000000	0.8180000000000000	0.5904645476772620
RestaurantSpace_Heat	SDGE_EUI_STUDY	0.3350000000000000	0.8180000000000000	0.4095354523227380
RestaurantWater_Heat	SDGE_EUI_STUDY	0.8840000000000000	0.9800000000000000	0.9020408163265310
RestaurantWater_Heat	SDGE_EUI_STUDY	0.0960000000000000	0.9800000000000000	0.0979591836734694
RestaurantCook_top	SCG_COOKING_STUDY	0.7330000000000000	0.7500000000000000	0.9773333333333330
RestaurantCook_top	SCG_COOKING_STUDY	0.0170000000000000	0.7500000000000000	0.0226666666666667
RestaurantFryer	SCG_COOKING_STUDY	0.6600000000000000	0.7290000000000000	0.9053497942386830
RestaurantFryer	SCG_COOKING_STUDY	0.0690000000000000	0.7290000000000000	0.0946502057613169
RestaurantGriddle	SCG_COOKING_STUDY	0.5570000000000000	0.5740000000000000	0.9703832752613240
RestaurantGriddle	SCG_COOKING_STUDY	0.0170000000000000	0.5740000000000000	0.0296167247386760
RestaurantOther_Cooking	SDGE_EUI_STUDY	0.6600000000000000	1.0000000000000000	0.6600000000000000
RestaurantOther_Cooking	SDGE_EUI_STUDY	0.3400000000000000	1.0000000000000000	0.3400000000000000
RestaurantAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
RestaurantAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
RestaurantOther	DEFAULT	0.0050000000000000	0.0050000000000000	1.0000000000000000
RetailSpace_Heat	SDGE_EUI_STUDY	0.3990000000000000	0.7710000000000000	0.5175097276264590
RetailSpace_Heat	SDGE_EUI_STUDY	0.3720000000000000	0.7710000000000000	0.4824902723735410
RetailWater_Heat	SDGE_EUI_STUDY	0.2800000000000000	0.9030000000000000	0.3100775193798450
RetailWater_Heat	SDGE_EUI_STUDY	0.6230000000000000	0.9030000000000000	0.6899224806201550
RetailCooking	SDGE_EUI_STUDY	0.0740000000000000	0.7900000000000000	0.0936708860759494
RetailCooking	SDGE_EUI_STUDY	0.7160000000000000	0.7900000000000000	0.9063291139240510
RetailOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000

## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
LaundrySpace_Heat	CI_1996_STUDY	0.6000000000000000	1.0400000000000000	0.5769230769230770
LaundrySpace_Heat	CI_1996_STUDY	0.4400000000000000	1.0400000000000000	0.4230769230769230
LaundryWater_Heat	CI_1996_STUDY	0.6900000000000000	1.0200000000000000	0.6764705882352940
LaundryWater_Heat	CI_1996_STUDY	0.3300000000000000	1.0200000000000000	0.3235294117647060
LaundryDrying	CI_1996_STUDY	0.6600000000000000	1.1000000000000000	0.6000000000000000
LaundryDrying	CI_1996_STUDY	0.4400000000000000	1.1000000000000000	0.4000000000000000
LaundryOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
WarehouseSpace_Heat	SDGE_EUI_STUDY	0.1010000000000000	0.2310000000000000	0.4372294372294370
WarehouseSpace_Heat	SDGE_EUI_STUDY	0.1300000000000000	0.2310000000000000	0.5627705627705630
WarehouseWater_Heat	SDGE_EUI_STUDY	0.0630000000000000	0.8800000000000000	0.0715909090909091
WarehouseWater_Heat	SDGE_EUI_STUDY	0.8170000000000000	0.8800000000000000	0.9284090909090910
WarehouseEngine	Assumed same as AC	0.0600000000000000	1.0000000000000000	0.0600000000000000
WarehouseEngine	Assumed same as AC	0.9400000000000000	1.0000000000000000	0.9400000000000000
WarehouseOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
SchoolSpace_Heat	SDGE_EUI_STUDY	0.7280000000000000	0.9670000000000000	0.7528438469493280
SchoolSpace_Heat	SDGE_EUI_STUDY	0.2390000000000000	0.9670000000000000	0.2471561530506720
SchoolWater_Heat	SDGE_EUI_STUDY	0.6970000000000000	0.9190000000000000	0.7584330794341680
SchoolWater_Heat	SDGE_EUI_STUDY	0.2220000000000000	0.9190000000000000	0.2415669205658320
SchoolCook_top	SDGE_EUI_STUDY	0.3900000000000000	0.9100000000000000	0.4285714285714290
SchoolCook_top	SDGE_EUI_STUDY	0.5200000000000000	0.9100000000000000	0.5714285714285710
SchoolFryer	SDGE_EUI_STUDY	0.3900000000000000	0.9100000000000000	0.4285714285714290
SchoolFryer	SDGE_EUI_STUDY	0.5200000000000000	0.9100000000000000	0.5714285714285710
SchoolGriddle	SDGE_EUI_STUDY	0.3900000000000000	0.9100000000000000	0.4285714285714290
SchoolGriddle	SDGE_EUI_STUDY	0.5200000000000000	0.9100000000000000	0.5714285714285710
SchoolOther_Cooking	SDGE_EUI_STUDY	0.3900000000000000	0.9100000000000000	0.4285714285714290
SchoolOther_Cooking	SDGE_EUI_STUDY	0.5200000000000000	0.9100000000000000	0.5714285714285710
SchoolAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
SchoolAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
SchoolOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
CollegeSpace_Heat	SDGE_EUI_STUDY	0.2520000000000000	0.7630000000000000	0.3302752293577980
CollegeSpace_Heat	SDGE_EUI_STUDY	0.5110000000000000	0.7630000000000000	0.6697247706422020

## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
CollegeWater_Heat	SDGE_EUI_STUDY	0.7800000000000000	0.9550000000000000	0.8167539267015710
CollegeWater_Heat	SDGE_EUI_STUDY	0.1750000000000000	0.9550000000000000	0.1832460732984290
CollegeCook_top	SDGE_EUI_STUDY	0.0350000000000000	0.7290000000000000	0.0480109739368999
CollegeCook_top	SDGE_EUI_STUDY	0.6940000000000000	0.7290000000000000	0.9519890260631000
CollegeFryer	SDGE_EUI_STUDY	0.0350000000000000	0.7290000000000000	0.0480109739368999
CollegeFryer	SDGE_EUI_STUDY	0.6940000000000000	0.7290000000000000	0.9519890260631000
CollegeGriddle	SDGE_EUI_STUDY	0.0350000000000000	0.7290000000000000	0.0480109739368999
CollegeGriddle	SDGE_EUI_STUDY	0.6940000000000000	0.7290000000000000	0.9519890260631000
CollegeOther_Cooking	SDGE_EUI_STUDY	0.0350000000000000	0.7290000000000000	0.0480109739368999
CollegeOther_Cooking	SDGE_EUI_STUDY	0.6940000000000000	0.7290000000000000	0.9519890260631000
CollegeAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
CollegeAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
CollegeOther	DEFAULT	0.0930000000000000	0.0930000000000000	1.0000000000000000
HealthSpace_Heat	SDGE_EUI_STUDY	0.6180000000000000	0.9360000000000000	0.6602564102564100
HealthSpace_Heat	SDGE_EUI_STUDY	0.3180000000000000	0.9360000000000000	0.3397435897435900
HealthWater_Heat	SDGE_EUI_STUDY	0.7220000000000000	0.8760000000000000	0.8242009132420090
HealthWater_Heat	SDGE_EUI_STUDY	0.1540000000000000	0.8760000000000000	0.1757990867579910
HealthCook_top	SDGE_EUI_STUDY	0.0870000000000000	0.9170000000000000	0.0948745910577972
HealthCook_top	SDGE_EUI_STUDY	0.8300000000000000	0.9170000000000000	0.9051254089422030
HealthFryer	SDGE_EUI_STUDY	0.0870000000000000	0.9170000000000000	0.0948745910577972
HealthFryer	SDGE_EUI_STUDY	0.8300000000000000	0.9170000000000000	0.9051254089422030
HealthGriddle	SDGE_EUI_STUDY	0.0870000000000000	0.9170000000000000	0.0948745910577972
HealthGriddle	SDGE_EUI_STUDY	0.8300000000000000	0.9170000000000000	0.9051254089422030
HealthOther_Cooking	SDGE_EUI_STUDY	0.6600000000000000	1.0000000000000000	0.6600000000000000
HealthOther_Cooking	SDGE_EUI_STUDY	0.3400000000000000	1.0000000000000000	0.3400000000000000
HealthDrying	CI_1996_STUDY	0.6600000000000000	1.1000000000000000	0.6000000000000000
HealthDrying	CI_1996_STUDY	0.4400000000000000	1.1000000000000000	0.4000000000000000
HealthAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
HealthAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
HealthOther	DEFAULT	0.2110000000000000	0.2110000000000000	1.0000000000000000
LodgingSpace_Heat	SDGE_EUI_STUDY	0.2430000000000000	0.8950000000000000	0.2715083798882680

## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
LodgingSpace_Heat	SDGE_EUI_STUDY	0.6520000000000000	0.8950000000000000	0.7284916201117320
LodgingWater_Heat	SDGE_EUI_STUDY	0.9410000000000000	0.9510000000000000	0.9894847528916930
LodgingWater_Heat	SDGE_EUI_STUDY	0.0100000000000000	0.9510000000000000	0.0105152471083070
LodgingCook_top	SDGE_EUI_STUDY	0.3210000000000000	0.7140000000000000	0.4495798319327730
LodgingCook_top	SDGE_EUI_STUDY	0.3930000000000000	0.7140000000000000	0.5504201680672270
LodgingFryer	SDGE_EUI_STUDY	0.3210000000000000	0.7140000000000000	0.4495798319327730
LodgingFryer	SDGE_EUI_STUDY	0.3930000000000000	0.7140000000000000	0.5504201680672270
LodgingGriddle	SDGE_EUI_STUDY	0.3210000000000000	0.7140000000000000	0.4495798319327730
LodgingGriddle	SDGE_EUI_STUDY	0.3930000000000000	0.7140000000000000	0.5504201680672270
LodgingOther_Cooking	SDGE_EUI_STUDY	0.3210000000000000	0.7140000000000000	0.4495798319327730
LodgingOther_Cooking	SDGE_EUI_STUDY	0.3930000000000000	0.7140000000000000	0.5504201680672270
LodgingDrying	CI_1996_STUDY	0.6600000000000000	1.1000000000000000	0.6000000000000000
LodgingDrying	CI_1996_STUDY	0.4400000000000000	1.1000000000000000	0.4000000000000000
LodgingAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
LodgingAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
LodgingOther	DEFAULT	0.4330000000000000	0.4330000000000000	1.0000000000000000
MiscSpace_Heat	SDGE_EUI_STUDY	0.3820000000000000	0.6950000000000000	0.5496402877697840
MiscSpace_Heat	SDGE_EUI_STUDY	0.3130000000000000	0.6950000000000000	0.4503597122302160
MiscWater_Heat	SDGE_EUI_STUDY	0.5040000000000000	0.9050000000000000	0.5569060773480660
MiscWater_Heat	SDGE_EUI_STUDY	0.4010000000000000	0.9050000000000000	0.4430939226519340
MiscCook_top	SCG_COOKING_STUDY	0.7330000000000000	0.7500000000000000	0.9773333333333330
MiscCook_top	SCG_COOKING_STUDY	0.0170000000000000	0.7500000000000000	0.0226666666666667
MiscFryer	SCG_COOKING_STUDY	0.6600000000000000	0.7290000000000000	0.9053497942386830
MiscFryer	SCG_COOKING_STUDY	0.0690000000000000	0.7290000000000000	0.0946502057613169
MiscGriddle	SCG_COOKING_STUDY	0.5570000000000000	0.5740000000000000	0.9703832752613240
MiscGriddle	SCG_COOKING_STUDY	0.0170000000000000	0.5740000000000000	0.0296167247386760
MiscOther_Cooking	SDGE_EUI_STUDY	0.6600000000000000	1.0000000000000000	0.6600000000000000
MiscOther_Cooking	SDGE_EUI_STUDY	0.3400000000000000	1.0000000000000000	0.3400000000000000
MiscAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
MiscAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
MiscOther	DEFAULT	0.0600000000000000	0.0600000000000000	1.0000000000000000

## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
GovernmentSpace_Heat	SDGE_EUI_STUDY	0.7460000000000000	0.8720000000000000	0.8555045871559630
GovernmentSpace_Heat	SDGE_EUI_STUDY	0.1260000000000000	0.8720000000000000	0.1444954128440370
GovernmentWater_Heat	SDGE_EUI_STUDY	0.1620000000000000	0.9770000000000000	0.1658137154554760
GovernmentWater_Heat	SDGE_EUI_STUDY	0.8150000000000000	0.9770000000000000	0.8341862845445240
GovernmentCook_top	SCG_COOKING_STUDY	0.7330000000000000	0.7500000000000000	0.9773333333333330
GovernmentCook_top	SCG_COOKING_STUDY	0.0170000000000000	0.7500000000000000	0.0226666666666667
GovernmentFryer	SCG_COOKING_STUDY	0.6600000000000000	0.7290000000000000	0.9053497942386830
GovernmentFryer	SCG_COOKING_STUDY	0.0690000000000000	0.7290000000000000	0.0946502057613169
GovernmentGriddle	SCG_COOKING_STUDY	0.5570000000000000	0.5740000000000000	0.9703832752613240
GovernmentGriddle	SCG_COOKING_STUDY	0.0170000000000000	0.5740000000000000	0.0296167247386760
GovernmentOther_Cooking	SDGE_EUI_STUDY	0.6600000000000000	1.0000000000000000	0.6600000000000000
GovernmentOther_Cooking	SDGE_EUI_STUDY	0.3400000000000000	1.0000000000000000	0.3400000000000000
GovernmentAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
GovernmentAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
GovernmentOther	DEFAULT	0.1750000000000000	0.1750000000000000	1.0000000000000000
TCUSpace_Heat	CI_1996_STUDY	0.6000000000000000	1.0400000000000000	0.5769230769230770
TCUSpace_Heat	CI_1996_STUDY	0.4400000000000000	1.0400000000000000	0.4230769230769230
TCUWater_Heat	CI_1996_STUDY	0.6900000000000000	1.0200000000000000	0.6764705882352940
TCUWater_Heat	CI_1996_STUDY	0.3300000000000000	1.0200000000000000	0.3235294117647060
TCUEngine	Assumed same as AC	0.0600000000000000	1.0000000000000000	0.0600000000000000
TCUEngine	Assumed same as AC	0.9400000000000000	1.0000000000000000	0.9400000000000000
TCUOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
ConstructionSpace_Heat	CI_1996_STUDY	0.6000000000000000	1.0400000000000000	0.5769230769230770
ConstructionSpace_Heat	CI_1996_STUDY	0.4400000000000000	1.0400000000000000	0.4230769230769230
ConstructionWater_Heat	CI_1996_STUDY	0.6900000000000000	1.0200000000000000	0.6764705882352940
ConstructionWater_Heat	CI_1996_STUDY	0.3300000000000000	1.0200000000000000	0.3235294117647060
ConstructionOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
AgricultureSpace_Heat	CI_1996_STUDY	0.6000000000000000	1.0400000000000000	0.5769230769230770
AgricultureSpace_Heat	CI_1996_STUDY	0.4400000000000000	1.0400000000000000	0.4230769230769230
AgricultureWater_Heat	CI_1996_STUDY	0.6900000000000000	1.0200000000000000	0.6764705882352940
AgricultureWater_Heat	CI_1996_STUDY	0.3300000000000000	1.0200000000000000	0.3235294117647060

## San Diego Gas & Electric Core Commercial Market: Fuel Market Shares

SAT_LOOKUP	SOURCE	FASHARE_ORIG	BNSUM_SAT	FASHARE_SDGE
AgricultureDrying	NEED DATA	1.0000000000000000	1.0000000000000000	1.0000000000000000
AgricultureDrying	NEED DATA	0.0000000000000000	1.0000000000000000	0.0000000000000000
AgricultureEngine	Assumed same as AC	0.0600000000000000	1.0000000000000000	0.0600000000000000
AgricultureEngine	Assumed same as AC	0.9400000000000000	1.0000000000000000	0.9400000000000000
AgricultureOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000
GrocerySpace_Heat	SDGE_EUI_STUDY	0.4830000000000000	0.6470000000000000	0.7465224111282840
GrocerySpace_Heat	SDGE_EUI_STUDY	0.1640000000000000	0.6470000000000000	0.2534775888717160
GroceryWater_Heat	SDGE_EUI_STUDY	0.6950000000000000	0.9810000000000000	0.7084607543323140
GroceryWater_Heat	SDGE_EUI_STUDY	0.2860000000000000	0.9810000000000000	0.2915392456676860
GroceryCook_top	SDGE_EUI_STUDY	0.3210000000000000	0.9010000000000000	0.3562708102108770
GroceryCook_top	SDGE_EUI_STUDY	0.5800000000000000	0.9010000000000000	0.6437291897891230
GroceryFryer	SDGE_EUI_STUDY	0.3210000000000000	0.9010000000000000	0.3562708102108770
GroceryFryer	SDGE_EUI_STUDY	0.5800000000000000	0.9010000000000000	0.6437291897891230
GroceryGriddle	SDGE_EUI_STUDY	0.3210000000000000	0.9010000000000000	0.3562708102108770
GroceryGriddle	SDGE_EUI_STUDY	0.5800000000000000	0.9010000000000000	0.6437291897891230
GroceryOther_Cooking	SDGE_EUI_STUDY	0.3210000000000000	0.9010000000000000	0.3562708102108770
GroceryOther_Cooking	SDGE_EUI_STUDY	0.5800000000000000	0.9010000000000000	0.6437291897891230
GroceryAC_Compressor	CI_1996_STUDY	0.0600000000000000	1.0000000000000000	0.0600000000000000
GroceryAC_Compressor	CI_1996_STUDY	0.9400000000000000	1.0000000000000000	0.9400000000000000
GroceryOther	DEFAULT	1.0000000000000000	1.0000000000000000	1.0000000000000000

San Diego Gas & Electric  
EUI Values by Business Type and End Use

bname	nname	fname	_NAME_	SOURCE	Stock_Existing	Standard_Existing	High_Existing	Premium_Existing
Agriculture	Drying	Electric	B0	SDGE_EUI_STUDY	0.3120000	0.2808000	N/A	N/A
Agriculture	Drying	Natural_Gas	B0	SDGE_EUI_STUDY	0.2013300	0.1811970	N/A	N/A
Agriculture	Engine	Electric	B0	SDGE_EUI_STUDY	1.3416000	1.2074400	N/A	N/A
Agriculture	Engine	Natural_Gas	B0	SDGE_EUI_STUDY	0.8657190	0.7791471	N/A	N/A
Agriculture	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Agriculture	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.6010000	0.5409000	N/A	N/A
Agriculture	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1468600	0.1321740	0.1202783	0.1083827
Agriculture	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.3120000	0.2808000	0.2732184	0.2656368
Agriculture	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2013300	0.1811970	0.1585474	0.1358978
College	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	3.4630000	3.1167000	N/A	N/A
College	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1181922	0.1063730	N/A	N/A
College	Cook_top	Electric	B0	SDGE_EUI_STUDY	0.7620000	0.6858000	N/A	N/A
College	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.0486000	0.0437400	N/A	N/A
College	Fryer	Electric	B0	SDGE_EUI_STUDY	0.7620000	0.6858000	N/A	N/A
College	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.0485700	0.0437130	N/A	N/A
College	Griddle	Electric	B0	SDGE_EUI_STUDY	0.7620000	0.6858000	N/A	N/A
College	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.0485700	0.0437130	N/A	N/A
College	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
College	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	0.7620000	0.6858000	N/A	N/A
College	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0486000	0.0437400	N/A	N/A
College	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.1990000	0.1791000	N/A	N/A
College	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2664300	0.2397870	0.2182062	0.1966253
College	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.6400000	0.5760000	0.5604480	0.5448960
College	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2871500	0.2584350	0.2261306	0.1938263
Construction	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Construction	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.6010000	0.5409000	N/A	N/A
Construction	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1468600	0.1321740	0.1202783	0.1083827
Construction	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.3120000	0.2808000	0.2732184	0.2656368
Construction	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2013300	0.1811970	0.1585474	0.1358978
Government	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	3.0560000	2.7504000	N/A	N/A
Government	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1043013	0.0938712	N/A	N/A
Government	Cook_top	Electric	B0	SDGE_EUI_STUDY	0.4510000	0.4059000	N/A	N/A
Government	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.0346000	0.0311400	N/A	N/A
Government	Fryer	Electric	B0	SDGE_EUI_STUDY	0.4510000	0.4059000	N/A	N/A
Government	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.0345900	0.0311310	N/A	N/A
Government	Griddle	Electric	B0	SDGE_EUI_STUDY	0.4510000	0.4059000	N/A	N/A
Government	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.0345900	0.0311310	N/A	N/A
Government	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Government	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	0.4510000	0.4059000	N/A	N/A
Government	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0346000	0.0311400	N/A	N/A
Government	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.8450000	N/A	N/A	N/A
Government	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.3046400	0.2741760	0.2495002	0.2248243
Government	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.1790000	0.1611000	0.1567503	0.1524006
Government	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.0473900	0.0426510	0.0373196	0.0319883
Grocery	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	5.5860000	5.0274000	N/A	N/A
Grocery	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1906502	0.1715852	N/A	N/A
Grocery	Cook_top	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Grocery	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.0418300	0.0376470	N/A	N/A
Grocery	Fryer	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Grocery	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.4183200	0.3764880	N/A	N/A

San Diego Gas & Electric  
EUI Values by Business Type and End Use

bname	nname	fname	_NAME_	SOURCE	Stock_Existing	Standard_Existing	High_Existing	Premium_Existing
Grocery	Griddle	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Grocery	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.4183200	0.3764880	N/A	N/A
Grocery	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Grocery	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Grocery	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0418300	0.0376470	N/A	N/A
Grocery	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.7350000	N/A	N/A	N/A
Grocery	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.0976200	0.0878580	0.0799508	0.0720436
Grocery	Water_Heat	Electric	B0	SDGE_EUI_STUDY	1.7630000	1.5867000	1.5438591	1.5010182
Grocery	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.3182700	0.2864430	0.2506376	0.2148323
Health	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	3.3360000	3.0024000	N/A	N/A
Health	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1138577	0.1024719	N/A	N/A
Health	Cook_top	Electric	B0	SDGE_EUI_STUDY	1.1540000	1.0386000	N/A	N/A
Health	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.2635800	0.2372220	N/A	N/A
Health	Drying	Electric	B0	SDGE_EUI_STUDY	0.7619500	0.6857550	N/A	N/A
Health	Drying	Natural_Gas	B0	SDGE_EUI_STUDY	0.1459815	0.1313834	N/A	N/A
Health	Fryer	Electric	B0	SDGE_EUI_STUDY	1.1540000	1.0386000	N/A	N/A
Health	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.2635800	0.2372220	N/A	N/A
Health	Griddle	Electric	B0	SDGE_EUI_STUDY	1.1540000	1.0386000	N/A	N/A
Health	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.2635800	0.2372220	N/A	N/A
Health	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Health	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	1.1540000	1.0386000	N/A	N/A
Health	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0263600	0.0237240	N/A	N/A
Health	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.4050000	0.3645000	N/A	N/A
Health	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.0689400	0.0620460	0.0564619	0.0508777
Health	Water_Heat	Electric	B0	SDGE_EUI_STUDY	2.1770000	1.9593000	1.9063989	1.8534978
Health	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.4170900	0.3753810	0.3284584	0.2815358
Laundry	Drying	Electric	B0	SDGE_EUI_STUDY	85.5136937	76.9623243	N/A	N/A
Laundry	Drying	Natural_Gas	B0	SDGE_EUI_STUDY	14.9366516	13.4429864	N/A	N/A
Laundry	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Laundry	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.6010000	0.5409000	N/A	N/A
Laundry	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1468600	0.1321740	0.1202783	0.1083827
Laundry	Water_Heat	Electric	B0	SDGE_EUI_STUDY	15.8040000	14.2236000	13.8395628	13.4555256
Laundry	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	2.7604800	2.4844320	2.1738780	1.8633240
Lodging	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	1.6700000	1.5030000	N/A	N/A
Lodging	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.0569971	0.0512974	N/A	N/A
Lodging	Cook_top	Electric	B0	SDGE_EUI_STUDY	39.3000000	35.3700000	N/A	N/A
Lodging	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.3210000	0.2889000	N/A	N/A
Lodging	Drying	Electric	B0	SDGE_EUI_STUDY	0.9877500	0.8889750	N/A	N/A
Lodging	Drying	Natural_Gas	B0	SDGE_EUI_STUDY	0.1725300	0.1552770	N/A	N/A
Lodging	Fryer	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Lodging	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.4183200	0.3764880	N/A	N/A
Lodging	Griddle	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Lodging	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.4183200	0.3764880	N/A	N/A
Lodging	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Lodging	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	5.2450000	4.7205000	N/A	N/A
Lodging	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0410000	0.0369000	N/A	N/A
Lodging	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.5490000	0.4941000	N/A	N/A
Lodging	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.3869800	0.3482820	0.3169366	0.2855912
Lodging	Water_Heat	Electric	B0	SDGE_EUI_STUDY	3.9510000	3.5590000	3.4598907	3.3638814
Lodging	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.6901200	0.6211080	0.5434695	0.4658310



San Diego Gas & Electric  
EUI Values by Business Type and End Use

bname	nname	fname	_NAME_	SOURCE	Stock_Existing	Standard_Existing	High_Existing	Premium_Existing
Misc	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	3.8720000	3.4848000	N/A	N/A
Misc	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1321514	0.1189362	N/A	N/A
Misc	Cook_top	Electric	B0	SDGE_EUI_STUDY	0.5390000	0.4851000	N/A	N/A
Misc	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.0430000	0.0387000	N/A	N/A
Misc	Fryer	Electric	B0	SDGE_EUI_STUDY	0.5390000	0.4851000	N/A	N/A
Misc	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.0430200	0.0387180	N/A	N/A
Misc	Griddle	Electric	B0	SDGE_EUI_STUDY	0.5390000	0.4851000	N/A	N/A
Misc	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.0430200	0.0387180	N/A	N/A
Misc	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Misc	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	0.5390000	0.4851000	N/A	N/A
Misc	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0430000	0.0387000	N/A	N/A
Misc	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.6010000	0.5409000	N/A	N/A
Misc	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1468600	0.1321740	0.1202783	0.1083827
Misc	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.3120000	0.2808000	0.2732184	0.2656368
Misc	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2013300	0.1811970	0.1585474	0.1358978
Office	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	3.0560000	2.7504000	N/A	N/A
Office	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.1043013	0.0938712	N/A	N/A
Office	Cooking	Electric	B0	SDGE_EUI_STUDY	0.4510000	0.4059000	N/A	N/A
Office	Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0345900	0.0311310	N/A	N/A
Office	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Office	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.8450000	0.7605000	N/A	N/A
Office	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.3046400	0.2741760	0.2495002	0.2248243
Office	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.1790000	0.1611000	0.1567503	0.1524006
Office	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.0473900	0.0426510	0.0373196	0.0319883
Restaurant	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	5.9430000	5.3487000	N/A	N/A
Restaurant	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.2028346	0.1825511	N/A	N/A
Restaurant	Cook_top	Electric	B0	SDGE_EUI_STUDY	1.5190269	1.3671242	N/A	N/A
Restaurant	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	1.1985040	1.0786536	N/A	N/A
Restaurant	Fryer	Electric	B0	SDGE_EUI_STUDY	6.1654621	5.5489159	N/A	N/A
Restaurant	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	1.0791441	0.9712297	N/A	N/A
Restaurant	Griddle	Electric	B0	SDGE_EUI_STUDY	1.5190269	1.3671242	N/A	N/A
Restaurant	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.9107322	0.8196590	N/A	N/A
Restaurant	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Restaurant	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	27.3424841	24.6082357	N/A	N/A
Restaurant	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.9712297	0.8741067	N/A	N/A
Restaurant	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.3430000	0.3087000	N/A	N/A
Restaurant	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1176700	0.1059030	0.0963717	0.0868405
Restaurant	Water_Heat	Electric	B0	SDGE_EUI_STUDY	4.2600000	3.8340000	3.7304820	3.6269640
Restaurant	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.8665900	0.7799310	0.6824396	0.5849483
Retail	Cooking	Electric	B0	SDGE_EUI_STUDY	0.6930000	0.6237000	N/A	N/A
Retail	Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.3078600	0.2770740	N/A	N/A
Retail	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Retail	Space_Heat	Electric	B0	SDGE_EUI_STUDY	1.3560000	1.2204000	N/A	N/A
Retail	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2455200	0.2209680	0.2010809	0.1811938
Retail	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.5280000	0.4752000	0.4623696	0.4495392
Retail	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1092600	0.0983340	0.0860423	0.0737505
School	AC_Compressor	Electric	B0	SDGE_EUI_STUDY	1.9130000	1.7217000	N/A	N/A
School	AC_Compressor	Natural_Gas	B0	SDGE_EUI_STUDY	0.0652907	0.0587616	N/A	N/A
School	Cook_top	Electric	B0	SDGE_EUI_STUDY	0.5020000	0.4518000	N/A	N/A
School	Cook_top	Natural_Gas	B0	SDGE_EUI_STUDY	0.0460000	0.0414000	N/A	N/A

San Diego Gas & Electric  
 EUI Values by Business Type and End Use

bname	nname	fname	_NAME_	SOURCE	Stock_Existing	Standard_Existing	High_Existing	Premium_Existing
School	Fryer	Electric	B0	SDGE_EUI_STUDY	0.5020000	0.4518000	N/A	N/A
School	Fryer	Natural_Gas	B0	SDGE_EUI_STUDY	0.0461000	0.0414900	N/A	N/A
School	Griddle	Electric	B0	SDGE_EUI_STUDY	0.5020000	0.4518000	N/A	N/A
School	Griddle	Natural_Gas	B0	SDGE_EUI_STUDY	0.0461000	0.0414900	N/A	N/A
School	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
School	Other_Cooking	Electric	B0	SDGE_EUI_STUDY	0.5020000	0.4518000	N/A	N/A
School	Other_Cooking	Natural_Gas	B0	SDGE_EUI_STUDY	0.0460000	0.0414000	N/A	N/A
School	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.4840000	0.4356000	N/A	N/A
School	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.0923800	0.0831420	0.0756592	0.0681764
School	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.6880000	0.6192000	0.6024816	0.5857632
School	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1232800	0.1109520	0.0970830	0.0832140
TCU	Engine	Electric	B0	SDGE_EUI_STUDY	3.7825983	3.4043385	N/A	N/A
TCU	Engine	Natural_Gas	B0	SDGE_EUI_STUDY	2.4408670	2.1967803	N/A	N/A
TCU	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
TCU	Space_Heat	Electric	B0	SDGE_EUI_STUDY	0.6010000	0.5409000	N/A	N/A
TCU	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.1468600	0.1321740	0.1202783	0.1083827
TCU	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.3120000	0.2808000	0.2732184	0.2656368
TCU	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2013300	0.1811970	0.1585474	0.1358978
Warehouse	Engine	Electric	B0	SDGE_EUI_STUDY	33.4700769	30.1230692	N/A	N/A
Warehouse	Engine	Natural_Gas	B0	SDGE_EUI_STUDY	8.8838738	7.9954865	N/A	N/A
Warehouse	Other	Natural_Gas	B0	SDGE_EUI_STUDY	0.00	N/A	N/A	N/A
Warehouse	Space_Heat	Electric	B0	SDGE_EUI_STUDY	2.3400000	2.1060000	N/A	N/A
Warehouse	Space_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.6211000	0.5589900	0.5086809	0.4583718
Warehouse	Water_Heat	Electric	B0	SDGE_EUI_STUDY	0.1300000	0.1170000	0.1138410	0.1106820
Warehouse	Water_Heat	Natural_Gas	B0	SDGE_EUI_STUDY	0.2048000	0.1843200	0.1612800	0.1382400

**San Diego Gas & Electric**  
**Core Commercial E Share Values by Business Type and End Use**

bname	nname	fname	_NAME_	SAT_LOOKUP	Stock_Qtec	Standard_Qtec	High_Qtec	Premium_Qtec
Agriculture	Drying	Electric	EASHARE	AgricultureDryingElectric	0.65	0.35	N/A	N/A
Agriculture	Drying	Natural_Gas	EASHARE	AgricultureDryingNatural_Gas	0.65	0.35	N/A	N/A
Agriculture	Engine	Electric	EASHARE	AgricultureEngineElectric	0.65	0.35	N/A	N/A
Agriculture	Engine	Natural_Gas	EASHARE	AgricultureEngineNatural_Gas	0.65	0.35	N/A	N/A
Agriculture	Other	Natural_Gas	EASHARE	AgricultureOtherNatural_Gas	1	N/A	N/A	N/A
Agriculture	Space_Heat	Electric	EASHARE	AgricultureSpace_HeatElectric	1	999	999	999
Agriculture	Space_Heat	Natural_Gas	EASHARE	AgricultureSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Agriculture	Water_Heat	Electric	EASHARE	AgricultureWater_HeatElectric	0.4	0.5	0.08	0.02
Agriculture	Water_Heat	Natural_Gas	EASHARE	AgricultureWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
College	AC_Compressor	Electric	EASHARE	CollegeAC_CompressorElectric	0.65	0.35	N/A	N/A
College	AC_Compressor	Natural_Gas	EASHARE	CollegeAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
College	Cook_top	Electric	EASHARE	CollegeCook_topElectric	0.65	0.35	N/A	N/A
College	Cook_top	Natural_Gas	EASHARE	CollegeCook_topNatural_Gas	0.65	0.35	N/A	N/A
College	Fryer	Electric	EASHARE	CollegeFryerElectric	0.65	0.35	N/A	N/A
College	Fryer	Natural_Gas	EASHARE	CollegeFryerNatural_Gas	0.65	0.35	N/A	N/A
College	Griddle	Electric	EASHARE	CollegeGriddleElectric	0.65	0.35	N/A	N/A
College	Griddle	Natural_Gas	EASHARE	CollegeGriddleNatural_Gas	0.65	0.35	N/A	N/A
College	Other	Natural_Gas	EASHARE	CollegeOtherNatural_Gas	1	N/A	N/A	N/A
College	Other_Cooking	Electric	EASHARE	CollegeOther_CookingElectric	0.65	0.35	N/A	N/A
College	Other_Cooking	Natural_Gas	EASHARE	CollegeOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
College	Space_Heat	Electric	EASHARE	CollegeSpace_HeatElectric	1	999	999	999
College	Space_Heat	Natural_Gas	EASHARE	CollegeSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
College	Water_Heat	Electric	EASHARE	CollegeWater_HeatElectric	0.4	0.5	0.08	0.02
College	Water_Heat	Natural_Gas	EASHARE	CollegeWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Construction	Other	Natural_Gas	EASHARE	ConstructionOtherNatural_Gas	1	N/A	N/A	N/A
Construction	Space_Heat	Electric	EASHARE	ConstructionSpace_HeatElectric	1	999	999	999
Construction	Space_Heat	Natural_Gas	EASHARE	ConstructionSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Construction	Water_Heat	Electric	EASHARE	ConstructionWater_HeatElectric	0.4	0.5	0.08	0.02
Construction	Water_Heat	Natural_Gas	EASHARE	ConstructionWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Government	AC_Compressor	Electric	EASHARE	GovernmentAC_CompressorElectric	0.65	0.35	N/A	N/A
Government	AC_Compressor	Natural_Gas	EASHARE	GovernmentAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Government	Cook_top	Electric	EASHARE	GovernmentCook_topElectric	0.65	0.35	N/A	N/A
Government	Cook_top	Natural_Gas	EASHARE	GovernmentCook_topNatural_Gas	0.65	0.35	N/A	N/A
Government	Fryer	Electric	EASHARE	GovernmentFryerElectric	0.65	0.35	N/A	N/A
Government	Fryer	Natural_Gas	EASHARE	GovernmentFryerNatural_Gas	0.65	0.35	N/A	N/A
Government	Griddle	Electric	EASHARE	GovernmentGriddleElectric	0.65	0.35	N/A	N/A
Government	Griddle	Natural_Gas	EASHARE	GovernmentGriddleNatural_Gas	0.65	0.35	N/A	N/A
Government	Other	Natural_Gas	EASHARE	GovernmentOtherNatural_Gas	1	N/A	N/A	N/A
Government	Other_Cooking	Electric	EASHARE	GovernmentOther_CookingElectric	0.65	0.35	N/A	N/A
Government	Other_Cooking	Natural_Gas	EASHARE	GovernmentOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Government	Space_Heat	Electric	EASHARE	GovernmentSpace_HeatElectric	1	999	999	999
Government	Space_Heat	Natural_Gas	EASHARE	GovernmentSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Government	Water_Heat	Electric	EASHARE	GovernmentWater_HeatElectric	0.4	0.5	0.08	0.02
Government	Water_Heat	Natural_Gas	EASHARE	GovernmentWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Grocery	AC_Compressor	Electric	EASHARE	GroceryAC_CompressorElectric	0.65	0.35	N/A	N/A
Grocery	AC_Compressor	Natural_Gas	EASHARE	GroceryAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Grocery	Cook_top	Electric	EASHARE	GroceryCook_topElectric	0.65	0.35	N/A	N/A
Grocery	Cook_top	Natural_Gas	EASHARE	GroceryCook_topNatural_Gas	0.65	0.35	N/A	N/A
Grocery	Fryer	Electric	EASHARE	GroceryFryerElectric	0.65	0.35	N/A	N/A
Grocery	Fryer	Natural_Gas	EASHARE	GroceryFryerNatural_Gas	0.65	0.35	N/A	N/A
Grocery	Griddle	Electric	EASHARE	GroceryGriddleElectric	0.65	0.35	N/A	N/A
Grocery	Griddle	Natural_Gas	EASHARE	GroceryGriddleNatural_Gas	0.65	0.35	N/A	N/A
Grocery	Other	Natural_Gas	EASHARE	GroceryOtherNatural_Gas	1	N/A	N/A	N/A
Grocery	Other_Cooking	Electric	EASHARE	GroceryOther_CookingElectric	0.65	0.35	N/A	N/A
Grocery	Other_Cooking	Natural_Gas	EASHARE	GroceryOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Grocery	Space_Heat	Electric	EASHARE	GrocerySpace_HeatElectric	1	999	999	999
Grocery	Space_Heat	Natural_Gas	EASHARE	GrocerySpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Grocery	Water_Heat	Electric	EASHARE	GroceryWater_HeatElectric	0.4	0.5	0.08	0.02
Grocery	Water_Heat	Natural_Gas	EASHARE	GroceryWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Health	AC_Compressor	Electric	EASHARE	HealthAC_CompressorElectric	0.65	0.35	N/A	N/A
Health	AC_Compressor	Natural_Gas	EASHARE	HealthAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Health	Cook_top	Electric	EASHARE	HealthCook_topElectric	0.65	0.35	N/A	N/A
Health	Cook_top	Natural_Gas	EASHARE	HealthCook_topNatural_Gas	0.65	0.35	N/A	N/A
Health	Drying	Electric	EASHARE	HealthDryingElectric	0.65	0.35	N/A	N/A
Health	Drying	Natural_Gas	EASHARE	HealthDryingNatural_Gas	0.65	0.35	N/A	N/A
Health	Fryer	Electric	EASHARE	HealthFryerElectric	0.65	0.35	N/A	N/A
Health	Fryer	Natural_Gas	EASHARE	HealthFryerNatural_Gas	0.65	0.35	N/A	N/A
Health	Griddle	Electric	EASHARE	HealthGriddleElectric	0.65	0.35	N/A	N/A
Health	Griddle	Natural_Gas	EASHARE	HealthGriddleNatural_Gas	0.65	0.35	N/A	N/A
Health	Other	Natural_Gas	EASHARE	HealthOtherNatural_Gas	1	N/A	N/A	N/A
Health	Other_Cooking	Electric	EASHARE	HealthOther_CookingElectric	0.65	0.35	N/A	N/A
Health	Other_Cooking	Natural_Gas	EASHARE	HealthOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Health	Space_Heat	Electric	EASHARE	HealthSpace_HeatElectric	1	999	999	999
Health	Space_Heat	Natural_Gas	EASHARE	HealthSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Health	Water_Heat	Electric	EASHARE	HealthWater_HeatElectric	0.4	0.5	0.08	0.02
Health	Water_Heat	Natural_Gas	EASHARE	HealthWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Laundry	Drying	Electric	EASHARE	LaundryDryingElectric	0.65	0.35	N/A	N/A
Laundry	Drying	Natural_Gas	EASHARE	LaundryDryingNatural_Gas	0.65	0.35	N/A	N/A

**San Diego Gas & Electric  
Core Commercial E Share Values by Business Type and End Use**

bname	nname	fname	_NAME_	SAT_LOOKUP	Stock_Qtec	Standard_Qtec	High_Qtec	Premium_Qtec
Laundry	Other	Natural_Gas	EASHARE	LaundryOtherNatural_Gas	1	N/A	N/A	N/A
Laundry	Space_Heat	Electric	EASHARE	LaundrySpace_HeatElectric	1	999	999	999
Laundry	Space_Heat	Natural_Gas	EASHARE	LaundrySpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Laundry	Water_Heat	Electric	EASHARE	LaundryWater_HeatElectric	0.4	0.5	0.08	0.02
Laundry	Water_Heat	Natural_Gas	EASHARE	LaundryWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Lodging	AC_Compressor	Electric	EASHARE	LodgingAC_CompressorElectric	0.65	0.35	N/A	N/A
Lodging	AC_Compressor	Natural_Gas	EASHARE	LodgingAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Cook_top	Electric	EASHARE	LodgingCook_topElectric	0.65	0.35	N/A	N/A
Lodging	Cook_top	Natural_Gas	EASHARE	LodgingCook_topNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Drying	Electric	EASHARE	LodgingDryingElectric	0.65	0.35	N/A	N/A
Lodging	Drying	Natural_Gas	EASHARE	LodgingDryingNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Fryer	Electric	EASHARE	LodgingFryerElectric	0.65	0.35	N/A	N/A
Lodging	Fryer	Natural_Gas	EASHARE	LodgingFryerNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Griddle	Electric	EASHARE	LodgingGriddleElectric	0.65	0.35	N/A	N/A
Lodging	Griddle	Natural_Gas	EASHARE	LodgingGriddleNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Other	Natural_Gas	EASHARE	LodgingOtherNatural_Gas	1	N/A	N/A	N/A
Lodging	Other_Cooking	Electric	EASHARE	LodgingOther_CookingElectric	0.65	0.35	N/A	N/A
Lodging	Other_Cooking	Natural_Gas	EASHARE	LodgingOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Lodging	Space_Heat	Electric	EASHARE	LodgingSpace_HeatElectric	1	999	999	999
Lodging	Space_Heat	Natural_Gas	EASHARE	LodgingSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Lodging	Water_Heat	Electric	EASHARE	LodgingWater_HeatElectric	0.4	0.5	0.08	0.02
Lodging	Water_Heat	Natural_Gas	EASHARE	LodgingWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Misc	AC_Compressor	Electric	EASHARE	MiscAC_CompressorElectric	0.65	0.35	N/A	N/A
Misc	AC_Compressor	Natural_Gas	EASHARE	MiscAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Misc	Cook_top	Electric	EASHARE	MiscCook_topElectric	0.65	0.35	N/A	N/A
Misc	Cook_top	Natural_Gas	EASHARE	MiscCook_topNatural_Gas	0.65	0.35	N/A	N/A
Misc	Fryer	Electric	EASHARE	MiscFryerElectric	0.65	0.35	N/A	N/A
Misc	Fryer	Natural_Gas	EASHARE	MiscFryerNatural_Gas	0.65	0.35	N/A	N/A
Misc	Griddle	Electric	EASHARE	MiscGriddleElectric	0.65	0.35	N/A	N/A
Misc	Griddle	Natural_Gas	EASHARE	MiscGriddleNatural_Gas	0.65	0.35	N/A	N/A
Misc	Other	Natural_Gas	EASHARE	MiscOtherNatural_Gas	1	N/A	N/A	N/A
Misc	Other_Cooking	Electric	EASHARE	MiscOther_CookingElectric	0.65	0.35	N/A	N/A
Misc	Other_Cooking	Natural_Gas	EASHARE	MiscOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Misc	Space_Heat	Electric	EASHARE	MiscSpace_HeatElectric	1	999	999	999
Misc	Space_Heat	Natural_Gas	EASHARE	MiscSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Misc	Water_Heat	Electric	EASHARE	MiscWater_HeatElectric	0.4	0.5	0.08	0.02
Misc	Water_Heat	Natural_Gas	EASHARE	MiscWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Office	AC_Compressor	Electric	EASHARE	OfficeAC_CompressorElectric	0.65	0.35	N/A	N/A
Office	AC_Compressor	Natural_Gas	EASHARE	OfficeAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Office	Cooking	Electric	EASHARE	OfficeCookingElectric	0.65	0.35	N/A	N/A
Office	Cooking	Natural_Gas	EASHARE	OfficeCookingNatural_Gas	0.65	0.35	N/A	N/A
Office	Other	Natural_Gas	EASHARE	OfficeOtherNatural_Gas	1	N/A	N/A	N/A
Office	Space_Heat	Electric	EASHARE	OfficeSpace_HeatElectric	1	999	999	999
Office	Space_Heat	Natural_Gas	EASHARE	OfficeSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Office	Water_Heat	Electric	EASHARE	OfficeWater_HeatElectric	0.4	0.5	0.08	0.02
Office	Water_Heat	Natural_Gas	EASHARE	OfficeWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Restaurant	AC_Compressor	Electric	EASHARE	RestaurantAC_CompressorElectric	0.65	0.35	N/A	N/A
Restaurant	AC_Compressor	Natural_Gas	EASHARE	RestaurantAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
Restaurant	Cook_top	Electric	EASHARE	RestaurantCook_topElectric	0.65	0.35	N/A	N/A
Restaurant	Cook_top	Natural_Gas	EASHARE	RestaurantCook_topNatural_Gas	0.65	0.35	N/A	N/A
Restaurant	Fryer	Electric	EASHARE	RestaurantFryerElectric	0.65	0.35	N/A	N/A
Restaurant	Fryer	Natural_Gas	EASHARE	RestaurantFryerNatural_Gas	0.65	0.35	N/A	N/A
Restaurant	Griddle	Electric	EASHARE	RestaurantGriddleElectric	0.65	0.35	N/A	N/A
Restaurant	Griddle	Natural_Gas	EASHARE	RestaurantGriddleNatural_Gas	0.65	0.35	N/A	N/A
Restaurant	Other	Natural_Gas	EASHARE	RestaurantOtherNatural_Gas	1	N/A	N/A	N/A
Restaurant	Other_Cooking	Electric	EASHARE	RestaurantOther_CookingElectric	0.65	0.35	N/A	N/A
Restaurant	Other_Cooking	Natural_Gas	EASHARE	RestaurantOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
Restaurant	Space_Heat	Electric	EASHARE	RestaurantSpace_HeatElectric	1	999	999	999
Restaurant	Space_Heat	Natural_Gas	EASHARE	RestaurantSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Restaurant	Water_Heat	Electric	EASHARE	RestaurantWater_HeatElectric	0.4	0.5	0.08	0.02
Restaurant	Water_Heat	Natural_Gas	EASHARE	RestaurantWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Retail	Cooking	Electric	EASHARE	RetailCookingElectric	0.65	0.35	N/A	N/A
Retail	Cooking	Natural_Gas	EASHARE	RetailCookingNatural_Gas	0.65	0.35	N/A	N/A
Retail	Other	Natural_Gas	EASHARE	RetailOtherNatural_Gas	1	N/A	N/A	N/A
Retail	Space_Heat	Electric	EASHARE	RetailSpace_HeatElectric	1	999	999	999
Retail	Space_Heat	Natural_Gas	EASHARE	RetailSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Retail	Water_Heat	Electric	EASHARE	RetailWater_HeatElectric	0.4	0.5	0.08	0.02
Retail	Water_Heat	Natural_Gas	EASHARE	RetailWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
School	AC_Compressor	Electric	EASHARE	SchoolAC_CompressorElectric	0.65	0.35	N/A	N/A
School	AC_Compressor	Natural_Gas	EASHARE	SchoolAC_CompressorNatural_Gas	0.65	0.35	N/A	N/A
School	Cook_top	Electric	EASHARE	SchoolCook_topElectric	0.65	0.35	N/A	N/A
School	Cook_top	Natural_Gas	EASHARE	SchoolCook_topNatural_Gas	0.65	0.35	N/A	N/A
School	Fryer	Electric	EASHARE	SchoolFryerElectric	0.65	0.35	N/A	N/A
School	Fryer	Natural_Gas	EASHARE	SchoolFryerNatural_Gas	0.65	0.35	N/A	N/A
School	Griddle	Electric	EASHARE	SchoolGriddleElectric	0.65	0.35	N/A	N/A
School	Griddle	Natural_Gas	EASHARE	SchoolGriddleNatural_Gas	0.65	0.35	N/A	N/A
School	Other	Natural_Gas	EASHARE	SchoolOtherNatural_Gas	1	N/A	N/A	N/A
School	Other_Cooking	Electric	EASHARE	SchoolOther_CookingElectric	0.65	0.35	N/A	N/A

**San Diego Gas & Electric  
 Core Commercial E Share Values by Business Type and End Use**

bname	nname	fname	_NAME_	SAT_LOOKUP	Stock_Qtec	Standard_Qtec	High_Qtec	Premium_Qtec
School	Other_Cooking	Natural_Gas	EASHARE	SchoolOther_CookingNatural_Gas	0.65	0.35	N/A	N/A
School	Space_Heat	Electric	EASHARE	SchoolSpace_HeatElectric	1	999	999	999
School	Space_Heat	Natural_Gas	EASHARE	SchoolSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
School	Water_Heat	Electric	EASHARE	SchoolWater_HeatElectric	0.4	0.5	0.08	0.02
School	Water_Heat	Natural_Gas	EASHARE	SchoolWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
TCU	Engine	Electric	EASHARE	TCUEngineElectric	0.65	0.35	N/A	N/A
TCU	Engine	Natural_Gas	EASHARE	TCUEngineNatural_Gas	0.65	0.35	N/A	N/A
TCU	Other	Natural_Gas	EASHARE	TCUOtherNatural_Gas	1	N/A	N/A	N/A
TCU	Space_Heat	Electric	EASHARE	TCUSpace_HeatElectric	1	999	999	999
TCU	Space_Heat	Natural_Gas	EASHARE	TCUSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
TCU	Water_Heat	Electric	EASHARE	TCUWater_HeatElectric	0.4	0.5	0.08	0.02
TCU	Water_Heat	Natural_Gas	EASHARE	TCUWater_HeatNatural_Gas	0.4	0.5	0.08	0.02
Warehouse	Engine	Electric	EASHARE	WarehouseEngineElectric	0.65	0.35	N/A	N/A
Warehouse	Engine	Natural_Gas	EASHARE	WarehouseEngineNatural_Gas	0.65	0.35	N/A	N/A
Warehouse	Other	Natural_Gas	EASHARE	WarehouseOtherNatural_Gas	1	999	N/A	N/A
Warehouse	Space_Heat	Electric	EASHARE	WarehouseSpace_HeatElectric	1	999	999	999
Warehouse	Space_Heat	Natural_Gas	EASHARE	WarehouseSpace_HeatNatural_Gas	0.65	0.3	0.04	0.01
Warehouse	Water_Heat	Electric	EASHARE	WarehouseWater_HeatElectric	0.4	0.5	0.08	0.02
Warehouse	Water_Heat	Natural_Gas	EASHARE	WarehouseWater_HeatNatural_Gas	0.4	0.5	0.08	0.02

**San Diego Gas & Electric  
 Average Equipment Age**

Sector	Space Heater	Water Heater	Cooktop	Griddle	Fryer	Other Cooking Equipment	Kitchen Equipment	AC	Dryer	Engine	Other
Office	1977	1978	1974	1978	1979	1976	1980	1975	1978	1975	1973
Restaurant	1980	1983	1980	1980	1982	1981	1983	1977	1983	1978	1980
Retail	1976	1979	1977	1977	1984	1981	1977	1976	1978	1984	1977
Laundry	1979	1975	1981	1986	1986	1986	1986	1975	1976	1981	1975
Warehouse	1977	1977	1975	1981	1979	1979	1939	1975	1983	1981	1978
School	1975	1977	1971	1972	1975	1972	1972	1973	1975	1974	1972
College	1974	1976	1973	1974	1975	1975	1973	1979	1974	1973	1970
Health	1976	1979	1974	1975	1977	1975	1973	1975	1977	1974	1975
Lodging	1974	1981	1975	1979	1983	1979	1984	1975	1980	1975	1981
Misc	1974	1977	1972	1972	1976	1973	1979	1974	1978	1974	1978
Government	1975	1977	1973	1979	1975	1976	1978	1975	1980	1978	1972
TCU	1975	1979	1975	1978	1982	1979	1990	1975	1983	1978	1981
Construction	1977	1977	1972	1974	1975	1974	1953	1973	1980	1975	1976
Agriculture	1982	1980	1973	1979	1980	1979	1970	1976	1971	1987	1985

**San Diego Gas & Electric  
Use Per Meter (new )**

Sector	Space						Other Cooking	Kitchen		AC	Dryer	Engine	Other	Total Building
	Heater	Water Heater	Cooktop	Griddle	Fryer	Equipment	Equipment							
Office	5400	17920	708	3655	3	1461	270	3	3	3	3	32	29446	
Restaurant	2225	7385	292	1506	1	602	111	1	1	1	1	13	12135	
Retail	1871	6209	245	1266	1	506	93	1	1	1	1	11	10202	
Laundry	4735	15713	620	3205	3	1281	237	3	3	3	3	28	25819	
Warehouse	13683	45407	1793	9261	7	3702	683	7	7	7	7	81	74610	
School	846	2808	111	573	0	229	42	0	0	0	0	5	4613	
College	3830	12711	502	2592	2	1036	191	2	2	2	2	23	20886	
Health	0	1	0	0	0	0	0	0	0	0	0	0	1	
Lodging	11847	39315	1552	8018	6	3205	592	6	6	6	6	70	64599	
Misc	631	2094	83	427	0	171	32	0	0	0	0	4	3440	
Government	11138	36961	1459	7538	6	3013	556	6	6	6	6	66	60732	
TCU	64	213	8	43	0	17	3	0	0	0	0	0	349	
Construction	0	1	0	0	0	0	0	0	0	0	0	0	1	
Agriculture	0	1	0	0	0	0	0	0	0	0	0	0	1	

**San Diego Gas & Electric  
Use Per Meter (Average of All )**

Sector	Space Heater	Water Heater	Cooktop	Griddle	Fryer	Other Cooking Equipment	Kitchen Equipment	AC	Dryer	Engine	Other	Total Building
Office	552	229	28	9	7	29	6	9	27	8	550	1455
Restaurant	460	890	1485	611	1173	1298	316	18	8	0	292	6551
Retail	485	295	107	18	119	206	127	28	54	4	672	2116
Laundry	42	666	5	1	1	8	0	1	6694	0	6233	13652
Warehouse	425	123	18	5	42	49	62	48	141	42	1366	2321
School	2450	826	140	10	31	257	26	31	5	33	717	4526
College	3469	1714	167	49	86	206	48	217	53	74	2359	8441
Health	2467	1546	248	48	67	191	108	45	339	25	2608	7692
Lodging	1680	3432	474	116	148	577	284	28	894	1	3879	11512
Misc	706	431	87	17	29	72	23	73	28	5	476	1947
Government	2573	1496	131	65	38	108	59	69	35	380	1008	5961
TCU	780	280	25	6	12	22	15	38	2	1224	1294	3697
Construction	531	166	13	0	2	7	5	16	99	0	783	1623
Agriculture	3433	832	141	24	294	653	594	8	866	5677	11463	23985



**San Diego Gas & Electric  
 Natural Gas Prices (AVERAGE)  
 \$/Therm**

Year	Com Price Deflator	C	C	Constructi	Governme	C	C	C	C	C	C	C	C	C	C
		Agricultur e Average Price	College Average Price	on Average Price	nt Average Price	Health Average Price	Laundry Average Price	Lodging Average Price	Misc Average Price	Office Average Price	Restauran t Average Price	Retail Average Price	School Average Price	TCU Average Price	Warehous e Average Price
2017	100.00	0.7852	0.8485	0.8128	0.7896	0.7790	0.8519	0.7625	0.7576	0.7709	0.8416	0.7499	0.7628	0.8281	0.7488
2018	102.78	0.6367	0.7045	0.6660	0.6422	0.6303	0.7068	0.6133	0.6080	0.6223	0.6954	0.5998	0.6126	0.6809	0.5987
2019	104.50	0.6585	0.7277	0.6883	0.6643	0.6520	0.7297	0.6348	0.6294	0.6440	0.7179	0.6209	0.6338	0.7031	0.6198
2020	107.29	0.6854	0.7577	0.7163	0.6919	0.6787	0.7591	0.6611	0.6555	0.6708	0.7465	0.6466	0.6595	0.7310	0.6456
2021	110.05	0.7281	0.8073	0.7615	0.7362	0.7210	0.8070	0.7025	0.6964	0.7132	0.7927	0.6867	0.6994	0.7757	0.6856
2022	112.70	0.8020	0.8971	0.8413	0.8138	0.7940	0.8932	0.7734	0.7661	0.7865	0.8749	0.7544	0.7670	0.8544	0.7534
2023	115.27	0.8790	0.9733	0.9180	0.8906	0.8710	0.9696	0.8505	0.8433	0.8635	0.9514	0.8317	0.8443	0.9311	0.8307
2024	117.81	0.9429	1.0332	0.9804	0.9536	0.9351	1.0304	0.9152	0.9082	0.9275	1.0133	0.8971	0.9098	0.9938	0.8961
2025	120.30	1.0103	1.0994	1.0473	1.0207	1.0026	1.0969	0.9828	0.9760	0.9950	1.0800	0.9650	0.9777	1.0608	0.9640
2026	122.78	1.0616	1.1491	1.0980	1.0716	1.0540	1.1469	1.0344	1.0277	1.0463	1.1305	1.0169	1.0296	1.1116	1.0159
2027	125.30	1.1321	1.2215	1.1693	1.1426	1.1244	1.2189	1.1046	1.0977	1.1168	1.2020	1.0867	1.0994	1.1827	1.0857
2028	127.87	1.2166	1.3080	1.2545	1.2276	1.2088	1.3050	1.1887	1.1817	1.2013	1.2876	1.1705	1.1831	1.2679	1.1695
2029	130.84	1.2948	1.3876	1.3332	1.3061	1.2869	1.3842	1.2667	1.2596	1.2794	1.3665	1.2482	1.2608	1.3465	1.2471
2030	134.11	1.3699	1.4651	1.4092	1.3817	1.3618	1.4612	1.3412	1.3339	1.3543	1.4428	1.3222	1.3348	1.4223	1.3212
2031	137.39	1.4351	1.5328	1.4753	1.4475	1.4269	1.5283	1.4059	1.3984	1.4194	1.5093	1.3864	1.3990	1.4882	1.3854
2032	140.73	1.4918	1.5908	1.5325	1.5045	1.4836	1.5860	1.4625	1.4549	1.4761	1.5667	1.4428	1.4553	1.5453	1.4418
2033	144.15	1.5529	1.6545	1.5946	1.5663	1.5445	1.6492	1.5231	1.5153	1.5372	1.6292	1.5029	1.5153	1.6072	1.5019
2034	147.68	1.6368	1.7411	1.6794	1.6507	1.6282	1.7351	1.6064	1.5985	1.6209	1.7144	1.5856	1.5981	1.6919	1.5846
2035	151.28	1.6993	1.8043	1.7422	1.7134	1.6907	1.7982	1.6688	1.6608	1.6834	1.7773	1.6479	1.6603	1.7546	1.6469

**San Diego Gas & Electric  
Natural Gas Prices (Marginal)  
\$/Therm**

<b>Year</b>	<b>Com Price Deflator</b>	<b>C Agriculture Marginal Price</b>	<b>C College Marginal Price</b>	<b>C Construction Marginal Price</b>	<b>C Government Marginal Price</b>	<b>C Health Marginal Price</b>	<b>C Laundry Marginal Price</b>	<b>C Lodging Marginal Price</b>	<b>C Misc Marginal Price</b>	<b>C Office Marginal Price</b>	<b>C Restaurant Marginal Price</b>	<b>C Retail Marginal Price</b>	<b>C School Marginal Price</b>	<b>C TCU Marginal Price</b>	<b>C Warehouse Marginal Price</b>
2017	100.00	0.7420	0.8027	0.7569	0.7506	0.7372	0.7936	0.7314	0.7245	0.7358	0.7735	0.7225	0.7218	0.7616	0.7182
2018	102.78	0.5918	0.6567	0.6077	0.6010	0.5866	0.6470	0.5804	0.5731	0.5852	0.6254	0.5710	0.5702	0.6127	0.5663
2019	104.50	0.6130	0.6792	0.6292	0.6224	0.6077	0.6693	0.6014	0.5938	0.6062	0.6473	0.5917	0.5909	0.6343	0.5869
2020	107.29	0.6386	0.7079	0.6556	0.6484	0.6331	0.6975	0.6265	0.6186	0.6315	0.6745	0.6163	0.6155	0.6609	0.6114
2021	110.05	0.6785	0.7543	0.6971	0.6892	0.6724	0.7430	0.6652	0.6565	0.6707	0.7178	0.6541	0.6532	0.7029	0.6486
2022	112.70	0.7459	0.8370	0.7682	0.7588	0.7386	0.8234	0.7299	0.7196	0.7366	0.7931	0.7166	0.7155	0.7752	0.7101
2023	115.27	0.8232	0.9136	0.8453	0.8360	0.8159	0.9001	0.8073	0.7970	0.8139	0.8700	0.7941	0.7930	0.8523	0.7876
2024	117.81	0.8887	0.9753	0.9099	0.9010	0.8818	0.9623	0.8735	0.8637	0.8798	0.9336	0.8609	0.8598	0.9166	0.8547
2025	120.30	0.9567	1.0420	0.9776	0.9688	0.9498	1.0292	0.9417	0.9320	0.9479	1.0009	0.9292	0.9282	0.9841	0.9231
2026	122.78	1.0086	1.0924	1.0291	1.0204	1.0018	1.0799	0.9938	0.9843	0.9999	1.0520	0.9816	0.9806	1.0355	0.9756
2027	125.30	1.0783	1.1640	1.0993	1.0905	1.0714	1.1512	1.0633	1.0536	1.0695	1.1227	1.0508	1.0497	1.1059	1.0446
2028	127.87	1.1621	1.2496	1.1835	1.1745	1.1551	1.2365	1.1467	1.1368	1.1531	1.2074	1.1339	1.1329	1.1902	1.1276
2029	130.84	1.2397	1.3285	1.2615	1.2523	1.2326	1.3153	1.2241	1.2140	1.2306	1.2857	1.2111	1.2100	1.2683	1.2047
2030	134.11	1.3137	1.4050	1.3361	1.3266	1.3064	1.3913	1.2977	1.2873	1.3043	1.3610	1.2843	1.2832	1.3431	1.2778
2031	137.39	1.3779	1.4715	1.4008	1.3911	1.3703	1.4575	1.3614	1.3508	1.3682	1.4264	1.3477	1.3466	1.4080	1.3410
2032	140.73	1.4342	1.5290	1.4574	1.4476	1.4265	1.5148	1.4175	1.4067	1.4244	1.4833	1.4036	1.4025	1.4647	1.3969
2033	144.15	1.4942	1.5915	1.5180	1.5080	1.4864	1.5770	1.4771	1.4661	1.4842	1.5446	1.4629	1.4617	1.5255	1.4559
2034	147.68	1.5769	1.6769	1.6014	1.5911	1.5689	1.6619	1.5594	1.5480	1.5666	1.6287	1.5448	1.5435	1.6091	1.5376
2035	151.28	1.6391	1.7398	1.6638	1.6534	1.6311	1.7247	1.6215	1.6100	1.6288	1.6913	1.6067	1.6055	1.6715	1.5995

**San Diego Gas & Electric  
 ELECTRIC Prices (AVERAGE)  
 Cents/KWh**

Year	C													
	C Agriculture Average Price	C College Average Price	Construction Average Price	C Government Average Price	C Health Average Price	C Laundry Average Price	C Lodging Average Price	C Misc Average Price	C Office Average Price	C Restaurant Average Price	C Retail Average Price	C School Average Price	C TCU Average Price	C Warehouse Average Price
2017	23.77	25.69	24.61	23.91	23.59	25.79	23.09	22.94	23.34	25.48	22.71	23.10	25.07	22.67
2018	23.91	26.46	25.01	24.12	23.67	26.55	23.03	22.84	23.37	26.12	22.52	23.01	25.57	22.48
2019	24.53	27.10	25.64	24.74	24.28	27.18	23.64	23.44	23.99	26.74	23.13	23.61	26.19	23.09
2020	25.38	28.06	26.52	25.62	25.13	28.10	24.48	24.27	24.84	27.64	23.94	24.42	27.06	23.90
2021	26.51	29.39	27.73	26.81	26.25	29.39	25.58	25.36	25.97	28.86	25.00	25.47	28.24	24.96
2022	26.05	29.14	27.33	26.44	25.79	29.01	25.12	24.89	25.55	28.42	24.51	24.91	27.75	24.47
2023	26.75	29.62	27.93	27.10	26.50	29.51	25.88	25.66	26.28	28.95	25.31	25.69	28.33	25.28
2024	27.34	29.96	28.43	27.65	27.12	29.88	26.54	26.34	26.90	29.38	26.01	26.38	28.82	25.98
2025	28.09	30.57	29.12	28.38	27.88	30.50	27.33	27.14	27.67	30.03	26.83	27.19	29.50	26.81
2026	28.84	31.21	29.83	29.11	28.63	31.16	28.10	27.92	28.42	30.71	27.62	27.97	30.20	27.60
2027	29.64	31.98	30.61	29.92	29.44	31.91	28.92	28.74	29.24	31.47	28.45	28.78	30.97	28.43
2028	30.45	32.74	31.40	30.73	30.26	32.66	29.75	29.58	30.07	32.23	29.30	29.61	31.73	29.27
2029	31.54	33.80	32.48	31.82	31.35	33.72	30.86	30.68	31.17	33.29	30.41	30.71	32.80	30.38
2030	32.67	34.95	33.61	32.96	32.48	34.85	31.99	31.82	32.30	34.41	31.54	31.84	33.92	31.51
2031	33.14	35.39	34.06	33.42	32.95	35.29	32.46	32.29	32.77	34.85	32.01	32.30	34.36	31.99
2032	33.60	35.83	34.51	33.88	33.41	35.72	32.94	32.77	33.24	35.28	32.49	32.77	34.80	32.47
2033	34.06	36.29	34.98	34.36	33.88	36.17	33.41	33.24	33.72	35.74	32.96	33.24	35.25	32.94
2034	34.54	36.75	35.44	34.84	34.36	36.62	33.90	33.74	34.21	36.18	33.46	33.73	35.71	33.44
2035	35.03	37.20	35.91	35.32	34.85	37.07	34.40	34.24	34.70	36.64	33.97	34.23	36.17	33.95

**San Diego Gas & Electric  
 ELECTRIC PRICES (Marginal)  
 Cents/KWh**

Year	C													
	C Agriculture Marginal Price	C College Marginal Price	Construction Marginal Price	C Government Marginal Price	C Health Marginal Price	C Laundry Marginal Price	C Lodging Marginal Price	C Misc Marginal Price	C Office Marginal Price	C Restaurant Marginal Price	C Retail Marginal Price	C School Marginal Price	C TCU Marginal Price	C Warehouse Marginal Price
2017	23.79	25.74	24.27	24.07	23.64	25.45	23.45	23.23	23.59	24.80	23.17	23.14	24.42	23.03
2018	23.93	26.55	24.57	24.30	23.72	26.16	23.47	23.17	23.66	25.29	23.09	23.06	24.78	22.90
2019	24.55	27.20	25.20	24.92	24.33	26.80	24.08	23.78	24.27	25.92	23.69	23.66	25.40	23.50
2020	25.40	28.15	26.07	25.79	25.18	27.74	24.91	24.60	25.11	26.82	24.51	24.48	26.28	24.31
2021	26.53	29.50	27.26	26.95	26.29	29.05	26.01	25.67	26.23	28.07	25.58	25.54	27.48	25.36
2022	26.07	29.25	26.85	26.52	25.81	28.78	25.51	25.15	25.74	27.72	25.05	25.01	27.09	24.82
2023	26.77	29.71	27.49	27.18	26.53	29.27	26.25	25.92	26.46	28.29	25.82	25.79	27.71	25.61
2024	27.36	30.03	28.01	27.74	27.15	29.63	26.89	26.59	27.09	28.74	26.50	26.47	28.22	26.31
2025	28.11	30.62	28.73	28.47	27.91	30.25	27.67	27.39	27.85	29.41	27.31	27.28	28.92	27.13
2026	28.86	31.26	29.44	29.20	28.66	30.90	28.44	28.16	28.61	30.10	28.08	28.06	29.63	27.91
2027	29.66	32.02	30.24	30.00	29.47	31.67	29.25	28.98	29.42	30.88	28.90	28.88	30.42	28.73
2028	30.47	32.77	31.03	30.80	30.29	32.42	30.07	29.81	30.24	31.66	29.73	29.71	31.21	29.57
2029	31.56	33.83	32.12	31.88	31.38	33.49	31.17	30.91	31.33	32.74	30.84	30.81	32.29	30.67
2030	32.70	34.97	33.25	33.02	32.51	34.63	32.30	32.04	32.46	33.87	31.96	31.94	33.43	31.80
2031	33.16	35.41	33.71	33.48	32.97	35.07	32.76	32.50	32.92	34.32	32.43	32.40	33.88	32.27
2032	33.62	35.84	34.16	33.93	33.44	35.51	33.23	32.97	33.39	34.77	32.90	32.88	34.33	32.74
2033	34.08	36.30	34.63	34.40	33.91	35.97	33.69	33.44	33.86	35.23	33.37	33.34	34.80	33.21
2034	34.56	36.76	35.10	34.88	34.39	36.43	34.18	33.93	34.34	35.70	33.86	33.83	35.27	33.70
2035	35.05	37.20	35.58	35.36	34.88	36.88	34.67	34.43	34.83	36.17	34.36	34.33	35.74	34.20

**San Diego Gas & Electric  
 Core Commercial Market  
 Average Year Forecast**

SOURCE	DELCOI YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commerci N+T	2017	1940.00	1826.12	1695.34	1530.42	1304.26	1173.16	1135.84	1133.60	1136.79	1208.88	1517.66	1972.22	17574.31
GN3Commerci N+T	2018	1996.21	1879.03	1744.46	1574.76	1342.05	1207.15	1168.74	1166.45	1169.73	1243.91	1561.63	2029.36	18083.46
GN3Commerci N+T	2019	1999.82	1882.43	1747.62	1577.61	1344.48	1209.33	1170.86	1168.56	1171.85	1246.16	1564.46	2033.03	18116.23
GN3Commerci N+T	2020	2000.49	1883.06	1748.20	1578.14	1344.93	1209.73	1171.25	1168.95	1172.24	1246.57	1564.98	2033.71	18122.24
GN3Commerci N+T	2021	1991.01	1874.14	1739.91	1570.66	1338.55	1204.00	1165.70	1163.41	1166.68	1240.67	1557.57	2024.07	18036.36
GN3Commerci N+T	2022	1974.88	1858.96	1725.82	1557.94	1327.71	1194.25	1156.26	1153.99	1157.23	1230.62	1544.95	2007.68	17890.29
GN3Commerci N+T	2023	1956.01	1841.19	1709.33	1543.05	1315.03	1182.84	1145.21	1142.96	1146.18	1218.86	1530.19	1988.50	17719.34
GN3Commerci N+T	2024	1939.89	1826.01	1695.24	1530.33	1304.18	1173.09	1135.77	1133.54	1136.73	1208.81	1517.57	1972.10	17573.26
GN3Commerci N+T	2025	1921.30	1808.52	1679.00	1515.67	1291.69	1161.85	1124.89	1122.68	1125.84	1197.23	1503.03	1953.21	17404.90
GN3Commerci N+T	2026	1906.38	1794.47	1665.96	1503.90	1281.66	1152.83	1116.15	1113.96	1117.09	1187.93	1491.36	1938.04	17269.72
GN3Commerci N+T	2027	1893.55	1782.40	1654.75	1493.78	1273.03	1145.07	1108.64	1106.46	1109.57	1179.94	1481.32	1925.00	17153.51
GN3Commerci N+T	2028	1878.85	1768.56	1641.90	1482.18	1263.15	1136.18	1100.03	1097.87	1100.96	1170.78	1469.82	1910.05	17020.32
GN3Commerci N+T	2029	1867.16	1757.55	1631.68	1472.96	1255.29	1129.11	1093.19	1091.04	1094.11	1163.49	1460.68	1898.16	16914.41
GN3Commerci N+T	2030	1860.24	1751.04	1625.64	1467.50	1250.64	1124.92	1089.14	1087.00	1090.05	1159.18	1455.27	1891.13	16851.75
GN3Commerci N+T	2031	1855.64	1746.71	1621.62	1463.87	1247.55	1122.14	1086.44	1084.31	1087.36	1156.32	1451.67	1886.46	16810.09
GN3Commerci N+T	2032	1854.26	1745.42	1620.41	1462.78	1246.62	1121.31	1085.64	1083.50	1086.55	1155.46	1450.59	1885.05	16797.58
GN3Commerci N+T	2033	1854.01	1745.18	1620.19	1462.58	1246.45	1121.16	1085.49	1083.35	1086.40	1155.30	1450.39	1884.80	16795.30
GN3Commerci N+T	2034	1848.93	1740.39	1615.75	1458.58	1243.03	1118.08	1082.51	1080.39	1083.43	1152.13	1446.42	1879.63	16749.27
GN3Commerci N+T	2035	1848.69	1740.17	1615.54	1458.39	1242.87	1117.94	1082.37	1080.25	1083.29	1151.98	1446.23	1879.39	16747.10

**San Diego Gas & Electric  
 Core Commercial Market  
 COLD Year Forecast**

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commerci	<b>2017</b>	2097.80	1961.67	1805.16	1607.88	1337.79	1180.96	1136.13	1133.60	1137.66	1223.62	1592.80	2136.37	18351.43
GN3Commerci	2018	2154.00	2014.57	1854.28	1652.21	1375.57	1214.95	1169.03	1166.45	1170.60	1258.65	1636.77	2193.51	18860.58
GN3Commerci	2019	2157.62	2017.97	1857.44	1655.07	1378.00	1217.14	1171.15	1168.56	1172.71	1260.90	1639.60	2197.19	18893.35
GN3Commerci	2020	2158.28	2018.60	1858.02	1655.59	1378.45	1217.54	1171.54	1168.95	1173.10	1261.31	1640.12	2197.86	18899.36
GN3Commerci	2021	2148.80	2009.68	1849.73	1648.11	1372.08	1211.81	1165.99	1163.41	1167.55	1255.41	1632.71	2188.22	18813.48
GN3Commerci	2022	2132.68	1994.50	1835.64	1635.39	1361.24	1202.05	1156.55	1153.99	1158.10	1245.36	1620.09	2171.83	18667.41
GN3Commerci	2023	2113.81	1976.74	1819.15	1620.51	1348.55	1190.64	1145.50	1142.96	1147.04	1233.60	1605.33	2152.65	18496.46
GN3Commerci	2024	2097.68	1961.56	1805.06	1607.78	1337.71	1180.89	1136.06	1133.54	1137.59	1223.55	1592.71	2136.25	18350.38
GN3Commerci	2025	2079.10	1944.06	1788.82	1593.12	1325.21	1169.65	1125.18	1122.68	1126.70	1211.97	1578.17	2117.36	18182.02
GN3Commerci	2026	2064.17	1930.02	1775.78	1581.35	1315.18	1160.63	1116.44	1113.96	1117.96	1202.67	1566.50	2102.19	18046.84
GN3Commerci	2027	2051.34	1917.94	1764.57	1571.23	1306.56	1152.87	1108.93	1106.46	1110.44	1194.68	1556.46	2089.15	17930.63
GN3Commerci	2028	2036.64	1904.10	1751.72	1559.63	1296.67	1143.98	1100.32	1097.87	1101.83	1185.52	1544.96	2074.20	17797.44
GN3Commerci	2029	2024.95	1893.10	1741.50	1550.41	1288.81	1136.91	1093.48	1091.04	1094.97	1178.23	1535.82	2062.32	17691.53
GN3Commerci	2030	2018.03	1886.58	1735.46	1544.95	1284.16	1132.73	1089.43	1087.00	1090.92	1173.92	1530.41	2055.28	17628.87
GN3Commerci	2031	2013.43	1882.26	1731.44	1541.32	1281.07	1129.95	1086.73	1084.31	1088.23	1171.06	1526.81	2050.61	17587.21
GN3Commerci	2032	2012.05	1880.96	1730.23	1540.24	1280.14	1129.11	1085.93	1083.50	1087.42	1170.19	1525.73	2049.21	17574.71
GN3Commerci	2033	2011.80	1880.72	1730.01	1540.04	1279.97	1128.96	1085.78	1083.35	1087.27	1170.04	1525.53	2048.95	17572.42
GN3Commerci	2034	2006.72	1875.94	1725.57	1536.03	1276.56	1125.89	1082.80	1080.39	1084.29	1166.87	1521.56	2043.78	17526.39
GN3Commerci	2035	2006.48	1875.71	1725.36	1535.84	1276.39	1125.74	1082.66	1080.25	1084.15	1166.72	1521.37	2043.54	17524.22

**San Diego Gas & Electric  
 Core Commercial Market  
 HOT Year Forecast**

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commerci	2017	1782.21	1690.58	1585.23	1452.68	1271.03	1165.36	1135.26	1133.60	1136.22	1194.15	1442.52	1808.07	16796.90
GN3Commerci	2018	1838.41	1743.49	1634.35	1497.02	1308.81	1199.34	1168.17	1166.45	1169.15	1229.17	1486.49	1865.21	17306.05
GN3Commerci	2019	1842.03	1746.89	1637.51	1499.87	1311.24	1201.53	1170.28	1168.56	1171.27	1231.42	1489.32	1868.88	17338.82
GN3Commerci	2020	1842.69	1747.52	1638.09	1500.40	1311.69	1201.93	1170.67	1168.95	1171.66	1231.84	1489.84	1869.56	17344.83
GN3Commerci	2021	1833.21	1738.59	1629.80	1492.92	1305.32	1196.20	1165.12	1163.41	1166.10	1225.93	1482.43	1859.92	17258.95
GN3Commerci	2022	1817.09	1723.42	1615.71	1480.20	1294.48	1186.45	1155.68	1153.99	1156.66	1215.88	1469.81	1843.53	17112.88
GN3Commerci	2023	1798.22	1705.65	1599.22	1465.31	1281.79	1175.04	1144.63	1142.96	1145.60	1204.12	1455.05	1824.34	16941.93
GN3Commerci	2024	1782.09	1690.47	1585.13	1452.59	1270.95	1165.28	1135.19	1133.54	1136.15	1194.07	1442.43	1807.95	16795.85
GN3Commerci	2025	1763.51	1672.98	1568.89	1437.93	1258.45	1154.05	1124.31	1122.68	1125.26	1182.49	1427.89	1789.06	16627.49
GN3Commerci	2026	1748.58	1658.93	1555.85	1426.16	1248.42	1145.02	1115.57	1113.96	1116.51	1173.19	1416.22	1773.89	16492.31
GN3Commerci	2027	1735.76	1646.86	1544.64	1416.04	1239.80	1137.26	1108.06	1106.46	1109.00	1165.20	1406.18	1760.84	16376.10
GN3Commerci	2028	1721.05	1633.02	1531.79	1404.44	1229.91	1128.37	1099.45	1097.87	1100.38	1156.04	1394.68	1745.90	16242.91
GN3Commerci	2029	1709.36	1622.01	1521.57	1395.22	1222.05	1121.30	1092.61	1091.04	1093.53	1148.75	1385.54	1734.01	16137.00
GN3Commerci	2030	1702.45	1615.50	1515.53	1389.76	1217.40	1117.12	1088.56	1087.00	1089.48	1144.44	1380.13	1726.98	16074.34
GN3Commerci	2031	1697.85	1611.17	1511.51	1386.13	1214.31	1114.34	1085.87	1084.31	1086.78	1141.58	1376.53	1722.31	16032.68
GN3Commerci	2032	1696.47	1609.87	1510.30	1385.04	1213.38	1113.51	1085.06	1083.50	1085.97	1140.72	1375.45	1720.90	16020.17
GN3Commerci	2033	1696.21	1609.64	1510.08	1384.84	1213.21	1113.35	1084.91	1083.35	1085.83	1140.56	1375.25	1720.65	16017.89
GN3Commerci	2034	1691.13	1604.85	1505.64	1380.84	1209.80	1110.28	1081.94	1080.39	1082.85	1137.39	1371.28	1715.48	15971.86
GN3Commerci	2035	1690.89	1604.63	1505.43	1380.65	1209.64	1110.14	1081.80	1080.25	1082.71	1137.24	1371.09	1715.24	15969.69

**San Diego Gas & Electric  
 Core Commercial Market  
 BASE Year Forecast**

SOURCE	YEAR	MDTH1	MDTH2	MDTH3	MDTH4	MDTH5	MDTH6	MDTH7	MDTH8	MDTH9	MDTH10	MDTH11	MDTH12	TOTAL
GN3Commerci	2017	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	1128.40	13540.82
GN3Commerci	2018	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	1161.24	13934.93
GN3Commerci	2019	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	1163.36	13960.29
GN3Commerci	2020	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	1163.75	13964.94
GN3Commerci	2021	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	1158.21	13898.47
GN3Commerci	2022	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	1148.78	13785.41
GN3Commerci	2023	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	1137.76	13653.08
GN3Commerci	2024	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	1128.33	13540.01
GN3Commerci	2025	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	1117.47	13409.69
GN3Commerci	2026	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	1108.75	13305.06
GN3Commerci	2027	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	1101.26	13215.10
GN3Commerci	2028	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	1092.67	13112.01
GN3Commerci	2029	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	1085.84	13030.03
GN3Commerci	2030	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	1081.79	12981.53
GN3Commerci	2031	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	1079.11	12949.28
GN3Commerci	2032	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	1078.30	12939.60
GN3Commerci	2033	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	1078.15	12937.83
GN3Commerci	2034	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	1075.18	12902.20
GN3Commerci	2035	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	1075.04	12900.53



## GN3 Industrial DATA TABLES

**San Diego Gas and Electric Company**  
**Industrial GN3**  
 The Year the Equipment Was Installed by Business Types

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>
<b>Mining</b>	2002	1980	1979	1980	1968	1978 .		1970	1976
<b>Food</b>	2004	1999	2002	1992	1992	2002	1965	1994	1983
<b>Textile</b>	1999	1998	1994	1982	1992	1982 .			1980
<b>Wood_Paper</b>	1997	1994	1995	1981	1981	2006 .			1975
<b>Chemical</b>	2005	1995	2002	1986	1985	1981 .		1999	1976
<b>Petroleum</b>	2006	1990	2002	1975	1981	1971 .			1977
<b>Stone</b>	2007	1983	1996	1982	1982	1982 .	1985	2014	1975
<b>Prim_Metal</b>	1993	1991	1987	1982	1978	1982 .		1996	1976
<b>Fab_Metal</b>	2002	1989	1986	1980	1984	1980 .		1984	1975
<b>Transport</b>	1993	1994	1996	1981	1987	1983	1973	2003	1976
<b>Misc</b>	1996	1995	1994	1981	1987	1978	1984	1999	1978

**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Electric Price Forecast (Cent/KWH)**

**(a) Average Price Forecast**

<u>Year</u>	<u>Chemical</u>	<u>Fab Metal</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Prim Metal</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Paper</u>	<u>Misc</u>
2017	18.22	18.10	20.89	21.65	17.36	20.39	17.76	17.64	18.50	17.44	17.90
2018	18.24	18.09	21.71	22.64	17.12	21.07	17.63	17.48	18.60	17.21	17.82
2019	18.72	18.56	22.21	23.14	17.59	21.58	18.10	17.96	19.08	17.68	18.29
2020	19.38	19.22	22.96	23.89	18.21	22.33	18.74	18.59	19.75	18.31	18.93
2021	20.25	20.08	24.02	24.94	19.01	23.38	19.57	19.42	20.64	19.11	19.77
2022	19.91	19.72	23.78	24.60	18.61	23.17	19.18	19.05	20.31	18.71	19.39
2023	20.48	20.31	24.09	24.86	19.26	23.52	19.80	19.68	20.85	19.36	20.00
2024	20.97	20.81	24.29	25.03	19.85	23.76	20.35	20.23	21.31	19.94	20.53
2025	21.57	21.42	24.73	25.43	20.51	24.22	20.98	20.87	21.90	20.60	21.16
2026	22.16	22.02	25.21	25.89	21.14	24.71	21.60	21.49	22.48	21.23	21.76
2027	22.80	22.66	25.78	26.45	21.80	25.30	22.24	22.14	23.11	21.88	22.41
2028	23.44	23.30	26.34	26.98	22.47	25.88	22.90	22.80	23.74	22.55	23.06
2029	24.30	24.16	27.16	27.78	23.34	26.71	23.76	23.67	24.59	23.42	23.92
2030	25.19	25.05	28.04	28.65	24.22	27.60	24.65	24.55	25.48	24.30	24.80
2031	25.55	25.41	28.38	28.97	24.59	27.94	25.01	24.92	25.84	24.67	25.17
2032	25.92	25.78	28.70	29.28	24.97	28.27	25.39	25.30	26.20	25.05	25.54
2033	26.29	26.15	29.05	29.62	25.34	28.63	25.76	25.67	26.57	25.42	25.91
2034	26.67	26.53	29.39	29.93	25.74	28.98	26.15	26.06	26.95	25.81	26.30
2035	27.05	26.92	29.72	30.25	26.14	29.33	26.54	26.46	27.33	26.21	26.69

**(b) Marginal Price Forecast**

<u>Year</u>	<u>Chemical</u>	<u>Fab Metal</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Prim Metal</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Paper</u>	<u>Misc</u>
2017	14.32	14.30	16.41	16.55	13.94	15.77	14.29	14.14	14.54	13.91	14.17
2018	14.30	14.27	17.10	17.29	13.78	16.24	14.25	14.06	14.59	13.75	14.10
2019	14.67	14.65	17.51	17.70	14.15	16.64	14.62	14.43	14.96	14.12	14.47
2020	15.18	15.15	18.12	18.32	14.63	17.22	15.13	14.92	15.48	14.61	14.97
2021	15.84	15.82	19.01	19.23	15.26	18.04	15.79	15.57	16.17	15.23	15.62
2022	15.53	15.50	18.92	19.15	14.90	17.88	15.47	15.23	15.87	14.86	15.28
2023	15.99	15.97	19.13	19.35	15.41	18.17	15.94	15.72	16.32	15.38	15.77
2024	16.40	16.38	19.26	19.45	15.87	18.38	16.35	16.15	16.69	15.85	16.20
2025	16.89	16.87	19.58	19.76	16.39	18.75	16.84	16.66	17.17	16.36	16.70
2026	17.36	17.34	19.94	20.12	16.89	19.15	17.32	17.14	17.63	16.86	17.18
2027	17.87	17.84	20.40	20.57	17.40	19.62	17.82	17.65	18.13	17.37	17.69
2028	18.37	18.35	20.84	21.01	17.92	20.08	18.33	18.16	18.63	17.89	18.20
2029	19.05	19.03	21.48	21.65	18.60	20.74	19.01	18.84	19.30	18.58	18.88
2030	19.75	19.72	22.19	22.36	19.29	21.44	19.70	19.53	20.00	19.27	19.57
2031	20.03	20.01	22.46	22.62	19.58	21.71	19.99	19.82	20.28	19.56	19.86
2032	20.32	20.30	22.71	22.88	19.88	21.98	20.28	20.11	20.57	19.85	20.15
2033	20.61	20.59	23.00	23.16	20.17	22.27	20.57	20.40	20.85	20.14	20.44
2034	20.91	20.89	23.27	23.43	20.47	22.54	20.87	20.70	21.15	20.45	20.74
2035	21.21	21.19	23.53	23.69	20.78	22.82	21.17	21.01	21.45	20.76	21.05

**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Gas Price Forecast** (\$/Therm)

**(a) Average Price Forecast**

<u>Year</u>	<u>Price Deflator</u>	<u>Chemical</u>	<u>Fabricated Metal</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Primary Metal</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Pa per</u>	<u>Misc</u>
2017	100.00	0.7782	0.7733	0.8924	0.9246	0.7417	0.8708	0.7585	0.7535	0.7901	0.7448	0.7647
2018	102.78	0.6300	0.6246	0.7497	0.7820	0.5913	0.7278	0.6089	0.6039	0.6423	0.5945	0.6155
2019	104.50	0.6517	0.6463	0.7733	0.8057	0.6123	0.7513	0.6302	0.6252	0.6643	0.6156	0.6369
2020	107.29	0.6788	0.6731	0.8043	0.8368	0.6378	0.7821	0.6563	0.6513	0.6917	0.6412	0.6632
2021	110.05	0.7216	0.7154	0.8559	0.8885	0.6772	0.8331	0.6971	0.6921	0.7355	0.6809	0.7045
2022	112.70	0.7961	0.7885	0.9505	0.9835	0.7438	0.9264	0.7668	0.7616	0.8119	0.7480	0.7753
2023	115.27	0.8730	0.8655	1.0265	1.0595	0.8211	1.0025	0.8439	0.8388	0.8888	0.8253	0.8524
2024	117.81	0.9368	0.9296	1.0852	1.1181	0.8868	1.0615	0.9089	0.9038	0.9520	0.8909	0.9171
2025	120.30	1.0042	0.9971	1.1510	1.1838	0.9549	1.1274	0.9767	0.9716	1.0192	0.9589	0.9848
2026	122.78	1.0554	1.0485	1.2002	1.2331	1.0069	1.1767	1.0283	1.0233	1.0703	1.0108	1.0364
2027	125.30	1.1260	1.1189	1.2732	1.3061	1.0765	1.2496	1.0984	1.0933	1.1411	1.0806	1.1065
2028	127.87	1.2106	1.2033	1.3603	1.3932	1.1601	1.3365	1.1824	1.1773	1.2260	1.1643	1.1907
2029	130.84	1.2888	1.2815	1.4403	1.4732	1.2377	1.4164	1.2602	1.2551	1.3044	1.2419	1.2686
2030	134.11	1.3639	1.3564	1.5186	1.5516	1.3116	1.4945	1.3346	1.3295	1.3798	1.3158	1.3431
2031	137.39	1.4292	1.4214	1.5871	1.6201	1.3756	1.5628	1.3991	1.3939	1.4454	1.3799	1.4078
2032	140.73	1.4860	1.4781	1.6454	1.6785	1.4318	1.6210	1.4555	1.4504	1.5023	1.4362	1.4644
2033	144.15	1.5472	1.5391	1.7099	1.7431	1.4917	1.6853	1.5159	1.5108	1.5639	1.4962	1.5250
2034	147.68	1.6311	1.6228	1.7973	1.8305	1.5742	1.7725	1.5990	1.5939	1.6481	1.5788	1.6082
2035	151.28	1.6937	1.6853	1.8608	1.8940	1.6364	1.8359	1.6614	1.6562	1.7108	1.6410	1.6706

**(b) Marginal Price Forecast**

<u>Year</u>	<u>Price Deflator</u>	<u>Chemical</u>	<u>Fabricated Metal</u>	<u>Food</u>	<u>Mining</u>	<u>Petroleum</u>	<u>Primary Metal</u>	<u>Stone</u>	<u>Textile</u>	<u>Transport</u>	<u>Wood Pa per</u>	<u>Misc</u>
2017	100.00	0.7368	0.7359	0.8443	0.8517	0.7170	0.8113	0.7350	0.7275	0.7479	0.7159	0.7292
2018	102.78	0.5863	0.5853	0.7012	0.7090	0.5650	0.6659	0.5843	0.5763	0.5981	0.5639	0.5781
2019	104.50	0.6073	0.6063	0.7247	0.7327	0.5856	0.6887	0.6053	0.5971	0.6194	0.5844	0.5990
2020	107.29	0.6327	0.6316	0.7554	0.7638	0.6100	0.7178	0.6306	0.6221	0.6453	0.6088	0.6240
2021	110.05	0.6720	0.6708	0.8064	0.8155	0.6471	0.7651	0.6697	0.6603	0.6858	0.6458	0.6625
2022	112.70	0.7381	0.7367	0.8995	0.9105	0.7083	0.8500	0.7354	0.7241	0.7547	0.7067	0.7267
2023	115.27	0.8154	0.8140	0.9756	0.9865	0.7858	0.9265	0.8127	0.8016	0.8319	0.7842	0.8041
2024	117.81	0.8813	0.8800	1.0347	1.0451	0.8529	0.9876	0.8787	0.8680	0.8971	0.8514	0.8704
2025	120.30	0.9494	0.9480	1.1006	1.1109	0.9214	1.0541	0.9468	0.9363	0.9649	0.9199	0.9386
2026	122.78	1.0014	1.0001	1.1499	1.1601	0.9739	1.1043	0.9988	0.9885	1.0167	0.9725	0.9909
2027	125.30	1.0710	1.0697	1.2228	1.2331	1.0429	1.1762	1.0684	1.0578	1.0866	1.0414	1.0602
2028	127.87	1.1546	1.1532	1.3097	1.3202	1.1259	1.2621	1.1519	1.1412	1.1705	1.1244	1.1436
2029	130.84	1.2321	1.2307	1.3895	1.4002	1.2030	1.3412	1.2294	1.2185	1.2483	1.2014	1.2209
2030	134.11	1.3059	1.3045	1.4676	1.4786	1.2760	1.4180	1.3031	1.2919	1.3225	1.2744	1.2944
2031	137.39	1.3698	1.3684	1.5358	1.5472	1.3391	1.4849	1.3670	1.3555	1.3869	1.3375	1.3581
2032	140.73	1.4260	1.4246	1.5940	1.6055	1.3950	1.5425	1.4231	1.4115	1.4433	1.3933	1.4141
2033	144.15	1.4859	1.4844	1.6583	1.6701	1.4540	1.6054	1.4829	1.4709	1.5036	1.4523	1.4736
2034	147.68	1.5684	1.5668	1.7455	1.7575	1.5356	1.6911	1.5653	1.5530	1.5866	1.5339	1.5558
2035	151.28	1.6305	1.6290	1.8089	1.8210	1.5975	1.7541	1.6275	1.6151	1.6489	1.5958	1.6179

**San Diego Gas and Electric Company  
 Industrial GN3  
 Historical Throughput and Customer Counts**

<u>Business Type</u>	<u>therms_</u> <u>2017</u> <u>Temp. Adj.</u>	<u>meters_</u> <u>2017</u>	<u>meters_</u> <u>2017</u> <u>ExCust</u>	<u>meters_</u> <u>2017</u> <u>NewCust</u>	<u>avgUse_</u> <u>2017</u> <u>ExCust</u>	<u>avgUse_</u> <u>2017</u> <u>NewCust</u>	<u>Price</u> <u>Elasticity</u>	<u>Employment</u> <u>Elasticity</u>
Mining	5485757	463	460	3	11903	3471	0.00000	0.32145
Food	1822406	51	51	0	35733	0	-0.19080	1.24251
Textile	1076801	143	143	0	7530	0	0.00000	0.03333
Wood_Paper	305971	11	10	1	24013	65838	0.00000	0.50827
Chemical	345436	30	29	1	11653	7497	-0.08052	0.65007
Petroleum	16563	3	3	0	5521	0	-0.18056	0.08454
Stone	1797501	75	75	0	23967	0	0.00000	0.41691
Prim_Metal	18884	13	13	0	1453	0	0.00000	0.95669
Fab_Metal	26929	18	18	0	1496	0	-0.13744	1.02388
Transport	3262268	226	212	14	14680	10723	0.00000	0.40251
Misc	93463	6	6	0	15577	0	-0.10831	0.87931
Total	14,251,978	1,039	1,020					

**San Diego Gas and Electric Company**  
**Industrial GN3**  
 Average Use Per Meter therm

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>	<u>Total</u>
<b>Mining</b>	0.00	6225.80	43.44	1922.69	76.05	0.56	0.00	2.75	4786.37	13057.66
<b>Food</b>	3180.78	10141.03	82.75	2847.86	5310.90	7.92	71.91	83.96	2503.74	24230.85
<b>Textile</b>	5027.39	6783.50	56.56	1340.65	7765.90	71.23	0.00	0.00	1098.82	22144.05
<b>Wood_Paper</b>	4463.96	11983.97	458.96	1285.89	1606.17	119.80	0.00	3.78	2324.39	22246.91
<b>Chemical</b>	1972.76	7552.98	2767.33	1673.42	2070.49	665.27	2.19	85.13	4219.74	21009.32
<b>Petroleum</b>	2197.09	20863.92	133.26	129.32	41681.87	8.61	0.00	9165.75	15693.36	89873.19
<b>Stone</b>	428.23	1589.00	45.91	474.03	3876.33	3293.73	0.59	0.02	1787.29	11495.13
<b>Prim_Metal</b>	1513.70	2386.00	313.35	1878.50	6092.33	16202.71	10.64	0.00	3538.66	31935.90
<b>Fab_Metal</b>	336.91	656.28	208.11	1452.36	3112.68	2689.72	0.05	7.80	2730.58	11194.48
<b>Transport</b>	488.08	1995.77	1128.58	1115.44	1053.17	659.96	0.00	196.93	1456.32	8094.24
<b>Misc</b>	230.00	1031.13	332.14	501.28	1535.53	375.48	0.01	17.60	1179.66	5202.83

**San Diego Gas and Electric Company**  
**Industrial GN3**  
 Use Per Meter for New Customers                      therm

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>	<u>Total</u>
<b>Mining</b>	0.00	2.24	0.23	23947.31	0.00	0.00	0.00	0.00	9314.20	33263.98
<b>Food</b>	3155.88	12674.65	38.57	1919.40	1967.47	0.00	0.00	0.00	1249.16	21005.14
<b>Textile</b>	1329.08	131.16	1.11	7181.12	1647.02	0.00	0.00	0.00	17.62	10307.11
<b>Wood_Paper</b>	0.00	30721.53	214.64	20.21	9238.90	0.00	0.00	0.00	0.00	40195.28
<b>Chemical</b>	5624.56	11816.67	3290.36	2592.56	3709.92	0.00	0.00	35.54	587.66	27657.26
<b>Petroleum</b>	3649.78	91492.09	145.82	0.00	26440.15	0.00	0.00	0.00	868.47	122596.30
<b>Stone</b>	0.00	0.00	198.09	0.00	1636.20	0.00	0.00	0.00	0.00	1834.29
<b>Prim_Metal</b>	0.00	18017.06	0.00	0.00	1290.93	39287.08	0.00	0.00	0.00	58595.07
<b>Fab_Metal</b>	0.00	317.56	14.86	42.94	6237.87	33.44	0.00	0.00	2118.72	8765.39
<b>Transport</b>	0.00	3204.72	1876.33	589.64	2009.99	3173.04	0.00	5922.60	0.00	16776.31
<b>Misc</b>	1325.47	1281.96	223.24	588.39	2609.70	138.67	0.00	10.79	2858.83	9037.05

**San Diego Gas and Electric Company  
 Industrial GN3  
 Electric UEC (Kwh/SqFt)**

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>
Mining	0.00	153.78	1.07	47.49	1.88	0.01	0.00	0.07	118.22
Food	894.74	2834.31	23.37	805.10	1507.57	2.24	20.33	23.73	719.30
Textile	255.39	344.60	2.87	68.10	394.52	3.62	0.00	0.00	55.82
Wood_Paper	205.34	551.26	21.11	59.15	73.88	5.51	0.00	0.17	106.92
Chemical	195.90	750.01	274.80	166.17	205.60	66.06	0.22	8.45	419.02
Petroleum	29.22	277.49	1.77	1.72	554.37	0.12	0.00	121.90	208.72
Stone	18.50	68.64	1.98	20.48	167.46	142.29	0.03	0.00	77.21
Primary_Metal	51.77	81.60	10.23	64.25	208.37	554.59	0.36	0.00	121.04
Fabricated_Metal	72.67	141.61	44.89	313.22	671.40	580.17	0.01	1.68	588.99
Transportation	83.56	341.15	193.01	191.35	180.35	112.99	0.00	33.71	249.62
Miscellaneous	160.38	722.32	227.50	349.39	1066.90	261.82	0.00	12.28	825.79



**San Diego Gas and Electric Company**  
**Industrial GN3**  
 Gas UEC (Therm per SqFt.)

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>
<b>Mining</b>	587697	5728	1099	281	163309	67709	159	140010	4169
<b>Food</b>	48371	11453	3801	1088	51807	38092	1210	56748	3383
<b>Textile</b>	69640	18095	1014	2073	185827	52133	3638	0	905
<b>Wood_Paper</b>	538832	176840	2355	199	25503	48049	160	0	1333
<b>Chemical</b>	57040	32092	1693	1327	1288	28940	79	36	3051
<b>Petroleum</b>	74485	18782	766	1037	670974	2971	0	4932	10241
<b>Stone</b>	241878	48074	1559	1558	334016	304106	1844	0	1204
<b>Primary_Metal</b>	8499	26852	2693	636	1243	678517	3232	0	2343
<b>Fabricated_Metal</b>	29520	28816	2697	591	2811	101640	281	0	2435
<b>Transportation</b>	3723	2169	1490	443	11159	19127	71	353	373
<b>Miscellaneous</b>	7219	5077	1109	319	8838	49023	413	859	952

**San Diego Gas and Electric Company  
 Industrial GN3  
 Gas Market Shares**

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>
Chemical	0.00	0.28	0.24	0.50	0.03	0.01	0.00	0.03	1
Fabricated_Metal	0.06	0.21	0.14	0.77	0.24	0.01	0.00	0.01	1
Food	0.20	0.31	0.16	0.43	0.57	0.03	0.00	0.00	0
Mining	0.05	0.21	0.20	0.53	0.23	0.05	0.00	0.01	1
Miscellaneous	0.07	0.32	0.27	0.58	0.21	0.03	0.00	0.03	1
Petroleum	0.07	0.24	0.17	0.22	0.26	0.04	0.00	0.06	1
Primary_Metal	0.03	0.11	0.22	0.47	0.26	0.32	0.02	0.01	1
Stone	0.03	0.09	0.21	0.55	0.33	0.49	0.01	0.01	1
Textile	0.01	0.08	0.17	0.57	0.32	0.12	0.00	0.01	1
Transportation	0.02	0.07	0.20	0.50	0.20	0.08	0.00	0.01	1
Wood_Paper	0.02	0.12	0.21	0.53	0.24	0.07	0.00	0.01	1

**San Diego Gas and Electric Company  
 Industrial GN3  
 Saturation Rate**

<u>Business Type</u>	<u>Fire_</u> <u>Tube_</u> <u>Boiler</u>	<u>Water_</u> <u>Tube_</u> <u>Boiler</u>	<u>Space_</u> <u>Heat</u>	<u>Water_</u> <u>Heat</u>	<u>Dryer</u>	<u>Furnace_</u> <u>Oven_</u> <u>Kiln</u>	<u>AC</u>	<u>Engine</u>	<u>Other</u>
<b>Mining</b>	0.01	0.01	0.73	0.73	0.03	0.06	0.64	0.87	1.00
<b>Food</b>	0.45	0.45	0.60	0.85	0.12	0.33	0.73	0.70	1.00
<b>Textile</b>	0.26	0.26	0.70	0.71	0.14	0.09	0.72	0.46	1.00
<b>Wood_Paper</b>	0.01	0.01	0.62	0.77	0.09	0.07	0.71	0.50	1.00
<b>Chemical</b>	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
<b>Petroleum</b>	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
<b>Stone</b>	0.01	0.01	0.73	0.73	0.03	0.06	0.64	0.87	1.00
<b>Prim_Metal</b>	0.07	0.07	0.73	0.76	0.15	0.10	0.68	0.86	1.00
<b>Fab_Metal</b>	0.07	0.07	0.73	0.76	0.15	0.10	0.68	0.86	1.00
<b>Transport</b>	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00
<b>Misc</b>	0.14	0.14	0.73	0.73	0.12	0.10	0.74	0.70	1.00

**San Diego Gas and Electric Company  
Industrial GN3  
UEC, Equipment Cost and Efficiency Shares**

**Where Fuel = 1 (gas) and = 2 (electric), and  
Efficiency =1 (stock), =2 (standard), =3 (high) and =4 (premium)**

<u>Business Type</u>	<u>End Use</u>	<u>Fuel</u>	<u>Efficiency</u>	<u>EQcost</u>
Mining	Fire_Tube_Boiler	1	1	3,907,010
Mining	Fire_Tube_Boiler	1	2	4,297,711
Mining	Fire_Tube_Boiler	1	3	4,688,412
Mining	Fire_Tube_Boiler	2	1	3,125,608
Mining	Fire_Tube_Boiler	2	2	3,438,169
Mining	Fire_Tube_Boiler	2	3	3,750,729
Mining	Water_Tube_Boiler	1	1	38,080
Mining	Water_Tube_Boiler	1	2	41,888
Mining	Water_Tube_Boiler	1	3	45,696
Mining	Water_Tube_Boiler	2	1	30,464
Mining	Water_Tube_Boiler	2	2	33,510
Mining	Water_Tube_Boiler	2	3	36,557
Mining	Space_Heat	1	1	7,306
Mining	Space_Heat	1	2	8,037
Mining	Space_Heat	1	3	8,767
Mining	Space_Heat	2	1	5,845
Mining	Space_Heat	2	2	6,429
Mining	Space_Heat	2	3	7,014
Mining	Water_Heat	1	1	1,868
Mining	Water_Heat	1	2	2,055
Mining	Water_Heat	1	3	2,242
Mining	Water_Heat	2	1	1,494
Mining	Water_Heat	2	2	1,644
Mining	Water_Heat	2	3	1,793
Mining	Dryer	1	1	1,085,678
Mining	Dryer	1	2	1,194,246
Mining	Dryer	1	3	1,302,814
Mining	Dryer	2	1	868,543
Mining	Dryer	2	2	955,397
Mining	Dryer	2	3	1,042,251
Mining	Furnace_Oven_Kiln	1	1	450,129
Mining	Furnace_Oven_Kiln	1	2	495,142
Mining	Furnace_Oven_Kiln	1	3	540,155
Mining	Furnace_Oven_Kiln	2	1	360,104
Mining	Furnace_Oven_Kiln	2	2	396,114
Mining	Furnace_Oven_Kiln	2	3	432,124
Mining	AC	1	1	1,057
Mining	AC	1	2	1,163
Mining	AC	1	3	1,268
Mining	AC	2	1	846
Mining	AC	2	2	930
Mining	AC	2	3	1,015
Mining	Engine	1	1	930,786
Mining	Engine	1	2	1,023,865
Mining	Engine	1	3	1,116,944
Mining	Engine	2	1	744,629
Mining	Engine	2	2	819,092
Mining	Engine	2	3	893,555
Mining	Other	1	1	-
Mining	Other	1	2	-
Mining	Other	1	3	-
Mining	Other	2	1	-
Mining	Other	2	2	-
Mining	Other	2	3	-
Food	Fire_Tube_Boiler	1	1	303,093
Food	Fire_Tube_Boiler	1	2	333,402
Food	Fire_Tube_Boiler	1	3	363,711
Food	Fire_Tube_Boiler	2	1	242,474
Food	Fire_Tube_Boiler	2	2	266,722
Food	Fire_Tube_Boiler	2	3	290,969
Food	Water_Tube_Boiler	1	1	71,765

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Food	Water_Tube_Boiler	1	2	78,941
Food	Water_Tube_Boiler	1	3	86,117
Food	Water_Tube_Boiler	2	1	57,412
Food	Water_Tube_Boiler	2	2	63,153
Food	Water_Tube_Boiler	2	3	68,894
Food	Space_Heat	1	1	23,817
Food	Space_Heat	1	2	26,199
Food	Space_Heat	1	3	28,580
Food	Space_Heat	2	1	19,054
Food	Space_Heat	2	2	20,959
Food	Space_Heat	2	3	22,864
Food	Water_Heat	1	1	6,817
Food	Water_Heat	1	2	7,499
Food	Water_Heat	1	3	8,181
Food	Water_Heat	2	1	5,454
Food	Water_Heat	2	2	5,999
Food	Water_Heat	2	3	6,545
Food	Dryer	1	1	324,623
Food	Dryer	1	2	357,085
Food	Dryer	1	3	389,547
Food	Dryer	2	1	259,698
Food	Dryer	2	2	285,668
Food	Dryer	2	3	311,638
Food	Furnace_Oven_Kiln	1	1	238,684
Food	Furnace_Oven_Kiln	1	2	262,553
Food	Furnace_Oven_Kiln	1	3	286,421
Food	Furnace_Oven_Kiln	2	1	190,948
Food	Furnace_Oven_Kiln	2	2	210,042
Food	Furnace_Oven_Kiln	2	3	229,137
Food	AC	1	1	7,582
Food	AC	1	2	8,340
Food	AC	1	3	9,098
Food	AC	2	1	6,065
Food	AC	2	2	6,672
Food	AC	2	3	7,279
Food	Engine	1	1	355,583
Food	Engine	1	2	391,141
Food	Engine	1	3	426,700
Food	Engine	2	1	284,466
Food	Engine	2	2	312,913
Food	Engine	2	3	341,360
Food	Other	1	1	-
Food	Other	1	2	-
Food	Other	1	3	-
Food	Other	2	1	-
Food	Other	2	2	-
Food	Other	2	3	-
Textile	Fire_Tube_Boiler	1	1	440,682
Textile	Fire_Tube_Boiler	1	2	484,750
Textile	Fire_Tube_Boiler	1	3	528,818
Textile	Fire_Tube_Boiler	2	1	352,546
Textile	Fire_Tube_Boiler	2	2	387,800
Textile	Fire_Tube_Boiler	2	3	423,055
Textile	Water_Tube_Boiler	1	1	114,505
Textile	Water_Tube_Boiler	1	2	125,956
Textile	Water_Tube_Boiler	1	3	137,406
Textile	Water_Tube_Boiler	2	1	91,604
Textile	Water_Tube_Boiler	2	2	100,765
Textile	Water_Tube_Boiler	2	3	109,925
Textile	Space_Heat	1	1	6,417
Textile	Space_Heat	1	2	7,058
Textile	Space_Heat	1	3	7,700
Textile	Space_Heat	2	1	5,133
Textile	Space_Heat	2	2	5,647
Textile	Space_Heat	2	3	6,160
Textile	Water_Heat	1	1	13,118
Textile	Water_Heat	1	2	14,430
Textile	Water_Heat	1	3	15,742
Textile	Water_Heat	2	1	10,494
Textile	Water_Heat	2	2	11,544
Textile	Water_Heat	2	3	12,593
Textile	Dryer	1	1	1,175,913

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Textile	Dryer	1	2	1,293,505
Textile	Dryer	1	3	1,411,096
Textile	Dryer	2	1	940,731
Textile	Dryer	2	2	1,034,804
Textile	Dryer	2	3	1,128,877
Textile	Furnace_Oven_Kiln	1	1	329,898
Textile	Furnace_Oven_Kiln	1	2	362,887
Textile	Furnace_Oven_Kiln	1	3	395,877
Textile	Furnace_Oven_Kiln	2	1	263,918
Textile	Furnace_Oven_Kiln	2	2	290,310
Textile	Furnace_Oven_Kiln	2	3	316,702
Textile	AC	1	1	23,021
Textile	AC	1	2	25,323
Textile	AC	1	3	27,626
Textile	AC	2	1	18,417
Textile	AC	2	2	20,259
Textile	AC	2	3	22,100
Textile	Engine	1	1	-
Textile	Engine	1	2	-
Textile	Engine	1	3	-
Textile	Engine	2	1	-
Textile	Engine	2	2	-
Textile	Engine	2	3	-
Textile	Other	1	1	-
Textile	Other	1	2	-
Textile	Other	1	3	-
Textile	Other	2	1	-
Textile	Other	2	2	-
Textile	Other	2	3	-
Wood_Paper	Fire_Tube_Boiler	1	1	3,531,505
Wood_Paper	Fire_Tube_Boiler	1	2	3,884,655
Wood_Paper	Fire_Tube_Boiler	1	3	4,237,806
Wood_Paper	Fire_Tube_Boiler	2	1	2,825,204
Wood_Paper	Fire_Tube_Boiler	2	2	3,107,724
Wood_Paper	Fire_Tube_Boiler	2	3	3,390,245
Wood_Paper	Water_Tube_Boiler	1	1	1,159,009
Wood_Paper	Water_Tube_Boiler	1	2	1,274,910
Wood_Paper	Water_Tube_Boiler	1	3	1,390,811
Wood_Paper	Water_Tube_Boiler	2	1	927,207
Wood_Paper	Water_Tube_Boiler	2	2	1,019,928
Wood_Paper	Water_Tube_Boiler	2	3	1,112,649
Wood_Paper	Space_Heat	1	1	15,435
Wood_Paper	Space_Heat	1	2	16,978
Wood_Paper	Space_Heat	1	3	18,522
Wood_Paper	Space_Heat	2	1	12,348
Wood_Paper	Space_Heat	2	2	13,583
Wood_Paper	Space_Heat	2	3	14,817
Wood_Paper	Water_Heat	1	1	1,304
Wood_Paper	Water_Heat	1	2	1,435
Wood_Paper	Water_Heat	1	3	1,565
Wood_Paper	Water_Heat	2	1	1,043
Wood_Paper	Water_Heat	2	2	1,148
Wood_Paper	Water_Heat	2	3	1,252
Wood_Paper	Dryer	1	1	167,147
Wood_Paper	Dryer	1	2	183,861
Wood_Paper	Dryer	1	3	200,576
Wood_Paper	Dryer	2	1	133,717
Wood_Paper	Dryer	2	2	147,089
Wood_Paper	Dryer	2	3	160,461
Wood_Paper	Furnace_Oven_Kiln	1	1	314,913
Wood_Paper	Furnace_Oven_Kiln	1	2	346,404
Wood_Paper	Furnace_Oven_Kiln	1	3	377,896
Wood_Paper	Furnace_Oven_Kiln	2	1	251,931
Wood_Paper	Furnace_Oven_Kiln	2	2	277,124
Wood_Paper	Furnace_Oven_Kiln	2	3	302,317
Wood_Paper	AC	1	1	1,049
Wood_Paper	AC	1	2	1,154
Wood_Paper	AC	1	3	1,258
Wood_Paper	AC	2	1	839
Wood_Paper	AC	2	2	923
Wood_Paper	AC	2	3	1,007
Wood_Paper	Engine	1	1	-

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Wood_Paper	Engine	1	2	-
Wood_Paper	Engine	1	3	-
Wood_Paper	Engine	2	1	-
Wood_Paper	Engine	2	2	-
Wood_Paper	Engine	2	3	-
Wood_Paper	Other	1	1	-
Wood_Paper	Other	1	2	-
Wood_Paper	Other	1	3	-
Wood_Paper	Other	2	1	-
Wood_Paper	Other	2	2	-
Wood_Paper	Other	2	3	-
Chemical	Fire_Tube_Boiler	1	1	374,525
Chemical	Fire_Tube_Boiler	1	2	411,977
Chemical	Fire_Tube_Boiler	1	3	449,430
Chemical	Fire_Tube_Boiler	2	1	299,620
Chemical	Fire_Tube_Boiler	2	2	329,582
Chemical	Fire_Tube_Boiler	2	3	359,544
Chemical	Water_Tube_Boiler	1	1	210,716
Chemical	Water_Tube_Boiler	1	2	231,788
Chemical	Water_Tube_Boiler	1	3	252,859
Chemical	Water_Tube_Boiler	2	1	168,573
Chemical	Water_Tube_Boiler	2	2	185,430
Chemical	Water_Tube_Boiler	2	3	202,287
Chemical	Space_Heat	1	1	11,116
Chemical	Space_Heat	1	2	12,228
Chemical	Space_Heat	1	3	13,339
Chemical	Space_Heat	2	1	8,893
Chemical	Space_Heat	2	2	9,782
Chemical	Space_Heat	2	3	10,672
Chemical	Water_Heat	1	1	8,713
Chemical	Water_Heat	1	2	9,584
Chemical	Water_Heat	1	3	10,456
Chemical	Water_Heat	2	1	6,970
Chemical	Water_Heat	2	2	7,668
Chemical	Water_Heat	2	3	8,365
Chemical	Dryer	1	1	8,457
Chemical	Dryer	1	2	9,303
Chemical	Dryer	1	3	10,148
Chemical	Dryer	2	1	6,766
Chemical	Dryer	2	2	7,442
Chemical	Dryer	2	3	8,119
Chemical	Furnace_Oven_Kiln	1	1	190,020
Chemical	Furnace_Oven_Kiln	1	2	209,022
Chemical	Furnace_Oven_Kiln	1	3	228,024
Chemical	Furnace_Oven_Kiln	2	1	152,016
Chemical	Furnace_Oven_Kiln	2	2	167,218
Chemical	Furnace_Oven_Kiln	2	3	182,419
Chemical	AC	1	1	519
Chemical	AC	1	2	571
Chemical	AC	1	3	622
Chemical	AC	2	1	415
Chemical	AC	2	2	456
Chemical	AC	2	3	498
Chemical	Engine	1	1	236
Chemical	Engine	1	2	260
Chemical	Engine	1	3	284
Chemical	Engine	2	1	189
Chemical	Engine	2	2	208
Chemical	Engine	2	3	227
Chemical	Other	1	1	-
Chemical	Other	1	2	-
Chemical	Other	1	3	-
Chemical	Other	2	1	-
Chemical	Other	2	2	-
Chemical	Other	2	3	-
Petroleum	Fire_Tube_Boiler	1	1	461,658
Petroleum	Fire_Tube_Boiler	1	2	507,824
Petroleum	Fire_Tube_Boiler	1	3	553,990
Petroleum	Fire_Tube_Boiler	2	1	369,326
Petroleum	Fire_Tube_Boiler	2	2	406,259
Petroleum	Fire_Tube_Boiler	2	3	443,192
Petroleum	Water_Tube_Boiler	1	1	116,411

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Petroleum	Water_Tube_Boiler	1	2	128,052
Petroleum	Water_Tube_Boiler	1	3	139,693
Petroleum	Water_Tube_Boiler	2	1	93,129
Petroleum	Water_Tube_Boiler	2	2	102,442
Petroleum	Water_Tube_Boiler	2	3	111,754
Petroleum	Space_Heat	1	1	4,748
Petroleum	Space_Heat	1	2	5,222
Petroleum	Space_Heat	1	3	5,697
Petroleum	Space_Heat	2	1	3,798
Petroleum	Space_Heat	2	2	4,178
Petroleum	Space_Heat	2	3	4,558
Petroleum	Water_Heat	1	1	6,427
Petroleum	Water_Heat	1	2	7,070
Petroleum	Water_Heat	1	3	7,713
Petroleum	Water_Heat	2	1	5,142
Petroleum	Water_Heat	2	2	5,656
Petroleum	Water_Heat	2	3	6,170
Petroleum	Dryer	1	1	4,158,697
Petroleum	Dryer	1	2	4,574,567
Petroleum	Dryer	1	3	4,990,436
Petroleum	Dryer	2	1	3,326,957
Petroleum	Dryer	2	2	3,659,653
Petroleum	Dryer	2	3	3,992,349
Petroleum	Furnace_Oven_Kiln	1	1	18,414
Petroleum	Furnace_Oven_Kiln	1	2	20,256
Petroleum	Furnace_Oven_Kiln	1	3	22,097
Petroleum	Furnace_Oven_Kiln	2	1	14,731
Petroleum	Furnace_Oven_Kiln	2	2	16,205
Petroleum	Furnace_Oven_Kiln	2	3	17,678
Petroleum	AC	1	1	-
Petroleum	AC	1	2	-
Petroleum	AC	1	3	-
Petroleum	AC	2	1	-
Petroleum	AC	2	2	-
Petroleum	AC	2	3	-
Petroleum	Engine	1	1	30,569
Petroleum	Engine	1	2	33,625
Petroleum	Engine	1	3	36,682
Petroleum	Engine	2	1	24,455
Petroleum	Engine	2	2	26,900
Petroleum	Engine	2	3	29,346
Petroleum	Other	1	1	-
Petroleum	Other	1	2	-
Petroleum	Other	1	3	-
Petroleum	Other	2	1	-
Petroleum	Other	2	2	-
Petroleum	Other	2	3	-
Stone	Fire_Tube_Boiler	1	1	1,591,073
Stone	Fire_Tube_Boiler	1	2	1,750,181
Stone	Fire_Tube_Boiler	1	3	1,909,288
Stone	Fire_Tube_Boiler	2	1	1,272,859
Stone	Fire_Tube_Boiler	2	2	1,400,145
Stone	Fire_Tube_Boiler	2	3	1,527,431
Stone	Water_Tube_Boiler	1	1	316,231
Stone	Water_Tube_Boiler	1	2	347,854
Stone	Water_Tube_Boiler	1	3	379,477
Stone	Water_Tube_Boiler	2	1	252,985
Stone	Water_Tube_Boiler	2	2	278,283
Stone	Water_Tube_Boiler	2	3	303,582
Stone	Space_Heat	1	1	10,255
Stone	Space_Heat	1	2	11,281
Stone	Space_Heat	1	3	12,306
Stone	Space_Heat	2	1	8,204
Stone	Space_Heat	2	2	9,024
Stone	Space_Heat	2	3	9,845
Stone	Water_Heat	1	1	10,249
Stone	Water_Heat	1	2	11,273
Stone	Water_Heat	1	3	12,298
Stone	Water_Heat	2	1	8,199
Stone	Water_Heat	2	2	9,019
Stone	Water_Heat	2	3	9,839
Stone	Dryer	1	1	2,197,157



San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Stone	Dryer	1	2	2,416,873
Stone	Dryer	1	3	2,636,589
Stone	Dryer	2	1	1,757,726
Stone	Dryer	2	2	1,933,498
Stone	Dryer	2	3	2,109,271
Stone	Furnace_Oven_Kiln	1	1	2,000,409
Stone	Furnace_Oven_Kiln	1	2	2,200,450
Stone	Furnace_Oven_Kiln	1	3	2,400,491
Stone	Furnace_Oven_Kiln	2	1	1,600,327
Stone	Furnace_Oven_Kiln	2	2	1,760,360
Stone	Furnace_Oven_Kiln	2	3	1,920,393
Stone	AC	1	1	12,130
Stone	AC	1	2	13,343
Stone	AC	1	3	14,556
Stone	AC	2	1	9,704
Stone	AC	2	2	10,674
Stone	AC	2	3	11,645
Stone	Engine	1	1	-
Stone	Engine	1	2	-
Stone	Engine	1	3	-
Stone	Engine	2	1	-
Stone	Engine	2	2	-
Stone	Engine	2	3	-
Stone	Other	1	1	-
Stone	Other	1	2	-
Stone	Other	1	3	-
Stone	Other	2	1	-
Stone	Other	2	2	-
Stone	Other	2	3	-
Prim_Metal	Fire_Tube_Boiler	1	1	54,853
Prim_Metal	Fire_Tube_Boiler	1	2	60,338
Prim_Metal	Fire_Tube_Boiler	1	3	65,823
Prim_Metal	Fire_Tube_Boiler	2	1	43,882
Prim_Metal	Fire_Tube_Boiler	2	2	48,270
Prim_Metal	Fire_Tube_Boiler	2	3	52,658
Prim_Metal	Water_Tube_Boiler	1	1	173,303
Prim_Metal	Water_Tube_Boiler	1	2	190,633
Prim_Metal	Water_Tube_Boiler	1	3	207,963
Prim_Metal	Water_Tube_Boiler	2	1	138,642
Prim_Metal	Water_Tube_Boiler	2	2	152,506
Prim_Metal	Water_Tube_Boiler	2	3	166,371
Prim_Metal	Space_Heat	1	1	17,381
Prim_Metal	Space_Heat	1	2	19,119
Prim_Metal	Space_Heat	1	3	20,857
Prim_Metal	Space_Heat	2	1	13,905
Prim_Metal	Space_Heat	2	2	15,295
Prim_Metal	Space_Heat	2	3	16,685
Prim_Metal	Water_Heat	1	1	4,105
Prim_Metal	Water_Heat	1	2	4,515
Prim_Metal	Water_Heat	1	3	4,926
Prim_Metal	Water_Heat	2	1	3,284
Prim_Metal	Water_Heat	2	2	3,612
Prim_Metal	Water_Heat	2	3	3,941
Prim_Metal	Dryer	1	1	8,022
Prim_Metal	Dryer	1	2	8,825
Prim_Metal	Dryer	1	3	9,627
Prim_Metal	Dryer	2	1	6,418
Prim_Metal	Dryer	2	2	7,060
Prim_Metal	Dryer	2	3	7,701
Prim_Metal	Furnace_Oven_Kiln	1	1	4,379,149
Prim_Metal	Furnace_Oven_Kiln	1	2	4,817,064
Prim_Metal	Furnace_Oven_Kiln	1	3	5,254,978
Prim_Metal	Furnace_Oven_Kiln	2	1	3,503,319
Prim_Metal	Furnace_Oven_Kiln	2	2	3,853,651
Prim_Metal	Furnace_Oven_Kiln	2	3	4,203,983
Prim_Metal	AC	1	1	20,859
Prim_Metal	AC	1	2	22,945
Prim_Metal	AC	1	3	25,031
Prim_Metal	AC	2	1	16,687
Prim_Metal	AC	2	2	18,356
Prim_Metal	AC	2	3	20,025
Prim_Metal	Engine	1	1	-

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Prim_Metal	Engine	1	2	-
Prim_Metal	Engine	1	3	-
Prim_Metal	Engine	2	1	-
Prim_Metal	Engine	2	2	-
Prim_Metal	Engine	2	3	-
Prim_Metal	Other	1	1	-
Prim_Metal	Other	1	2	-
Prim_Metal	Other	1	3	-
Prim_Metal	Other	2	1	-
Prim_Metal	Other	2	2	-
Prim_Metal	Other	2	3	-
Fab_Metal	Fire_Tube_Boiler	1	1	199,496
Fab_Metal	Fire_Tube_Boiler	1	2	219,446
Fab_Metal	Fire_Tube_Boiler	1	3	239,395
Fab_Metal	Fire_Tube_Boiler	2	1	159,597
Fab_Metal	Fire_Tube_Boiler	2	2	175,557
Fab_Metal	Fire_Tube_Boiler	2	3	191,516
Fab_Metal	Water_Tube_Boiler	1	1	194,739
Fab_Metal	Water_Tube_Boiler	1	2	214,212
Fab_Metal	Water_Tube_Boiler	1	3	233,686
Fab_Metal	Water_Tube_Boiler	2	1	155,791
Fab_Metal	Water_Tube_Boiler	2	2	171,370
Fab_Metal	Water_Tube_Boiler	2	3	186,949
Fab_Metal	Space_Heat	1	1	18,226
Fab_Metal	Space_Heat	1	2	20,049
Fab_Metal	Space_Heat	1	3	21,872
Fab_Metal	Space_Heat	2	1	14,581
Fab_Metal	Space_Heat	2	2	16,039
Fab_Metal	Space_Heat	2	3	17,497
Fab_Metal	Water_Heat	1	1	3,994
Fab_Metal	Water_Heat	1	2	4,393
Fab_Metal	Water_Heat	1	3	4,793
Fab_Metal	Water_Heat	2	1	3,195
Fab_Metal	Water_Heat	2	2	3,515
Fab_Metal	Water_Heat	2	3	3,834
Fab_Metal	Dryer	1	1	18,997
Fab_Metal	Dryer	1	2	20,896
Fab_Metal	Dryer	1	3	22,796
Fab_Metal	Dryer	2	1	15,197
Fab_Metal	Dryer	2	2	16,717
Fab_Metal	Dryer	2	3	18,237
Fab_Metal	Furnace_Oven_Kiln	1	1	686,883
Fab_Metal	Furnace_Oven_Kiln	1	2	755,571
Fab_Metal	Furnace_Oven_Kiln	1	3	824,260
Fab_Metal	Furnace_Oven_Kiln	2	1	549,507
Fab_Metal	Furnace_Oven_Kiln	2	2	604,457
Fab_Metal	Furnace_Oven_Kiln	2	3	659,408
Fab_Metal	AC	1	1	1,899
Fab_Metal	AC	1	2	2,089
Fab_Metal	AC	1	3	2,279
Fab_Metal	AC	2	1	1,519
Fab_Metal	AC	2	2	1,671
Fab_Metal	AC	2	3	1,823
Fab_Metal	Engine	1	1	-
Fab_Metal	Engine	1	2	-
Fab_Metal	Engine	1	3	-
Fab_Metal	Engine	2	1	-
Fab_Metal	Engine	2	2	-
Fab_Metal	Engine	2	3	-
Fab_Metal	Other	1	1	-
Fab_Metal	Other	1	2	-
Fab_Metal	Other	1	3	-
Fab_Metal	Other	2	1	-
Fab_Metal	Other	2	2	-
Fab_Metal	Other	2	3	-
Transport	Fire_Tube_Boiler	1	1	27,156
Transport	Fire_Tube_Boiler	1	2	29,871
Transport	Fire_Tube_Boiler	1	3	32,587
Transport	Fire_Tube_Boiler	2	1	21,724
Transport	Fire_Tube_Boiler	2	2	23,897
Transport	Fire_Tube_Boiler	2	3	26,069
Transport	Water_Tube_Boiler	1	1	15,821

San Diego Gas and Electric  
 2018 California Gas Report-Workpapers

Transport	Water_Tube_Boiler	1	2	17,403
Transport	Water_Tube_Boiler	1	3	18,985
Transport	Water_Tube_Boiler	2	1	12,657
Transport	Water_Tube_Boiler	2	2	13,922
Transport	Water_Tube_Boiler	2	3	15,188
Transport	Space_Heat	1	1	10,868
Transport	Space_Heat	1	2	11,955
Transport	Space_Heat	1	3	13,042
Transport	Space_Heat	2	1	8,694
Transport	Space_Heat	2	2	9,564
Transport	Space_Heat	2	3	10,433
Transport	Water_Heat	1	1	3,231
Transport	Water_Heat	1	2	3,554
Transport	Water_Heat	1	3	3,877
Transport	Water_Heat	2	1	2,585
Transport	Water_Heat	2	2	2,843
Transport	Water_Heat	2	3	3,102
Transport	Dryer	1	1	81,394
Transport	Dryer	1	2	89,533
Transport	Dryer	1	3	97,673
Transport	Dryer	2	1	65,115
Transport	Dryer	2	2	71,627
Transport	Dryer	2	3	78,138
Transport	Furnace_Oven_Kiln	1	1	139,512
Transport	Furnace_Oven_Kiln	1	2	153,464
Transport	Furnace_Oven_Kiln	1	3	167,415
Transport	Furnace_Oven_Kiln	2	1	111,610
Transport	Furnace_Oven_Kiln	2	2	122,771
Transport	Furnace_Oven_Kiln	2	3	133,932
Transport	AC	1	1	518
Transport	AC	1	2	570
Transport	AC	1	3	621
Transport	AC	2	1	414
Transport	AC	2	2	456
Transport	AC	2	3	497
Transport	Engine	1	1	2,575
Transport	Engine	1	2	2,832
Transport	Engine	1	3	3,090
Transport	Engine	2	1	2,060
Transport	Engine	2	2	2,266
Transport	Engine	2	3	2,472
Transport	Other	1	1	-
Transport	Other	1	2	-
Transport	Other	1	3	-
Transport	Other	2	1	-
Transport	Other	2	2	-
Transport	Other	2	3	-
Misc	Fire_Tube_Boiler	1	1	50,324
Misc	Fire_Tube_Boiler	1	2	55,356
Misc	Fire_Tube_Boiler	1	3	60,388
Misc	Fire_Tube_Boiler	2	1	40,259
Misc	Fire_Tube_Boiler	2	2	44,285
Misc	Fire_Tube_Boiler	2	3	48,311
Misc	Water_Tube_Boiler	1	1	35,392
Misc	Water_Tube_Boiler	1	2	38,931
Misc	Water_Tube_Boiler	1	3	42,470
Misc	Water_Tube_Boiler	2	1	28,313
Misc	Water_Tube_Boiler	2	2	31,145
Misc	Water_Tube_Boiler	2	3	33,976
Misc	Space_Heat	1	1	7,731
Misc	Space_Heat	1	2	8,504
Misc	Space_Heat	1	3	9,277
Misc	Space_Heat	2	1	6,185
Misc	Space_Heat	2	2	6,803
Misc	Space_Heat	2	3	7,422
Misc	Water_Heat	1	1	2,224
Misc	Water_Heat	1	2	2,446
Misc	Water_Heat	1	3	2,669
Misc	Water_Heat	2	1	1,779
Misc	Water_Heat	2	2	1,957
Misc	Water_Heat	2	3	2,135
Misc	Dryer	1	1	61,610

San Diego Gas and Electric  
 2018 California Gas Report-Workpapers

Misc	Dryer	1	2	67,771
Misc	Dryer	1	3	73,932
Misc	Dryer	2	1	49,288
Misc	Dryer	2	2	54,217
Misc	Dryer	2	3	59,145
Misc	Furnace_Oven_Kiln	1	1	341,739
Misc	Furnace_Oven_Kiln	1	2	375,913
Misc	Furnace_Oven_Kiln	1	3	410,087
Misc	Furnace_Oven_Kiln	2	1	273,391
Misc	Furnace_Oven_Kiln	2	2	300,731
Misc	Furnace_Oven_Kiln	2	3	328,070
Misc	AC	1	1	2,879
Misc	AC	1	2	3,167
Misc	AC	1	3	3,455
Misc	AC	2	1	2,303
Misc	AC	2	2	2,534
Misc	AC	2	3	2,764
Misc	Engine	1	1	5,988
Misc	Engine	1	2	6,587
Misc	Engine	1	3	7,186
Misc	Engine	2	1	4,790
Misc	Engine	2	2	5,270
Misc	Engine	2	3	5,749
Misc	Other	1	1	-
Misc	Other	1	2	-
Misc	Other	1	3	-
Misc	Other	2	1	-
Misc	Other	2	2	-
Misc	Other	2	3	-

**San Diego Gas and Electric Company  
 Industrial GN3  
 Employment Forecast (in thousands)**

<b>YEAR</b>	<b>Mining</b>	<b>Food</b>	<b>Textile</b>	<b>Wood_Paper</b>	<b>Chemical</b>	<b>Petroleum</b>	<b>Stone</b>	<b>Primary_Metal</b>	<b>Fabricated_Metal</b>	<b>Transportation</b>	<b>Miscellaneous</b>	<b>Total</b>
2017	2374	18957	1334	4506	7454	1178	2667	1630	12647	11162	44061	107970
2018	2462	19361	1317	4596	7559	1184	2769	1661	12978	11281	44771	109940
2019	2557	19721	1290	4693	7608	1183	2839	1677	13260	11211	45368	111408
2020	2596	20055	1258	4793	7605	1181	2877	1682	13519	11123	45581	112270
2021	2631	20312	1225	4886	7570	1165	2911	1654	13636	11039	45588	112616
2022	2684	20571	1190	4963	7505	1141	2935	1622	13783	10855	45545	112794
2023	2711	20821	1156	5056	7424	1115	2939	1594	13940	10520	45474	112750
2024	2723	21080	1124	5149	7338	1087	2937	1573	14129	10183	45500	112822
2025	2718	21305	1112	5235	7290	1062	2944	1560	14290	9943	45505	112963
2026	2690	21528	1118	5320	7291	1042	2951	1550	14455	9865	45460	113269
2027	2665	21713	1118	5392	7294	1021	2962	1525	14546	9854	45345	113433
2028	2646	21844	1113	5459	7291	1000	2969	1490	14575	9845	45110	113341
2029	2623	21958	1104	5512	7275	977	2975	1458	14640	9825	44850	113197
2030	2607	22027	1090	5556	7242	955	2979	1426	14675	9754	44576	112887
2031	2591	22112	1071	5565	7208	937	2976	1396	14702	9680	44407	112645
2032	2578	22182	1053	5505	7172	917	2962	1369	14740	9625	44323	112426
2033	2561	22228	1034	5457	7140	899	2959	1340	14741	9621	44220	112201
2034	2544	22249	1015	5551	7113	881	2983	1310	14704	9640	44103	112093
2035	2533	22264	997	5665	7090	864	3009	1282	14689	9665	44028	112086

**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Core Industrial Demand Forecast (Mdt)**  
**Average Temperature**

YEAR	<u>Model Output</u>		<u>Core Ind Final</u>
	<u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	
2017	1425.2	0.0	1425.2
2018	1468.9	0.4	1468.5
2019	1474.0	0.8	1473.2
2020	1474.1	1.3	1472.8
2021	1466.0	1.9	1464.1
2022	1449.9	2.6	1447.4
2023	1432.0	3.3	1428.7
2024	1417.2	4.0	1413.2
2025	1401.7	4.7	1397.0
2026	1389.9	5.3	1384.6
2027	1373.7	5.4	1368.3
2028	1353.3	5.6	1347.7
2029	1334.2	5.9	1328.3
2030	1315.0	6.0	1308.9
2031	1298.0	6.1	1291.9
2032	1282.8	6.1	1276.7
2033	1267.0	6.1	1260.9
2034	1248.3	6.0	1242.3
2035	1232.9	6.0	1226.9

**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Core Industrial Demand Forecast (Mdth)**  
**Cold Temperature**

<u>YEAR</u>	<u>Model Output</u>		<u>Core Ind Final</u>
	<u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	
2017	1492.1	0.0	1492.1
2018	1537.9	0.4	1537.5
2019	1543.2	0.8	1542.4
2020	1543.4	1.3	1542.0
2021	1534.9	1.9	1532.9
2022	1518.0	2.6	1515.5
2023	1499.2	3.3	1496.0
2024	1483.7	4.0	1479.8
2025	1467.5	4.7	1462.9
2026	1455.2	5.3	1449.9
2027	1438.2	5.4	1432.8
2028	1416.9	5.6	1411.3
2029	1396.9	5.9	1391.0
2030	1376.7	6.0	1370.7
2031	1359.0	6.1	1352.9
2032	1343.0	6.1	1336.9
2033	1326.5	6.1	1320.4
2034	1306.9	6.0	1300.9
2035	1290.8	6.0	1284.8

**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Core Industrial Demand Forecast** (Mdth)  
**Hot Temperature**

<u>YEAR</u>	<u>Model Output</u> <u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	<u>Core Ind Final</u>
2017	1358.3	0.0	1358.3
2018	1399.9	0.4	1399.5
2019	1404.7	0.8	1403.9
2020	1404.9	1.3	1403.6
2021	1397.2	1.9	1395.2
2022	1381.9	2.6	1379.3
2023	1364.7	3.3	1361.5
2024	1350.6	4.0	1346.7
2025	1335.9	4.7	1331.2
2026	1324.7	5.3	1319.3
2027	1309.2	5.4	1303.8
2028	1289.8	5.6	1284.1
2029	1271.6	5.9	1265.7
2030	1253.2	6.0	1247.2
2031	1237.1	6.1	1231.0
2032	1222.5	6.1	1216.4
2033	1207.5	6.1	1201.4
2034	1189.7	6.0	1183.6
2035	1175.0	6.0	1169.0



**San Diego Gas and Electric Company**  
**Industrial GN3**  
**Core Industrial Demand Forecast** (Mdt)  
**Base Temperature**

<u>YEAR</u>	<u>Model Output</u> <u>GN-3 - Ind</u>	<u>IndGN3 EE/DSM</u>	<u>Core Ind Final</u>
2017	1115.2	0.0	1115.2
2018	1149.4	0.4	1148.9
2019	1153.3	0.8	1152.5
2020	1153.5	1.3	1152.1
2021	1147.1	1.9	1145.2
2022	1134.5	2.6	1132.0
2023	1120.5	3.3	1117.2
2024	1108.9	4.0	1104.9
2025	1096.8	4.7	1092.1
2026	1087.6	5.3	1082.2
2027	1074.9	5.4	1069.5
2028	1058.9	5.6	1053.3
2029	1044.0	5.9	1038.1
2030	1028.9	6.0	1022.9
2031	1015.7	6.1	1009.6
2032	1003.7	6.1	997.6
2033	991.4	6.1	985.3
2034	976.8	6.0	970.7
2035	964.7	6.0	958.7

# 2018 CALIFORNIA GAS REPORT

---

NONCORE COMMERCIAL, INDUSTRIAL AND COGEN DEMAND FORECAST

JULY 2018

---



## SDG&E Non-Core Demand Equations, before energy efficiency and carbon-fee adjustments (MDth)

### Cogeneration (MDTH\_CGNNC\_SD)

Cochrane-Orcutt

MONTHLY data for 142 periods from MAR 2006 to DEC 2017

mdth\_cgnnc\_sd

$$= 5.80515 * eisd/1000$$

(23.6174)

Sum Sq	259011	Std Err	43.1669	LHS Mean	578.023
R Sq	0.6694	R Bar Sq	0.6646	F	2,139 140.698
D.W.( 1)	2.0031	D.W.(12)	1.3422		

$$AR_0 = + 0.56810 * AR_1 + 0.28252 * AR_2$$

(6.95659)                      (3.39097)

\*\*\*\*\*

### Commercial (MDTH\_COMNC\_SD)

Cochrane-Orcutt

MONTHLY data for 143 periods from FEB 2006 to DEC 2017

mdth\_comnc\_sd

$$= 0.15537 * ecsd/1000 + 102.539 * dum2006janmay$$

(18.4437)                      (3.49410)

Sum Sq	93807.0	Std Err	25.8829	LHS Mean	201.079	Res Mean	0.3517
R Sq	0.7489	R Bar Sq	0.7453	F	3,140 139.174	%RMSE	12.5427
D.W.( 1)	2.3625	D.W.(12)	1.2504				

$$AR_0 = + 0.79066 * AR_1$$

(16.9128)

\*\*\*\*\*

### Industrial (MDTH\_INDNC\_SD)

Cochrane-Orcutt

MONTHLY data for 142 periods from MAR 2006 to DEC 2017

mdth\_indnc\_sd

$$= 1.64779 * eisd/1000 - 40.8185 * dum2013sepoct$$

(16.4993)                      (4.17061)

$$+ 87.1921 * dum2015mar$$

(5.73848)

Sum Sq	43007.4	Std Err	17.7177	LHS Mean	166.152
R Sq	0.7057	R Bar Sq	0.6971	F	5,137 65.6874
D.W.( 1)	2.0889	D.W.(12)	1.4207		

$$AR_0 = + 0.48240 * AR_1 + 0.37161 * AR_2$$

(5.98630)                      (4.66119)

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

ANNUAL SUMMARY

SDG&E Noncore Commercial & Industrial Demand (MDth)							San Diego County Employment		Cumulative	Cumulative	Carbon Fee Impact	
	Adjusted with DSM and Carbon-Fee Impacts			Unadjusted (from regression equations)			Commercial	Industrial	DSM Cmcl	DSM Indl.	Cogen	Industrial
	Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial	ECSD	EISD	(MDth)	(MDth)	(MDth)	(MDth)
2006	6,253	3,757	1,374	6,253	3,757	1,374	1,221,508	104,642	0	0	0	0
2007	6,353	2,560	1,483	6,353	2,560	1,483	1,231,525	103,150	0	0	0	0
2008	6,861	2,546	1,886	6,861	2,546	1,886	1,223,383	103,475	0	0	0	0
2009	7,268	2,536	1,670	7,268	2,536	1,670	1,163,333	97,425	0	0	0	0
2010	6,371	2,559	1,912	6,371	2,559	1,912	1,156,592	95,967	0	0	0	0
2011	6,577	2,525	2,019	6,577	2,525	2,019	1,165,033	96,792	0	0	0	0
2012	7,015	2,390	2,262	7,015	2,390	2,262	1,195,792	98,575	0	0	0	0
2013	6,872	2,193	2,162	6,872	2,193	2,162	1,227,742	99,742	0	0	0	0
2014	6,616	1,912	2,088	6,616	1,912	2,088	1,253,375	102,558	0	0	0	0
2015	6,526	2,066	2,289	6,526	2,066	2,289	1,288,966	106,581	0	0	0	0
2016	7,460	2,155	2,336	7,460	2,155	2,336	1,322,407	108,222	0	0	0	0
2017	8,829	2,010	2,361	8,829	2,010	2,361	1,344,267	107,970	0	0	0	0
2018	9,130	2,272	2,314	9,210	2,283	2,332	1,368,886	109,940	-5	-1	-80	-13
2019	9,258	2,312	2,334	9,352	2,332	2,357	1,395,461	111,408	-10	-1	-94	-14
2020	9,328	2,344	2,344	9,422	2,375	2,373	1,418,765	112,270	-16	-2	-94	-14
2021	9,343	2,354	2,342	9,448	2,401	2,380	1,432,527	112,616	-24	-2	-105	-15
2022	9,341	2,362	2,337	9,461	2,423	2,383	1,444,531	112,794	-32	-3	-120	-16
2023	9,341	2,365	2,328	9,458	2,443	2,382	1,455,029	112,750	-40	-4	-117	-16
2024	9,344	2,364	2,321	9,463	2,458	2,384	1,463,373	112,822	-49	-5	-120	-17
2025	9,344	2,359	2,315	9,473	2,471	2,386	1,470,121	112,963	-58	-6	-129	-18
2026	9,355	2,355	2,312	9,494	2,482	2,392	1,476,332	113,269	-66	-7	-139	-19
2027	9,354	2,354	2,305	9,506	2,498	2,396	1,484,996	113,433	-66	-7	-152	-21
2028	9,331	2,365	2,299	9,499	2,515	2,394	1,494,117	113,341	-70	-7	-168	-22
2029	9,308	2,377	2,291	9,489	2,534	2,391	1,504,176	113,197	-73	-7	-181	-24
2030	9,277	2,399	2,283	9,468	2,559	2,385	1,517,482	112,887	-75	-7	-190	-24
2031	9,252	2,420	2,277	9,451	2,582	2,380	1,529,634	112,645	-75	-7	-199	-25
2032	9,226	2,445	2,271	9,436	2,607	2,376	1,543,321	112,426	-76	-7	-209	-26
2033	9,198	2,473	2,266	9,420	2,634	2,371	1,557,872	112,201	-75	-7	-222	-27
2034	9,182	2,501	2,264	9,412	2,661	2,369	1,572,322	112,093	-75	-7	-230	-28
2035	9,169	2,528	2,263	9,412	2,687	2,369	1,586,036	112,086	-74	-7	-243	-29
	0.21%	1.28%	-0.23%	<==Average annual growth, 2017 - 2035.								

MONTHLY

SDG&E Noncore Commercial & Industrial Demand (MDth)							San Diego County Employment		Cumulative	Cumulative	Carbon Fee Impact	
Month	Adjusted with DSM and Carbon-Fee Impacts			Unadjusted (from regression equations)			Commercial	Industrial	DSM Cmcl	DSM Indl.	Cogen	Industrial
	Cogeneration	Commercial	Industrial	Cogeneration	Commercial	Industrial	ECSD	EISD	(MDth)	(MDth)	(MDth)	(MDth)
Jan-06	440.5	453.7	119.7	440.5	453.7	119.7	1,196,900	103,900	0.0	0.0	0.0	0.0
Feb-06	482.3	449.3	128.8	482.3	449.3	128.8	1,206,500	104,400	0.0	0.0	0.0	0.0
Mar-06	452.1	409.3	108.2	452.1	409.3	108.2	1,213,100	105,000	0.0	0.0	0.0	0.0
Apr-06	458.3	474.6	130.8	458.3	474.6	130.8	1,215,100	104,600	0.0	0.0	0.0	0.0
May-06	478.6	351.8	134.1	478.6	351.8	134.1	1,223,600	104,900	0.0	0.0	0.0	0.0
Jun-06	509.0	244.8	126.5	509.0	244.8	126.5	1,231,800	105,400	0.0	0.0	0.0	0.0
Jul-06	515.5	231.9	133.6	515.5	231.9	133.6	1,217,300	105,300	0.0	0.0	0.0	0.0
Aug-06	575.8	206.3	98.9	575.8	206.3	98.9	1,221,900	104,900	0.0	0.0	0.0	0.0
Sep-06	586.2	222.2	117.8	586.2	222.2	117.8	1,227,000	104,700	0.0	0.0	0.0	0.0
Oct-06	642.8	214.9	97.9	642.8	214.9	97.9	1,227,800	104,100	0.0	0.0	0.0	0.0
Nov-06	557.5	257.5	96.4	557.5	257.5	96.4	1,237,600	104,300	0.0	0.0	0.0	0.0
Dec-06	554.0	240.2	80.9	554.0	240.2	80.9	1,239,500	104,200	0.0	0.0	0.0	0.0
Jan-07	534.6	235.9	100.4	534.6	235.9	100.4	1,209,500	103,300	0.0	0.0	0.0	0.0
Feb-07	521.6	274.8	127.9	521.6	274.8	127.9	1,218,800	103,100	0.0	0.0	0.0	0.0
Mar-07	505.7	236.5	97.4	505.7	236.5	97.4	1,226,900	103,400	0.0	0.0	0.0	0.0
Apr-07	529.4	263.3	123.3	529.4	263.3	123.3	1,226,500	102,300	0.0	0.0	0.0	0.0
May-07	492.1	228.3	122.3	492.1	228.3	122.3	1,235,300	102,400	0.0	0.0	0.0	0.0
Jun-07	552.0	207.0	123.9	552.0	207.0	123.9	1,243,600	102,500	0.0	0.0	0.0	0.0
Jul-07	516.9	169.5	118.6	516.9	169.5	118.6	1,233,300	103,400	0.0	0.0	0.0	0.0
Aug-07	561.6	167.8	127.4	561.6	167.8	127.4	1,234,400	103,100	0.0	0.0	0.0	0.0
Sep-07	573.0	172.0	141.3	573.0	172.0	141.3	1,234,500	102,800	0.0	0.0	0.0	0.0
Oct-07	547.2	162.9	118.7	547.2	162.9	118.7	1,232,800	103,400	0.0	0.0	0.0	0.0
Nov-07	526.8	201.1	140.0	526.8	201.1	140.0	1,239,100	103,800	0.0	0.0	0.0	0.0
Dec-07	492.6	240.6	142.0	492.6	240.6	142.0	1,243,600	104,300	0.0	0.0	0.0	0.0
Jan-08	512.7	244.4	138.1	512.7	244.4	138.1	1,213,300	103,300	0.0	0.0	0.0	0.0
Feb-08	531.0	263.2	147.7	531.0	263.2	147.7	1,222,500	103,300	0.0	0.0	0.0	0.0
Mar-08	488.8	233.0	165.5	488.8	233.0	165.5	1,227,900	103,700	0.0	0.0	0.0	0.0
Apr-08	517.9	234.3	164.5	517.9	234.3	164.5	1,228,100	103,600	0.0	0.0	0.0	0.0
May-08	495.9	192.1	166.6	495.9	192.1	166.6	1,232,200	103,700	0.0	0.0	0.0	0.0
Jun-08	547.0	208.4	171.5	547.0	208.4	171.5	1,235,900	104,000	0.0	0.0	0.0	0.0
Jul-08	608.1	171.2	169.1	608.1	171.2	169.1	1,224,000	103,800	0.0	0.0	0.0	0.0
Aug-08	638.6	182.4	172.7	638.6	182.4	172.7	1,223,700	104,100	0.0	0.0	0.0	0.0
Sep-08	665.8	196.6	170.8	665.8	196.6	170.8	1,220,400	103,700	0.0	0.0	0.0	0.0
Oct-08	657.2	209.0	150.2	657.2	209.0	150.2	1,219,100	103,500	0.0	0.0	0.0	0.0
Nov-08	618.7	238.4	145.6	618.7	238.4	145.6	1,218,800	102,800	0.0	0.0	0.0	0.0
Dec-08	579.8	172.6	124.2	579.8	172.6	124.2	1,214,700	102,200	0.0	0.0	0.0	0.0
Jan-09	552.8	216.3	117.6	552.8	216.3	117.6	1,177,400	102,400	0.0	0.0	0.0	0.0
Feb-09	520.2	224.2	123.4	520.2	224.2	123.4	1,174,600	101,400	0.0	0.0	0.0	0.0
Mar-09	523.1	232.7	149.7	523.1	232.7	149.7	1,173,700	100,300	0.0	0.0	0.0	0.0
Apr-09	603.3	235.2	143.8	603.3	235.2	143.8	1,168,900	98,600	0.0	0.0	0.0	0.0
May-09	598.0	274.0	118.7	598.0	274.0	118.7	1,172,000	97,500	0.0	0.0	0.0	0.0
Jun-09	651.5	181.9	110.2	651.5	181.9	110.2	1,171,400	97,000	0.0	0.0	0.0	0.0
Jul-09	610.6	176.4	147.9	610.6	176.4	147.9	1,148,000	96,300	0.0	0.0	0.0	0.0
Aug-09	713.0	174.7	146.0	713.0	174.7	146.0	1,148,800	95,800	0.0	0.0	0.0	0.0
Sep-09	664.7	204.6	159.0	664.7	204.6	159.0	1,144,700	95,300	0.0	0.0	0.0	0.0
Oct-09	670.1	204.3	146.9	670.1	204.3	146.9	1,156,000	95,000	0.0	0.0	0.0	0.0
Nov-09	659.9	198.1	171.5	659.9	198.1	171.5	1,161,700	94,700	0.0	0.0	0.0	0.0
Dec-09	501.0	214.1	135.5	501.0	214.1	135.5	1,162,800	94,800	0.0	0.0	0.0	0.0
Jan-10	545.7	223.0	144.0	545.7	223.0	144.0	1,133,600	95,000	0.0	0.0	0.0	0.0

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Feb-10	544.5	220.6	138.3	544.5	220.6	138.3	1,137,900	94,900	0.0	0.0	0.0	0.0
Mar-10	493.1	206.2	128.2	493.1	206.2	128.2	1,142,600	95,500	0.0	0.0	0.0	0.0
Apr-10	562.2	207.0	157.0	562.2	207.0	157.0	1,155,300	96,300	0.0	0.0	0.0	0.0
May-10	518.4	202.3	142.8	518.4	202.3	142.8	1,166,500	96,300	0.0	0.0	0.0	0.0
Jun-10	519.9	221.2	169.0	519.9	221.2	169.0	1,168,400	96,200	0.0	0.0	0.0	0.0
Jul-10	532.8	204.3	178.4	532.8	204.3	178.4	1,156,200	96,000	0.0	0.0	0.0	0.0
Aug-10	551.2	216.1	169.4	551.2	216.1	169.4	1,159,100	96,300	0.0	0.0	0.0	0.0
Sep-10	531.0	207.9	177.2	531.0	207.9	177.2	1,157,800	96,100	0.0	0.0	0.0	0.0
Oct-10	520.2	199.5	176.3	520.2	199.5	176.3	1,163,600	96,100	0.0	0.0	0.0	0.0
Nov-10	501.0	228.3	176.5	501.0	228.3	176.5	1,167,800	96,200	0.0	0.0	0.0	0.0
Dec-10	550.5	223.0	155.0	550.5	223.0	155.0	1,170,300	96,700	0.0	0.0	0.0	0.0
Jan-11	545.1	246.1	144.0	545.1	246.1	144.0	1,148,700	96,300	0.0	0.0	0.0	0.0
Feb-11	532.2	229.5	168.8	532.2	229.5	168.8	1,156,700	96,200	0.0	0.0	0.0	0.0
Mar-11	473.1	226.4	167.9	473.1	226.4	167.9	1,160,900	96,400	0.0	0.0	0.0	0.0
Apr-11	560.3	223.0	165.2	560.3	223.0	165.2	1,163,500	96,300	0.0	0.0	0.0	0.0
May-11	538.6	196.6	152.3	538.6	196.6	152.3	1,166,500	96,500	0.0	0.0	0.0	0.0
Jun-11	574.3	197.8	175.0	574.3	197.8	175.0	1,169,500	97,100	0.0	0.0	0.0	0.0
Jul-11	557.5	189.0	179.9	557.5	189.0	179.9	1,158,000	96,900	0.0	0.0	0.0	0.0
Aug-11	579.9	203.0	186.5	579.9	203.0	186.5	1,160,500	97,000	0.0	0.0	0.0	0.0
Sep-11	592.4	186.9	190.3	592.4	186.9	190.3	1,164,400	97,100	0.0	0.0	0.0	0.0
Oct-11	569.8	186.4	169.1	569.8	186.4	169.1	1,170,600	97,000	0.0	0.0	0.0	0.0
Nov-11	508.9	235.3	176.8	508.9	235.3	176.8	1,179,300	97,100	0.0	0.0	0.0	0.0
Dec-11	544.5	205.2	143.1	544.5	205.2	143.1	1,181,800	97,600	0.0	0.0	0.0	0.0
Jan-12	550.3	211.5	178.1	550.3	211.5	178.1	1,159,100	96,400	0.0	0.0	0.0	0.0
Feb-12	536.4	199.7	191.4	536.4	199.7	191.4	1,168,400	96,700	0.0	0.0	0.0	0.0
Mar-12	572.9	216.2	193.5	572.9	216.2	193.5	1,175,500	96,800	0.0	0.0	0.0	0.0
Apr-12	543.7	194.9	192.6	543.7	194.9	192.6	1,192,600	97,700	0.0	0.0	0.0	0.0
May-12	583.8	193.8	204.5	583.8	193.8	204.5	1,201,700	98,200	0.0	0.0	0.0	0.0
Jun-12	577.0	181.4	184.8	577.0	181.4	184.8	1,209,200	98,500	0.0	0.0	0.0	0.0
Jul-12	614.6	183.3	201.1	614.6	183.3	201.1	1,193,100	99,400	0.0	0.0	0.0	0.0
Aug-12	648.5	170.2	213.0	648.5	170.2	213.0	1,198,800	99,800	0.0	0.0	0.0	0.0
Sep-12	637.5	153.4	187.7	637.5	153.4	187.7	1,199,100	99,500	0.0	0.0	0.0	0.0
Oct-12	593.8	207.1	195.8	593.8	207.1	195.8	1,209,500	99,600	0.0	0.0	0.0	0.0
Nov-12	579.8	246.2	175.4	579.8	246.2	175.4	1,220,000	100,000	0.0	0.0	0.0	0.0
Dec-12	576.3	231.9	144.1	576.3	231.9	144.1	1,222,500	100,300	0.0	0.0	0.0	0.0
Jan-13	570.7	261.6	180.2	570.7	261.6	180.2	1,199,500	99,100	0.0	0.0	0.0	0.0
Feb-13	517.6	222.7	174.0	517.6	222.7	174.0	1,208,100	99,400	0.0	0.0	0.0	0.0
Mar-13	590.1	205.1	189.7	590.1	205.1	189.7	1,215,600	99,500	0.0	0.0	0.0	0.0
Apr-13	564.5	210.2	199.8	564.5	210.2	199.8	1,221,600	99,500	0.0	0.0	0.0	0.0
May-13	596.3	165.6	181.8	596.3	165.6	181.8	1,227,000	99,300	0.0	0.0	0.0	0.0
Jun-13	585.2	144.9	195.6	585.2	144.9	195.6	1,233,900	99,200	0.0	0.0	0.0	0.0
Jul-13	632.1	138.9	182.3	632.1	138.9	182.3	1,222,000	99,700	0.0	0.0	0.0	0.0
Aug-13	605.3	140.7	195.8	605.3	140.7	195.8	1,227,100	99,700	0.0	0.0	0.0	0.0
Sep-13	589.2	149.1	126.8	589.2	149.1	126.8	1,227,900	99,800	0.0	0.0	0.0	0.0
Oct-13	610.1	158.8	202.2	610.1	158.8	202.2	1,242,500	100,200	0.0	0.0	0.0	0.0
Nov-13	480.3	198.8	183.2	480.3	198.8	183.2	1,253,200	100,600	0.0	0.0	0.0	0.0
Dec-13	530.8	196.8	150.5	530.8	196.8	150.5	1,254,500	100,900	0.0	0.0	0.0	0.0
Jan-14	554.7	176.7	203.1	554.7	176.7	203.1	1,225,000	100,500	0.0	0.0	0.0	0.0
Feb-14	464.9	171.6	164.5	464.9	171.6	164.5	1,234,300	100,700	0.0	0.0	0.0	0.0
Mar-14	535.6	215.1	143.6	535.6	215.1	143.6	1,241,800	100,800	0.0	0.0	0.0	0.0
Apr-14	553.0	171.6	189.7	553.0	171.6	189.7	1,245,300	101,600	0.0	0.0	0.0	0.0
May-14	562.2	142.8	187.1	562.2	142.8	187.1	1,251,700	101,900	0.0	0.0	0.0	0.0
Jun-14	555.6	131.4	178.0	555.6	131.4	178.0	1,258,800	102,400	0.0	0.0	0.0	0.0
Jul-14	577.1	132.8	198.2	577.1	132.8	198.2	1,247,100	102,900	0.0	0.0	0.0	0.0
Aug-14	579.6	131.7	165.5	579.6	131.7	165.5	1,255,800	103,200	0.0	0.0	0.0	0.0
Sep-14	598.3	122.9	175.8	598.3	122.9	175.8	1,255,300	103,300	0.0	0.0	0.0	0.0
Oct-14	545.5	189.5	191.0	545.5	189.5	191.0	1,266,200	104,000	0.0	0.0	0.0	0.0
Nov-14	556.4	152.7	164.3	556.4	152.7	164.3	1,278,700	104,400	0.0	0.0	0.0	0.0
Dec-14	533.4	173.1	127.6	533.4	173.1	127.6	1,280,500	105,000	0.0	0.0	0.0	0.0
Jan-15	531.8	175.6	175.7	531.8	175.6	175.7	1,257,185	104,973	0.0	0.0	0.0	0.0
Feb-15	499.5	143.8	167.7	499.5	143.8	167.7	1,266,560	105,045	0.0	0.0	0.0	0.0
Mar-15	579.2	149.7	273.4	579.2	149.7	273.4	1,274,290	105,012	0.0	0.0	0.0	0.0
Apr-15	539.7	180.0	203.6	539.7	180.0	203.6	1,275,927	105,431	0.0	0.0	0.0	0.0
May-15	573.7	149.0	200.2	573.7	149.0	200.2	1,284,336	105,885	0.0	0.0	0.0	0.0
Jun-15	590.9	142.7	186.3	590.9	142.7	186.3	1,293,615	106,546	0.0	0.0	0.0	0.0
Jul-15	595.0	148.3	203.9	595.0	148.3	203.9	1,285,673	107,755	0.0	0.0	0.0	0.0
Aug-15	586.5	157.1	175.1	586.5	157.1	175.1	1,294,560	107,661	0.0	0.0	0.0	0.0
Sep-15	561.7	147.7	159.3	561.7	147.7	159.3	1,293,935	107,362	0.0	0.0	0.0	0.0
Oct-15	546.8	195.0	169.0	546.8	195.0	169.0	1,305,606	107,552	0.0	0.0	0.0	0.0
Nov-15	452.0	225.6	180.2	452.0	225.6	180.2	1,317,318	107,700	0.0	0.0	0.0	0.0
Dec-15	469.7	251.3	194.0	469.7	251.3	194.0	1,318,584	108,053	0.0	0.0	0.0	0.0
Jan-16	525.5	247.4	178.3	525.5	247.4	178.3	1,293,912	107,583	0.0	0.0	0.0	0.0
Feb-16	529.4	201.9	191.9	529.4	201.9	191.9	1,303,840	107,573	0.0	0.0	0.0	0.0
Mar-16	554.3	202.2	201.0	554.3	202.2	201.0	1,311,242	107,457	0.0	0.0	0.0	0.0
Apr-16	542.0	171.6	193.5	542.0	171.6	193.5	1,313,782	108,118	0.0	0.0	0.0	0.0
May-16	575.3	161.4	203.6	575.3	161.4	203.6	1,320,351	108,184	0.0	0.0	0.0	0.0
Jun-16	555.0	151.0	219.0	555.0	151.0	219.0	1,328,026	108,463	0.0	0.0	0.0	0.0
Jul-16	657.4	155.6	183.8	657.4	155.6	183.8	1,316,413	109,086	0.0	0.0	0.0	0.0
Aug-16	706.9	154.9	213.4	706.9	154.9	213.4	1,325,734	108,805	0.0	0.0	0.0	0.0
Sep-16	675.6	160.3	196.9	675.6	160.3	196.9	1,324,587	108,317	0.0	0.0	0.0	0.0
Oct-16	643.6	170.4	194.8	643.6	170.4	194.8	1,337,118	108,353	0.0	0.0	0.0	0.0
Nov-16	728.6	189.0	178.9	728.6	189.0	178.9	1,346,984	108,289	0.0	0.0	0.0	0.0
Dec-16	766.3	189.1	180.5	766.3	189.1	180.5	1,346,894	108,431	0.0	0.0	0.0	0.0
Jan-17	677.2	209.9	218.6	677.2	209.9	218.6	1,320,915	107,676	0.0	0.0	0.0	0.0
Feb-17	677.7	163.8	204.6	677.7	163.8	204.6	1,329,271	107,526	0.0	0.0	0.0	0.0
Mar-17	756.2	186.8	208.1	756.2	186.8	208.1	1,335,497	107,270	0.0	0.0	0.0	0.0
Apr-17	682.2	176.6	216.4	682.2	176.6	216.4	1,335,824	107,761	0.0	0.0	0.0	0.0
May-17	672.0	161.4	193.2	672.0	161.4	193.2	1,342,579	107,715	0.0	0.0	0.0	0.0
Jun-17	754.3	150.6	219.2	754.3	150.6	219.2	1,349,678	107,880	0.0	0.0	0.0	0.0
Jul-17	687.2	171.4	195.5	687.2	171.4	195.5	1,336,536	107,898	0.0	0.0	0.0	0.0

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Aug-17	833.1	153.5	205.4	833.1	153.5	205.4	1,345,537	107,996	0.0	0.0	0.0	0.0
Sep-17	750.5	132.5	153.1	750.5	132.5	153.1	1,344,345	107,886	0.0	0.0	0.0	0.0
Oct-17	748.3	154.5	180.6	748.3	154.5	180.6	1,356,411	108,368	0.0	0.0	0.0	0.0
Nov-17	832.7	158.8	173.3	832.7	158.8	173.3	1,366,993	108,608	0.0	0.0	0.0	0.0
Dec-17	758.0	190.1	193.3	758.0	190.1	193.3	1,367,618	109,056	0.0	0.0	0.0	0.0
Jan-18	750.3	185.3	191.1	756.9	186.1	192.6	1,341,969	108,701	-0.9	-0.4	-6.6	-1.1
Feb-18	751.5	186.7	191.1	758.1	187.6	192.6	1,351,534	108,753	-0.9	-0.4	-6.6	-1.1
Mar-18	751.9	187.8	191.0	758.6	188.7	192.5	1,358,876	108,697	-0.9	-0.4	-6.6	-1.1
Apr-18	756.1	188.1	191.9	762.8	189.0	193.4	1,360,952	109,300	-0.9	-0.4	-6.6	-1.1
May-18	758.2	189.2	192.3	764.8	190.1	193.8	1,368,077	109,556	-0.9	-0.4	-6.7	-1.1
Jun-18	761.4	190.4	193.0	768.1	191.2	194.5	1,375,367	110,026	-0.9	-0.4	-6.7	-1.1
Jul-18	766.9	188.3	194.4	773.6	189.2	195.9	1,362,171	110,889	-0.9	-0.4	-6.7	-1.1
Aug-18	766.5	189.7	194.1	773.2	190.6	195.6	1,371,206	110,751	-0.9	-0.4	-6.7	-1.1
Sep-18	764.9	189.5	193.5	771.6	190.3	195.0	1,369,798	110,400	-0.9	-0.4	-6.7	-1.1
Oct-18	765.5	191.3	193.5	772.2	192.2	195.0	1,381,617	110,453	-0.9	-0.4	-6.7	-1.1
Nov-18	767.0	192.9	193.8	773.7	193.8	195.3	1,392,151	110,663	-0.9	-0.4	-6.7	-1.1
Dec-18	769.7	193.1	194.5	776.5	193.9	196.0	1,392,919	111,085	-0.9	-0.4	-6.8	-1.1
Jan-19	767.0	188.2	193.5	774.8	189.8	195.5	1,366,701	110,764	-1.6	-0.8	-7.8	-1.1
Feb-19	766.9	189.8	193.4	774.7	191.4	195.3	1,376,964	110,709	-1.6	-0.8	-7.8	-1.1
Mar-19	766.1	191.1	193.1	773.9	192.7	195.1	1,384,904	110,545	-1.6	-0.8	-7.8	-1.1
Apr-19	769.6	191.5	194.1	777.4	193.1	196.0	1,387,704	111,115	-1.6	-0.8	-7.8	-1.1
May-19	770.2	192.6	194.2	778.1	194.3	196.1	1,395,158	111,203	-1.6	-0.8	-7.8	-1.1
Jun-19	772.1	193.8	194.7	780.0	195.4	196.6	1,402,578	111,509	-1.6	-0.8	-7.9	-1.1
Jul-19	775.3	191.8	195.5	783.2	193.4	197.5	1,389,652	112,048	-1.6	-0.8	-7.9	-1.1
Aug-19	774.6	193.2	195.3	782.5	194.8	197.2	1,398,535	111,899	-1.6	-0.8	-7.9	-1.1
Sep-19	772.6	192.9	194.7	780.4	194.5	196.6	1,396,785	111,536	-1.6	-0.8	-7.9	-1.1
Oct-19	773.3	194.7	194.9	781.2	196.3	196.8	1,408,412	111,651	-1.6	-0.8	-7.9	-1.1
Nov-19	774.2	196.3	195.1	782.0	197.9	197.0	1,418,769	111,785	-1.6	-0.8	-7.9	-1.1
Dec-19	776.2	196.4	195.6	784.1	198.0	197.6	1,419,371	112,133	-1.6	-0.8	-7.9	-1.1
Jan-20	773.6	191.2	194.4	781.4	193.8	196.8	1,392,440	111,653	-2.6	-1.3	-7.8	-1.1
Feb-20	773.3	192.8	194.3	781.1	195.5	196.7	1,402,913	111,597	-2.6	-1.3	-7.8	-1.1
Mar-20	772.4	194.1	194.0	780.2	196.7	196.4	1,411,025	111,430	-2.6	-1.3	-7.8	-1.1
Apr-20	775.7	194.8	194.9	783.5	197.4	197.3	1,415,351	111,994	-2.6	-1.3	-7.8	-1.1
May-20	776.3	195.7	195.1	784.1	198.3	197.5	1,421,524	112,091	-2.6	-1.3	-7.8	-1.1
Jun-20	778.1	196.7	195.6	786.0	199.3	198.0	1,427,587	112,407	-2.6	-1.3	-7.9	-1.1
Jul-20	781.7	194.4	196.6	789.5	197.0	199.0	1,412,853	113,021	-2.6	-1.3	-7.9	-1.1
Aug-20	780.5	195.6	196.2	788.4	198.2	198.7	1,420,689	112,817	-2.6	-1.3	-7.9	-1.1
Sep-20	778.1	195.1	195.6	786.0	197.8	198.0	1,417,753	112,397	-2.6	-1.3	-7.9	-1.1
Oct-20	778.6	196.7	195.7	786.4	199.4	198.1	1,428,068	112,472	-2.6	-1.3	-7.9	-1.1
Nov-20	779.0	198.2	195.8	786.8	200.8	198.2	1,437,617	112,540	-2.6	-1.3	-7.9	-1.1
Dec-20	780.6	198.2	196.2	788.5	200.8	198.7	1,437,359	112,824	-2.6	-1.3	-7.9	-1.1
Jan-21	776.5	192.7	194.6	785.2	196.5	197.7	1,409,955	112,258	-3.9	-1.9	-8.7	-1.2
Feb-21	775.9	194.1	194.4	784.6	198.0	197.5	1,419,167	112,152	-3.9	-1.9	-8.7	-1.2
Mar-21	774.7	195.2	194.1	783.4	199.0	197.2	1,426,000	111,936	-3.9	-1.9	-8.7	-1.2
Apr-21	777.8	195.4	195.0	786.5	199.3	198.1	1,427,349	112,470	-3.9	-1.9	-8.7	-1.2
May-21	778.0	196.4	195.0	786.7	200.3	198.1	1,433,914	112,502	-3.9	-1.9	-8.7	-1.2
Jun-21	779.4	197.4	195.4	788.1	201.3	198.5	1,440,247	112,753	-3.9	-1.9	-8.7	-1.2
Jul-21	782.2	195.2	196.2	791.0	199.1	199.3	1,426,098	113,245	-3.9	-1.9	-8.8	-1.2
Aug-21	781.0	196.4	195.9	789.8	200.3	199.0	1,433,932	113,034	-3.9	-1.9	-8.7	-1.2
Sep-21	778.6	196.0	195.2	787.3	198.3	198.3	1,430,962	112,607	-3.9	-1.9	-8.7	-1.2
Oct-21	778.9	197.6	195.3	787.6	201.5	198.4	1,441,505	112,662	-3.9	-1.9	-8.7	-1.2
Nov-21	779.4	199.0	195.4	788.1	202.9	198.5	1,450,861	112,739	-3.9	-1.9	-8.7	-1.2
Dec-21	781.0	199.0	195.9	789.8	202.8	199.0	1,450,336	113,030	-3.9	-1.9	-8.7	-1.2
Jan-22	776.7	193.4	194.3	786.7	198.5	198.1	1,422,611	112,493	-5.1	-2.5	-10.0	-1.4
Feb-22	776.0	194.8	194.1	786.0	199.9	197.9	1,431,732	112,373	-5.1	-2.5	-10.0	-1.4
Mar-22	774.7	195.9	193.7	784.6	201.0	197.5	1,438,419	112,142	-5.1	-2.5	-9.9	-1.4
Apr-22	777.6	196.0	194.5	787.6	201.1	198.3	1,439,436	112,645	-5.1	-2.5	-10.0	-1.4
May-22	777.8	197.0	194.6	787.8	202.1	198.4	1,445,969	112,679	-5.1	-2.5	-10.0	-1.4
Jun-22	779.2	198.0	195.0	789.2	203.1	198.8	1,452,218	112,935	-5.1	-2.5	-10.0	-1.4
Jul-22	782.2	195.8	195.8	792.2	200.9	199.7	1,437,808	113,453	-5.1	-2.5	-10.0	-1.4
Aug-22	780.9	197.0	195.5	790.9	202.1	199.3	1,445,667	113,222	-5.1	-2.5	-10.0	-1.4
Sep-22	778.3	196.5	194.7	788.3	201.6	198.6	1,442,666	112,775	-5.1	-2.5	-10.0	-1.4
Oct-22	778.6	198.2	194.8	788.6	203.3	198.6	1,453,351	112,824	-5.1	-2.5	-10.0	-1.4
Nov-22	778.9	199.6	194.9	788.9	204.7	198.7	1,462,596	112,867	-5.1	-2.5	-10.0	-1.4
Dec-22	780.3	199.5	195.3	790.4	204.6	199.1	1,461,898	113,126	-5.1	-2.5	-10.0	-1.4
Jan-23	777.2	193.8	193.7	787.0	200.3	198.2	1,434,089	112,541	-6.5	-3.1	-9.7	-1.4
Feb-23	776.4	195.2	193.4	786.1	201.7	197.9	1,443,057	112,401	-6.5	-3.1	-9.7	-1.4
Mar-23	775.0	196.2	193.0	784.7	202.7	197.5	1,449,571	112,150	-6.5	-3.1	-9.7	-1.4
Apr-23	777.8	196.3	193.8	787.5	202.8	198.3	1,450,217	112,634	-6.5	-3.1	-9.7	-1.4
May-23	777.9	197.3	193.8	787.6	203.8	198.4	1,456,690	112,649	-6.5	-3.1	-9.7	-1.4
Jun-23	779.2	198.3	194.2	789.0	204.8	198.7	1,462,800	112,884	-6.5	-3.1	-9.7	-1.4
Jul-23	781.9	196.0	195.0	791.7	202.5	199.5	1,448,139	113,360	-6.5	-3.1	-9.8	-1.4
Aug-23	780.6	197.2	194.6	790.4	203.7	199.1	1,455,878	113,131	-6.5	-3.1	-9.8	-1.4
Sep-23	778.1	196.7	193.9	787.8	203.2	198.4	1,452,715	112,687	-6.5	-3.1	-9.7	-1.4
Oct-23	778.3	198.3	194.0	788.0	204.8	198.5	1,463,352	112,719	-6.5	-3.1	-9.7	-1.4
Nov-23	778.6	199.7	194.1	788.4	206.2	198.6	1,472,374	112,783	-6.5	-3.1	-9.7	-1.4
Dec-23	780.2	199.6	194.5	790.0	206.1	199.0	1,471,466	113,062	-6.5	-3.1	-9.8	-1.4
Jan-24	776.8	193.9	192.9	786.7	201.7	198.1	1,443,405	112,502	-7.9	-3.8	-9.9	-1.4
Feb-24	776.1	195.2	192.7	786.0	203.1	197.9	1,452,255	112,380	-7.9	-3.8	-9.9	-1.4
Mar-24	774.8	196.2	192.3	784.7	204.1	197.5	1,458,675	112,148	-7.9	-3.8	-9.9	-1.4
Apr-24	777.6	196.3	193.1	787.5	204.2	198.3	1,459,271	112,641	-7.9	-3.8	-9.9	-1.4
May-24	777.8	197.3	193.2	787.8	205.2	198.4	1,465,493	112,682	-7.9	-3.8	-9.9	-1.4
Jun-24	779.3	198.2	193.6	789.3	206.1	198.8	1,471,353	112,944	-7.9	-3.8	-10.0	-1.4
Jul-24	782.3	195.9	194.5	792.3	203.7	199.7	1,456,300	113,455	-7.9	-3.8	-10.0	-1.4
Aug-24	781.1	197.0	194.1	791.0	204.9	199.3	1,463,856	113,244	-7.9	-3.8	-10.0	-1.4
Sep-24	778.6	196.5	193.4	788.6	204.4	198.6	1,460,488	112,816	-7.9	-3.8	-10.0	-1.4
Oct-24	779.0	198.1	193.5	789.0	206.0	198.7	1,470,855	112,888	-7.9	-3.8	-10.0	-1.4
Nov-24	779.4	199.5	193.6	789.3	207.4	198.8	1,479,770	112,946	-7.9	-3.8	-10.0	-1.4
Dec-24	780.9	199.4	194.1	790.9	207.2	199.3	1,478,758	113,221	-7.9	-3.8	-10.0	-1.4
Jan-25	776.8	193.6	192.4	787.5	202.9	198.3	1,450,628	112,639	-9.3	-4.5	-10.7	-1.5

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Feb-25	776.2	195.0	192.2	786.9	204.2	198.1	1,459,474	112,526	-9.3	-4.5	-10.7	-1.5
Mar-25	774.9	196.0	191.8	785.6	205.2	197.8	1,465,812	112,303	-9.3	-4.5	-10.7	-1.5
Apr-25	777.9	196.0	192.7	788.6	205.3	198.6	1,466,249	112,829	-9.3	-4.5	-10.7	-1.5
May-25	778.1	197.0	192.7	788.8	206.2	198.7	1,472,378	112,857	-9.3	-4.5	-10.7	-1.5
Jun-25	779.5	197.9	193.1	790.2	207.1	199.1	1,478,146	113,106	-9.3	-4.5	-10.7	-1.5
Jul-25	782.4	195.5	193.9	793.1	204.8	199.9	1,462,873	113,602	-9.3	-4.5	-10.8	-1.5
Aug-25	781.1	196.7	193.6	791.8	205.9	199.6	1,470,369	113,380	-9.3	-4.5	-10.8	-1.5
Sep-25	778.6	196.1	192.9	789.3	205.4	198.8	1,466,953	112,941	-9.3	-4.5	-10.7	-1.5
Oct-25	778.7	197.8	192.9	789.5	207.0	198.9	1,477,414	112,969	-9.3	-4.5	-10.7	-1.5
Nov-25	779.2	199.1	193.0	789.9	208.4	199.0	1,486,183	113,051	-9.3	-4.5	-10.7	-1.5
Dec-25	780.9	198.9	193.5	791.7	208.2	199.5	1,484,970	113,349	-9.3	-4.5	-10.8	-1.5
Jan-26	776.9	193.2	191.9	788.4	203.8	198.6	1,456,498	112,795	-10.6	-5.1	-11.5	-1.6
Feb-26	776.4	194.5	191.7	787.9	205.2	198.4	1,465,329	112,699	-10.6	-5.1	-11.5	-1.6
Mar-26	775.2	195.5	191.4	786.7	206.1	198.1	1,471,715	112,492	-10.6	-5.1	-11.5	-1.6
Apr-26	778.1	195.6	192.2	789.7	206.2	198.9	1,472,075	113,010	-10.6	-5.1	-11.6	-1.6
May-26	778.5	196.5	192.3	790.1	207.2	199.1	1,478,316	113,080	-10.6	-5.1	-11.6	-1.6
Jun-26	780.2	197.5	192.8	791.8	208.1	199.5	1,484,187	113,372	-10.6	-5.1	-11.6	-1.6
Jul-26	783.3	195.1	193.7	794.9	205.7	200.4	1,468,769	113,910	-10.6	-5.1	-11.6	-1.6
Aug-26	782.3	196.3	193.4	793.9	206.9	200.1	1,476,503	113,731	-10.6	-5.1	-11.6	-1.6
Sep-26	780.0	195.8	192.7	791.6	206.4	199.5	1,473,334	113,334	-10.6	-5.1	-11.6	-1.6
Oct-26	780.8	197.4	193.0	792.4	208.1	199.7	1,484,051	113,484	-10.6	-5.1	-11.6	-1.6
Nov-26	781.1	198.8	193.1	792.7	209.5	199.8	1,493,095	113,531	-10.6	-5.1	-11.6	-1.6
Dec-26	782.6	198.7	193.5	794.2	209.3	200.2	1,492,109	113,794	-10.6	-5.1	-11.6	-1.6
Jan-27	778.2	192.9	191.8	790.8	204.9	199.3	1,463,759	113,209	-12.0	-5.8	-12.6	-1.7
Feb-27	777.4	194.3	191.5	790.0	206.3	199.0	1,472,967	113,072	-12.0	-5.8	-12.6	-1.7
Mar-27	776.0	195.4	191.1	788.6	207.4	198.6	1,479,686	112,823	-12.0	-5.8	-12.6	-1.7
Apr-27	778.8	195.5	191.9	791.4	207.5	199.4	1,480,437	113,310	-12.0	-5.8	-12.6	-1.7
May-27	778.9	196.5	192.0	791.6	208.5	199.5	1,486,883	113,331	-12.0	-5.8	-12.6	-1.7
Jun-27	780.3	197.4	192.3	793.0	209.4	199.9	1,492,940	113,575	-12.0	-5.8	-12.7	-1.7
Jul-27	783.2	195.0	193.2	795.9	207.1	200.7	1,477,602	114,076	-12.0	-5.8	-12.7	-1.7
Aug-27	781.8	196.3	192.8	794.5	208.3	200.3	1,485,503	113,836	-12.0	-5.8	-12.7	-1.7
Sep-27	779.2	195.8	192.0	791.8	207.8	199.6	1,482,463	113,379	-12.0	-5.8	-12.6	-1.7
Oct-27	779.4	197.5	192.1	792.0	209.5	199.6	1,493,555	113,416	-12.0	-5.8	-12.6	-1.7
Nov-27	779.6	198.9	192.2	792.3	210.9	199.7	1,502,611	113,457	-12.0	-5.8	-12.6	-1.7
Dec-27	781.1	198.8	192.6	793.8	210.8	200.1	1,501,545	113,713	-12.0	-5.8	-12.7	-1.7
Jan-28	776.3	193.8	191.2	790.3	206.3	199.1	1,472,963	113,115	-12.6	-6.1	-14.0	-1.9
Feb-28	775.5	195.2	191.0	789.5	207.8	198.9	1,482,227	112,978	-12.6	-6.1	-14.0	-1.9
Mar-28	774.1	196.3	190.6	788.1	208.8	198.5	1,489,001	112,731	-12.6	-6.1	-14.0	-1.9
Apr-28	776.9	196.4	191.4	790.9	209.0	199.3	1,489,835	113,220	-12.6	-6.1	-14.0	-1.9
May-28	777.0	197.4	191.4	791.0	209.9	199.3	1,496,205	113,240	-12.6	-6.1	-14.0	-1.9
Jun-28	778.4	198.3	191.8	792.4	210.9	199.7	1,502,195	113,481	-12.6	-6.1	-14.0	-1.9
Jul-28	781.2	195.9	192.6	795.3	208.5	200.5	1,486,584	113,975	-12.6	-6.1	-14.1	-1.9
Aug-28	779.8	197.1	192.2	793.9	209.7	200.1	1,494,476	113,739	-12.6	-6.1	-14.1	-1.9
Sep-28	777.3	196.6	191.5	791.3	209.2	199.4	1,491,393	113,286	-12.6	-6.1	-14.0	-1.9
Oct-28	777.5	198.3	191.5	791.6	210.9	199.5	1,502,269	113,332	-12.6	-6.1	-14.0	-1.9
Nov-28	777.7	199.8	191.6	791.8	212.3	199.5	1,511,583	113,371	-12.6	-6.1	-14.0	-1.9
Dec-28	779.2	199.6	192.0	793.3	212.2	200.0	1,510,672	113,626	-12.6	-6.1	-14.1	-1.9
Jan-29	774.7	194.7	190.7	789.8	207.8	199.0	1,482,240	113,035	-13.1	-6.3	-15.1	-2.0
Feb-29	773.9	196.2	190.5	789.0	209.2	198.7	1,491,645	112,889	-13.1	-6.3	-15.1	-2.0
Mar-29	772.5	197.2	190.0	787.5	210.3	198.3	1,498,534	112,632	-13.1	-6.3	-15.0	-2.0
Apr-29	775.2	197.3	190.8	790.3	210.4	199.1	1,499,283	113,117	-13.1	-6.3	-15.1	-2.0
May-29	775.2	198.4	190.8	790.3	211.5	199.1	1,505,874	113,123	-13.1	-6.3	-15.1	-2.0
Jun-29	776.5	199.3	191.2	791.7	212.4	199.5	1,512,087	113,350	-13.1	-6.3	-15.1	-2.0
Jul-29	779.3	196.9	192.0	794.5	210.0	200.3	1,496,501	113,833	-13.1	-6.3	-15.2	-2.0
Aug-29	777.8	198.2	191.6	793.0	211.3	199.9	1,504,650	113,580	-13.1	-6.3	-15.2	-2.0
Sep-29	775.2	197.7	190.8	790.3	210.8	199.1	1,501,794	113,110	-13.1	-6.3	-15.1	-2.0
Oct-29	775.3	199.5	190.8	790.4	212.6	199.1	1,513,006	113,131	-13.1	-6.3	-15.1	-2.0
Nov-29	775.5	201.0	190.9	790.6	214.1	199.2	1,522,639	113,160	-13.1	-6.3	-15.1	-2.0
Dec-29	776.8	200.8	191.3	792.0	213.9	199.6	1,521,855	113,404	-13.1	-6.3	-15.1	-2.0
Jan-30	772.8	196.0	190.1	788.7	209.3	198.7	1,492,251	112,831	-13.4	-6.5	-15.9	-2.0
Feb-30	771.8	197.6	189.9	787.6	211.0	198.4	1,502,994	112,649	-13.4	-6.5	-15.8	-2.0
Mar-30	770.1	198.9	189.4	785.9	212.3	197.9	1,511,260	112,355	-13.4	-6.5	-15.8	-2.0
Apr-30	772.4	199.5	190.0	788.2	212.9	198.5	1,515,195	112,754	-13.4	-6.5	-15.9	-2.0
May-30	772.4	200.5	190.0	788.3	213.8	198.6	1,521,266	112,770	-13.4	-6.5	-15.9	-2.0
Jun-30	773.8	201.4	190.4	789.7	214.7	198.9	1,526,968	113,006	-13.4	-6.5	-15.9	-2.0
Jul-30	776.6	198.8	191.2	792.6	212.1	199.8	1,510,275	113,505	-13.4	-6.5	-15.9	-2.1
Aug-30	775.2	200.0	190.8	791.1	213.4	199.3	1,518,195	113,254	-13.4	-6.5	-15.9	-2.0
Sep-30	772.5	199.5	190.1	788.4	212.9	198.6	1,515,084	112,787	-13.4	-6.5	-15.9	-2.0
Oct-30	772.7	201.2	190.1	788.5	214.5	198.6	1,525,816	112,809	-13.4	-6.5	-15.9	-2.0
Nov-30	772.8	202.7	190.2	788.7	216.1	198.7	1,535,591	112,839	-13.4	-6.5	-15.9	-2.0
Dec-30	774.2	202.6	190.6	790.1	216.0	199.1	1,534,886	113,084	-13.4	-6.5	-15.9	-2.0
Jan-31	770.0	198.1	189.5	786.6	211.5	198.1	1,506,321	112,479	-13.4	-6.5	-16.6	-2.1
Feb-31	769.2	199.6	189.2	785.8	213.0	197.8	1,516,102	112,334	-13.4	-6.5	-16.5	-2.1
Mar-31	767.8	200.7	188.8	784.3	214.2	197.4	1,523,338	112,079	-13.4	-6.5	-16.5	-2.1
Apr-31	770.5	200.9	189.6	787.1	214.3	198.2	1,524,340	112,562	-13.4	-6.5	-16.6	-2.1
May-31	770.5	201.9	189.6	787.1	215.4	198.2	1,531,166	112,567	-13.4	-6.5	-16.6	-2.1
Jun-31	771.8	202.9	190.0	788.4	216.4	198.6	1,537,607	112,792	-13.4	-6.5	-16.6	-2.1
Jul-31	774.5	200.5	190.8	791.1	213.9	199.4	1,521,955	113,261	-13.4	-6.5	-16.7	-2.1
Aug-31	773.1	201.8	190.4	789.7	215.3	199.0	1,530,345	113,018	-13.4	-6.5	-16.6	-2.1
Sep-31	770.5	201.4	189.6	787.1	214.8	198.2	1,527,623	112,559	-13.4	-6.5	-16.6	-2.1
Oct-31	770.7	203.2	189.7	787.3	216.6	198.3	1,539,252	112,600	-13.4	-6.5	-16.6	-2.1
Nov-31	770.9	204.7	189.7	787.5	218.2	198.3	1,549,148	112,626	-13.4	-6.5	-16.6	-2.1
Dec-31	772.2	204.6	190.1	788.9	218.1	198.7	1,548,414	112,867	-13.4	-6.5	-16.6	-2.1
Jan-32	767.9	200.1	189.0	785.3	213.6	197.7	1,519,557	112,254	-13.5	-6.5	-17.4	-2.2
Feb-32	767.1	201.6	188.8	784.5	215.1	197.5	1,529,452	112,110	-13.5	-6.5	-17.4	-2.2
Mar-32	765.6	202.8	188.4	783.0	216.3	197.0	1,536,818	111,856	-13.5	-6.5	-17.4	-2.2
Apr-32	768.3	202.9	189.1	785.8	216.4	197.8	1,537,909	112,333	-13.5	-6.5	-17.4	-2.2
May-32	768.4	204.0	189.1	785.8	217.5	197.9	1,544,801	112,345	-13.5	-6.5	-17.4	-2.2
Jun-32	769.7	205.0	189.5	787.2	218.5	198.2	1,551,307	112,576	-13.5	-6.5	-17.4	-2.2
Jul-32	772.5	202.5	190.3	790.0	216.1	199.0	1,535,493	113,069	-13.5	-6.5	-17.5	-2.2

San Diego Gas and Electric  
2018 California Gas Report-Workpapers

Aug-32	771.1	203.9	189.9	788.6	217.4	198.6	1,544,030	112,817	-13.5	-6.5	-17.5	-2.2
Sep-32	768.4	203.5	189.2	785.9	217.0	197.9	1,541,381	112,349	-13.5	-6.5	-17.4	-2.2
Oct-32	768.5	205.3	189.2	785.9	218.8	197.9	1,553,209	112,362	-13.5	-6.5	-17.4	-2.2
Nov-32	768.7	206.9	189.2	786.1	220.4	197.9	1,563,291	112,396	-13.5	-6.5	-17.4	-2.2
Dec-32	770.1	206.8	189.6	787.6	220.3	198.3	1,562,605	112,644	-13.5	-6.5	-17.5	-2.2
Jan-33	765.7	202.3	188.6	784.2	215.7	197.4	1,533,535	112,057	-13.4	-6.5	-18.5	-2.3
Feb-33	764.8	203.9	188.4	783.3	217.3	197.1	1,543,634	111,905	-13.4	-6.5	-18.5	-2.3
Mar-33	763.3	205.1	188.0	781.7	218.5	196.7	1,551,141	111,642	-13.4	-6.5	-18.4	-2.2
Apr-33	765.9	205.2	188.7	784.4	218.7	197.5	1,552,314	112,106	-13.4	-6.5	-18.5	-2.3
May-33	766.0	206.3	188.7	784.5	219.8	197.5	1,559,292	112,112	-13.4	-6.5	-18.5	-2.3
Jun-33	767.2	207.4	189.1	785.8	220.8	197.8	1,565,891	112,338	-13.4	-6.5	-18.5	-2.3
Jul-33	769.9	204.9	189.9	788.5	218.3	198.6	1,549,984	112,805	-13.4	-6.5	-18.6	-2.3
Aug-33	768.5	206.2	189.5	787.1	219.6	198.2	1,558,633	112,566	-13.4	-6.5	-18.6	-2.3
Sep-33	766.0	205.8	188.7	784.5	219.2	197.5	1,556,035	112,113	-13.4	-6.5	-18.5	-2.3
Oct-33	766.1	207.7	188.8	784.7	221.1	197.5	1,568,106	112,143	-13.4	-6.5	-18.5	-2.3
Nov-33	766.4	209.3	188.8	784.9	222.7	197.6	1,578,317	112,186	-13.4	-6.5	-18.5	-2.3
Dec-33	767.8	209.2	189.3	786.4	222.6	198.0	1,577,587	112,442	-13.4	-6.5	-18.6	-2.3
Jan-34	763.8	204.7	188.3	783.0	218.0	197.0	1,548,278	111,854	-13.4	-6.5	-19.2	-2.3
Feb-34	763.1	206.3	188.1	782.2	219.6	196.8	1,558,404	111,721	-13.4	-6.5	-19.1	-2.3
Mar-34	761.7	207.4	187.7	780.8	220.8	196.4	1,565,929	111,479	-13.4	-6.5	-19.1	-2.3
Apr-34	764.5	207.6	188.5	783.6	221.0	197.2	1,567,113	111,967	-13.4	-6.5	-19.2	-2.3
May-34	764.6	208.7	188.5	783.8	222.0	197.3	1,573,999	111,987	-13.4	-6.5	-19.2	-2.3
Jun-34	765.9	209.7	188.9	785.1	223.0	197.7	1,580,517	112,227	-13.4	-6.5	-19.2	-2.3
Jul-34	768.6	207.2	189.7	787.9	220.5	198.4	1,564,412	112,707	-13.4	-6.5	-19.3	-2.3
Aug-34	767.4	208.5	189.3	786.6	221.9	198.1	1,572,960	112,483	-13.4	-6.5	-19.3	-2.3
Sep-34	764.9	208.1	188.6	784.1	221.4	197.4	1,570,196	112,044	-13.4	-6.5	-19.2	-2.3
Oct-34	765.2	209.9	188.7	784.4	223.3	197.4	1,582,087	112,095	-13.4	-6.5	-19.2	-2.3
Nov-34	765.5	211.5	188.8	784.7	224.9	197.5	1,592,376	112,145	-13.4	-6.5	-19.2	-2.3
Dec-34	767.0	211.4	189.2	786.2	224.8	198.0	1,591,588	112,410	-13.4	-6.5	-19.2	-2.3
Jan-35	762.6	206.9	188.2	782.9	220.2	197.0	1,562,030	111,834	-13.3	-6.4	-20.2	-2.4
Feb-35	761.9	208.5	188.0	782.1	221.8	196.8	1,572,210	111,704	-13.3	-6.4	-20.2	-2.4
Mar-35	760.5	209.7	187.6	780.7	222.9	196.4	1,579,729	111,464	-13.3	-6.4	-20.2	-2.4
Apr-35	763.3	209.8	188.4	783.6	223.1	197.2	1,580,821	111,954	-13.3	-6.4	-20.2	-2.4
May-35	763.4	210.9	188.4	783.7	224.2	197.2	1,587,709	111,976	-13.3	-6.4	-20.2	-2.4
Jun-35	764.8	211.9	188.8	785.1	225.2	197.6	1,594,223	112,218	-13.3	-6.4	-20.3	-2.4
Jul-35	767.5	209.4	189.6	787.9	222.7	198.4	1,577,964	112,701	-13.3	-6.4	-20.4	-2.4
Aug-35	766.3	210.7	189.3	786.6	224.0	198.1	1,586,582	112,479	-13.3	-6.4	-20.3	-2.4
Sep-35	763.8	210.3	188.6	784.1	223.6	197.4	1,583,800	112,042	-13.3	-6.4	-20.3	-2.4
Oct-35	764.0	212.1	188.6	784.2	225.4	197.4	1,595,757	112,073	-13.3	-6.4	-20.3	-2.4
Nov-35	764.4	213.8	188.7	784.7	227.0	197.5	1,606,193	112,149	-13.3	-6.4	-20.3	-2.4
Dec-35	766.1	213.6	189.2	786.4	226.9	198.0	1,605,419	112,439	-13.3	-6.4	-20.3	-2.4



# 2018 CALIFORNIA GAS REPORT

---

NATURAL GAS VEHICLES  
JULY 2018

---



Table 1 - SDG&E Volume Forecast Growth Through 2035

Years	Volumes	
	Compressed	Uncompressed
	MM CCF	MM CCF
2018	0.50	18.44
2019	0.55	19.75
2020	0.60	21.16
2021	0.66	22.67
2022	0.72	24.28
2023	0.79	26.01
2024	0.87	27.86
2025	0.96	29.85
2026	1.05	31.97
2027	1.15	34.25
2028	1.27	36.69
2029	1.39	39.30
2030	1.53	42.10
2031	1.68	45.10
2032	1.85	48.32
2033	2.04	51.76
2034	2.24	55.45
2035	2.47	59.39

Year	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Compressed Volumes (M decatherms)													
2017	2.78	5.29	5.10	3.58	3.57	3.76	3.78	3.93	3.87	4.11	3.97	3.90	47.65
2018	3.05	5.72	5.60	3.91	3.91	4.12	4.14	4.32	4.24	4.52	4.34	4.27	52.14
2019	3.35	6.19	6.15	4.28	4.28	4.51	4.54	4.74	4.64	4.96	4.75	4.67	57.07
2020	3.69	6.70	6.75	4.68	4.70	4.95	4.97	5.21	5.09	5.46	5.20	5.12	62.50
2021	4.05	7.27	7.42	5.12	5.15	5.43	5.45	5.73	5.57	6.00	5.69	5.62	68.48
2022	4.45	7.89	8.16	5.60	5.65	5.96	5.97	6.29	6.11	6.60	6.23	6.16	75.07
2023	4.90	8.57	8.96	6.13	6.20	6.54	6.55	6.92	6.70	7.26	6.82	6.76	82.32
2024	5.39	9.31	9.86	6.72	6.81	7.18	7.19	7.61	7.35	7.99	7.48	7.43	90.32
2025	5.93	10.13	10.84	7.36	7.48	7.89	7.89	8.38	8.07	8.80	8.20	8.16	99.13
2026	6.52	11.04	11.93	8.08	8.21	8.67	8.67	9.22	8.87	9.68	9.00	8.96	108.83
2027	7.18	12.03	13.12	8.86	9.03	9.53	9.52	10.15	9.74	10.66	9.87	9.84	119.53
2028	7.90	13.12	14.44	9.72	9.92	10.48	10.46	11.17	10.70	11.74	10.84	10.82	131.32
2029	8.70	14.33	15.89	10.68	10.91	11.52	11.50	12.30	11.76	12.93	11.91	11.90	144.32
2030	9.58	15.65	17.50	11.73	12.00	12.67	12.65	13.54	12.93	14.24	13.08	13.09	158.65
2031	10.55	17.11	19.27	12.88	13.20	13.94	13.91	14.91	14.22	15.69	14.38	14.39	174.44
2032	11.62	18.71	21.22	14.16	14.53	15.34	15.30	16.42	15.64	17.28	15.80	15.84	191.86
2033	12.80	20.48	23.37	15.56	15.99	16.89	16.83	18.09	17.21	19.04	17.38	17.43	211.05
2034	14.10	22.42	25.74	17.11	17.60	18.59	18.52	19.93	18.93	20.98	19.11	19.18	232.22
2035	15.53	24.56	28.35	18.82	19.37	20.47	20.39	21.96	20.84	23.12	21.02	21.12	255.56

Compressed Volumes - Public Use (M decatherms)													
2017	2.61	3.83	4.75	3.09	3.22	3.41	3.38	3.69	3.45	3.89	3.46	3.51	42.28
2018	2.88	4.22	5.24	3.41	3.55	3.76	3.73	4.07	3.81	4.29	3.82	3.87	46.64
2019	3.17	4.66	5.78	3.76	3.92	4.15	4.11	4.49	4.20	4.74	4.21	4.27	51.46
2020	3.50	5.14	6.38	4.15	4.32	4.57	4.54	4.95	4.63	5.23	4.65	4.71	56.77
2021	3.86	5.67	7.04	4.58	4.77	5.05	5.00	5.46	5.11	5.77	5.12	5.19	62.63
2022	4.26	6.26	7.76	5.05	5.26	5.57	5.52	6.03	5.64	6.36	5.65	5.73	69.09
2023	4.70	6.90	8.57	5.57	5.80	6.14	6.09	6.65	6.22	7.02	6.24	6.32	76.22
2024	5.19	7.62	9.45	6.15	6.40	6.77	6.72	7.33	6.86	7.74	6.88	6.98	84.09
2025	5.72	8.40	10.43	6.78	7.06	7.47	7.41	8.09	7.57	8.54	7.59	7.70	92.77
2026	6.31	9.27	11.50	7.48	7.79	8.25	8.18	8.93	8.35	9.42	8.37	8.49	102.35
2027	6.97	10.23	12.69	8.25	8.60	9.10	9.02	9.85	9.22	10.40	9.24	9.37	112.91
2028	7.69	11.28	14.00	9.10	9.48	10.04	9.95	10.86	10.17	11.47	10.19	10.33	124.57
2029	8.48	12.45	15.44	10.04	10.46	11.07	10.98	11.98	11.22	12.65	11.25	11.40	137.43
2030	9.35	13.73	17.04	11.08	11.54	12.21	12.11	13.22	12.38	13.96	12.41	12.58	151.61
2031	10.32	15.15	18.80	12.22	12.74	13.47	13.36	14.59	13.65	15.40	13.69	13.87	167.26

2032	11.38	16.71	20.74	13.48	14.05	14.87	14.74	16.09	15.06	16.99	15.10	15.31	184.53
2033	12.56	18.44	22.88	14.88	15.50	16.40	16.27	17.75	16.62	18.74	16.66	16.89	203.57
2034	13.86	20.34	25.24	16.41	17.10	18.09	17.94	19.59	18.33	20.68	18.38	18.63	224.59
2035	15.29	22.44	27.84	18.11	18.87	19.96	19.80	21.61	20.22	22.81	20.27	20.55	247.77

Compressed Volumes - Utility Use (M decatherms)													
2017	0.17	1.46	0.35	0.49	0.35	0.35	0.41	0.24	0.42	0.22	0.52	0.39	5.37
2018	0.18	1.50	0.36	0.51	0.36	0.36	0.42	0.25	0.43	0.22	0.53	0.40	5.49
2019	0.18	1.53	0.37	0.52	0.37	0.37	0.42	0.25	0.44	0.23	0.54	0.41	5.61
2020	0.18	1.56	0.38	0.53	0.37	0.37	0.43	0.26	0.45	0.23	0.55	0.42	5.74
2021	0.19	1.59	0.38	0.54	0.38	0.38	0.44	0.26	0.46	0.24	0.56	0.42	5.86
2022	0.19	1.63	0.39	0.55	0.39	0.39	0.45	0.27	0.47	0.24	0.57	0.43	5.98
2023	0.19	1.66	0.40	0.56	0.40	0.40	0.46	0.28	0.48	0.25	0.58	0.44	6.10
2024	0.20	1.70	0.41	0.57	0.41	0.41	0.47	0.28	0.49	0.25	0.60	0.45	6.23
2025	0.20	1.73	0.42	0.58	0.41	0.41	0.48	0.29	0.50	0.26	0.61	0.46	6.35
2026	0.21	1.77	0.42	0.60	0.42	0.42	0.49	0.29	0.51	0.26	0.62	0.47	6.49
2027	0.21	1.80	0.43	0.61	0.43	0.43	0.50	0.30	0.52	0.27	0.63	0.48	6.62
2028	0.22	1.84	0.44	0.62	0.44	0.44	0.51	0.30	0.53	0.27	0.65	0.49	6.76
2029	0.22	1.88	0.45	0.63	0.45	0.45	0.52	0.31	0.54	0.28	0.66	0.50	6.89
2030	0.22	1.92	0.46	0.65	0.46	0.46	0.53	0.32	0.55	0.28	0.67	0.51	7.04
2031	0.23	1.96	0.47	0.66	0.47	0.47	0.54	0.32	0.57	0.29	0.69	0.52	7.18
2032	0.23	2.00	0.48	0.67	0.48	0.48	0.55	0.33	0.58	0.29	0.70	0.53	7.33
2033	0.24	2.04	0.49	0.69	0.49	0.49	0.57	0.34	0.59	0.30	0.72	0.54	7.48
2034	0.24	2.08	0.50	0.70	0.50	0.50	0.58	0.34	0.60	0.31	0.73	0.55	7.64
2035	0.25	2.12	0.51	0.72	0.51	0.51	0.59	0.35	0.61	0.31	0.75	0.56	7.79

Uncompressed Volumes - Total (M Decatherms)													
2017	137.17	138.34	160.04	150.25	152.75	151.89	151.49	156.96	133.56	158.61	146.04	144.65	1,781.77
2018	146.94	148.20	171.44	160.95	163.63	162.71	162.28	168.14	143.07	169.91	156.45	154.96	1,908.70
2019	157.41	158.76	183.66	172.42	175.29	174.30	173.84	180.12	153.27	182.02	167.59	165.99	2,044.66
2020	168.62	170.07	196.74	184.70	187.78	186.71	186.23	192.95	164.18	194.98	179.53	177.82	2,190.31
2021	180.64	182.18	210.75	197.86	201.15	200.01	199.49	206.69	175.88	208.87	192.32	190.48	2,346.33
2022	193.50	195.16	225.77	211.95	215.48	214.26	213.70	221.41	188.41	223.75	206.02	204.05	2,513.46
2023	207.29	209.06	241.85	227.05	230.83	229.52	228.93	237.19	201.83	239.69	220.69	218.59	2,692.50
2024	222.05	223.95	259.08	243.22	247.27	245.87	245.23	254.08	216.21	256.76	236.41	234.16	2,884.30
2025	237.87	239.90	277.53	260.55	264.89	263.39	262.70	272.18	231.61	275.05	253.25	250.84	3,089.76
2026	254.81	256.99	297.30	279.11	283.76	282.15	281.41	291.57	248.10	294.64	271.29	268.71	3,309.85
2027	272.97	275.30	318.48	298.99	303.97	302.25	301.46	312.34	265.78	315.63	290.62	287.85	3,545.62

2028	292.41	294.91	341.16	320.29	325.62	323.78	322.93	334.59	284.71	338.11	311.32	308.35	3,798.18
2029	313.24	315.92	365.47	343.10	348.82	346.84	345.94	358.42	304.99	362.20	333.50	330.32	4,068.74
2030	335.55	338.42	391.50	367.54	373.66	371.55	370.58	383.95	326.72	388.00	357.25	353.85	4,358.57
2031	359.45	362.53	419.39	393.72	400.28	398.01	396.98	411.30	349.99	415.64	382.70	379.05	4,669.04
2032	385.06	388.35	449.26	421.77	428.79	426.36	425.26	440.60	374.92	445.24	409.96	406.05	5,001.63
2033	412.49	416.01	481.26	451.81	459.34	456.74	455.55	471.99	401.63	476.96	439.17	434.98	5,357.91
2034	441.87	445.65	515.55	484.00	492.06	489.27	488.00	505.61	430.24	510.94	470.45	465.96	5,739.57
2035	473.35	477.39	552.27	518.47	527.11	524.12	522.76	541.62	460.88	547.33	503.96	499.15	6,148.42

Uncompressed Volumes - Utility Procurement Customers (M Decatherms)													
2017	39.92	38.86	42.16	42.60	42.90	42.93	43.48	44.51	44.76	45.97	44.16	43.56	515.81
2018	42.76	41.62	45.17	45.63	45.95	45.99	46.58	47.68	47.94	49.24	47.31	46.67	552.55
2019	45.81	44.59	48.38	48.88	49.23	49.26	49.90	51.07	51.36	52.75	50.68	49.99	591.91
2020	49.07	47.77	51.83	52.36	52.73	52.77	53.46	54.71	55.02	56.51	54.29	53.55	634.07
2021	52.57	51.17	55.52	56.09	56.49	56.53	57.26	58.61	58.94	60.53	58.16	57.37	679.24
2022	56.31	54.81	59.48	60.09	60.51	60.56	61.34	62.78	63.14	64.84	62.30	61.45	727.62
2023	60.33	58.72	63.71	64.37	64.82	64.87	65.71	67.26	67.63	69.46	66.74	65.83	779.46
2024	64.62	62.90	68.25	68.95	69.44	69.50	70.39	72.05	72.45	74.41	71.49	70.52	834.98
2025	69.23	67.38	73.12	73.87	74.39	74.45	75.41	77.18	77.61	79.71	76.59	75.54	894.46
2026	74.16	72.18	78.32	79.13	79.69	79.75	80.78	82.68	83.14	85.39	82.04	80.92	958.17
2027	79.44	77.32	83.90	84.76	85.36	85.43	86.53	88.57	89.06	91.47	87.88	86.69	1,026.42
2028	85.10	82.83	89.88	90.80	91.44	91.52	92.70	94.88	95.41	97.99	94.14	92.86	1,099.54
2029	91.16	88.73	96.28	97.27	97.96	98.03	99.30	101.63	102.20	104.97	100.85	99.48	1,177.86
2030	97.65	95.05	103.14	104.20	104.94	105.02	106.37	108.87	109.48	112.44	108.03	106.56	1,261.77
2031	104.61	101.82	110.49	111.62	112.41	112.50	113.95	116.63	117.28	120.45	115.73	114.15	1,351.64
2032	112.06	109.08	118.36	119.57	120.42	120.51	122.07	124.94	125.64	129.03	123.97	122.29	1,447.93
2033	120.04	116.85	126.79	128.09	129.00	129.10	130.76	133.84	134.58	138.22	132.81	131.00	1,551.07
2034	128.59	125.17	135.82	137.21	138.18	138.29	140.08	143.37	144.17	148.07	142.27	140.33	1,661.55
2035	137.76	134.08	145.50	146.99	148.03	148.14	150.05	153.58	154.44	158.62	152.40	150.32	1,779.91

Uncompressed Volumes - Customer Owned Gas (M Decatherms)													
2017	97.25	99.49	117.88	107.65	109.86	108.96	108.01	112.45	88.80	112.65	101.88	101.09	1,265.97
2018	104.18	106.57	126.28	115.32	117.68	116.72	115.70	120.46	95.13	120.67	109.14	108.29	1,356.15
2019	111.60	114.17	135.27	123.54	126.06	125.03	123.94	129.04	101.91	129.27	116.91	116.00	1,452.75
2020	119.55	122.30	144.91	132.34	135.04	133.94	132.77	138.23	109.17	138.47	125.24	124.27	1,556.23
2021	128.07	131.01	155.23	141.76	144.66	143.48	142.23	148.08	116.94	148.34	134.16	133.12	1,667.09
2022	137.19	140.34	166.29	151.86	154.97	153.70	152.36	158.63	125.27	158.91	143.72	142.60	1,785.84
2023	146.96	150.34	178.13	162.68	166.01	164.65	163.21	169.93	134.20	170.22	153.96	152.76	1,913.05

2024	157.43	161.05	190.82	174.27	177.83	176.38	174.84	182.03	143.76	182.35	164.92	163.64	2,049.32
2025	168.64	172.52	204.42	186.68	190.50	188.94	187.29	195.00	154.00	195.34	176.67	175.30	2,195.30
2026	180.66	184.81	218.98	199.98	204.07	202.40	200.64	208.89	164.97	209.25	189.25	187.78	2,351.68
2027	193.53	197.97	234.57	214.23	218.60	216.82	214.93	223.77	176.72	224.16	202.74	201.16	2,519.20
2028	207.31	212.08	251.28	229.49	234.18	232.26	230.24	239.71	189.30	240.13	217.18	215.49	2,698.65
2029	222.08	227.18	269.18	245.83	250.86	248.81	246.64	256.79	202.79	257.23	232.65	230.84	2,890.88
2030	237.90	243.37	288.36	263.34	268.73	266.53	264.21	275.08	217.23	275.56	249.22	247.28	3,096.80
2031	254.84	260.70	308.90	282.10	287.87	285.52	283.03	294.67	232.71	295.18	266.97	264.90	3,317.40
2032	273.00	279.27	330.90	302.20	308.38	305.85	303.19	315.66	249.28	316.21	285.99	283.77	3,553.71
2033	292.44	299.17	354.47	323.72	330.34	327.64	324.79	338.15	267.04	338.74	306.36	303.98	3,806.85
2034	313.28	320.48	379.73	346.78	353.87	350.98	347.92	362.24	286.06	362.87	328.18	325.63	4,078.02
2035	335.59	343.31	406.77	371.49	379.08	375.98	372.70	388.04	306.44	388.71	351.56	348.83	4,368.51

<b>Table 1 - Historical Annual Growth Rates</b>		
Historical Period	Uncompressed Annual Growth Rate	
	SoCalGas	SDG&E
5-Year (2013-2017)	5.40%	7.1%

<b>Table 2 - Compressed Volumes - Public Use Annual Growth Rate</b>		
Description	Units	Value
Price Elasticity of Demand	-	(0.43)
2017 Utility CNG Station Sales	GGEs	1,801,319
2017 Utility CNG Station Revenue	\$ per year	\$4,202,168
2017 Utility CNG Station Average Pump Price	\$ per GGE	\$2.33
Estimated Utility LCFS Credit	\$ per GGE	(\$0.56)
Compressed Volumes - Public Use Annual Growth Rate	-	10.32%

<b>Table 3 - Utility Fleet Forecast</b>		
Description	SoCalGas	SDG&E
Current Fleet	1,005	89
Annual Fleet Addition	90	2
2018	1,005	89
2019	1,095	91
2020	1,185	93
2021	1,275	95
2022	1,365	97

## 2018 CALIFORNIA GAS REPORT

---

ENERGY EFFICIENCY  
JULY 2018

---





(Net EE, including effects of Codes & Standards)	Reported 2016 Therms	Reported 2017 Therms	Forecast 2018 Therms	Forecast 2019 Therms	Forecast 2020 Therms	Forecast 2021 Therms	Forecast 2022 Therms
<b>SDG&amp;E Energy Efficiency Programs TOTAL</b>	<b>2,353,107</b>	<b>1,480,602</b>					
<b>Goal</b>	<b>2,093,529</b>	<b>2,459,203</b>	1,599,283	1,382,214	1,895,356	2,299,844	2,322,596
<b>Difference</b>	<b>259,578</b>	<b>(978,600)</b>					

<b>SDG&amp;E Sector Savings</b>	<b>2016 Therms</b>	<b>2017 Therms</b>	<b>Sector Weights</b>
Core Residential	1,684,755	1,060,067	71.6%
Core Commercial	575,728	362,255	24.5%
Core Industrial	6,352	3,997	0.3%
Noncore Commercial	78,508	49,398	3.3%
Noncore Industrial retail	7,763	4,885	0.3%
NonCore Industrial refinery	-	-	0.0%
<b>Total</b>	<b>2,353,107</b>	<b>1,480,602</b>	<b>100.0%</b>
		checksum==>	100.0%

<b>SDG&amp;E Sector Savings (Proportionally scaled down or up to match goals.) Annual Savings mdth</b>	<b>2016 mdth</b>	<b>2017 mdth</b>	<b>2018 mdth</b>	<b>2019 mdth</b>	<b>2020 mdth</b>	<b>2021 mdth</b>	<b>2022 mdth</b>
Residential	168	106	115	99	136	165	166
Core Commercial	58	36	39	34	46	56	57
Core Industrial	1	1	0	0	1	1	1
Noncore Commercial	7	8	5	5	6	8	8
Noncore Industrial	1	1	1	0	1	1	1
<b>Total Annual Load</b>	<b>234</b>	<b>152</b>	<b>160</b>	<b>138</b>	<b>190</b>	<b>230</b>	<b>232</b>

<b>SDG&amp;E Sector Savings Cumulative Savings mdth--starting in 2018</b>	<b>2016 mdth</b>	<b>2017 mdth</b>	<b>2018 mdth</b>	<b>2019 mdth</b>	<b>2020 mdth</b>	<b>2021 mdth</b>	<b>2022 mdth</b>
Residential	---	---	115	213	349	514	680
Core Commercial	---	---	39	73	119	176	232
Core Industrial	---	---	0	1	1	2	3
Noncore Commercial	---	---	5	10	16	24	32
Noncore Industrial	---	---	1	1	2	2	3
<b>Total Cumulative Load</b>	<b>---</b>	<b>---</b>	<b>160</b>	<b>298</b>	<b>488</b>	<b>718</b>	<b>950</b>

<b>SDG&amp;E Sector Savings Cumulative Savings MMCF--starting in 2018</b>	MMCF factor: 1.04		<b>2016 mmcf</b>	<b>2017 mmcf</b>	<b>2018 mmcf</b>	<b>2019 mmcf</b>	<b>2020 mmcf</b>	<b>2021 mmcf</b>	<b>2022 mmcf</b>
Residential	---	---	---	---	110	205	336	494	654
Core Commercial	---	---	---	---	38	70	115	169	223
Core Industrial	---	---	---	---	0	1	1	2	2
Noncore Commercial	---	---	---	---	5	10	16	23	30
Noncore Industrial	---	---	---	---	1	1	2	2	3
<b>Total Cumulative Load</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>154</b>	<b>287</b>	<b>469</b>	<b>690</b>	<b>913</b>

Forecast Year =====> 1 2 3 4 5

(Net EE, including effects of Codes & Standards)	Forecast 2023 Therms	Forecast 2024 Therms	Forecast 2025 Therms	Forecast 2026 Therms	Forecast 2027 Therms	Forecast 2028 Therms	Forecast 2029 Therms	Forecast 2030 Therms
<b>SDG&amp;E Energy Efficiency Programs TOTAL</b>								
<b>Goal Difference</b>	2,599,816	2,558,083	2,582,343	2,515,035	2,583,984	2,599,271	2,371,479	2,433,994

**SDG&E Sector Savings**

Core Residential  
Core Commercial  
Core Industrial  
Noncore Commercial  
Noncore Industrial retail  
NonCore Industrial refinery  
**Total**

SDG&E Sector Savings (Proportionally scaled down or up to match goals.) Annual Savings mdth	2023 mdth	2024 mdth	2025 mdth	2026 mdth	2027 mdth	2028 mdth	2029 mdth	2030 mdth
Residential	186	183	185	180	185	186	170	174
Core Commercial	64	63	63	62	63	64	58	60
Core Industrial	1	1	1	1	1	1	1	1
Noncore Commercial	9	9	9	8	9	9	8	8
Noncore Industrial	1	1	1	1	1	1	1	1
<b>Total Annual Load</b>	<b>260</b>	<b>256</b>	<b>258</b>	<b>252</b>	<b>258</b>	<b>260</b>	<b>237</b>	<b>243</b>

SDG&E Sector Savings Cumulative Savings mdth--starting in 2018	2023 mdth	2024 mdth	2025 mdth	2026 mdth	2027 mdth	2028 mdth	2029 mdth	2030 mdth
Residential	866	1,049	1,234	1,414	1,493	1,565	1,636	1,674
Core Commercial	296	359	422	483	510	535	559	572
Core Industrial	3	4	5	5	5	6	6	6
Noncore Commercial	40	49	58	66	66	70	73	75
Noncore Industrial	4	5	6	7	7	7	7	7
<b>Total Cumulative Load</b>	<b>1210</b>	<b>1466</b>	<b>1724</b>	<b>1975</b>	<b>2082</b>	<b>2182</b>	<b>2281</b>	<b>2335</b>

SDG&E Sector Savings Cumulative Savings MMCF--starting in 2018	2023 mmcf	2024 mmcf	2025 mmcf	2026 mmcf	2027 mmcf	2028 mmcf	2029 mmcf	2030 mmcf
Residential	833	1,009	1,187	1,360	1,436	1,505	1,573	1,610
Core Commercial	285	345	406	465	491	514	537	550
Core Industrial	3	4	4	5	5	5	6	6
Noncore Commercial	39	47	55	63	64	67	70	72
Noncore Industrial	4	5	5	6	6	7	7	7
<b>Total Cumulative Load</b>	<b>1,163</b>	<b>1,409</b>	<b>1,658</b>	<b>1,899</b>	<b>2,002</b>	<b>2,098</b>	<b>2,193</b>	<b>2,245</b>

6                      7                      8                      9                      10                      11                      12                      13

(Net EE, including effects of Codes & Standards)	Forecast 2031 Therms	Forecast 2032 Therms	Forecast 2033 Therms	Forecast 2034 Therms	Forecast 2035 Therms
<b>SDG&amp;E Energy Efficiency Programs TOTAL</b>					
<b>Goal</b>	2,433,994	2,433,994	2,433,994	2,433,994	2,433,994
<b>Difference</b>					

**SDG&E Sector Savings**

Core Residential  
Core Commercial  
Core Industrial  
Noncore Commercial  
Noncore Industrial retail  
NonCore Industrial refinery  
**Total**

SDG&E Sector Savings (Proportionally scaled down or up to match goals.) Annual Savings mdth	2031 mdth	2032 mdth	2033 mdth	2034 mdth	2035 mdth
Residential	174	174	174	174	174
Core Commercial	60	60	60	60	60
Core Industrial	1	1	1	1	1
Noncore Commercial	8	8	8	8	8
Noncore Industrial	1	1	1	1	1
<b>Total Annual Load</b>	<b>243</b>	<b>243</b>	<b>243</b>	<b>243</b>	<b>243</b>

SDG&E Sector Savings Cumulative Savings mdth--starting in 2018	2031 mdth	2032 mdth	2033 mdth	2034 mdth	2035 mdth
Residential	1,684	1,692	1,680	1,671	1,661
Core Commercial	575	578	574	571	567
Core Industrial	6	6	6	6	6
Noncore Commercial	75	76	75	75	74
Noncore Industrial	7	7	7	7	7
<b>Total Cumulative Load</b>	<b>2348</b>	<b>2359</b>	<b>2343</b>	<b>2330</b>	<b>2315</b>

SDG&E Sector Savings Cumulative Savings MMCF--starting in 2018	2031 mmcf	2032 mmcf	2033 mmcf	2034 mmcf	2035 mmcf
Residential	1,619	1,627	1,615	1,607	1,597
Core Commercial	553	556	552	549	546
Core Industrial	6	6	6	6	6
Noncore Commercial	72	73	72	72	71
Noncore Industrial	7	7	7	7	7
<b>Total Cumulative Load</b>	<b>2,258</b>	<b>2,269</b>	<b>2,253</b>	<b>2,241</b>	<b>2,226</b>

14                      15                      16                      17                      18

# 2018 CALIFORNIA GAS REPORT

---

**Electric Generation**  
**JULY 2018**

---



Please refer to SoCalGas' 2018 California Gas Report workpapers for detail on the documentation regarding non-cogen EG forecasting.

# 2018 CALIFORNIA GAS REPORT

---

**CORE PEAKDAY FORECAST**  
**JULY 2018**

---



**SDG&E Heating Degree Day (HDD) Weather Designs  
 (Calendar Based)**

	<b>Cold</b>		<b>Average</b>	<b>Hot</b>	
	<b>1-in-35 exceedance</b>	<b>1-in-10 exceedance</b>		<b>1-in-10 exceedance</b>	<b>1-in-35 exceedance</b>
January	307.5	288.6	252.9	217.2	198.3
February	264.1	247.9	217.2	186.5	170.3
March	214.2	201.0	176.2	151.3	138.1
April	151.3	142.0	124.5	106.9	97.6
May	65.2	61.2	53.6	46.1	42.1
June	15.2	14.3	12.5	10.8	9.8
July	0.9	0.9	0.8	0.7	0.6
August	0.1	0.1	0.1	0.1	0.1
September	1.4	1.3	1.1	1.0	0.9
October	28.8	27.0	23.7	20.3	18.6
November	146.5	137.5	120.5	103.5	94.5
December	<u>319.8</u>	<u>300.2</u>	<u>263.0</u>	<u>225.9</u>	<u>206.2</u>
	1515.0	1422.0	<b>1246.0</b>	1070.0	977.0

Notes:

1/ 20-Yr-Avg (Jan1998-Dec2017)

2/ Daily system wide temperature based on simple average of three locations: Lindberg Field, Mirimar NAS and El Cajon.

**2018-CGR Sales + Transport + Exchange for Month of DECEMBER (units=Mdth/Day)  
 "1-in-2" Likelihood Cold Day Temperature**

No. "CGR_B"	CLASS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	244.1	245.3	243.7	242.4	240.3	236.6	235.2	234.3	233.1	228.5	227.8
2	Com GN3	89.1	90.9	91.1	91.1	90.8	90.2	89.6	89.1	88.5	86.5	86.1
2	GAC <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	GEN <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Ind GN3	5.7	5.9	5.9	5.9	5.9	5.8	5.7	5.7	5.6	5.3	4.9
4	NGV <u>2/</u>	4.8	5.1	5.5	5.9	6.3	6.8	7.3	7.8	8.3	11.8	16.8
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	Total: MDth/day	343.7	347.3	346.2	345.3	343.3	339.4	337.8	336.9	335.6	332.1	335.6
	MMcf/day <u>4/</u>	330.6	334.0	333.0	332.1	330.2	326.4	324.9	324.1	322.8	319.4	322.8
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	<b>47.7</b>	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7
	Hdd: December--ColdYr =	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
	"Wkday/Wkend" Factor-Res:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	"Wkday/Wkend" Factor-NonRes:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Use this Methodology for the 2018-CGR Res and C&I Calculations

Notes:

- 1/ = ("Avg-Dec" / 31 days) + {(["Cold-Dec" - "Avg-Dec") / ("Cold-Dec-Hdd" - "Avg-Dec-Hdd")]  
 \* [(65 degF - 47.7 degF) - (Avg-Dec-Hdd / 31 days)]}
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0397



**2018-CGR Sales + Transport + Exchange for Month of DECEMBER (units=Mdth/Day)  
 "1-in-10" Likelihood Cold Day Temperature**

No. "CGR_B"	CLASS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	280.2	281.6	279.8	278.4	276.1	271.9	270.4	269.5	268.2	263.1	262.2
2	Com GN3	98.4	100.2	100.3	100.3	100.0	99.5	98.9	98.3	97.7	95.7	95.4
2	GAC <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	GEN <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Ind GN3	6.2	6.4	6.4	6.4	6.4	6.3	6.3	6.2	6.1	5.7	5.4
4	NGV <u>2/</u>	4.8	5.1	5.5	5.9	6.3	6.8	7.3	7.8	8.3	11.8	16.8
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	Total: MDth/day	389.5	393.4	392.1	391.1	388.8	384.4	382.8	381.8	380.3	376.4	379.7
	MMcf/day <u>4/</u>	374.7	378.4	377.1	376.2	374.0	369.8	368.2	367.2	365.8	362.0	365.2
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	<b>44.5</b>	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
	Hdd: December--ColdYr =	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
	"Wkday/Wkend" Factor-Res:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	"Wkday/Wkend" Factor-NonRes:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Use this Methodology for the 2018-CGR Res and C&I Calculations

Notes:

- 1/ = ("Avg-Dec" / 31 days ) + {(["Cold-Dec" - "Avg-Dec") / ("Cold-Dec-Hdd" - "Avg-Dec-Hdd")]  
 \* [(65 degF - 44.5 degF) - (Avg-Dec-Hdd / 31 days)]}
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0397

**2018-CGR Sales + Transport + Exchange for Month of DECEMBER (units=Mdth/Day)  
 "1-in-35" Likelihood Cold Day Temperature**

No. "CGR_B"	CLASS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035
		----	----	----	----	----	----	----	----	----	----	----
1	RESIDEN	299.3	300.9	299.0	297.5	295.1	290.6	289.1	288.1	286.8	281.4	280.5
2	Com GN3	103.3	105.1	105.2	105.2	104.9	104.4	103.8	103.3	102.7	100.7	100.3
2	GAC <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	GEN <u>2/</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Ind GN3	6.5	6.7	6.7	6.7	6.7	6.6	6.5	6.5	6.4	6.0	5.6
4	NGV <u>2/</u>	4.8	5.1	5.5	5.9	6.3	6.8	7.3	7.8	8.3	11.8	16.8
		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	Total: MDth/day	413.9	417.8	416.4	415.4	413.0	408.4	406.6	405.6	404.1	399.9	403.2
	MMcf/day <u>4/</u>	398.1	401.9	400.5	399.6	397.2	392.8	391.1	390.2	388.7	384.6	387.8
	Days per Mo	31	31	31	31	31	31	31	31	31	31	31
	Pk-Day Temp. (deg-F) =	<b>42.8</b>	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
	Hdd: December--ColdYr =	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
	"Wkday/Wkend" Factor-Res:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	"Wkday/Wkend" Factor-NonRes:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Use this Methodology for the 2018-CGR Res and C&I Calculations

Notes:

- 1/ = ("Avg-Dec" / 31 days) + {(["Cold-Dec" - "Avg-Dec"] / ["Cold-Dec-Hdd" - "Avg-Dec-Hdd"])  
 \* [(65 degF - 42.8 degF) - (Avg-Dec-Hdd / 31 days)]}
- 2/ "Non-temperature" sensitive market segment.
- 3/ "Weekday/Weekend" Factor applies to the "raw" estimate.
- 4/ Dth/Mcf= 1.0397

**2018-CGR Sales + Transport + Exchange for Month of DECEMBER  
 (units=mdth)  
 Temp=December, Cold Year**

No. "CGR_CLASS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035
	----	----	----	----	----	----	----	----	----	----	----
1 Residen	5127.5	5148.8	5111.2	5080.0	5030.1	4946.3	4911.6	4887.8	4856.1	4745.6	4731.6
2 Com GN3	2136.4	2193.5	2197.2	2197.9	2188.2	2171.8	2152.6	2136.3	2117.4	2055.3	2043.5
2 GAC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 GEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 Ind GN3	143.4	147.8	148.3	148.2	147.4	145.7	143.8	142.3	140.6	131.8	123.5
4 NGV	148.2	158.8	170.3	182.5	195.7	209.8	224.9	241.1	258.5	366.4	519.7
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	7556	7649	7627	7609	7561	7474	7433	7407	7373	7299	7418
<b>Mdth/Hdd:</b>	14.3	14.4	14.3	14.3	14.2	14.1	14.0	14.0	14.0	13.8	13.8

**2018-CGR Sales + Transport + Exchange for Month of DECEMBER  
 (units=mdth)  
 Temp=December, Average Year**

No. "CGR_CLASS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035
	----	----	----	----	----	----	----	----	----	----	----
1 Residen	4487.7	4504.6	4470.4	4441.2	4395.5	4320.2	4287.4	4264.3	4234.3	4132.3	4120.3
2 Com GN3	1972.2	2029.4	2033.0	2033.7	2024.1	2007.7	1988.5	1972.1	1953.2	1891.1	1879.4
2 GAC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 GEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 Ind GN3	134.5	138.6	139.0	139.0	138.1	136.6	134.8	133.3	131.8	123.5	115.8
4 NGV	148.2	158.8	170.3	182.5	195.7	209.8	224.9	241.1	258.5	366.4	519.7
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	6743	6831	6813	6796	6753	6674	6636	6611	6578	6513	6635

# 2018 CALIFORNIA GAS REPORT

---

SUPPORTING DATA  
JULY 2018

---



## **2018 CALIFORNIA GAS REPORT**

---

**WEATHER: HEATING DEGREE DAYS – AVERAGE AND “COLD” YEAR DESIGNS;  
AND WINTER PEAK DAY DESIGN TEMPERATURES  
JULY 2018**

---



---

# **Weather for SDG&E: Heating Degree Days – Average and Cold Year Designs; and Winter Peak Day Design Temperatures**

---

July 2018

## I. Overview

San Diego Gas and Electric Company's service area for natural gas extends from southern Orange County throughout San Diego County to the Mexican border. To quantify the overall temperature experienced within this region, SDG&E aggregates daily temperature recordings from three U.S. Weather Bureau weather stations into one system average heating degree-day ("HDD") figure. The table below lists weather station locations along with its associated temperature zone(s).

**Table 1**  
Representative Weather Stations with Temperature Zones

Station Location	Weight	Temperature Zone
1. El Cajon <sup>1</sup>	1/3	Coastal and Inland
2. San Diego's Lindberg Field	$(2/3) \times (\#Coastal / (\#Coastal + \#Inland))$	Coastal
3. Miramar Naval Air Station	$(2/3) \times (\#Inland / (\#Coastal + \#Inland))$	Inland

SDG&E uses 65° Fahrenheit to calculate the number of HDDs. One heating degree-day is accumulated for each degree that the daily average is *below* 65° Fahrenheit. To arrive at the system average HDDs figure for its entire service area, SDG&E weights the HDD figure for each zone using the weights<sup>2</sup> shown in Table 1. These weights are used in calculating the data shown from January 1998 to December 2017.

Daily maximum and minimum temperatures, for each individual weather station in the table above, are compiled from National Weather Service data. The web-site:

<http://www.wrh.noaa.gov/sqx/obs/rtp/rtpmap.php?wfo=sqx>

---

<sup>1</sup> The location of the station for El Cajon is at the boundary of the Coastal and Inland zones. Correspondingly, both the Coastal and Inland zones are considered represented in the data for the El Cajon station.

<sup>2</sup> As of December 2017, there were 498,013 gas customers associated with the Coastal temperature zone and 420,085 gas customers associated with the Inland temperature zone. The following URL shows a map of the SDG&E service area and temperature zones: [http://www.sdge.com/tm2/pdf/ELEC\\_MAPS\\_Maps\\_-\\_Elec.pdf](http://www.sdge.com/tm2/pdf/ELEC_MAPS_Maps_-_Elec.pdf); less than 0.04% of SDG&E's gas customers were in the mountain and desert zones.



provides easy access to temperature data for San Diego and parts of surrounding counties. For each station, the average temperature is computed as the (maximum + minimum)/2 and this value is used to compute the heating degrees (i.e., the *daily* HDD) for each station as well. System average values of HDD are then computed using the weights for each respective station. Annual and monthly HDDs for the entire SDG&E service area from 1998 to 2017 are listed in Table 2, below.

**Table 2**  
**Calendar Month Heating Degree-Days (Jan. 1998 through Dec. 2017)**

<b>Year</b>	<b>Month</b>												<b>Total "Cal- Year"</b>
	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	
1998	252	256	205	195	94	22	1	0	5	31	172	338	1571
1999	276	266	279	223	115	51	4	0	4	4	146	243	1610
2000	247	216	224	95	28	3	0	0	0	50	237	227	1327
2001	351	298	199	198	30	5	0	0	0	9	127	325	1543
2002	315	225	247	158	91	13	0	0	2	54	81	294	1479
2003	141	201	179	184	95	32	0	0	0	7	157	275	1270
2004	273	269	98	65	14	4	1	0	0	52	200	265	1240
2005	243	197	159	118	33	5	0	0	4	38	95	231	1121
2006	275	204	305	144	33	0	0	0	1	35	88	287	1372
2007	365	225	155	139	64	20	0	0	4	28	112	340	1451
2008	331	278	187	131	89	16	0	0	0	13	59	287	1391
2009	177	247	201	141	30	11	0	0	0	40	124	291	1262
2010	240	212	195	178	88	24	10	1	2	31	181	238	1401
2011	220	277	196	96	75	20	0	0	0	25	172	340	1421
2012	232	239	230	129	37	13	0	0	0	16	102	268	1266
2013	323	269	150	104	23	6	0	0	0	40	104	241	1261
2014	158	140	80	78	20	1	0	0	0	0	44	170	691
2015	161	87	58	44	46	0	0	0	0	0	104	259	759
2016	237	82	95	41	27	0	0	0	0	0	67	196	746
2017	242	156	82	27	42	4	0	0	0	1	38	149	743
<b>20-Yr- Avg (Jan1998- Dec2017)</b>													
<b>Avg.</b>	252.9	217.2	176.2	124.5	53.7	12.5	0.8	0.1	1.1	23.7	120.5	263.1	1246.3
<b>St.Dev.</b>	63.4	60.9	67.4	55.8	31.7	13.0	2.4	0.2	1.6	18.7	53.5	53.5	288.9
<b>Min.</b>	141.3	81.9	57.9	27.5	13.9	0.0	0.0	0.0	0.0	0.0	38.3	148.7	691.0
<b>Max.</b>	364.6	298.2	304.8	222.7	115.5	51.1	10.3	1.1	4.7	53.5	237.0	339.9	1610.1

## II. Calculations to Define Our Average-Temperature Year

The simple average of the 20-year period (January 1998 through December 2017) was used to represent the Average Year total and the individual monthly values for HDD. In this CGR, the standard deviation has been calculated using an approach that compensates for the annual HDD values for the years 2014-2017 in SDG&E's service territory being dramatically lower than in any preceding year going back to 1972. A regression with a time trend and a dummy variable for the years 2014-2017 have been used to estimate a shift in the level of annual HDD that occurred beginning in 2014. A dummy variable takes the value one for some observations to indicate the presence of an effect or membership in a group and zero for the remaining observations. Estimating the effect of the dummy variable gives an estimate of that effect or the impact of membership in that group. A dummy variable is used here to estimate the average effect on annual HDD of a given year having membership in the group of years 2014-2017. The dataset is SDG&E system-wide annual HDD for the years 1998-2017. The regression equation is:

$$HDD_t = \alpha + \beta * t + \beta_{2014-2017} * D_{2014-2017} + \varepsilon$$

where  $D_{2014-2017}$  is a dummy variable for the years 2014-2017 and  $\beta_{2014-2017}$  is the corresponding dummy coefficient. This regression equation estimates average HDD over the period 1998-2017 controlling for time trends in HDD and the warm weather regime of years 2014-2017. It's important to note that p-value for the estimate of  $\beta_{2014-2017}$  is 0.0022% indicating an extremely low probability that membership in the group of years 2014-2017 had no effect on annual HDDs. Please see Table 3 below for the full regression output.

**Table 3**

### Dummy Regression for Calculation of Heating Degree-Day Standard Deviation

#### SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.929575794
R Square	0.864111157
Adjusted R Squa	0.848124234
Standard Error	112.6014212
Observations	20

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	1370637.082	685318.5409	54.05112499	4.2861E-08
Residual	17	215544.361	12679.08006		
Total	19	1586181.443			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	28203.42414	12157.88847	2.319763355	0.033055018
Regime Dummy	-505.775872	87.39169403	-5.787459296	2.18633E-05
Trend	-13.37781348	6.062256732	-2.206738196	0.041372305

The dummy variable's estimated effect,  $\beta_{2014-2017}$ , is subtracted from the actual annual HDD data for years 2014-2017 to adjust the data to remove the level shift. The standard deviation has been calculated using this adjusted dataset. This standard deviation has been used to design the two Cold Years based on a "1-in-10" and "1-in-35" chance,  $c$ , that the respective annual "Cold Year"  $hdd_c$  value would be exceeded. A probability model for the annual HDD is based on a t-Distribution with N-1 degrees of freedom, where, N is the number of years of HDD data we use,  $\mu$  is the average of the last 20 years of HDD, and  $S_{20}$  is the average of the standard deviations of the 20 most recent 20 year periods:

$$U = (HDD_y - \mu)/S_{20}, \text{ has a t-Distribution with N-1 degrees of freedom.}$$

### III. Calculating the Cold-Temperature Year Weather Designs

#### Cold Year HDD Weather Designs

For SDG&E, cold-temperature-year HDD weather designs are developed with a 1-in-35 year chance of occurrence. In terms of probabilities this can be expressed as the following for a "1-in-35" cold-year HDD value in equation 1 and a "1-in-10" cold-year HDD value in equation 2, with Annual HDD as the random variable:

$$(1) \quad \text{Prob} \{ \text{Annual HDD} > \text{"1-in-35" Cold-Yr HDD} \} = 1/35 = 0.0286$$

$$(2) \quad \text{Prob} \{ \text{Annual HDD} > \text{"1-in-10" Cold-Yr HDD} \} = 1/10 = 0.1000$$

An area of 0.0286 under one tail of the T-Distribution translates to 2.025 standard deviations *above* an average-year based on a t-statistic with 19 degrees of freedom. Using the standard deviation calculated as described earlier, 132.7 HDD, these equations yield values of about 1,515 HDD for a "1-in-35" cold year and 1,422 as the number of HDDs for a "1-in-10" cold year (an area of 0.1000 under one tail of the T-Distribution translates to 1.328 standard deviations *above* an average-year based on a t-statistic with 19 degrees of freedom). For example, the "1-in-35" cold-year HDD is calculated as follows:

$$(3) \quad \text{Cold-year HDD} = 1,515 \text{ which equals approximately} \\ 1,246 \text{ average-year HDDs} + 2.025 * 132.7$$

Table 4 shows monthly HDD figures for "1-in-35" cold year, "1-in-10" cold year and, average year temperature designs. The monthly average-temperature-year HDDs are calculated from weighted monthly HDDs from 1998 to 2017, as shown as the bottom of Table 2, above. For example, the average-year December value of 263.1 HDD equals the simple average of the 20 December HDD figures from 1998 to 2017. SDG&E calculates the cold-temperature-year monthly HDD values using the same shape of the average-year HDDs. For

example, since 21.1 percent of average-temperature-year HDDs occurred in December, the estimated number of HDDs during December for a cold-year is equal to 1,515 HDDs multiplied by 21.1 percent, or 319.8 HDDs.

**Table 4**

Calendar Month Heating Degree-Day Designs

	<u>Cold</u>		<u>Average</u>	<u>Hot</u>	
	<u>1-in-35 Design</u>	<u>1-in-10 Design</u>		<u>1-in-10 Design</u>	<u>1-in-35 Design</u>
January	307.5	288.6	252.9	217.2	198.3
February	264.1	247.9	217.2	186.5	170.3
March	214.2	201.0	176.2	151.3	138.1
April	151.3	142.0	124.5	106.9	97.6
May	65.2	61.2	53.6	46.1	42.1
June	15.2	14.3	12.5	10.8	9.8
July	0.9	0.9	0.8	0.7	0.6
August	0.1	0.1	0.1	0.1	0.1
September	1.4	1.3	1.1	1.0	0.9
October	28.8	27.0	23.7	20.3	18.6
November	146.5	137.5	120.5	103.5	94.5
December	319.8	300.2	263.0	225.9	206.2
	1515	1422	1246	1070	977

#### IV. Calculating the Peak-Day Design Temperature

SDG&E's Peak-Day design temperature of 42.8 degrees Fahrenheit, denoted "Deg-F," is determined from a statistical analysis of observed annual minimum daily system average temperatures constructed from daily temperature recordings from the three U.S. Weather Bureau weather stations discussed above. Since we have a time series of daily data by year, the following notation will be used for the remainder of this discussion:

$$(1) \quad \text{AVG}_{y,d} = \text{system average value of Temperature} \\ \text{for calendar year "y" and day "d".}$$

The calendar year,  $y$ , can range from 1972 through 2017, while the day,  $d$ , can range from 1 to 365, for non leap years, or from 1 to 366 for leap years. The "upper" value for the day,  $d$ , thus depends on the calendar year,  $y$ , and will be denoted by  $n(y)=365$ , or 366, respectively, when  $y$  is a non-leap year or a leap year.

For each calendar year, we calculate the following statistic from our series of daily system average temperatures defined in equation (1) above:

$$(2) \quad \text{MinAVG}_y = \min_{d=1}^{n(y)} \{ \text{AVG}_{y,d} \}, \text{ for } y=1972, 1973, \dots, 2017.$$

(The notation used in equation 2 means "For a particular year,  $y$ , list all the daily values of system average temperature for that year, then pick the smallest one.")

The resulting minimum annual temperatures are shown in Table 5, below. Note that most of the minimum temperatures occur in the months of December or January; however, for some calendar years the minimums occurred in other months (the observed minimum for 1991 was in March, and for 2004 it was in November).

The statistical methods we use to analyze this data employ software developed to fit three generic probability models: the Generalized Extreme Value (GEV) model, the Double-Exponential or GUMBEL (EV1) model and a 2-Parameter Students' T-Distribution (T-Dist) model. [The GEV and EV1 models have the same mathematical specification as those implemented in a DOS-based executable-only computer code that was developed by Richard L. Lehman and described in a paper published in the Proceedings of the Eighth Conference on Applied Climatology, January 17-22, 1993, Anaheim, California, pp. 270-273, by the American Meteorological Society, Boston, MA., with the title "Two Software Products for Extreme Value Analysis: System Overviews of ANYEX and DDEX." At the time he wrote the paper, Dr. Lehman was with the Climate Analysis Center, National Weather Service/NOAA in Washington, D.C., zip code 20233.] The Statistical Analysis Software (SAS) procedure for nonlinear statistical model estimation (PROC MODEL, from SAS V6.12) was used to do the calculations. Further, the calculation procedures were implemented to fit the probability models to observed *maximums* of data, like heating degrees. By recognizing that:

$$-\text{MinAVG}_y = -\min_{d=1}^{n(y)}\{\text{AVG}_{y,d}\} = \max_{d=1}^{n(y)}\{-\text{AVG}_{y,d}\}, \text{ for } y=1972, \dots, 2017;$$

this same software, when applied to the *negative* of the minimum temperature data, yields appropriate probability model estimation results.

The calculations done to fit any one of the three probability models chooses the parameter values that provide the “best fit” of the parametric probability model’s calculated cumulative distribution function (CDF) to the empirical cumulative distribution function (ECDF). Note that the ECDF is constructed based on the variable “-MinAVG<sub>y</sub>” (which is a *maximum* over a set of *negative* temperatures) with values of the variable MinAVG<sub>y</sub> that are the same as shown in Table 5, below.

In Table 5, the data for -MinAVG<sub>y</sub> are shown after they have been sorted from “lowest” to “highest” value. The ascending *ordinal* value is shown in the column labeled “RANK” and the empirical cumulative distribution function is calculated and shown in the next column. The formula used to calculate this function is:

$$\text{ECDF} = (\text{RANK} - \alpha)/[\text{MaxRANK} + (1 - 2 \alpha)],$$

where the parameter “α” (shown as *alpha* in Table 6) is a “small” positive value (usually less than 1/2) that is used to bound the ECDF away from 0 and 1.

Of the three probability models considered (GEV, EV1, and T\_Dist) the results obtained for the T\_Dist model were selected since the fit to the ECDF was better than that of either the GEV model or the EV1 model. (Although convergence to stable parameter estimates is occasionally a problem with fitting a GEV model to the ECDF, the T\_Dist model had no problems with convergence of the iterative procedure to estimate parameters.)

The T\_Dist model used here is a three-parameter probability model where the variable  $z = (-\text{MinAVG}_y - \gamma) / \theta$ , for each year,  $y$ , is presumed to follow a T\_Dist with location parameter,  $\gamma$ , and scale parameter,  $\theta$ , and a third parameter,  $\nu$ , that represents the number of degrees of freedom. For a given number of years of data,  $N$ , then  $\nu=N-2$ .

The following mathematical expression specifies the T\_Dist model we fit to the data for “-MinAVG<sub>y</sub>” shown in Table 5, below.

$$(3) \quad \text{ECDF}(-\text{MinAVG}_y) = \text{Prob} \{ -T < -\text{MinAVG}_y \} = \text{T\_Dist}\{z; \gamma, \theta, \nu=N-2\},$$

where “T\_Dist{ . }” is the cumulative probability distribution function for Student’s T-Distribution<sup>3</sup>, and

---

<sup>3</sup> A common mathematical expression for Student’s T-Distribution is provided at [http://en.wikipedia.org/wiki/Student%27s\\_t-distribution](http://en.wikipedia.org/wiki/Student%27s_t-distribution); with a probability density function

$$f(t) = \frac{\Gamma(\frac{\nu+1}{2})}{\sqrt{\nu\pi} \Gamma(\frac{\nu}{2})} \left(1 + \frac{t^2}{\nu}\right)^{-\frac{\nu+1}{2}},$$

$$(4) \quad z = (-\text{MinAVG}_y - \gamma) / \theta, \text{ for each year, } y, \text{ and}$$

the parameters “ $\gamma$ ” and “ $\theta$ ” are estimated for this model for given degrees of freedom  $v=N-2$ . The estimated values for  $\gamma$  and  $\theta$  are shown in Table 6 along with the fitted values of the model CDF (the column: “Fitted” Model CDF).

Now, to calculate a *peak-day design temperature*,  $\text{TPDD}_\delta$ , with a specified likelihood,  $\delta$ , that a value less than  $\text{TPDD}_\delta$  would be observed, we use the equation below:

$$(5) \quad \delta = \text{Prob} \{ T \leq \text{TPDD}_\delta \}, \text{ which is equivalent to}$$

$$(6) \quad \delta = \text{Prob} \{ [(-T - \gamma) / \theta] \geq [(-\text{TPDD}_\delta - \gamma) / \theta] \}, = \text{Prob} \{ [(-T - \gamma) / \theta] \geq [z_\delta] \},$$

where  $z_\delta = [(-\text{TPDD}_\delta - \gamma) / \theta]$ . In terms of our probability model,

$$(7) \quad \delta = 1 - T\_Dist\{ z_\delta; \gamma, \theta, v=N-2 \},$$

which yields the following equation for  $z_\delta$ ,

$$(7') \quad z_\delta = \{ \text{TINV\_Dist}\{ (1-\delta); \gamma, \theta, v=N-2 \}, \text{ where “TINV\_Dist}\{ . \}” \text{ is the inverse function of the } T\_Dist\{ . \} \text{ function}^4. \text{ The implied equation for } \text{TPDD}_\delta \text{ is:}$$

$$(8) \quad \text{TPDD}_\delta = - [\gamma + (z_\delta)(\theta)].$$

To calculate the minimum daily (system average) temperature to define our extreme weather event, we specify that this COLDEST-Day be one where the temperature would be lower with a “1-in-35” likelihood. This criterion translates into two equations to be solved based on equations (7) and (8) above:

$$(9) \quad \text{solve for “} z_\delta \text{” from equation (7') above with } (1-\delta) = (1 - 1/35) = 1 - 0.0286,$$

$$(10) \quad \text{solve for “} \text{TPDD}_\delta \text{” from } \text{TPDD}_\delta = - [\gamma + (z_\delta)(\theta)].$$

The value of  $z_\delta = 1.959$  and  $\text{TPDD}_\delta = - [\gamma + (z_\delta)(\theta)] = 42.8$  degrees Fahrenheit, with values for “ $v=N-2$ ”; along with “ $\gamma$ ” and “ $\theta$ ” in Table 6, below.

SDG&E’s “1-in-10” peak-day design temperature of 44.5 degrees Fahrenheit, is calculated in a methodologically similar way as for the 42.8 degree “1-in-35” peak day temperature. The criteria specified in equation (9) above for a “1-in-35” likelihood would be replaced by a “1-in-10” likelihood.

$$(9') \quad \text{solve for “} z_\delta \text{” from equation (7') above with } (1-\delta) = (1 - 1/10) = 1 - 0.1000,$$

which yields a “ $z_\delta$ ” value of  $z_\delta = 1.303$  and,  $\text{TPDD}_\delta = - [\gamma + (z_\delta)(\theta)] = 44.5$  with values for “ $v=N-2$ ”; along with “ $\gamma$ ” and “ $\theta$ ” in Table 6, below.

A plot of the cumulative distribution function for  $\text{MinAVG}_y$  based on “ $v=N-2$ ”, the fitted model parameters, “ $\gamma$ ” and “ $\theta$ ” with values in Table 6, below, is shown in Figure 1.

such that  $T\_Dist\{z; \gamma, \theta, v=N-2\} = \int_{-\infty}^z f(t) dt$ , from  $t=-\infty$  to  $t=z$ . Also, the notation  $\Gamma(.)$  is known in mathematics as the GAMMA function; see [http://www.wikipedia.org/wiki/Gamma\\_function](http://www.wikipedia.org/wiki/Gamma_function) for a description. Also, see *Statistical Theory*, 3<sup>rd</sup> Ed., B.W. Lindgren, MacMillian Pub. Inc, 1976, pp. 336-337.

<sup>4</sup> Computer software packages such as SAS and EXCEL have implemented statistical and mathematical functions to readily calculate values for  $T\_Dist\{ . \}$  and  $\text{TINV\_Dist}\{ . \}$  as defined above.

**Table 5**

<b>YEAR</b>	<b>MINAVG</b>	<b>Month(MinAvg)</b>
1972	46.7814	Dec
1973	46.1965	Jan
1974	44.2263	Dec
1975	44.1965	Jan
1976	45.0864	Jan
1977	50.6682	Mar
1978	42.7248	Dec
1979	45.1698	Jan
1980	53.8081	Jan
1981	49.8647	Jan
1982	48.8364	Dec
1983	51.5031	Jan
1984	48.4748	Dec
1985	46.1132	Dec
1986	50.1132	Feb
1987	41.5031	Dec
1988	45.4465	Dec
1989	45.1698	Jan
1990	43.7798	Feb
1991	48.7798	Mar
1992	47.1698	Dec
1993	46.7798	Jan
1994	48.0566	Nov
1995	51.1698	Dec
1996	48.7798	Feb
1997	49.0849	Dec
1998	46.7798	Dec
1999	48.8081	Jan
2000	50.3616	Jan
2001	47.6950	Jan
2002	45.7515	Jan
2003	49.0566	Dec
2004	47.7515	Nov
2005	47.8081	Jan
2006	48.3616	Dec
2007	43.3616	Jan
2008	48.7233	Dec
2009	48.4182	Feb
2010	48.1981	Dec
2011	49.0849	Feb
2012	48.1415	Dec
2013	44.1415	Jan
2014	47.7798	Dec
2015	48.2698	Jan
2016	50.3099	Feb
2017	51.2760	Jan



**Table 6**

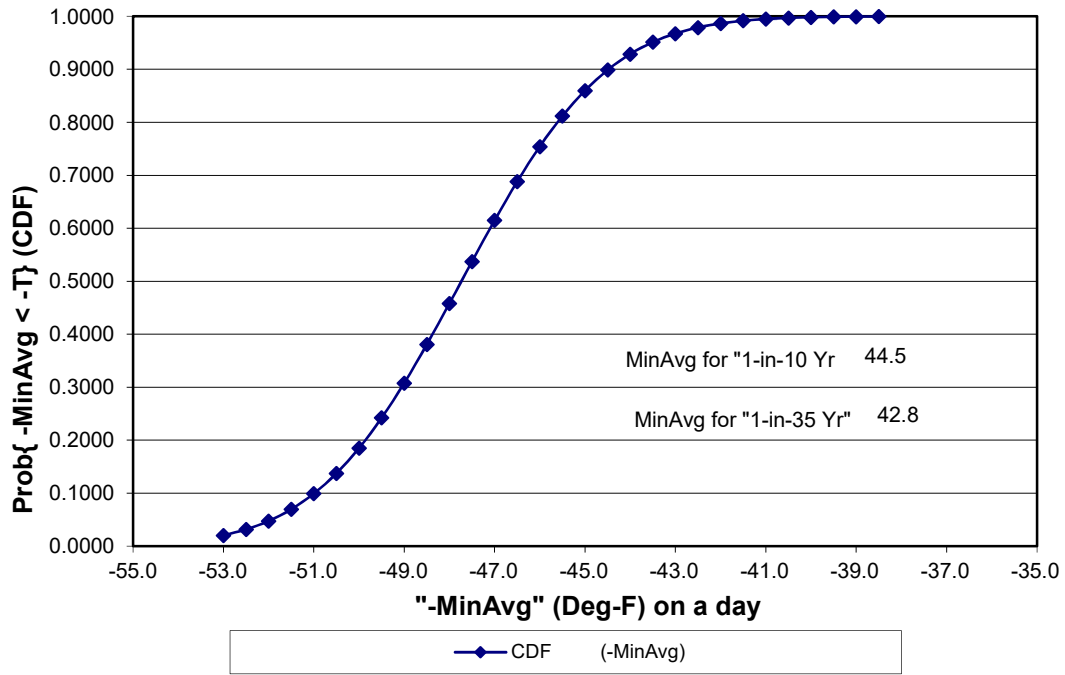
alpha= 0.375

<u>YEAR</u>	<u>Days/Yr</u>	<u>-MinAvg</u>	<u>Month</u> <u>(-MinAvg)</u>	<u>Rank</u>	<u>Empirical</u> <u>CDF</u>	<u>Fitted</u> <u>Model</u> <u>CDF</u>
1980	366	-53.8081	Jan	1	0.0213	-2.089
1983	365	-51.5031	Jan	2	0.0426	-1.761
2017	365	-51.2760	Jan	3	0.0638	-1.553
1995	365	-51.1698	Dec	4	0.0851	-1.394
1977	366	-50.6682	Mar	5	0.1064	-1.264
2000	365	-50.3616	Jan	6	0.1277	-1.153
2016	365	-50.3099	Feb	7	0.1489	-1.053
1986	365	-50.1132	Feb	8	0.1702	-0.964
1981	365	-49.8647	Jan	9	0.1915	-0.881
1997	365	-49.0849	Dec	10	0.2128	-0.804
2011	365	-49.0849	Feb	11	0.2340	-0.732
2003	365	-49.0566	Dec	12	0.2553	-0.663
1982	365	-48.8364	Dec	13	0.2766	-0.598
1999	366	-48.8081	Jan	14	0.2979	-0.534
1991	366	-48.7798	Mar	15	0.3191	-0.473
1996	366	-48.7798	Feb	16	0.3404	-0.414
2008	365	-48.7233	Dec	17	0.3617	-0.356
1984	365	-48.4748	Dec	18	0.3830	-0.300
2009	365	-48.4182	Feb	19	0.4043	-0.244
2006	366	-48.3616	Dec	20	0.4255	-0.189
2015	365	-48.2698	Jan	21	0.4468	-0.135
2010	365	-48.1981	Dec	22	0.4681	-0.081
2012	365	-48.1415	Dec	23	0.4894	-0.027
1994	365	-48.0566	Nov	24	0.5106	0.027
2005	366	-47.8081	Jan	25	0.5319	0.081
2014	365	-47.7798	Dec	26	0.5532	0.135
2004	366	-47.7515	Nov	27	0.5745	0.189
2001	366	-47.6950	Jan	28	0.5957	0.244
1992	365	-47.1698	Dec	29	0.6170	0.300
1972	365	-46.7814	Dec	30	0.6383	0.356
1993	365	-46.7798	Jan	31	0.6596	0.414
1998	365	-46.7798	Dec	32	0.6809	0.473
1973	365	-46.1965	Jan	33	0.7021	0.534
1985	365	-46.1132	Dec	34	0.7234	0.598
2002	366	-45.7515	Jan	35	0.7447	0.663
1988	366	-45.4465	Dec	36	0.7660	0.732
1979	365	-45.1698	Jan	37	0.7872	0.804
1989	365	-45.1698	Jan	38	0.8085	0.881
1976	365	-45.0864	Jan	39	0.8298	0.964
1974	365	-44.2263	Dec	40	0.8511	1.053
1975	365	-44.1965	Jan	41	0.8723	1.153
2013	365	-44.1415	Jan	42	0.8936	1.264
1990	365	-43.7798	Feb	43	0.9149	1.394
2007	365	-43.3616	Jan	44	0.9362	1.553
1978	365	-42.7248	Dec	45	0.9574	1.761
1987	365	-41.5031	Dec	46	0.9787	2.089

"Gamma" (Fitted) = -47.74  
 "Theta" (Fitted) = 2.50  
 Deg. Freedom= 44

**Figure 1**

**CDF for the Random Variable: "-MinAvg",  
[Minimum System Avg. Temp (Deg-F) on a Day over a Year]**



## V. Estimating the Uncertainty in the Peak-Day Design Temperature

The calculated peak-day design temperatures in section IV above also have a statistical uncertainty associated with them. The estimated measures of uncertainty recommended for our use are calculated from the fitted model for the probability distribution and are believed to be reasonable, although rough, approximations.

The basic approach used the estimated parameters for the probability distribution (see the results provided in Table 6, above) to calculate the fitted temperatures as a function of the empirical CDF listed in Table 6. These fitted temperatures are then “compared” with the observed temperatures by calculating the difference = “observed” – “fitted” values. The full set of differences are then separated into the lower third (L), the middle third (M) and the upper third (U) of the distribution. Finally, calculate values of the root-mean-square error (RMSE) of the differences in each third of the distribution, along with the entire set of differences overall. The data in Table 6, below, show the temperature data and the resulting RMSE values.

The formula below is used to calculate the RMSE for a specified set of “N” data differences:

$$\text{RMSE} = \text{SQRT} \left\{ \left( \sum_{i=1, \dots, N} e[i]^2 \right) / (N-2) \right\},$$

where  $e[i] = \text{observed less fitted value of temperature, } T[i]$ . The number of estimated parameters (3 for the GEV model, 2 for the T-Dist and EV1 models) is subtracted from the respective number of data differences, N, in the denominator of the RMSE expression.

Since both the “1-in-35” and “1-in-10” peak-day temperature values are in the lower third quantile of the fitted distribution, the calculated standard error for these estimates is 0.44 Deg-F.

**Table 7**

<u>Quantile: (Lower, Middle, Upper 3rd's)</u>	<u>Observed <math>T_{(i)}</math> Temp. Ranked</u>	<u>Fitted Value of <math>T_{(i)}</math></u>	<u>Residual <math>e_{(i)}</math>: Obs'd. less Fitted Value of <math>T_{(i)}</math></u>	<u>Square of <math>e_{(i)}</math>:</u>
U	53.8081	53.4596	0.3486	0.121493
U	51.5031	52.3780	-0.8749	0.765450
U	51.2760	51.7764	-0.5004	0.250395
U	51.1698	51.3409	-0.1711	0.029274
U	50.6682	50.9917	-0.3234	0.104618
U	50.3616	50.6957	-0.3341	0.111611
U	50.3099	50.4359	-0.1261	0.015894
U	50.1132	50.2023	-0.0891	0.007948
U	49.8647	49.9885	-0.1237	0.015310
U	49.0849	49.7900	-0.7051	0.497128
U	49.0849	49.6037	-0.5188	0.269166
U	49.0566	49.4273	-0.3708	0.137459
U	48.8364	49.2591	-0.4227	0.178665
U	48.8081	49.0976	-0.2895	0.083790
U	48.7798	48.9417	-0.1618	0.026183
M	48.7798	48.7903	-0.0105	0.000110
M	48.7233	48.6428	0.0804	0.006466
M	48.4748	48.4985	-0.0237	0.000562
M	48.4182	48.3567	0.0615	0.003784
M	48.3616	48.2169	0.1447	0.020943
M	48.2698	48.0786	0.1912	0.036559
M	48.1981	47.9414	0.2566	0.065860
M	48.1415	47.8048	0.3366	0.113320
M	48.0566	47.6685	0.3881	0.150645
M	47.8081	47.5319	0.2763	0.076321
M	47.7798	47.3947	0.3852	0.148366
M	47.7515	47.2564	0.4952	0.245188
M	47.6950	47.1166	0.5784	0.334511
M	47.1698	46.9748	0.1950	0.038012
M	46.7814	46.8304	-0.0491	0.002407
M	46.7798	46.6830	0.0969	0.009386
L	46.7798	46.5316	0.2482	0.061603
L	46.1965	46.3757	-0.1792	0.032108
L	46.1132	46.2142	-0.1010	0.010202
L	45.7515	46.0460	-0.2944	0.086674
L	45.4465	45.8696	-0.4231	0.179008
L	45.1698	45.6833	-0.5136	0.263764
L	45.1698	45.4848	-0.3151	0.099275
L	45.0864	45.2710	-0.1845	0.034056
L	44.2263	45.0374	-0.8110	0.657736
L	44.1965	44.7776	-0.5811	0.337649
L	44.1415	44.4816	-0.3402	0.115712
L	43.7798	44.1324	-0.3526	0.124325
L	43.3616	43.6969	-0.3353	0.112423
L	42.7248	43.0953	-0.3705	0.137270
L	41.5031	42.0137	-0.5106	0.260737
<b>Overall RMSE (<math>e_{(i)}</math>):</b>				<b>0.38 °F</b>
<b>Upper 3rd RMSE (<math>e_{(i)}</math>):</b>				<b>0.45 °F</b>
<b>Middle 3rd RMSE (<math>e_{(i)}</math>):</b>				<b>0.30 °F</b>
<b>Lower 3rd RMSE (<math>e_{(i)}</math>):</b>				<b>0.44 °F</b>

## VI. The Relationship between Annual Likelihoods for Peak-Day Temperatures and “Expected Return Time”

The event whose probability distribution we’ve modeled is the likelihood that the minimum daily temperature over a calendar year is less than a specified value. And, in particular, we’ve used this probability model to infer the value of a temperature, our *peak-day design temperature* (TPDD<sub>δ</sub>), that corresponds to a pre-defined likelihood, δ, that the observed minimum temperature is less than or equal to this design temperature.

$$(1) \quad \delta = \text{Prob}\{\text{Minimum Daily Temperature over the Year} < \text{TPDD}_\delta\}.$$

For some applications, it is useful to think of how this specified likelihood (or “risk level” δ) relates to the expected number of years until this Peak-Day event would first occur. This expected number of years is what is meant by the *return period*. The results stated below are found in the book: **Statistics of Extremes**, E.J. Gumbel, Columbia University Press, 1958, on pages 21-25.

$$(2) \quad E[\text{\#Yrs for Peak-Day Event to Occur}] = 1 / \delta, \\
 1 / \text{Prob}\{\text{Minimum Daily Temperature over the Year} < \text{TPDD}_\delta\}.$$

For our peak-day design temperature (42.8°F) associated with a 1-in-35 annual likelihood, the return period is 35 years (δ=1/35). For the 44.5°F peak-day design temperature, the return period is 10 years (δ=1/10). Occasionally, a less precise terminology is used. For example, the 42.8°F peak-day design temperature may be referred to as a “1-in-35 year cold day”; and the 44.5°F peak-day design temperature may be referred to as a “1-in-10 year cold day.”

The probability model for the *return period*, as a random variable, is a geometric (discrete) distribution with positive integer values for the *return period*. The parameter δ = Prob{ Minimum Daily Temperature over the Year < TPDD<sub>δ</sub> }.

$$(3) \quad \text{Prob}\{\text{return period} = r\} = (1 - \delta)^{(r-1)} \delta, \text{ for } r = 1, 2, 3, \dots$$

The expected value of the *return period* is already given in (2) above; the variance of the *return period* is:

$$(4) \quad \text{Var}[\text{return period}] = (E[\text{return period}])^2 \times (1 - (1 / E[\text{return period}])),$$

$$(4') \quad \text{Var}[\text{return period}] = (E[\text{return period}]) \times (E[\text{return period}] - 1).$$

Equations (4) and (4') indicate that the standard deviation (square root of the variance) of the *return period* is nearly equal to its expected value. Thus, there is substantial variability about the expected value—a *return period* is not very precise

# 2018 CALIFORNIA GAS REPORT

---

SERVICE AREA ECONOMIC FORECAST  
JULY 2018

---



**SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST**

(based on Global Insight's February 2018 Regional Forecast)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>EMPLOYMENT (1000's)</b>												
<b>Total</b>	1,294.4	1,327.5	1,355.9	1,395.5	1,430.6	1,452.2	1,478.8	1,506.9	1,531.0	1,545.1	1,557.3	1,567.8
I: Industrial (all manufacturing + mining)	98.6	99.7	102.6	106.6	108.2	108.0	109.9	111.4	112.3	112.6	112.8	112.8
C1: Office (Financial+Bus. & Professional Svcs)	283.2	291.9	293.7	299.7	303.8	305.1	309.0	321.3	330.3	334.9	340.2	345.8
C2: Restaurants	108.4	114.1	121.1	125.8	130.5	131.5	135.7	137.3	138.3	139.1	139.7	140.4
C3: Retail Trade	137.2	141.3	144.3	146.8	147.4	147.4	147.3	147.9	148.4	148.0	146.7	145.4
C4: Laundry & other Personal Services	16.3	16.8	17.9	18.4	18.9	20.2	20.6	20.5	20.4	20.4	20.3	20.2
C5: Wholesale Trade & Warehouses	45.0	45.5	45.3	45.7	46.4	46.2	47.1	48.0	48.5	48.7	48.9	49.1
C6: Primary & Secondary Schools	90.3	90.7	92.1	95.3	98.2	100.6	103.3	105.2	106.4	107.4	108.3	109.2
C7: Colleges (including other adult education)	42.3	43.0	43.4	44.9	46.3	47.4	48.7	49.6	50.1	50.6	51.0	51.5
C8: Health Services	145.5	151.5	156.4	161.9	166.9	170.9	175.5	178.6	180.7	182.4	184.0	185.4
C9: Accommodation	28.6	28.6	29.3	30.4	31.5	31.8	32.8	33.2	33.4	33.6	33.8	33.9
C10: Misc. (all other commercial employment)	57.6	58.4	60.7	62.1	64.0	68.3	69.7	69.4	69.1	68.8	68.5	68.4
C11: Government (non-education)	124.3	125.2	126.2	128.4	131.7	134.7	136.0	137.1	139.5	139.8	140.9	142.0
C12: Transportation, Information, and Utilities	50.3	50.0	49.8	50.5	51.4	50.8	51.4	52.2	52.5	52.8	52.8	52.6
C13: Construction	57.0	61.0	63.9	69.8	75.9	79.8	82.2	85.7	91.4	96.4	99.7	101.5
C14: Agriculture	9.8	9.8	9.4	9.4	9.5	9.5	9.6	9.6	9.7	9.7	9.8	9.8
<b>OTHER INDICATORS</b>												
Southern California Consumer Inflation*	2.0%	1.1%	1.3%	0.9%	1.9%	2.8%	2.8%	1.7%	2.7%	2.6%	2.4%	2.3%
Inflation--US Gross Domestic Product**	1.8%	1.6%	1.8%	1.1%	1.3%	1.8%	2.3%	2.4%	2.6%	2.6%	2.5%	2.5%

\* Consumer Price Index for Greater Los Angeles area (Los Angeles and Orange Counties)

\*\* Chained Price Index--US GDP, from Global Insight's February 2018 Long-Term Forecast of the U.S. Economy.

## SAN DIEGO GAS & ELECTRIC COMPANY SERVICE AREA ECONOMIC FORECAST

(based on Global Insight's February 2018 Regional Forecast)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>EMPLOYMENT (1000's)</b>												
<b>Total</b>	1,576.2	1,583.1	1,589.6	1,598.4	1,607.5	1,617.4	1,630.4	1,642.3	1,655.7	1,670.1	1,684.4	1,698.1
I: Industrial (all manufacturing + mining)	112.8	113.0	113.3	113.4	113.3	113.2	112.9	112.6	112.4	112.2	112.1	112.1
C1: Office (Financial+Bus. & Professional Svcs)	350.7	354.4	357.2	360.7	363.5	366.0	369.9	374.3	378.8	383.2	387.8	391.6
C2: Restaurants	140.8	140.7	140.5	140.8	141.4	142.2	142.9	144.0	145.1	146.3	147.3	148.6
C3: Retail Trade	144.2	143.2	142.6	142.7	143.2	143.9	144.6	145.7	146.7	148.0	149.1	150.4
C4: Laundry & other Personal Services	20.1	20.1	20.0	20.0	20.0	20.1	20.2	20.2	20.3	20.3	20.4	20.5
C5: Wholesale Trade & Warehouses	49.3	49.4	49.4	49.4	49.1	49.0	48.8	48.7	48.5	48.3	48.0	47.7
C6: Primary & Secondary Schools	109.8	110.4	111.2	112.2	113.4	114.7	116.0	117.2	118.5	119.9	121.2	122.2
C7: Colleges (including other adult education)	51.7	52.0	52.4	52.9	53.4	54.0	54.7	55.2	55.8	56.5	57.1	57.6
C8: Health Services	186.5	187.6	188.9	190.6	192.5	194.7	197.0	199.0	201.3	203.6	205.8	207.5
C9: Accommodation	34.0	34.0	33.9	34.0	34.2	34.4	34.5	34.8	35.0	35.4	35.6	35.9
C10: Misc. (all other commercial employment)	68.1	67.9	67.7	67.6	67.7	67.9	68.2	68.4	68.6	68.8	69.0	69.2
C11: Government (non-education)	143.1	144.2	145.3	146.4	147.3	147.9	149.9	149.1	149.7	150.5	151.4	152.2
C12: Transportation, Information, and Utilities	52.3	52.1	51.8	51.4	50.9	50.6	50.6	50.7	50.8	50.9	51.0	51.0
C13: Construction	102.7	104.1	105.1	106.3	107.4	108.6	110.1	112.1	114.0	115.8	118.4	121.4
C14: Agriculture	9.9	9.9	10.0	10.0	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4
<b>OTHER INDICATORS</b>												
Southern California Consumer Inflation*	2.2%	2.1%	2.1%	2.1%	2.1%	2.3%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%
Inflation--US Gross Domestic Product**	2.5%	2.4%	2.3%	2.3%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%

\* Consumer Price Index for Greater Los Angeles area (Los Angeles and Orange Counties)

\*\* Chained Price Index--US GDP, from Global Insight's February 2018 Long-Term Forecast of the U.S. Economy.